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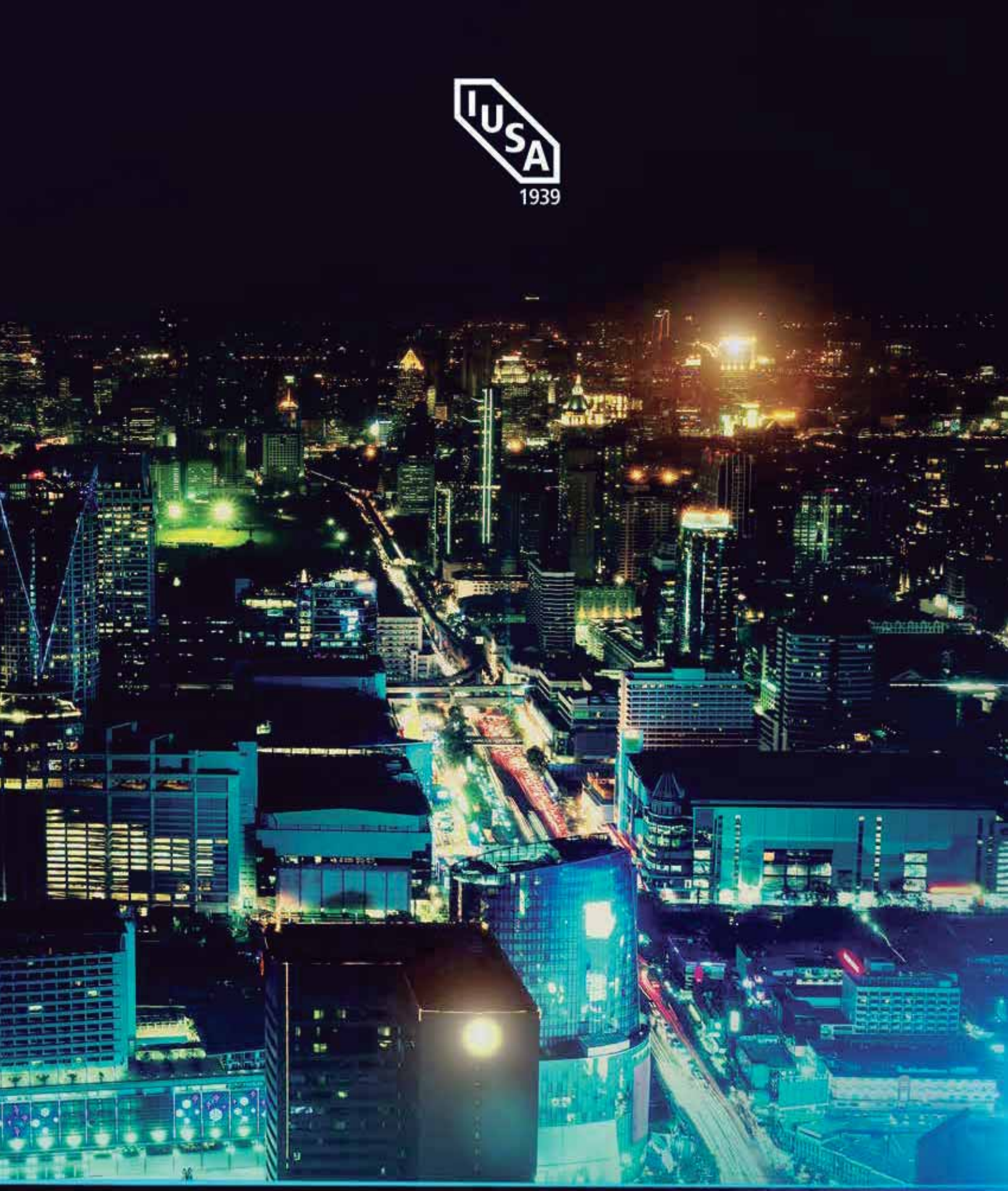

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INSULATORS

TEMPERED GLASS SUSPENSION INSULATOR

General description

» Non-conducting support composed of an insulating glass piece and iron hardware allowing other units to be connected in series. Supplied with iron hardware for non-rigid conductor support.
» Characteristics
» Ball-and-socket and fork coupling hardware.

Applications

» For use in transmission and distribution networks in standard conditions, in addition to corrosive and highly-contaminated environments.
» Advantages
» Chains of insulators may be produced in accordance with voltage requirements and contamination levels. Our N-160 model with or without the zinc sleeve complies with CFE requirements for 28SVC160, 28SVC160C, 29SVC160, and 29SVC160C.

Applicable standards

» CFE 52210-02
» NMX-J-245-ANCE
» ANSI C29.1
» ANSI C29.2
» IEC 60120
» IEC 60305
» IEC 60383-1

Abbreviations

» 17: Outside diameter
» 25: Outside diameter
» 28: Outside diameter
» 29: Outside diameter
» 32: Outside diameter
» S: Suspension type
» V: Glass
» H: Fork couple
» C: Ball-and-socket couple
» 044: Mechanical resistance
» 111: Mechanical resistance
» 160: Mechanical resistance
» C: Corrosion
» CC: Corrosion and contamination
» CM: Corrosion and high contamination
» SN: Extreme fog
» P: Fog and corrosion

CODE	CAT.	DESCRIPTION	MASTER
310950	CT-4	Tempered glass suspension insulator CT-4	6
310961	N-12	Tempered glass suspension insulator N-12	6
311682	N-12	Tempered glass suspension insulator N-12 w/handle	6
311402	N-120 P	Tempered glass suspension insulator N-120 P	6

CODE	CAT.	DESCRIPTION	MASTER
311401	N-160	Tempered glass suspension insulator N-160	3
392914	N-160	Tempered glass suspension insulator N-160 w/handle	3
318712	N-111 SN	Tempered glass suspension insulator N-111 SN	3
311403	N-160 P	Tempered glass suspension insulator N-160 P	3

SPECIFICATIONS		CT-4	N-12	N-12	N-120 P	N-160	N-160	N-111 SN	N-160 P
Brief CFE description		17SVH044	25SVC111	25SVC111C	28SVC111CC	29SVC160	29SVC160C	32SVC111CM	32SVC160CC
ANSI class		52-1	52-5	52-5	52-5	52-8	52-8	52-5	52-8
Flashover voltage at 60 Hz	Dry 1 min. (kV)	60	80	80	100	80	80	110	100
	Wet 10 sec. (kV)	30	50	50	60	50	50	60	65
Critical impulse flashover voltage polarity	Positive (kV)	100	125	125	140	125	125	160	170
	Negative (kV)	100	130	130	140	130	130	170	160
Radio interference voltage	Test voltage at 60 Hz (kV)	7,5	10	10	10	10	10	10	10
	Maximum voltage at 1 MHz (µV)	50	50	50	50	50	50	50	50
Breakdown voltage at low frequency (kV)		80	110	110	130	110	110	130	130
Mechanical resistance (kN)		44	111	111	111	160	160	111	160
Impact resistance (N-m)		5	7	7	10	10	10	10	10
Routine mechanical load-3 seconds (kN)		22,0	55,5	55,5	55,5	80,0	80,0	80,0	80,0
Nominal diameter (mm)		175	258	258	280	298	298	330	325
Spacing (mm)		140	146	146	146	146	146	146	171
Creepage distance (mm)		178	320	320	445	370	370	612	540
Masa neta aproximada (kg)		2,0	4,0	4,0	5,4	6,2	6,4	8,8	8,7

PORCELAIN SPOOL INSULATOR

General description
»Cylinder-shaped, non-conducting support with external circumferential grooves and axial perforation for mounting.

Characteristics
»For low-voltage line support and insulation. Normally used on medium-voltage cross arms.

Applications
»For data transfer, telephone, MGN, neutral, and static lines.

Advantages
»Resistant to voltage and harsh weather conditions.

Applicable standards
»CFE 52000-55
»NMX-J-251
»ANSI C29.3

SPECIFICATIONS		P-1321	P-1323	P-1341
Brief CFE description		-	1-C	-
ANSI class		53-2	53-3	-
Flashover voltage at 60 Hz, dry 1 min. (kV)		25	25	-
Flashover voltage at 60 Hz, wet 10 sec. (kV)	Vertical (kV)	12	12	-
	Horizontal (kV)	15	15	-
Transverse rupture strength (kN)		13,3	17,8	-
Diameter and length (mm)		79 x 76	77 x 82	41 x 28
Creepage distance (mm)		147	50	-
Approximate net weight (kg)		0,180	0,622	0,062

Abbreviations
»1: Progressive classification number
»C: Spool

Notes
»Classification corresponds to electromechanical, dimensional, and finish type as indicated in NMX, ANCE, and ANSI standards, respectively.

CODE	CAT.	DESCRIPTION	MASTER
310952	P-1321	Porcelain spool insulator P-1321	50
310953	P-1323	Porcelain spool insulator P-1323	50
311023	P-1341	Porcelain single-groove telephone-line spool insulator P-1341	150

PORCELAIN GUY WIRE INSULATOR

General description
»Cylindrical insulator with two transversal grooves.

Characteristics
»High mechanical resistance.

Applications
»Used for post stay/guy wires.

Advantages
»Resistant to voltage and harsh weather conditions.

Applicable standards
»CFE 52000-55
»NMX-J-251
»ANSI C29.4

Abbreviations
»4: Progressive classification number
»2: Progressive classification number
»3: Progressive classification number
»R: Stay/guy wire

SPECIFICATIONS		P-1348	P-1351	P-1353
Brief CFE description		4R	2R	3R
ANSI class		54-4	54-1	54-3
Flashover voltage at 60 Hz	Dry 1 min, (kV)	40	25	35
	Wet 10 sec. (kV)	23	12	18
Transverse rupture strength (kN)		89,0	44,5	89,0
Diameter and length (mm)		89 x 172	64 x 89	86 x 140
Creepage distance (mm)		77	42	58
Approximate net weight (kg)		2,180	0,482	1,410

Notes
»Classification corresponds to electromechanical, dimensional, and finish type as indicated in NMX, ANCE, and ANSI standards, respectively.

CODE	CAT.	DESCRIPTION	MASTER
311421	P-1348	Porcelain guy-wire retainer P-1348 wing	12
311024	P-1351	Porcelain guy-wire retainer P-1351 ball	50
310954	P-1353	Porcelain guy-wire retainer P-1353	12

PORCELAIN TIE-TOP LINE-POST INSULATOR

General description
» Dielectric insulator assembled on a metallic base. Rigidly fixed to a structure or cross arm by means of a stud.

Characteristics
» Suitable for use at various contamination levels.

Applications
» For use on line posts for insulation, as well as to support and guide voltage lines.

Advantages
» Resistant to flexing and harsh weather conditions.

Applicable standards
» CFE 52000-91
» ANSI C29.7
» IEC 60383-1
» IEC 60720

Abbreviations
» 13=13,8 kV: Rated voltage
» 22=23 kV: Rated voltage
» 33=34,5 kV: Rated voltage
» P: Post mount
» C: Contaminated areas
» D: Atmospheric discharges
» P: Porcelain
» G: Galvanized nodular iron
» 1: Specific creepage distance greater than 20 mm/kV
» 2: Specific creepage distance greater than 25 mm/kV
» 3: Specific creepage distance greater than 31 mm/kV
» 4: Specific creepage distance greater than 31 mm/kV*

Notes
» Creepage protected by distance*

CODE	CAT.	DESCRIPTION	MASTER
203753	P-2025	Porcelain tie-top line post insulator P-2025	3
204701	P-2035	Porcelain tie-top line post insulator P-2035	3
204702	P-2045	Porcelain tie-top line post insulator P-2045	2
204703	P-2115	Porcelain tie-top line post insulator P-2115	3

CODE	CAT.	DESCRIPTION	MASTER
204704	P-2122	Porcelain tie-top line post insulator P-2122	2
204705	P-2130	Porcelain tie-top line post insulator P-2130	1
204706	P-2125	Porcelain tie-top line post insulator P-2125*	2
205216	P-2135	Porcelain tie-top line post insulator P-2135*	2

SPECIFICATIONS		P-2025	P-2035	P-2045	P-2115	P-2122	P-2130	P-2125	P-2135
Brief CFE description		13PDPG1	22PDPG1	33PDPG1	13PCPG3	22PCPG2	33PCPG2	13PCPG4	22PCPG4
Nominal system voltage (kV)		13,8	23	34,5	13,8	23	34,5	13,8	23
Maximum design voltage (kV)		15	27	38	15	27	38	15	27
Flashover voltage at 60 Hz	Dry 1 min. (kV)	70	95	125	70	95	125	70	95
	Wet 10 sec. (kV)	40	65	95	40	65	95	40	65
Lightning-impulse withstand voltage (BIL) (kV)		110	150	200	110	150	200	110	150
Maximum radio interference voltage at 1 MHz (µV)		<100	<100	<200	<100	<100	<200	<100	<100
Transverse rupture strength (kN)		12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Diameter and length (mm)		127 x 230	142 x 313	160 x 368	160 x 260	174 x 339	197 x 415	163 x 270	182 x 340
Creepage distance (mm)		300	516	760	465	645	950	465*	800*
Approximate net weight (kg)		4,52	8,16	10,87	6,70	9,79	13,87	7,14	11,25

PORCELAIN LINE-POST INSULATOR

General description
»Composite porcelain insulator class C-110. Cylinder-shaped, with symmetrical or alternating skirts. Provides the insulation necessary for conductors and electrical equipment. Suitable for different levels of contamination.

Characteristics
»Equipped with hardware suitable for rigid installation or for fastening at both ends.

Applications
»Used as support and insulation for electric installations and equipment.

Advantages
»Greater resistance to mechanical loads such as flexing force and torque.

Applicable standards
»CFE 52810-32
»NMX-J-250-1
»ANSI C29.9
»IEC 60273

Abbreviations
»C: Line-post insulator
»P: Porcelain
»8: Mechanical resistance to flexing
»125: Lightning-impulse withstand voltage
»150: Lightning-impulse withstand voltage
»170: Lightning-impulse withstand voltage
»200: Lightning-impulse withstand voltage
»250: Lightning-impulse withstand voltage
»I: Class 1 for use in medium contamination level areas
»II: Class 2 for use in high contamination level areas
»III: Class 3 for use in very high contamination level areas

CODE	CAT.	DESCRIPTION	MASTER
-	C8-125-I	Porcelain line post insulator C8-125-I	2
102780	C8-125-II	Porcelain line post insulator C8-125-II	2
217029	C8-125-III	Porcelain line post insulator C8-125-III	2
102784	C8-150-II	Porcelain line post insulator C8-150-II	2
-	C8-170-I	Porcelain line post insulator C8-170-I	1
102783	C8-170-II	Porcelain line post insulator C8-170-II	1
-	C8-170-III	Porcelain line post insulator C8-170-III	1

CODE	CAT.	DESCRIPTION	MASTER
-	C8FA-200-I	Porcelain line post insulator C8FA-200-I	1
368049	C8FA-200-II	Porcelain line-post insulator C8FA-200-II	1
221556	C8FA-200-III	Porcelain line-post insulator C8FA-200-III	1
-	C8FA-250-I	Porcelain line-post insulator C8FA-250-I	1
-	C8FA-250-II	Porcelain line-post insulator C8FA-250-II	1
102782	C8FA-250-III	Porcelain line-post insulator C8FA-250-III	1

SPECIFICATIONS			C8-125-I	C8-125-II	C8-125-III	C8-150-II	C8-170-I	C8-170-II	C8-170-III
Brief CFE description			CP8-125-I	CP8-125-II	CP8-125-III	CP8-150-II	CP8-170-I	CP8-170-II	CP8-170-III
Nominal system voltage (kV)			13,8	13,8	13,8	23	23	23	23
Maximum design voltage (kV)			15,5	15,5	15,5	27	27	27	27
Insulator voltage resistance		Lightning impulse withstand voltage (BIL) (kV)	125	125	125	150	170	170	170
		Breakdown voltage at low frequency, wet (kV)	50	50	50	50	70	70	70
Radio interference voltage		Test voltage at 60 Hz (kV)	10	10	10	15	15	15	15
		Maximum voltage at 1 MHz (µV)	50	50	50	100	100	100	100
Transverse rupture strength (kN)			8 000	8 000	8 000	8 000	8 000	8 000	8 000
Torsional strength (N-m)			1 200	1 200	1 200	1 500	2 000	2 000	2 000
Dimensions	Height (mm)		305	305	305	355	445	445	445
	Mounting hole diameter	Base (upper) (mm)	76	76	76	76	76	76	76
		Base (lower) (mm)	76	76	76	76	76	76	76
	Creepage distance (mm)		310	388	500	675	540	675	850
Approximate net weight (kg)			11,31	11,31	11,31	12,35	18,60	18,60	18,60

SPECIFICATIONS			C8FA-200-I	C8FA-200-II	C8FA-200-III	C8FA-250-I	C8FA-250-II	C8FA-250-III
Brief CFE description			CP8-200-I	CP8-200-II	CP8-200-III	CP8-250-I	CP8-250-II	CP8-250-III
Nominal system voltage (kV)			34,5	34,5	34,5	34,5	34,5	34,5
Maximum design voltage (kV)			38	38	38	38	38	38
Insulator voltage resistance		Lightning impulse withstand voltage (BIL) (kV)	200	200	200	250	250	250
		Breakdown voltage at low frequency, wet (kV)	70	70	70	95	95	95
Radio interference voltage		Test voltage at 60 Hz (kV)	22	22	22	22	22	22
		Maximum voltage at 1 MHz (µV)	100	100	100	100	100	100
Transverse rupture strength (kN)			8 000	8 000	8 000	8 000	8 000	8 000
Torsional strength (N-m)			2 000	2 000	2 000	2 500	2 500	2 500
Dimensions	Height (mm)		475	475	475	560	560	560
	Mounting hole diameter	Base (upper) (mm)	76	76	76	127	127	127
		Base (lower) (mm)	76	76	76	127	127	127
	Creepage distance (mm)		760	950	1 200	760	950	1 200
Approximate net weight (kg)			17,12	17,12	18,50	24,27	24,27	24,27

PORCELAIN PIN-TYPE INSULATOR

General description
» Composed of one or more skirts rigidly fixed to a threaded stud. Individual joined pieces are detachable and may be used to support an electrical conductor.

Characteristics
» Suitable for different levels of contamination.

Applications
» Used as support and insulation for line posts and for electric installations and equipment.

Advantages
» Creepage protected by distance

Applicable standards
» NMX-J-246
» ANSI C29.5
» IEC 60273

Abbreviations
» 13=13,8 kV: Rated voltage
» 22=23 kV: Rated voltage
» 33=34,5 kV: Rated voltage
» A: Pin-type
» 1: Progressive classification number
» 2: Progressive classification number

Notes
» Classification corresponds to electromechanical, dimensional, and finish type as indicated in NMX, ANCE, and ANSI standards, respectively.

CODE	CAT.	DESCRIPTION	MASTER
310955	P-2849	Porcelain pin-type insulator P-2849	18
310956	P-2851	Porcelain pin-type insulator P-2851	18
310957	P-3300	Porcelain pin-type insulator P-3300	4
310958	P-4800	Porcelain pin-type insulator P-4800	3

SPECIFICATIONS		P-2849	P-2851	P-3300	P-4800
Previous brief CFE description		13 A1	13 A2	22 A2	33 A
Nominal system voltage (kV)		13,8	13,8	23	34,5
Maximum design voltage (kV)		15	15	27	38
Flashover voltage at 60 Hz	Dry 1 min. (kV)	65	80	110	125
	Wet 10 sec.(kV)	35	45	70	80
Critical impulse flashover voltage polarity	Positive (kV)	105	130	175	200
	Negative (kV)	130	150	225	265
Maximum radio interference voltage at 1 MHz (µV)		<50	<100	<100	<200
Breakdown voltage at low frequency (kV)		95	115	145	165
Transverse rupture strength (kN)		13,36	13,36	13,36	13,36
Length and diameter (mm)		140 x 11	178 x 124	229 x 165	267 x 191
Creepage distance (mm)		228	305	432	533
Approximate net weight (kg)		1,54	2,94	6,00	7,20

HYBRID LINE POST INSULATOR

General description
» Insulator that combines the best properties of porcelain and silicone rubber. The core is composed of porcelain with an outer layer of silicone rubber.

Characteristics
» The porcelain core provides high mechanical resistance and rigidity, while the silicone rubber outer layer notably reduces weight and provides enhanced electrical insulation.

Applications
» For use in distribution lines in areas with high rates of contamination due to dust, fog, salt, desert conditions, and industrial installations.

Advantages
» Maximum insulation capacity for areas with extreme contamination levels. Easy to handle and install.

Applicable standards
» CFE 52000-91
» IEC 60587
» IEC 62217

Abbreviations
» 13=13,8 kV: Rated voltage
» 22=23 kV: Rated voltage
» 33=34,5 kV: Rated voltage
» P: Line post insulator
» C: Contaminated areas
» H: Porcelain core with silicone rubber outer jacket
» G: Galvanized steel
» 4: Specific creepage distance greater than 31 mm/kV*

Notes
» Creepage protected by distance*

CODE	CAT.	DESCRIPTION	MASTER
217030	PH-2125	Hybrid line post insulator PH-2125*	3
-	PH-2135	Hybrid line post insulator PH-2135*	2
-	PH-2145	Hybrid line post insulator PH-2145*	2

SPECIFICATIONS		PH-2125	PH-2135	PH-2145
Brief CFE description		13PCHG4	22PCHG4	33PCHG4
Nominal system voltage (kV)		13,8	23	34,5
Maximum design voltage (kV)		15	27	38
Flashover voltage at 60 Hz	Dry 1 min. (kV)	70	95	125
	Wet 10 sec. (kV)	40	65	95
Radio interference voltage	Test voltage at 60 Hz (kV)	15	22	30
	Maximum voltage at 1 MHz (µV)	100	100	200
Lightning impulse withstand voltage (BIL) (kV)		110	150	200
Transverse rupture strength (kN)		12,5	12,5	12,5
Diameter and length (mm)		157 x 257	202 x 331	200 x 350
Creepage distance (mm)		465*	800*	1 178*
Approximate net weight (kg)		4,4	5,7	6,9

COMPOSITE LINE POST INSULATOR

General description
»Insulator composed of fiberglass core with synthetic rubber outer layer. Equipped with post-type metallic mounting hardware.

Characteristics
»Used in 13.8kV distribution networks with specific creepage distance equal to or greater than 31 mm/kV.

Applications
»Used for post line insulation, as well as to support and guide voltage lines.

Advantages
»Light weight, easy to handle and install.

Applicable standards
»CFE 52000-91
»NMX-J-248
»IEC 60587
»IEC 61109
»IEC 61952
»IEC 62217

Abbreviations
»13=13,8 kV: Rated voltage
»P: Post mount
»C: Contaminated areas
»H: Silicone rubber outer layer
»G: Galvanized steel
»L: Aluminum
»3: Specific creepage distance greater than 31 mm/kV

Notes
»If aluminum mounting hardware is desired, please specify when ordering.

CODE	CAT.	DESCRIPTION	MASTER
325150	SP-2025	Synthetic line post insulator SP-2025	1

SPECIFICATIONS		SP-2025	
Brief CFE description		13PCHG3	13PCHL3
Nominal system voltage (kV)		13,8	
Maximum design voltage (kV)		15	
Flashover voltage at 60 Hz	Dry 1 min. (kV)	70	
	Wet 10 sec. (kV)	40	
Radio interference voltage	Test voltage at 60 Hz (kV)	15	
	Maximum voltage at 1 MHz (µV)	100	
Lightning impulse withstand voltage (BIL) (kV)		120	
Transverse rupture strength (kN)		12,5	
Length (mm)		300	
Creepage distance (mm)		465	
Approximate net weight (kg)		4,0	

COMPOSITE SUSPENSION INSULATOR

General description
»Composed of at least two insulating components, a core and a silicone rubber outer layer.

Characteristics
»Includes metallic Y-clevis-and-ball, ball-and-socket, fork-to-eye hardware. Units with values greater than 115 kV supplied with corona ring.

Applications
»For voltage lines or electrical conductor suspension.

Advantages
»Light weight, easy to handle and install.

Applicable standards
»CFE 52100-65
»IEC 60587
»IEC 61109
»IEC 61952
»IEC 62217

Abbreviations
»13=13,8 kV: Rated voltage
»22=23 kV: Rated voltage
»33=34,5 kV: Rated voltage
»69=69 kV: Rated voltage
»115=115 kV: Rated voltage
»138=138 kV: Rated voltage
»S: Silicone rubber outer layer
»S: Socket couple
»B: Ball couple
»L: Tongue couple
»H: Fork couple
»C: Clevis couple
»Y: Y-clevis couple
»45: Specified mechanical load
»70: Specified mechanical load
»120: Specified mechanical load
»d: High contamination
»e: Very high contamination
»G: Galvanized steel
»A: Forged steel

Notes
»In case of insufficient creepage distance for voltage level, next higher value synthetic isolator should be chosen in order to comply with established creepage distance requirements.

CODE	CAT.	DESCRIPTION	MASTER
339072	ASSI-15	Composite suspension insulator 15 kV	16
339073	ASSI-25	Composite suspension insulator 25 kV	16
339074	ASSI-35	Composite suspension insulator 35 kV	16
375122	ASSI-15-70	Composite suspension insulator 15 kV to 70 kN	16
302459	ASSI-25-70	Composite suspension insulator 25 kV to 70 kN	16
302458	ASSI-35-70	Composite suspension insulator 35 kV to 70 kN	16
213011	ASSI-69N-SYB	Composite suspension insulator 69 kV high contamination SYB	1

CODE	CAT.	DESCRIPTION	MASTER
213010	ASSI-69C-SYB	Composite suspension insulator 69 kV very high contamination SYB	1
-	ASSI-69N-SSB	Composite suspension insulator 69 kV high contamination SSB	1
-	ASSI-69C-SSB	Composite suspension insulator 69 kV very high contamination SSB	1
-	ASSI-69N-SHL	Composite suspension insulator 69 kV high contamination SHL	1
-	ASSI-69C-SHL	Composite suspension insulator 69 kV very high contamination SHL	1
217108	ASSI-115N-SYB	Composite suspension insulator 115 kV high contamination SYB	1
217107	ASSI-115C-SYB	Composite suspension insulator 115 kV very high contamination SYB	1

COMPOSITE SUSPENSION INSULATOR

CODE	CAT.	DESCRIPTION	MASTER
302466	ASSI-115N-SSB	Composite suspension insulator 115 kV high contamination SSB	1
211377	ASSI-115C-SSB	Composite suspension insulator 115 kV very high contamination SSB	1
-	ASSI-115N-SHL	Composite suspension insulator 115 kV high contamination SHL	1
-	ASSI-115C-SHL	Composite suspension insulator 115 kV very high contamination SHL	1
217110	ASSI-138N-SYB	Composite suspension insulator 138 kV high contamination SYB	1

CODE	CAT.	DESCRIPTION	MASTER
217109	ASSI-138C-SYB	Composite suspension insulator 138 kV very high contamination SYB	1
302467	ASSI-138N-SSB	Composite suspension insulator 138 kV high contamination SSB	1
211378	ASSI-138C-SSB	Composite suspension insulator 138 kV very high contamination SSB	1
-	ASSI-138N-SHL	Composite suspension insulator 138 kV high contamination SHL	1
-	ASSI-138C-SHL	Composite suspension insulator 138 kV very high contamination SHL	1

SPECIFICATIONS		ASSI-15	ASSI-25	ASSI-35	ASSI-15-70	ASSI-25-70	ASSI-35-70
Brief CFE description		13SHL45dG	23SHL45dG	34SHL45dG	-	-	-
Nominal system voltage (kV)		13,8	23	34,5	13,8	23	34,5
Maximum design voltage (kV)		15	25	38	15	25	38
Flashover voltage at 60 Hz	Dry 1 min. (kV)	90	130	145	90	130	145
	Wet 10 sec. (kV)	65	110	130	65	110	130
Critical impulse flashover voltage polarity	Positive (kV)	140	215	250	140	215	250
	Negative (kV)	-	-	-	-	-	-
Maximum radio interference voltage at 500 kHz (µV)		<10	<10	<10	<10	<10	<10
Creepage distance (mm)		395	770	1 003	395	770	1 003
Transverse rupture strength (kN)		45	45	45	70	70	70
Torsional strength (N-m)		47	47	47	47	47	47
Approximate net weight (kg)		1,14	1,38	1,51	1,14	1,38	1,51

SPECIFICATIONS		ASSI-69N-SYB	ASSI-69C-SYB	ASSI-69N-SSB	ASSI-69C-SSB	ASSI-69N-SHL	ASSI-69C-SHL
Brief CFE description		69SYB120dA	69SYB120eA	69SBB120dA	69SBB120eA	69SHL120dA	69SHL120eA
Nominal system voltage (kV)		69	69	69	69	69	69
Maximum design voltage (kV)		72,5	72,5	72,5	72,5	72,5	72,5
Flashover voltage at 60 Hz	Dry 1 min. (kV)	245	245	245	245	245	245
	Wet 10 sec. (kV)	240	240	240	240	240	240
Critical impulse flashover voltage polarity	Positive (kV)	410	410	410	410	410	410
	Negative (kV)	-	-	-	-	-	-
Maximum radio interference voltage at 500 kHz (µV)		<10	<10	<10	<10	<10	<10
Creepage distance (mm)		2 000	2 610	2 000	2 610	2 000	2 610
Transverse rupture strength (kN)		120	120	120	120	120	120
Torsional strength (N-m)		56	56	56	56	56	56
Approximate net weight (kg)		3,84	4,33	3,84	4,33	3,84	4,33

SPECIFICATIONS		ASSI-115N-SYB	ASSI-115C-SYB	ASSI-115N-SSB	ASSI-115C-SSB	ASSI-115N-SHL	ASSI-115C-SHL
Brief CFE description		115SYB120dA	115SYB120eA	115SSB120dA	115SSB120eA	115SHL120dA	115SHL120eA
Nominal system voltage (kV)		115	115	115	115	115	115
Maximum design voltage (kV)		123	123	123	123	123	123
Flashover voltage at 60 Hz	Dry 1 min. (kV)	370	370	370	370	370	370
	Wet 10 sec. (kV)	333	333	333	333	333	333
Critical impulse flashover voltage polarity	Positive (kV)	612	612	612	612	612	612
	Negative (kV)	-	-	-	-	-	-
Maximum radio interference voltage at 500 kHz (µV)		<10	<10	<10	<10	<10	<10
Creepage distance (mm)		3 116	3 821	3 116	3 821	3 116	3 821
Transverse rupture strength (kN)		120	120	120	120	120	120
Torsional strength (N-m)		56	56	56	56	56	56
Approximate net weight (kg)		4,49	5,91	4,49	5,91	4,49	5,91

SPECIFICATIONS		ASSI-138N-SYB	ASSI-138C-SYB	ASSI-138N-SSB	ASSI-138C-SSB	ASSI-138N-SHL	ASSI-138C-SHL
Brief CFE description		138SYB120dA	138SYB120eA	138SSB120dA	138SSB120eA	138SHL120dA	138SHL120eA
Nominal system voltage (kV)		138	138	138	138	138	138
Maximum design voltage (kV)		145	145	145	145	145	145
Flashover voltage at 60 Hz	Dry 1 min. (kV)	450	450	450	450	450	450
	Wet 10 sec. (kV)	395	395	395	395	395	395
Critical impulse flashover voltage polarity	Positive (kV)	715	715	715	715	715	715
	Negative (kV)	735	735	735	735	735	735
Maximum radio interference voltage at 500 kHz (µV)		<10	<10	<10	<10	<10	<10
Creepage distance (mm)		3 737	4 601	3 737	4 601	3 737	4 601
Transverse rupture strength (kN)		120	120	120	120	120	120
Torsional strength (N-m)		56	56	56	56	56	56
Approximate net weight (kg)		5,73	6,21	5,73	6,21	5,73	6,21

FUSE CUTOUTS

PORCELAIN DROP-OUT FUSE CUTOUT APD – CPV

General description

» The fuse and the fuse holder toggle-joint are cast in corrosion resistant highly conductive copper alloy. The copper alloy hardware has a mechanical resistance to withstand the pressure of the contacts when in closed position. Porcelain insulator has a high mechanical and electrical resistance, ensuring correct operation at the Basic Insulation Level (BIL) for which they are designed. Fuse tube is made of a fiberglass and epoxy resin designed to withstand mechanical and electrical operating stress.

Characteristics

» Maximum operating voltage, 13,8 kV, 23 kV & 34,5 kV
» 15 kV & 27 kV asymmetric cutout for current up to 12 000 amperes (A)
» 38 kV asymmetric cutout for current up to 5 000 amperes (A)

Applications

» Used for protection against failure due to voltage surges in transformers, capacitor banks, metering devices, and secondary distribution lines with a 100 ampere (A) nominal current.

Advantages

» Maximum system security due to the high-quality hardware and porcelain insulator.
» Suitable for installation in environments with different levels of contamination.
» Various Basic Insulation Levels (BIL), and asymmetric interrupting capacities available.

Applicable standards

» CFE V4110-03
» NMX-J-149-2
» IEC 60282-2
» IEC 62672

Abbreviations

» CCF: Drop-out fuse cutout
» C: Contamination and corrosion
» 15: Maximum design voltage
» 27: Maximum design voltage
» 38: Maximum design voltage
» 100: Rated current
» 110: Basic insulation level
» 150: Basic insulation level
» 200: Basic insulation level
» 12000: Maximum asymmetric current interruption
» 5000: Maximum asymmetric current interruption
» APD: Single tower configuration porcelain insulator cutout
» CPV: Double-V configuration porcelain insulator cutout

CODE	CAT.	DESCRIPTION	MASTER
310720	APD-1512100	Porcelain cutout APD-1512100	1
310721	APD-2712100	Porcelain cutout APD-2712100	1
310959	APD-3805100	Porcelain cutout APD-3805100	1
311449	CPV-1512100	Porcelain cutout CPV-1512100	1
311451	CPV-2712100	Porcelain cutout CPV-2712100	1
311452	CPV-3805100	Porcelain cutout CPV-3805100	1
325110	APDC-1512100	Porcelain cutout APDC-1512100	1
325111	APDC-2712100	Porcelain cutout APDC-2712100	1
325112	APDC-3805100	Porcelain cutout APDC-3805100	1
385973	CPVC-1512100	Porcelain cutout CPVC-1512100	1
385975	CPVC-2712100	Porcelain cutout CPVC-2712100	1
385971	CPVC-3805100	Porcelain cutout CPVC-3805100	1

SPECIFICATIONS		APD-1512100	APD-2712100	APD-3805100	CPV-1512100	CPV-2712100	CPV-3805100
Brief CFE description		CCF-15-100-110-12000	CCF-27-100-150-12000	CCF-38-100-200-5000	CCF-15-100-110-12000	CCF-27-100-150-12000	CCF-38-100-200-5000
Nominal system voltage (kV)		13,8	23	34,5	13,8	23	34,5
Maximum design voltage (kV)		15	27	38	15	27	38
Flashover voltage at 60 Hz from contact to ground	1 min. dry (kV)	35	70	95	35	70	95
	10 sec. wet (kV)	30	60	80	30	60	80
Flashover voltage at 60 Hz between contacts	1 min. dry (kV)	35	70	95	35	70	95
	Lightning-impulse withstand 1,2/50 µs (kV)	110	150	200	110	150	200
Maximum radio interference voltage at 1 MHz	Test voltage at 60 Hz (kV)	9,41	15,7	22,0	9,41	15,7	22,0
	Maximum (µV)	250	250	250	250	250	250
Rated current (A)		100	100	100	100	100	100
Rated short circuit breaking current	Symmetric (A)	8 000	8 000	2 000	8 000	8 000	2 000
	Asymmetric (A)	12 000	12 000	5 000	12 000	12 000	5 000
Creepage distance (mm/kV)		210	432	660	246	520	870

SPECIFICATIONS		APDC-1512100	APDC-2712100	APDC-3805100	CPVC-1512100	CPVC-2712100	CPVC-3805100
Brief CFE description		CCF-C-15-100-110-12000	CCF-C-27-100-150-12000	CCF-C-38-100-200-5000	CCF-C-15-100-110-12000	CCF-C-27-100-150-12000	CCF-C-38-100-200-5000
Nominal system voltage (kV)		13,8	23	34,5	13,8	23	34,5
Maximum design voltage (kV)		15	27	38	15	27	38
Flashover voltage at 60 Hz from contact to ground	1 min. dry (kV)	35	70	95	35	70	95
	10 sec. wet (kV)	30	60	80	30	60	80
Flashover voltage at 60 Hz between contacts	1 min. dry (kV)	35	70	95	35	70	95
	Lightning-impulse withstand 1,2/50 µs (kV)	110	150	200	110	150	200
Maximum radio interference voltage at 1 MHz	Test voltage at 60 Hz (kV)	9,41	15,7	22,0	9,41	15,7	22,0
	Maximum (µV)	250	250	250	250	250	250
Rated current (A)		100	100	100	100	100	100
Rated short circuit breaking current	Symmetric (A)	8 000	8 000	2 000	8 000	8 000	2 000
	Asymmetric (A)	12 000	12 000	5 000	12 000	12 000	5 000
Creepage distance (mm/kV)		380	708	960	246	660	870

COMPOSITE FUSE CUTOUT APDS

General description

»The fuse and the fuse holder toggle-joint are cast in corrosion resistant highly conductive copper alloy. The copper alloy hardware has a high mechanical resistance to withstand the pressure of the contacts when in closed position. Silicone rubber composite insulator is resistant to harsh weather conditions and complies with current standards. Fuse tubes are made of a fiberglass and epoxy resin designed to withstand mechanical and electrical operating stress.

Characteristics

»15 kV & 27kV asymmetric cutout for current up to 12 000 amperes (A)
»38 kV asymmetric cutout for current up to 5 000 amperes (A)

Applications

»Used for protection against failure due to voltage surges in transformers, capacitor banks, metering devices, and secondary distribution lines with a 100 ampere (A) nominal current.

Advantages

»Maximum system security due to the high-quality hardware and synthetic insulator.
»Suitable for installation in environments with different levels of contamination.
»Various Basic Insulation Levels (BIL), and various asymmetric interrupting capacities available.
»Easy to handle due to reduced weight.

Applicable standards

»CFE V4110-03
»NMX-J-149-2
»IEC 60282-2
»IEC 60587
»IEC 62217

Abbreviations

»CCF: Drop-out fuse cutout
»C: Contamination and corrosion
»15: Maximum design voltage
»27: Maximum design voltage
»38: Maximum design voltage
»100: Rated current
»110: Basic insulation level
»150: Basic insulation level
»200: Basic insulation level
»12000: Maximum asymmetric current interruption
»5000: Maximum asymmetric current interruption
»PS: Silicone rubber polymeric
»APDS: Single tower configuration synthetic insulator cutout

CODE	CAT.	DESCRIPTION	MASTER
212639	APDSC-1512100	Synthetic cutout APDSC-1512100	1
212640	APDSC-2712100	Synthetic cutout APDSC-2712100	1
212641	APDSC-3805100	Synthetic cutout APDSC-3805100	1

SPECIFICATIONS		APDSC-1512100	APDSC-2712100	APDSC-3805100
Brief CFE description		CCF-C-15-100-110-12000-PS	CCF-C-27-100-150-12000-PS	CCF-C-38-100-200-5000-PS
Nominal system voltage (kV)		13,8	23	34,5
Maximum design voltage (kV)		15	27	38
Flashover voltage at 60 Hz from contact to ground	1min. dry (kV)	35	70	95
	10 sec. wet (kV)	30	60	80
Flashover voltage at 60 Hz between contacts	1min. dry (kV)	35	70	95
	Lightning impulse withstand 1,2/50 µs (kV)	110	150	200
Maximum radio interference voltage at 1 MHz	Test voltage at 60 Hz (kV)	9,41	15,7	22,0
	Maximum (µV)	250	250	250
Rated current (A)		100	100	100
Rated short circuit breaking current	Symmetric (A)	8 000	8 000	2 000
	Asymmetric (A)	12 000	12 000	5 000
Creepage distance (mm/kV)		430	756	1 065

CUTOUT REPLACEMENT FUSE

General description

»Fuse composed of fiberglass and epoxy resin. Fuse holder cast in copper alloy. The copper alloy hardware has a high mechanical resistance to withstand the pressure of the contacts when in closed position.

Characteristics

»Rated voltage (cutout), 15, 27, & 38 kV
»Rated current, 100 ampere (A)
»Interruptive asymmetrical current from 2 000 to 12 000 amperes (A)

Applications

»Universal fuse for use in all cutout models, both porcelain and composite.

Advantages

»Suitable for various contamination levels.
»Resistant to mechanical and electrical stress.

CODE	CAT.	DESCRIPTION	MASTER
311453	1512100	15 kV replacement fuse	20
311454	2712100	27 kV replacement fuse	20
388015	3805100	38 kV replacement fuse	10

SPECIFICATIONS		1512100	2712100	3805100
Nominal system voltage (kV)		13,8	23	34,5
Maximum design voltage (kV)		15	27	38
Rated current (A)		100	100	100
Rated short circuit breaking current	Symmetric (A)	8 000	8 000	2 000
	Asymmetric (A)	12 000	12 000	5 000


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LIGHTNING ARRESTERS

PORCELAIN METAL OXIDE

General description
» Surge arrester with zinc oxide varistors enclosed in a porcelain housing.

Characteristics
» Constructed with non-linear metal oxide resistors without bult-in arresters.
» 10 kA nominal discharge current.

Application
» Used for electric distribution system protection in low, medium, and high contamination areas.

Advantages
» Long lasting rigid porcelain.

Applicable standards
» CFE VA410-43
» NMX-J-321-ANCE
» IEC 60099-4

Abbreviations
» A: Lightning arrester
» D: Distribution
» MO: Metal oxide
» C: Contamination
» 10 to 30: Lightning arrester rated voltage

Notes
» We also fabricate the APMOAC 15 kV distribution system lightning arrester. This model is not listed in the specification tables, as it is not specified by the CFE standard. Generally used for transformers

CODE	CAT.	DESCRIPTION	MASTER
311692	APMOAC-10	9/10 kV APMOAC porcelain distribution arrester	1
311463	APMOAC-12	12 kV APMOAC porcelain distribution arrester	1
311693	APMOAC-18	18 kV APMOAC porcelain distribution arrester	1
311694	APMOAC-21	21 kV APMOAC porcelain distribution arrester	1
327279	APMOAC-27	27 kV APMOAC porcelain distribution arrester	1
311691	APMOAC-30	30 kV APMOAC porcelain distribution arrester	1

SPECIFICATIONS		APMOAC-10	APMOAC-12	APMOAC-18	APMOAC-21	APMOAC-27	APMOAC-30
Brief CFE description		ADOM-C-10	ADOM-C-12	ADOM-C-18	ADOM-C-21	ADOM-C-27	ADOM-C-30
Nominal system voltage (kV)		13,8	13,8	23	23	34,5	34,5
Rated voltage and system type		13,8 kV / 3F - 4H	13,8 kV / 3F - 3H	23 kV / 3F - 4H	23 kV / 3F - 3H	34,5 kV / 3F - 4H	34,5 kV / 3F - 3H
Lightning arrester rated voltage (kV)		10	12	18	21	27	30
Insulator withstand voltage	Lightning-impulse withstand voltage 1,2/50 µs (kV)	75	85	125	125	150	150
	1 min AC voltage test at 60 Hz in wet conditions (kV effective)	24	27	36	36	60	60
	Voltage during contamination test (kV effective)	8,4	8,4	14,6	14,6	21,9	21,9
Maximum residual voltage	Operation-activated current impulse 30/60 µs (kV peak)	29	35	53	61	79	87
	Lightning-induced current impulse 10 kA peak 8/20 µs (kV peak)	36	44	65	76	98	108
	Steep-front current impulse 10 kA peak 1/20 µs (kV peak)	40	48	72	84	108	120
Continuous operating voltage (kV effective)		8,4	10,2	15,3	17,0	22,0	24,4
Maximum partial discharge (pC)		10	10	10	10	10	10
Minimum creepage distance (mm)		440	440	645	645	950	950
Approximate net weight (kg)		8,0	8,1	11,4	11,6	14,7	15,0

COMPOSITE METAL OXIDE

General description
»Surge arrester with zinc oxide varistors enclosed in a silicone rubber housing. Silicone rubber-covered housing has great hydrophobicity characteristics.

Characteristics
»Great flexibility in obtaining creepage voltage distance by means of the skirts, shortening the length of the arrester body. Silicone rubber-covered housing has great hydrophobicity characteristics. Resistant to UV rays and limits current leakage.
»10 kA nominal discharge current.

Applications
»For protection in distribution systems in low, medium, and highly contaminated areas.

Advantages
»Smaller and lighter. Eliminates cleaning costs and facilitates longer equipment life.
»APSIL model with silicone rubber housing complies with CFE, ADOM, and ADMOC specifications.

Applicable standards
»CFE VA410-43
»NMX-J-321-ANCE
»IEC 60099-4

Abbreviations
»A: Lightning Arrester
»D: Distribution
»MO: Metal oxide
»C: Contamination
»10 to 30: Lightning arrester rated voltage

CODE	CAT.	DESCRIPTION	MASTER
370419	APSIL-10	9/10 kV APSILC composite distribution arrester	1
370421	APSIL-12	12 kV APSILC composite distribution arrester	1
370424	APSIL-18	18 kV APSILC composite distribution arrester	1
370427	APSIL-21	21 kV APSILC composite distribution arrester	1
370433	APSIL-27	27 kV APSILC composite distribution arrester	1
370435	APSIL-30	30 kV APSILC composite distribution arrester	1

SPECIFICATIONS		APSIL-10	APSIL-12	APSIL-18	APSIL-21	APSIL-27	APSIL-30
Brief CFE description		ADOM-C-10	ADOM-C-12	ADOM-C-18	ADOM-C-21	ADOM-C-27	ADOM-C-30
Nominal system voltage (kV)		13,8	13,8	23	23	34,5	34,5
Rated voltage and system type		13,8 kV / 3F - 4H	13,8 kV / 3F - 3H	23 kV / 3F - 4H	23 kV / 3F - 3H	34,5 kV / 3F - 4H	34,5 kV / 3F - 3H
Lightning arrester nominal voltage (kV)		10	12	18	21	27	30
Insulator withstand voltage	Lightning-impulse withstand voltage 1,2/50 µs (kV peak)	75	85	125	125	150	150
	1 min AC voltage test at 60 Hz in humid conditions (kV effective)	24	27	36	36	60	60
	Voltage during contamination test (kV Effective)	8,4	8,4	14,6	14,6	21,9	21,9
Maximum residual voltage	Operation-activated current impulse 30/60 µs (kV peak)	29	35	53	61	79	87
	Lightning-induced current impulse 10 kA peak 8/20 µs (kV peak)	36	44	65	76	98	108
	Steep-front current impulse 10 kA peak 1/20 µs (kV peak)	40	48	72	84	108	120
Continuous operating voltage (kV effective)		8,4	10,2	15,3	17,0	22,0	24,4
Maximum partial discharge (pC)		10	10	10	10	10	10
Minimum creepage distance (mm)		495	495	830	830	1 030	1 030
Approximate net weight (kg)		2,4	2,4	4,7	4,8	5,4	5,6

COMPOSITE METAL OXIDE POST MOUNT ARRESTER

General description
» Surge arrester with zinc oxide varistors enclosed in a silicone rubber housing. Silicone rubber-covered housing has great hydrophobicity characteristics.

Characteristics
» Increased protection against voltage surges and creepage.
» 10 kA nominal discharge current.

Applications
» For underground distribution systems in low, medium, and highly contaminated areas.

Advantages
» Greater grounding capacity.

Applicable standards
» CFE VA410-43
» NMX-J-321-ANCE
» IEC 60099-4

Abbreviations
» A: Lightning arrester
» D: Distribution
» MO: Metal oxide
» C: Contamination
» 10 to 30: Lightning arrester rated voltage

CODE	CAT.	DESCRIPTION	MASTER
213085	MEPSIL-10	9/10 kV MEPSIL composite distribution arrester	1
213086	MEPSIL-12	12 kV MEPSIL composite distribution arrester	1
213087	MEPSIL-18	18 kV MEPSIL composite distribution arrester	1
213088	MEPSIL-21	21 kV MEPSIL composite distribution arrester	1
213089	MEPSIL-27	27 kV MEPSIL composite distribution arrester	1
213090	MEPSIL-30	30 kV MEPSIL composite distribution arrester	1

SPECIFICATIONS		MEPSIL-10	MEPSIL-12	MEPSIL-18	MEPSIL-21	MEPSIL-27	MEPSIL-30
Brief CFE description		ADOM-C-10	ADOM-C-12	ADOM-C-18	ADOM-C-21	ADOM-C-27	ADOM-C-30
Nominal system voltage (kV)		13,8	13,8	23	23	34,5	34,5
Rated voltage and system type		13,8 kV / 3F - 4H	13,8 kV / 3F - 3H	23 kV / 3F - 4H	23 kV / 3F - 3H	34,5 kV / 3F - 4H	34,5 kV / 3F - 3H
Lightning arrester nominal voltage (kV)		10	12	18	21	27	30
Insulator withstand voltage	Lightning-impulse withstand voltage 1,2/50 µs (kV)	75	85	125	125	150	150
	1 min AC voltage test at 60 Hz in wet conditions (kV effective)	24	27	36	36	60	60
	Voltage during contamination test (kV effective)	8,4	8,4	14,6	14,6	21,9	21,9
Maximum residual voltage	Operation-activated current impulse 30/60 µs (kV peak)	19,2	23,3	34,9	38,7	52,4	57,6
	Lightning-induced current impulse 10 kA peak 8/20 µs (kV peak)	29	36	53	57	74	83
	Steep-front current impulse 10 kA peak 1/20 µs (kV peak)	31	40	59	62	82	91
Continuous operating voltage (kV effective)		8,4	10,2	15,3	17,0	22,0	24,4
Maximum partial discharge (pC)		10	10	10	10	10	10
Minimum creepage distance (mm)		495	495	830	830	1 030	1 030
Approximate net weight (kg)		2,4	2,38	4,7	4,8	5,4	5,6

IUSA APLEA SYNTHETIC

General description
»Line lightning arresters with air gaps (IUSA APLEA) are systems installed in parallel with line insulators. Lacking mechanical load, surges and flashovers caused by atmospheric discharges are limited through an electrode placed in the open and non-linear resistances made of metal oxides which eliminate the arc produced between the electrode and the cable in the distribution line.

Characteristics
»Disconnected from distribution lines through an air gap allowing control of atmospheric discharges.

Applications
»For protection in distribution systems in low, medium, and highly contaminated areas.

Advantages
»The silicone rubber housing quickly sheds solid residue .

Applicable standards
»CFE 52000-66
»NMX-J-321-ANCE
»IEC 60099-4

CODE	CAT.	DESCRIPTION	MASTER
302468	APLEA-13	IUSA APLEA 13 kV Synthetic arrester	1
302469	APLEA-23	IUSA APLEA 23 kV Synthetic arrester	1
302470	APLEA-33	IUSA APLEA 33 kV Synthetic arrester	1

SPECIFICATIONS		APLEA-13	APLEA-23	APLEA-33
Brief CFE description		ALEA 13	ALEA 23	ALEA 33
Nominal system voltage (kV)		13,8	23	34,5
Lightning flashover voltage at 60 Hz	Dry (kV)	35	50	55
	Wet (kV)	25	40	45
Lightning-impulse withstand voltage 1,2/50 µs (kV)		90	125	150
Length (mm)		129	168	222
Minimum creepage distance (mm)		40	60	65
Approximate net weight (kg)		2,6	3,6	4,3

SYNTHETIC ARRESTER WITHOUT MOUNTING HARDWARE

General description
»Surge arrester with zinc oxide varistors enclosed in a silicone rubber housing.

Characteristics
»No mounting hardware supplied.
»10 kA nominal discharge current.

Applications
»For protection in distribution systems in low, medium, and highly contaminated areas.

Advantages
»Smaller size and lighter weight for easy installation.

Applicable standards
»CFE VA410-43
»NMX-J-321-ANCE
»IEC 60099-4

Abbreviations
»A: Lightning arrester
»D: Distribution
»MO: Metal oxide
»C: Contamination
»10 to 30: Lightning arrester rated voltage
»SACC: Without mounting hardware

CODE	CAT.	DESCRIPTION	MASTER
343753	APSILC-10-SACC	9/10 kV APSILC distribution arrester w/o mounting hardware	1
337920	APSILC-12-SACC	12 kV APSILC distribution arrester w/o mounting hardware	1
202016	APSILC-18-SACC	18 kV distribution arrester w/o mounting hardware	1
337921	APSILC-21-SACC	21 kV APSILC distribution arrester w/o mounting hardware	1
202536	APSILC-27-SACC	27 kV APSILC distribution arrester w/o mounting hardware	1
343755	APSILC-30-SACC	30 kV APSILC distribution arrester w/o mounting hardware	1

SPECIFICATIONS		APSILC-10-SACC	APSILC-12-SACC	APSILC-18-SACC	APSILC-21-SACC	APSILC-27-SACC	APSILC-30-SACC
Brief CFE description		ADOM-C-10	ADOM-C-12	ADOM-C-18	ADOM-C-21	ADOM-C-27	ADOM-C-30
Nominal system voltage (kV)		13,8	13,8	23	23	34,5	34,5
Rated voltage and system type		13,8 kV / 3F - 4H	13,8 kV / 3F - 3H	23 kV / 3F - 4H	23 kV / 3F - 3H	34,5 kV / 3F - 4H	34,5 kV / 3F - 3H
Lightning arrester nominal voltage (kV)		10	12	18	21	27	30
Insulator withstand voltage	Lightning-impulse withstand voltage 1,2/50 µs (kV)	75	85	125	125	150	150
	1 min AC voltage test at 60 Hz in humid conditions (kV effective)	24	27	36	36	60	60
	Voltage during contamination test (kV effective)	8,4	8,4	14,6	14,6	21,9	21,9
Maximum residual voltage	Operation-activated current impulse 30/60 µs (kV peak)	29	35	53	61	79	87
	Lightning-induced current impulse 10 kA peak 8/20 µs (kV peak)	36	44	65	76	98	108
	Steep-front current impulse 10 kA peak 1/20 µs (kV peak)	40	48	72	84	108	120
Continuous operating voltage (kV effective)		8,4	10,2	15,3	17,0	22,0	24,4
Maximum partial discharge (pC)		10	10	10	10	10	10
Minimum creepage distance (mm)		495	495	830	830	1 030	1 030
Approximate net weight (kg)		0,9	2,3	3,2	3,3	3,9	4,1

PRBT RDS STRAP ARRESTER

General description
» Single-pole device protects against transient spikes by means of a non-discharging zinc-oxide varistor (ZOV) connected in series.

Characteristics
» Device has terminals to connect to equipment and transformers (secondary winding). For connection to secondary windings, connect directly to the secondary bushing by means of the included connection hardware. Stainless steel ground connection hardware included.

» Device has sufficient number of terminals for conventional electrical grids with a bare cable clamping connector or multiple insulated cables with an insulated L-connector. One device per phase should be installed in parallel with the electrical load.

Applications
» Low voltage arrester used in secondary distribution grids for protecting electrical devices and DPS class-2 transformers.

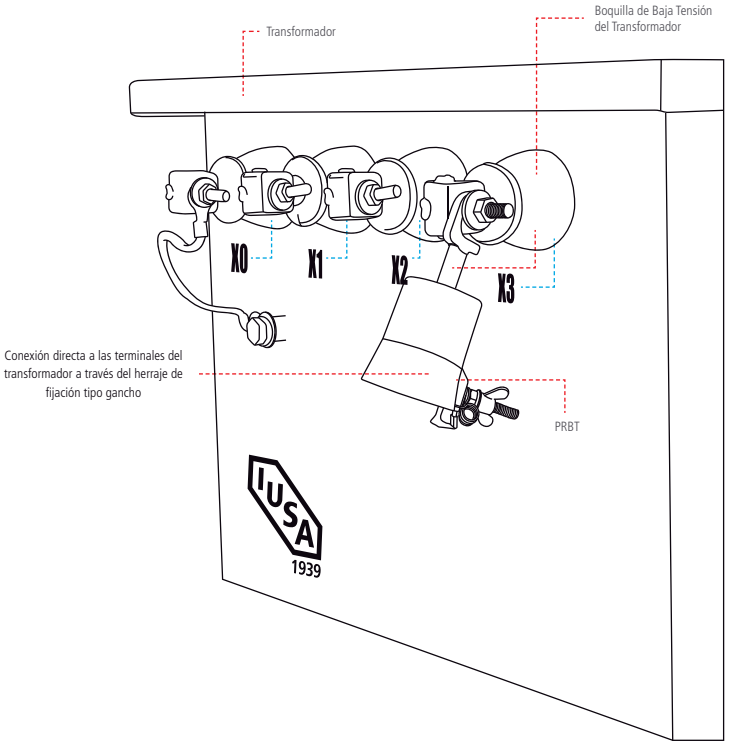
Advantages
» Equipped with automatic, non-explosive disconnector, with protection status indicator.
» Corrosion and ultraviolet radiation resistant.
» Simplified installation in conventional and isolated grids.
» Easy to install.

Applicable standards
» NRF 025-CFE-2009
» IEC 61643-1

Abbreviations
» G: Strap

CODE	CAT.	DESCRIPTION	MASTER
616280	PRBT 280-G	PRBT 280-G low voltage strap arrester	1

SPECIFICATIONS		PRBT 280-G
Maximum continuous operating voltage (V)		280
Reference current 1 mA (V)		470
Nominal current 8/20 µs (kA)		10
Maximum peak current 8/20 µs (kA)		20
High density supportable current 4/10 µs (kA)		40
Maximum dissipation (W)		4
Protection level (kV)		1,3
Voltage supported by housing at 60 Hz (kV)		2,2
Typical reaction time (ns)		25
Operation temperature range (°C)		-40 a + 70
Dimensions	Height (mm)	116,45
	Width (mm)	89,1
	Length (mm)	50,8
Approximate net weight (kg)		0,18
Protection mode		Phase/Neutral or Phase/Ground
Protection technology used		Zinc oxide varistor
Housing		Polymeric
Conductor connection area (AWG-MCM)		4 - 336
Attachment (in)		1/2" fork
Thermal protection		Yes
Protection grade		IP 66
Color		Black



PRBT RDS - RC & RA

General description
»Single-pole device protects against transient spikes by means of a non-discharging zinc-oxide varistor (ZOV) connected in series.

Characteristics
»Device has terminals for conventional electrical grids with a bare cable clamping connector or multiple insulated cables with an insulated L-connector. One device per phase should be installed in parallel with the electrical load.

Applications
»Used in secondary distribution grids, in both urban and rural areas, as well as for protection of transformers, electrical energy meters, distribution panels, and other electrical/electronic equipment.

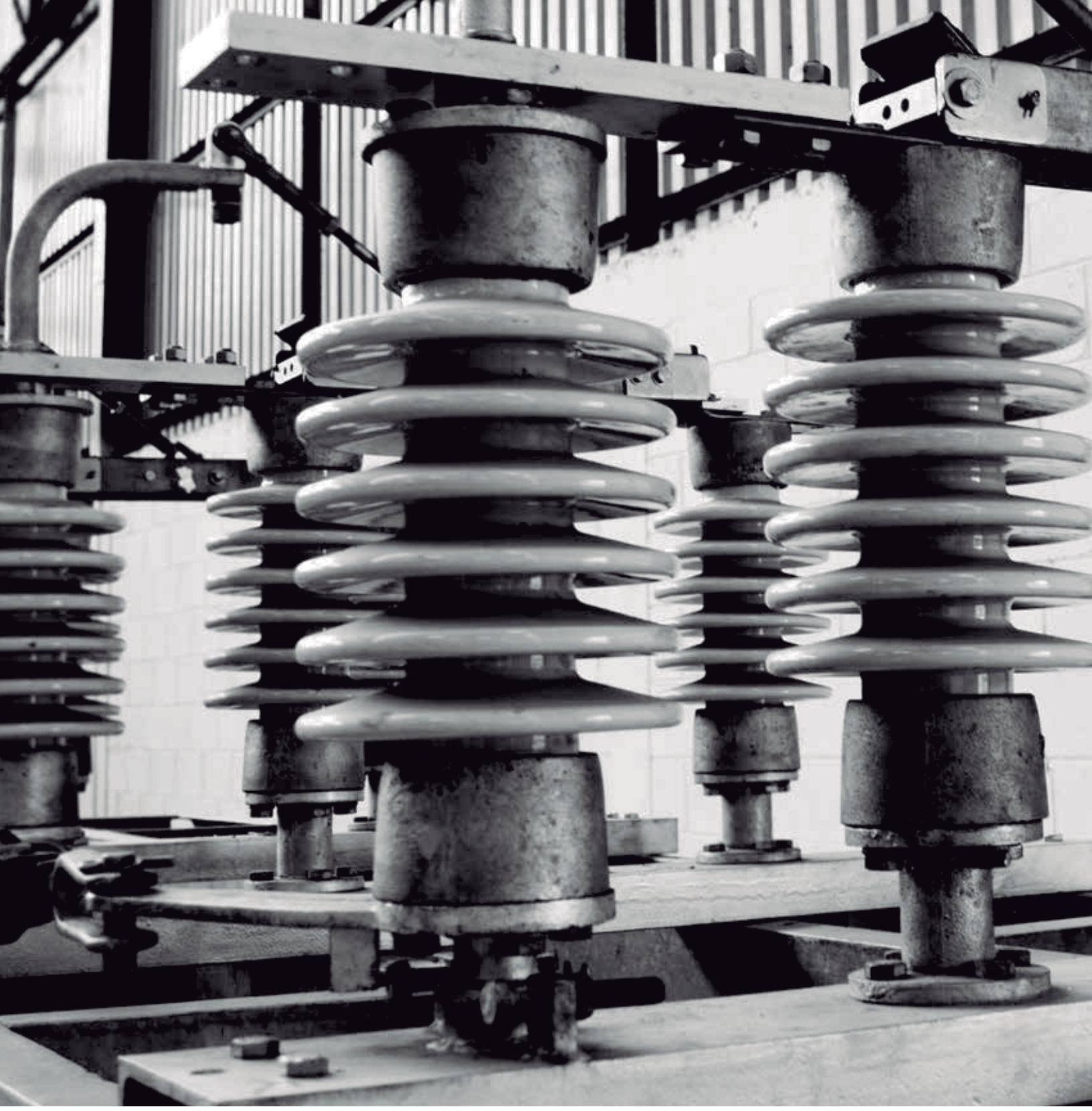
Advantages
»Equipped with automatic, non-explosive disconnector, with protection status indicator.
»Corrosion and ultraviolet radiation resistant.
»Simplified installation in conventional and isolated grids.
»High level of protection against electrical current surges.

Applicable standards
»NRF 025-CFE-2009
»IEC 61643-1

Abbreviations
»RC: Conventional network
»RA: Isolated network

CODE	CAT.	DESCRIPTION	MASTER
616281	PRBT 280-RC	PRBT 280-RC low voltage arrester	1
616283	PRBT 280-RA	PRBT 280-RA low voltage arrester	1
616282	PRBT 440-RC	PRBT 440-RC low voltage arrester	1
616284	PRBT 440-RA	PRBT 440-RA low voltage arrester	1

SPECIFICATIONS		PRBT-280-RC	PRBT-280-RA	PRBT-440-RC	PRBT-440-RA
Maximum continuous operating voltage (V)		280	280	440	440
Reference current 1 mA (V)		470	470	750	750
Nominal current 8/20 µs (kA)		10	10	10	10
Maximum peak current 8/20 µs (kA)		20	20	20	20
High density supportable current 4/10 µs (kA)		40	40	40	40
Maximum dissipation (W)		4	4	4	4
Protection level (kV)		1,3	1,3	1,8	1,8
Voltage supported by housing at 60 Hz (kV)		2,2	2,2	2,2	2,2
Typical reaction time (ns)		25	25	25	25
Operation temperature range (°C)		-40 a +70	-40 a +70	-40 a +70	-40 a +70
Dimensions	Height (mm)	91,89	102,15	91,89	102,15
	Width (mm)	87,95	87,95	87,95	87,95
	Length (mm)	52,10	52,10	52,10	52,10
Approximate net weight (kg)		0,20	0,18	0,26	0,20
Protection mode		Phase/Neutral or Phase/Ground	Phase/Neutral or Phase/Ground	Phase/Neutral or Phase/Ground	Phase/Neutral or Phase/Ground
Protection technology used		Zinc oxide varistor	Zinc oxide varistor	Zinc oxide varistor	Zinc oxide varistor
Housing		Polymeric	Polymeric	Polymeric	Polymeric
Conductor connection area (AWG-MCM)		4 - 336	4	4 - 336	4
Attachment		Clamping connector plate	Insulated L terminal	Pressure connector	Insulated L terminal
Thermal protection		Yes	Yes	Yes	Yes
Protection grade		IP 66	IP 66	IP 66	IP 66
Color		Black	Black	Black	Black



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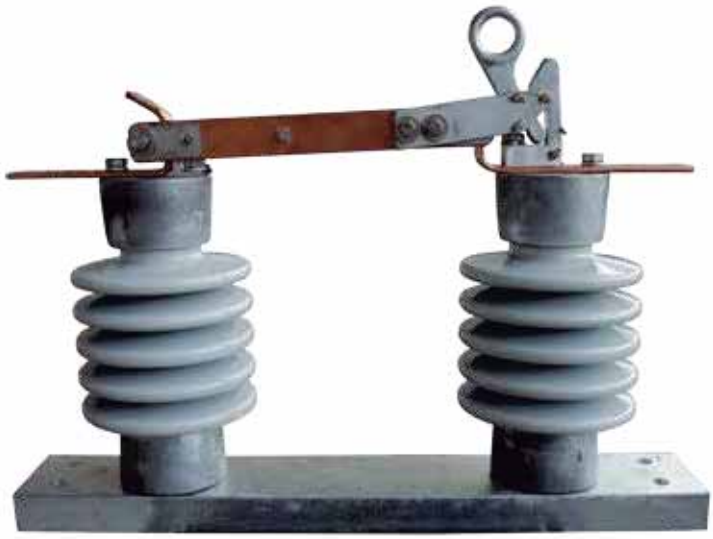
SWITCH DISCONNECTORS

SWITCH DISCONNECTORS

SINGLE-POLE

General description
» Air break single-pole switch disconnectors are built to withstand harsh weather, and are manually operated.
» Switch has two porcelain or synthetic column-type insulators with the opening mechanism at one end of the switch.
» Horizontal or inverted vertical mounting for different contamination levels.



Characteristics
» Maximum design voltage from 15 to 38 kV
» Standard operating frequency, 60 Hz
» Rated current 630 to 2 000 Amperes (A)
» Lightning-impulse withstand voltage (BIL) from 125 to 250 kV

Applications
» Used in substations and distribution grids.
» Ideal for use as service restorer and to reduce structure weight and mass.

Advantages
» Improved high quality design with excellent electrical and mechanical properties.
» Mounting design different from conventional single-pole switch disconnectors.

Applicable standards
» CFE V4200-25
» NMX-102-ANCE
» NMX-564-ANCE
» IEC 62271-102

Abbreviations
» C: Switch disconnector
» S: Substation-type
» P: P-type vertical opening
» 125: Lightning-impulse withstand voltage
» 150: Lightning-impulse withstand voltage
» 170: Lightning-impulse withstand voltage
» 200: Lightning-impulse withstand voltage
» 250: Lightning-impulse withstand voltage
» 1: Single-pole manually operated with pole
» 15: Rated voltage
» 25,8: Rated voltage
» 38: Rated voltage
» 630: Rated current
» 1250: Rated current
» 2000: Rated current

CODE	CAT.	DESCRIPTION	MASTER
211487	RP-63125	Single-pole switch disconnector RP-63125	1
211488	RP-63150	Single-pole switch disconnector RP-63150	1
-	RP-63170	Single-pole switch disconnector RP-63170	1
211489	RP-63200	Single-pole switch disconnector RP-63200	1
-	RP-63250	Single-pole switch disconnector RP-63250	1
284867	RP-12125	Single-pole switch disconnector RP-12125	1
284868	RP-12150	Single-pole switch disconnector RP-12150	1
-	RP-12170	Single-pole switch disconnector RP-12170	1

CODE	CAT.	DESCRIPTION	MASTER
284869	RP-12200	Single-pole switch disconnector RP-12200	1
-	RP-12250	Single-pole switch disconnector RP-12250	1
284870	RP-20125	Single-pole switch disconnector RP-20125	1
284871	RP-20150	Single-pole switch disconnector RP-20150	1
-	RP-20170	Single-pole switch disconnector RP-20170	1
284872	RP-20200	Single-pole switch disconnector RP-20200	1
-	RP-20250	Single-pole switch disconnector RP-20250	1

Notes
» Approved prototype plan for 250 kV BIL.

SPECIFICATIONS			RP-63125	RP-63150	RP-63170	RP-63200	RP-63250	RP-12125	RP-12150	RP-12170
Brief CFE description			CSP-125-1-15-630	CSP-150-1-25,8-630	CSP-170-1-25,8-630	CSP-200-1-38-630	CSP-250-1-38-630	CSP-125-1-15-1250	CSP-150-1-25,8-1250	CSP-170-1-25,8-1250
Nominal system voltage (kV)			13,8	23	23	34,5	34,5	13,8	23	23
Maximum design voltage (kV)			15	25,8	25,8	38	38	15	25,8	25,8
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		125	150	170	200	250	125	150	170
	Open across contacts (kV)		140	165	195	220	275	140	165	195
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	50	70	80	95	120	50	70	80
		10 sec. wet (kV effective)	45	60	80	80	100	45	60	80
	Open across contacts	1 min. dry (kV effective)	55	77	88	105	132	55	77	88
		10 sec. wet (kV effective)	50	66	77	88	110	50	66	77
Rated current (A)			630	630	630	630	630	1 250	1 250	1 250
Withstand current	Rated short-time withstand current (kA effective)		25	25	25	25	25	31,5	31,5	25
	Rated peak withstand current (kA)		65	65	65	65	65	81,9	81,9	65

SPECIFICATIONS			RP-12200	RP-12250	RP-20125	RP-20150	RP-20170	RP-20200	RP-20250
Brief CFE description			CSP-200-1-38-1250	CSP-250-1-38-1250	CSP-125-1-15-2000	CSP-150-1-25,8-2000	CSP-170-1-25,8-2000	CSP-200-1-38-2000	CSP-250-1-38-2000
Nominal system voltage (kV)			34,5	34,5	13,8	23	23	34,5	34,5
Maximum design voltage (kV)			38	38	15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		200	250	125	150	170	200	250
	Between contacts with switch open (kV)		220	275	40	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	95	120	50	70	80	95	120
		10 sec. wet (kV effective)	80	100	45	60	80	80	100
	Between contacts with switch open	1 min. dry (kV effective)	105	132	55	77	88	105	132
		10 sec. wet (kV effective)	88	110	50	66	77	88	110
Rated current (A)			1 250	1 250	2 000	2 000	2 000	2 000	2 000
Withstand current	Rated short-time withstand current (kA effective)		31,5	25	40	40	25	40	25
	Rated peak withstand current (kA)		81,9	65	104	104	65	104	65

CUTOUT-TYPE

General description
»Single-pole switch disconnector, manually pole-operated no load break. Insulator with synthetic rubber housing, and with opening mechanism at one end of the switch. Opens and closes easily, even after not being operated for extended periods.

Characteristics
»Maximum design voltage from 15 to 25,8 kV
»Standard operating frequency, 60 Hz
»Rated current, 630 Amperes (A)
»Lightning-impulse withstand voltage (BIL) 250 kV

Applications
»Used in distribution lines as a bypass, may also be paired with service restorer.

Advantages
»Low weight and compact dimensions add to versatility of use and ease of operation.
»Also available with arcing horns and circuit breaker operation.

Applicable standards
»CFE V4200-25
»CFE V4200-50
»IEC 62271-102
»IEEE C37-30

Abbreviations
»COP: Manually pole-operated, single-pole switch disconnector
»15: Rated voltage
»25,8: Rated voltage
»38: Rated voltage
»125: Lightning-impulse withstand voltage
»150: Lightning-impulse withstand voltage
»170: Lightning-impulse withstand voltage
»200: Lightning-impulse withstand voltage
»250: Lightning-impulse withstand voltage

CODE	CAT.	DESCRIPTION	MASTER
-	-	Cutout-type single-pole switch disconnector 63125	1
209809	-	Cutout-type single-pole switch disconnector 63150	1
-	-	Cutout-type single-pole switch disconnector 63170	1
-	-	Cutout-type single-pole switch disconnector 63200	1
-	-	Cutout-type single-pole switch disconnector 63250	1

SPECIFICATIONS			-	-	-	-	-
Brief CFE description			COP-15-125	COP-25,8-150	COP-25,8-170	COP-38-200	COP-38-250
Nominal system voltage (kV)			13,8	23	23	34,5	34,5
Maximum design voltage (kV)			15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		125	150	170	200	250
	Between contacts with switch open (kV)		145	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	70	70	80	95	120
		10 sec. wet (kV effective)	60	60	70	80	100
	Between contacts with switch open	1 min. dry (kV effective)	77	77	88	105	132
		10 sec. wet (kV effective)	66	66	77	88	110
Rated current (A)			630	630	630	630	630
Withstand current	Rated short-time withstand current (kA effective)		25	25	25	25	25
	Rated peak withstand current (kA)		65	65	65	65	65

SWITCH DISCONNECTORS

SINGLE-POLE LINE-TYPE

General description

» Single-pole switch disconnector, manually pole-operated without load break. Insulator with synthetic rubber housing, and with opening mechanism at one end of the switch. Opens and closes easily, installed in line.

Characteristics

» Maximum design voltage from 15 to 38 kV
» Standard operating frequency, 60 Hz
» Rated current, 630 amperes (A)
» Lightning-impulse withstand voltage (BIL) from 125 to 250 kV

Applications

» Used in distribution lines and grids.

Advantages

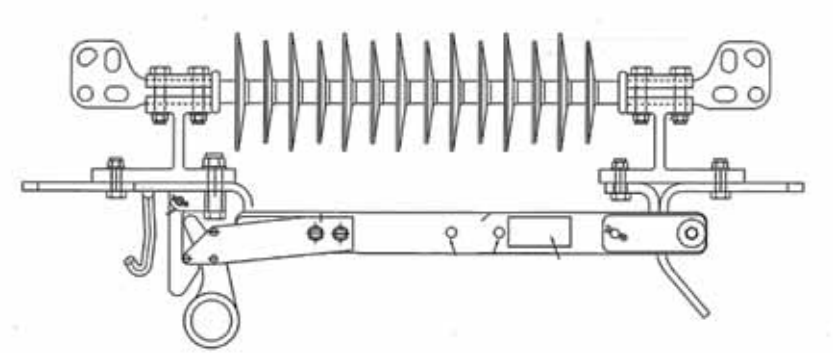
» Installed in line without need for support.
» Specialized application for live line interruption.

Applicable standards

» CFE V4200-25
» CFE V4200-50
» IEC 62271-102
» IEEE C37-30

Abbreviations

» COP: Manually pole-operated single-pole switch disconnector
» 15: Rated voltage
» 25,8: Rated voltage
» 38: Rated voltage
» 125: Lightning-impulse withstand voltage
» 150: Lightning-impulse withstand voltage
» 170: Lightning-impulse withstand voltage
» 200: Lightning-impulse withstand voltage
» 250: Lightning-impulse withstand voltage



CODE	CAT.	DESCRIPTION	MASTER
-	COP-63125	Single-pole switch disconnector COP-63125	1
-	COP-63150	Single-pole switch disconnector COP-63150	1
-	COP-63170	Single-pole switch disconnector COP-63170	1
-	COP-63200	Single-pole switch disconnector COP-63200	1
211490	COP-63250	Single-pole switch disconnector COP-63250	1

SPECIFICATIONS			COP-63125	COP-63150	COP-63170	COP-63200	COP-63250
Brief CFE description			COP-15-125	COP-25,8-150	COP-25,8-170	COP-38-200	COP-38-250
Nominal system voltage (kV)			13,8	23	23	34,5	34,5
Maximum design voltage (kV)			15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		125	150	170	200	250
	Between contacts with switch open (kV)		145	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	70	70	80	95	120
		10 sec. wet (kV effective)	60	60	70	80	100
	Between contacts with switch open	1 min. dry (kV effective)	77	77	88	105	132
		10 sec. wet (kV effective)	66	66	77	88	110
Rated current (A)			630	630	630	630	630
Withstand current	Rated short-time withstand current (kA effective)		25	25	25	25	25
	Rated peak withstand current (kA)		65	65	65	65	65

COGC & COG THREE-POLE

General description
» COGC 3-pole group-operated load break switch disconnectors and COG 3-pole group-operated no load break switch disconnectors (with or without arcing chamber) are lateral opening with insulators in V & H configurations. Choice of porcelain or synthetic insulators.
» Horizontal or vertical post-mount, not grounded, with handle or pole operation.

Characteristics
» Maximum design voltage from 15 to 38 kV
» Standard operating frequency, 60 Hz
» Rated current, 630 amperes (A)
» Lightning-impulse withstand voltage (BIL) from 125 to 250 kV

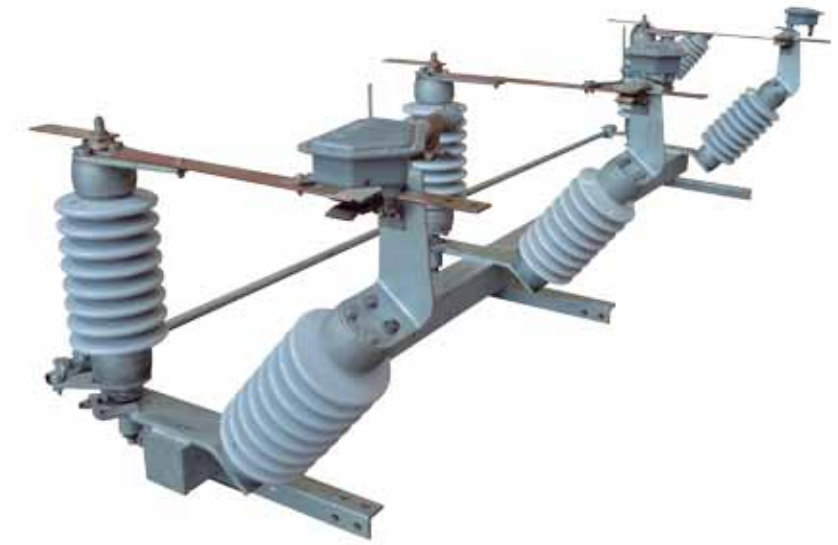
Applications
» Used in overhead distribution grids.

Advantages
» Suitable for use in areas with different levels of contamination.

Applicable standards
» CFE V4210-50
» NMX-J-323-ANCE
» IEC 60168
» IEC 60265-1
» IEC 62271-102

Abbreviations
» COG: Group-operated switch disconnector
» COGC: Group-operated switch disconnector with load break
» 15: Rated voltage
» 25,8: Rated voltage
» 38: Rated voltage
» 125: Lightning-impulse withstand voltage
» 150: Lightning-impulse withstand voltage
» 170: Lightning-impulse withstand voltage
» 200: Lightning-impulse withstand voltage
» 250: Lightning-impulse withstand voltage
» V: Insulators in 45° V-configuration
» V90: Insulators in 90° V-configuration
» M: Handle operation
» P: Pole operation
» H: Horizontal-mount
» V: Vertical-mount

Notes
» The letters V/V90 in the brief CFE description for these switch disconnectors refer to insulator position, not to mounting type. The insulator position, type of operation, and mounting position should be specified when ordering



SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V-M-H	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-25150-V-M-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-25170-V-M-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-38200-V-M-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-38250-V-M-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V-M-V	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-25150-V-M-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-25170-V-M-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-38200-V-M-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-38250-V-M-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1

SWITCH DISCONNECTORS

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V-P-H	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-25150-V-P-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-25170-V-P-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-38200-V-P-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-38250-V-P-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V-P-V	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-25150-V-P-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-25170-V-P-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-38200-V-P-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-38250-V-P-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V90-M-H	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-25150-V90-M-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-25170-V90-M-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-38200-V90-M-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGII-38250-V90-M-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
90°V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V90-M-V	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
	COGII-25150-V90-M-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-25170-V90-M-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-38200-V90-M-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGII-38250-V90-M-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
90°V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V90-P-H	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-25150-V90-P-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-25170-V90-P-H	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-38200-V90-P-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGII-38250-V90-P-H	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, NO LOAD BREAK			
90°V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGII-15125-V90-P-V	Three-pole switch disconnector, group operation, no load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
	COGII-25150-V90-P-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-25170-V90-P-V	Three-pole switch disconnector, group operation, no load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-38200-V90-P-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGII-38250-V90-P-V	Three-pole switch disconnector, group operation, no load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
292958	COGCII-15125-V-M-H	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGCII-25150-V-M-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
325052	COGCII-25170-V-M-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
210842	COGCII-38200-V-M-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1
210814	COGCII-38250-V-M-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, V-configuration horizontal-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
221313	COGCII-15125-V-M-V	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
-	COGCII-25150-V-M-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
221314	COGCII-25170-V-M-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
221311	COGCII-38200-V-M-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1
221312	COGCII-38250-V-M-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, V-configuration vertical-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
325145	COGCII-15125-V-P-H	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-25150-V-P-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
325143	COGCII-25170-V-P-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-38200-V-P-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-38250-V-P-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, V-configuration horizontal-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
325057	COGCII-15125-V-P-V	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-25150-V-P-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
325054	COGCII-25170-V-P-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-38200-V-P-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-38250-V-P-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, V-configuration vertical-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
90°V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
325056	COGCII-15125-V90-M-H	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGCII-25150-V90-M-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration horizontal-mount insulators, handle-operated driver	1
325053	COGCII-25170-V90-M-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGCII-38200-V90-M-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration horizontal-mount insulators, handle-operated driver	1
-	COGCII-38250-V90-M-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration horizontal-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
90°V-CONFIGURATION INSULATORS - HANDLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
-	COGCII-15125-V90-M-V	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGCII-25150-V90-M-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGCII-25170-V90-M-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGCII-38200-V90-M-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1
-	COGCII-38250-V90-M-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration vertical-mount insulators, handle-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
90°V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - HORIZONTAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
325146	COGCII-15125-V90-P-H	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-25150-V90-P-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
325144	COGCII-25170-V90-P-H	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-38200-V90-P-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1
-	COGCII-38250-V90-P-H	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration horizontal-mount insulators, pole-operated driver	1

SWITCH DISCONNECTOR, GROUP-OPERATION, W/LOAD BREAK			
90°V-CONFIGURATION INSULATORS - POLE-OPERATED DRIVER - VERTICAL-MOUNT			
CODE	CAT.	DESCRIPTION	MASTER
325058	COGCII-15125-V90-P-V	Three-pole switch disconnector, group operation, w/load break, 15 kV at 630 A, 125 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-25150-V90-P-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 150 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
325055	COGCII-25170-V90-P-V	Three-pole switch disconnector, group operation, w/load break, 25 kV at 630 A, 170 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-38200-V90-P-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 200 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1
-	COGCII-38250-V90-P-V	Three-pole switch disconnector, group operation, w/load break, 38 kV at 630 A, 250 kV BIL, 90°V-configuration vertical-mount insulators, pole-operated driver	1

SWITCH DISCONNECTORS

SPECIFICATIONS			CUCHILLA DE OPERACIÓN EN GRUPO SIN CARGA				
			COGII-15125-V-M-H	COGII-15125-V90-M-H	COGII-25150-V-M-H	COGII-25150-V90-M-H	COGII-25170-V-M-H
			COGII-15125-V-M-V	COGII-15125-V90-M-V	COGII-25150-V-M-V	COGII-25150-V90-M-V	COGII-25170-V-M-V
			COGII-15125-V-P-H	COGII-15125-V90-P-H	COGII-25150-V-P-H	COGII-25150-V90-P-H	COGII-25170-V-P-H
			COGII-15125-V-P-V	COGII-15125-V90-P-V	COGII-25150-V-P-V	COGII-25150-V90-P-V	COGII-25170-V-P-V
Brief CFE description			COG-15-125-V	COG-15-125-V90	COG-25,8-150-V	COG-25,8-150-V90	COG-25,8-170-V
Nominal system voltage (kV)			13,8	13,8	23	23	23
Maximum design voltage (kV)			15	15	25,8	25,8	25,8
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		125	125	150	150	170
	Between contacts with switch open (kV)		145	145	165	165	195
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	70	70	70	70	80
		10 sec. wet (kV effective)	60	60	60	60	70
	Between contacts with switch open	1 min. dry (kV effective)	77	77	77	77	88
		10 sec. wet (kV effective)	66	66	66	66	77
Rated current (A)			630	630	630	630	630
Operation	With load (yes/no)		No	No	No	No	No
	Rated short-time withstand current	Intensity (kA)	25	25	25	25	25
		Times	1	1	1	1	1

SPECIFICATIONS			CUCHILLA DE OPERACIÓN EN GRUPO SIN CARGA				
			COGII-25170-V90-M-H	COGII-38200-V-M-H	COGII-38200-V90-M-H	COGII-38250-V-M-H	COGII-38250-V90-M-H
			COGII-25170-V90-M-V	COGII-38200-V-M-V	COGII-38200-V90-M-V	COGII-38250-V-M-V	COGII-38250-V90-M-V
			COGII-25170-V90-P-H	COGII-38200-V-P-H	COGII-38200-V90-P-H	COGII-38250-V-P-H	COGII-38250-V90-P-H
			COGII-25170-V90-P-V	COGII-38200-V-P-V	COGII-38200-V90-P-V	COGII-38250-V-P-V	COGII-38250-V90-P-V
Brief CFE description			COG-25,8-170-V90	COG-38-200-V	COG-38-200-V90	COG-38-250-V	COG-38-250-V90
Nominal system voltage (kV)			23	34,5	34,5	34,5	34,5
Maximum design voltage (kV)			25,8	38	38	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		170	200	200	250	250
	Between contacts with switch open (kV)		195	220	220	275	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	80	95	95	120	120
		10 sec. wet (kV effective)	70	80	80	100	100
	Between contacts with switch open	1 min. dry (kV effective)	88	105	105	132	132
		10 sec. wet (kV effective)	77	88	88	110	110
Rated current (A)			630	630	630	630	630
Operation	With load (yes/no)		No	No	No	No	No
	Rated short-time withstand current	Intensity (kA)	25	25	25	25	25
		Times	1	1	1	1	1

SPECIFICATIONS			CUCHILLA DE OPERACIÓN EN GRUPO CON CARGA				
			COGCII-15125-V-M-H	COGCII-15125-V90-M-H	COGCII-25150-V-M-H	COGCII-25150-V90-M-H	COGCII-25170-V-M-H
			COGCII-15125-V-M-V	COGCII-15125-V90-M-V	COGCII-25150-V-M-V	COGCII-25150-V90-M-V	COGCII-25170-V-M-V
			COGCII-15125-V-P-H	COGCII-15125-V90-P-H	COGCII-25150-V-P-H	COGCII-25150-V90-P-H	COGCII-25170-V-P-H
			COGCII-15125-V-P-V	COGCII-15125-V90-P-V	COGCII-25150-V-P-V	COGCII-25150-V90-P-V	COGCII-25170-V-P-V
Brief CFE description			COGC-15-125-V	COGC-15-125-V90	COGC-25,8-150-V	COGC-25,8-150-V90	COGC-25,8-170-V
Nominal system voltage (kV)			13,8	13,8	23	23	23
Maximum design voltage (kV)			15	15	25,8	25,8	25,8
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		125	125	150	150	170
	Between contacts with switch open (kV)		145	145	165	165	195
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	70	70	70	70	80
		10 sec. wet (kV effective)	60	60	60	60	70
	Between contacts with switch open	1 min. dry (kV effective)	77	77	77	77	88
		10 sec. wet (kV effective)	66	66	66	66	77
Rated current (A)			630	630	630	630	630
Operation	With load (yes/no)		Sí	Sí	Sí	Sí	Sí
	Rated short-time withstand current	Intensity (kA)	16,0	16,0	16,0	16,0	16,0
		Times	3	3	3	3	3

SPECIFICATIONS			CUCHILLA DE OPERACIÓN EN GRUPO CON CARGA				
			COGCII-25170-V90-M-H	COGCII-38200-V-M-H	COGCII-38200-V90-M-H	COGCII-38250-V-M-H	COGCII-38250-V90-M-H
			COGCII-25170-V90-M-V	COGCII-38200-V-M-V	COGCII-38200-V90-M-V	COGCII-38250-V-M-V	COGCII-38250-V90-M-V
			COGCII-25170-V90-P-H	COGCII-38200-V-P-H	COGCII-38200-V90-P-H	COGCII-38250-V-P-H	COGCII-38250-V90-P-H
			COGCII-25170-V90-P-V	COGCII-38200-V-P-V	COGCII-38200-V90-P-V	COGCII-38250-V-P-V	COGCII-38250-V90-P-V
Brief CFE description			COGC-25,8-170-V90	COGC-38-200-V	COGC-38-200-V90	COGC-38-250-V	COGC-38-250-V90
Nominal system voltage (kV)			23	34,5	34,5	34,5	34,5
Maximum design voltage (kV)			25,8	38	38	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground and between contacts (kV)		170	200	200	250	250
	Between contacts with switch open (kV)		195	220	220	275	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	80	95	95	120	120
		10 sec. wet (kV effective)	70	80	80	100	100
	Between contacts with switch open	1 min. dry (kV effective)	88	105	105	132	132
		10 sec. wet (kV effective)	77	88	88	110	110
Rated current (A)			630	630	630	630	630
Operation	With load (yes/no)		Sí	Sí	Sí	Sí	Sí
	Rated short-time withstand current	Intensity (kA)	16,0	12,5	12,5	12,5	12,5
		Times	3	3	3	3	3

RTP THREE-POLE

General description
»RTP harsh weather, air-break, lateral end-opening no load break disconnector switches operate in group. The three column-type insulators are available in pocelain or synthetic.
»Horizontal or vertical mount for different contamination levels.

Characteristics
»Maximum design voltage from 15 to 38 kV
»Standard operating frequency, 60 Hz
»Rated current from 630 to 2 000 amperes (A)
»Lightning-impulse withstand voltage (BIL) from 125 to 250 kV

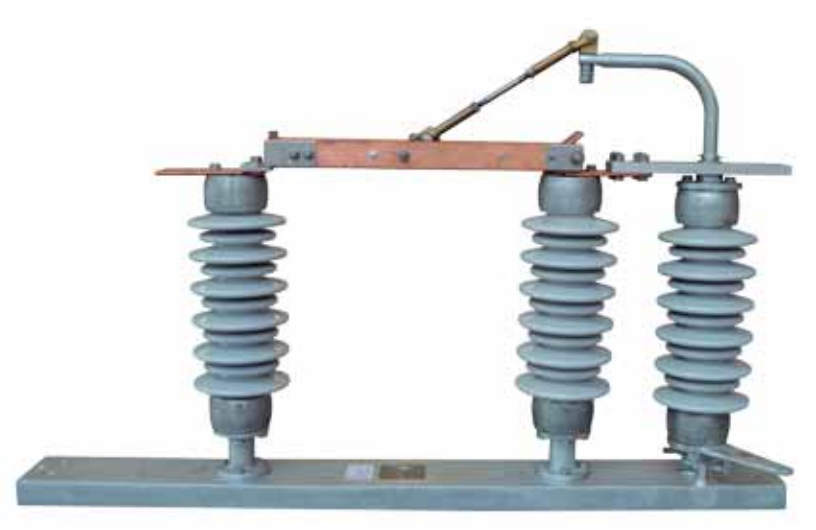
Applications
»Used in substations and distribution grids.

Advantages
»Improved high quality design with excellent electrical and mechanical properties.
»Mounting design different from conventional single-pole switch disconnectors.

Applicable standards
»CFE V4210-50
»NMX-J-323-ANCE
»IEC 60168
»IEC 60265-1
»IEC 62271-102

Abbreviations
»C: Switch disconnector
»S: Substation-type
»A: Type-A vertical opening
»125: Lightning-impulse withstand voltage
»150: Lightning-impulse withstand voltage
»170: Lightning-impulse withstand voltage
»200: Lightning-impulse withstand voltage
»250: Lightning-impulse withstand voltage
»3: 3-pole, group operated
»15: Rated voltage
»25,8: Rated voltage
»38: Rated voltage
»630: Rated current
»1250: Rated current
»2000: Rated current
»H: Horizontal-mount
»V: Vertical-mount

Notes
»The letters H/V in the brief CFE description for these switch disconnectors refer to mounting type.



CODE	CAT.	DESCRIPTION	MASTER
284858	RTP-63125	Three-pole switch disconnector RTP-63125	1
284859	RTP-63150	Three-pole switch disconnector RTP-63150	1
-	RTP-63170	Three-pole switch disconnector RTP-63170	1
284860	RTP-63200	Three-pole switch disconnector RTP-63200	1
-	RTP-63250	Three-pole switch disconnector RTP-63250	1
284861	RTP-12125	Three-pole switch disconnector RTP-12125	1
284862	RTP-12150	Three-pole switch disconnector RTP-12150	1
-	RTP-12170	Three-pole switch disconnector RTP-12170	1
284863	RTP-12200	Three-pole switch disconnector RTP-12200	1
-	RTP-12250	Three-pole switch disconnector RTP-12250	1
284864	RTP-20125	Three-pole switch disconnector RTP-20125	1
284865	RTP-20150	Three-pole switch disconnector RTP-20150	1
-	RTP-20170	Three-pole switch disconnector RTP-20170	1
284866	RTP-20200	Three-pole switch disconnector RTP-20200	1
-	RTP-20250	Three-pole switch disconnector RTP-20250	1

SPECIFICATIONS			RTP-63125	RTP-63150	RTP-63170	RTP-63200	RTP-63250
Brief CFE description			CSA-125-3-15-630-H/V	CSA-150-3-25,8-630-H/V	CSA-170-3-25,8-630-H/V	CSA-200-3-38-630-H/V	CSA-250-3-38-630-H/V
Nominal system voltage (kV)			13,8	23	23	34,5	34,5
Maximum design voltage (kV)			15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground & between contacts (kV)		125	150	170	200	250
	Open across contacts (kV)		140	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	50	70	80	95	120
		10 sec. wet (kV effective)	45	60	70	80	100
	Between contacts with switch open	1 min. dry (kV effective)	55	77	88	105	132
		10 sec. wet (kV effective)	50	66	77	88	110
Rated current (A)			630	630	630	630	630
Withstand current	Rated short-time withstand current (kA effective)		25	25	25	25	25
	Rated peak withstand current (kA)		65	65	65	65	65

SPECIFICATIONS			RTP-12125	RTP-12150	RTP-12170	RTP-12200	RTP-12250
Brief CFE description			CSA-125-3-15-1250-H/V	CSA-150-3-25,8-1250-H/V	CSA-170-3-25,8-1250-H/V	CSA-200-3-38-1250-H/V	CSA-250-3-38-1250-H/V
Nominal system voltage (kV)			13,8	23	23	34,5	34,5
Maximum design voltage (kV)			15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground & between contacts (kV)		125	150	170	200	250
	Open across contacts (kV)		140	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	50	70	80	95	120
		10 sec. wet (kV effective)	45	60	70	80	100
	Between contacts with switch open	1 min. dry (kV effective)	55	77	88	105	132
		10 sec. wet (kV effective)	50	66	77	88	110
Rated current (A)			1 250	1 250	1 250	1 250	1 250
Withstand current	Rated short-time withstand current (kA effective)		31,5	31,5	31,5	31,5	31,5
	Rated peak withstand current (kA)		81,9	81,9	81,9	81,9	81,9

SPECIFICATIONS			RTP-20125	RTP-20150	RTP-20170	RTP-20200	RTP-20250
Brief CFE description			CSA-125-3-15-2000-H/V	CSA-150-3-25,8-2000-H/V	CSA-170-3-25,8-2000-H/V	CSA-200-3-38-2000-H/V	CSA-250-3-38-2000-H/V
Nominal system voltage (kV)			13,8	23	23	34,5	34,5
Maximum design voltage (kV)			15	25,8	25,8	38	38
Rated lightning-impulse withstand voltage (BIL)	Closed to ground & between contacts (kV)		125	150	170	200	250
	Open across contacts (kV)		140	165	195	220	275
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	50	70	80	95	120
		10 sec. wet (kV effective)	45	60	70	80	100
	Between contacts with switch open	1 min. dry (kV effective)	55	77	88	105	132
		10 sec. wet (kV effective)	50	66	77	88	110
Rated current (A)			2 000	2 000	2 000	2 000	2 000
Withstand current	Rated short-time withstand current (kA effective)		40	40	40	40	40
	Rated peak withstand current (kA)		104	104	104	104	104

TTR6 THREE-POLE

General description
»TTR6 3-pole switch disconnectors are no load break group-operated. Specially designed for voltages superior to 123 kV. Horizontal or vertical mount with or without ground.

Characteristics
»Maximum design voltage from 15 to 170 kV
»Standard operating frequency, 60 Hz
»Rated current from 630 to 2 000 amperes (A)
»Lightning-impulse withstand voltage (BIL) from 125 to 750 kV

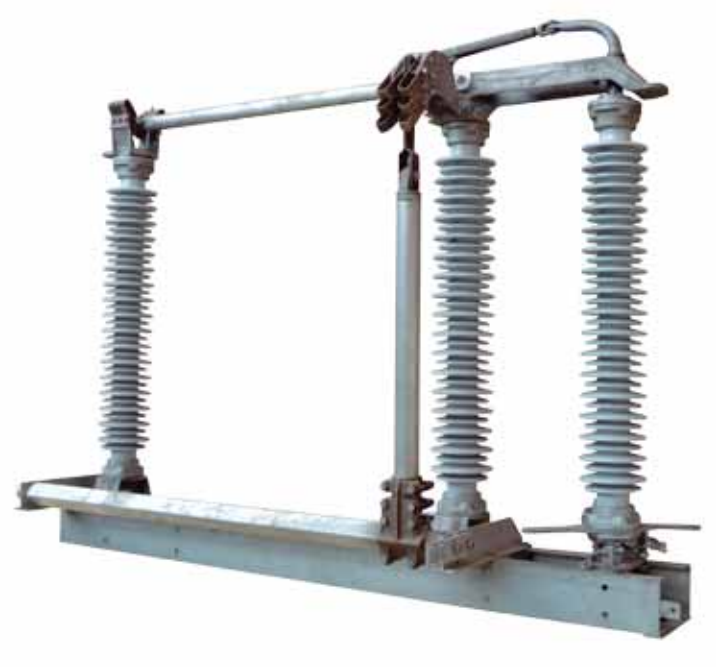
Applications
»Used in stations and substations for transmission and distribution.

Advantages
»Extended service life.
»Design adaptable to any structure.
»Suitable for use in areas with different levels of contamination.

Applicable standards
»CFE V4200-12
»CFE V4200-25
»NMX-J-102-ANCE
»NMX-J-564-ANCE
»IEC 62271-102

Abbreviations
»C: Switch disconnector
»S: Substation-type
»A: Type-A vertical opening
»125: Lightning-impulse withstand voltage
»150: Lightning-impulse withstand voltage
»450: Lightning-impulse withstand voltage
»550: Lightning-impulse withstand voltage
»650: Lightning-impulse withstand voltage
»750: Lightning-impulse withstand voltage
»3: 3-pole, group operated
»15: Rated voltage
»25,8: Rated voltage
»72,5: Rated voltage
»123: Rated voltage
»145: Rated voltage
»170: Rated voltage
»1250: Rated current
»2000: Rated current
»H: Horizontal-mount
»V: Vertical-mount

Notes
»The letters H/V in the brief CFE description for these disconnector switches refer to mounting type.



CODE	CAT.	DESCRIPTION	MASTER
311708	TTR6-125-2000	Three-pole switch disconnector TTR6-125-2000	1
311709	TTR6-150-2000	Three-pole switch disconnector TTR6-150-2000	1
311706	TTR6-450-1250	Three-pole switch disconnector TTR6-450-1250	1
311028	TTR6-550-1250	Three-pole switch disconnector TTR6-550-1250	1
390988	TTR6-550-2000	Three-pole switch disconnector TTR6-550-2000	1
311707	TTR6-650-1250	Three-pole switch disconnector TTR6-650-1250	1
390987	TTR6-650-2000	Three-pole switch disconnector TTR6-650-2000	1
311525	TTR6-750-1250	Three-pole switch disconnector TTR6-750-1250	1
324972	TTR6-750-2000	Three-pole switch disconnector TTR6-750-2000	1

SWITCH DISCONNECTORS

SPECIFICATIONS			TTR6-125-2000	TTR6-150-2000	TTR6-450-1250	TTR6-550-1250	TTR6-550-2000
Brief CFE description			CSA-125-3-15-2000-H/V	CSA-125-3-25,8-2000-H/V	CSA-450-3-72,5-1250-H/V	CSA-550-3-123-1250-H/V	CSA-550-3-123-2000-H/V
Nominal system voltage (kV)			13,8	23	69	115	115
Maximum design voltage (kV)			15	25,8	72,5	123	123
Rated lightning-impulse withstand voltage (BIL)	From phase to ground and between phases with switch closed (kV)		125	150	450	550	550
	Between contacts with switch open (kV)		140	165	520	630	630
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	50	70	185	230	230
		10 sec. wet (kV effective)	45	60	185	230	230
	Between contacts with switch open	1 min. dry (kV effective)	55	77	210	265	265
		10 sec. wet (kV effective)	50	66	210	265	265
Rated power-frequency withstand voltage	From phase to ground (kV)		NA	NA	NA	NA	NA
	Between phasess (kV)		NA	NA	NA	NA	NA
	Between contacts with switch open (kV)		NA	NA	NA	NA	NA
Rated current (A)			2 000	2 000	1 250	1 250	2 000
Withstand current	Rated short-time withstand current (kA effective)		40	40	31,5	31,5	40
	Rated peak withstand current (kA)		104	104	81,9	81,9	104

SPECIFICATIONS			TTR6-650-1250	TTR6-650-2000	TTR6-750-1250	TTR6-750-2000
Brief CFE description			CSA-650-3-145-1250-H/V	CSA-650-3-145-2000-H/V	CSA-750-3-170-1250-H/V	CSA-750-3-170-2000-H/V
Nominal system voltage (kV)			138	138	161	161
Maximum design voltage (kV)			145	145	170	170
Rated lightning-impulse withstand voltage (BIL)	From phase to ground and between phases with switch closed (kV)		650	650	750	750
	Between contacts with switch open (kV)		650	650	750	750
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	275	275	325	325
		10 sec. wet (kV effective)	275	275	325	325
	Between contacts with switch open	1 min. dry (kV effective)	315	315	375	375
		10 sec. wet (kV effective)	315	315	375	375
Rated power-frequency withstand voltage	From phase to ground (kV)		NA	NA	NA	NA
	Between phasess (kV)		NA	NA	NA	NA
	Between contacts with switch open (kV)		NA	NA	NA	NA
Rated current (A)			1 250	2 000	1 250	2 000
Withstand current	Rated short-time withstand current (kA effective)		31,5	40	31,5	40
	Rated peak withstand current (kA)		81,9	104	81,9	104

DRV THREE-POLE

General description
» DRV 3-pole switch disconnectors are lateral-end opening with insulators in a V-configuration in group-operation no load break, grounded or not-grounded with manual or motorized operation.
» Horizontal or vertical mount.

Characteristics
» Maximum design voltage from 72,5 to 170 kV
» Standard operating frequency, 60 Hz
» Rated current from 1 250 to 2 000 amperes (A)
» Lightning-impulse withstand voltage (BIL) from 450 to 750 kV

Applications
» Used for transmission and distribution in substations.

Advantages
» Extended service life.
» Design adaptable to any structure.
» Suitable for use in areas with different levels of contamination.

Applicable standards
» CFE V4200-12
» CFE V4200-25
» NMX-J-102-ANCE
» NMX-J-564-ANCE
» IEC 62271-102

Abbreviations
» C: Switch disconnector
» S: Substation-type
» V: Central-lateral V-configuration
» 450: Lightning-impulse withstand voltage
» 550: Lightning-impulse withstand voltage
» 650: Lightning-impulse withstand voltage
» 750: Lightning-impulse withstand voltage
» 3: 3-pole, group operated
» 72,5: Rated voltage
» 123: Rated voltage
» 145: Rated voltage
» 170: Rated voltage
» 1250: Rated current
» 2000: Rated current
» H: Horizontal-mount
» V: Vertical-mount

Notes
» The letters H/V in the brief CFE description for these switch disconnectors refer to mounting type

CODE	CAT.	DESCRIPTION	MASTER
335253	DRV-450-1250	Three-pole switch disconnector DRV 450-1250	1
335254	DRV-550-1250	Three-pole switch disconnector DRV 550-1250	1
376264	DRV-550-2000	Three-pole switch disconnector DRV 550-2000	1
335255	DRV-650-1250	Three-pole switch disconnector DRV 650-1250	1
363424	DRV-650-2000	Three-pole switch disconnector DRV 650-2000	1
379334	DRV-750-1250	Three-pole switch disconnector DRV 750-1250	1
324973	DRV-750-2000	Three-pole switch disconnector DRV 750-2000	1

SPECIFICATIONS			DRV-450-1250	DRV-550-1250	DRV-550-2000	DRV-650-1250	DRV-650-2000	DRV-750-1250	DRV-750-2000
Brief CFE description			CSV-450-3-72,5-1250-H/V	CSV-550-3-123-1250-H/V	CSV-550-3-123-2000-H/V	CSV-650-3-145-1250-H/V	CSV-650-3-145-2000-H/V	CSV-750-3-170-1250-H/V	CSV-750-3-170-2000-H/V
Nominal system voltage (kV)			69	115	115	138	138	161	161
Maximum design voltage (kV)			72,5	123	123	145	145	170	170
Rated lightning-impulse withstand voltage (BIL)	From phase to ground and between phases with switch closed (kV)		450	550	550	650	650	750	750
	Between contacts with switch open (kV)		520	630	630	750	750	860	860
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	185	230	230	275	275	325	325
		10 sec. wet (kV effective)	185	230	230	275	275	325	325
	Between contacts with switch open	1 min. dry (kV effective)	210	265	265	315	315	375	375
		10 sec. wet (kV effective)	210	265	265	315	315	375	375
Rated power-frequency withstand voltage	From phase to ground (kV)		NA	NA	NA	NA	NA	NA	NA
	Between phases (kV)		NA	NA	NA	NA	NA	NA	NA
	Between contacts with switch open (kV)		NA	NA	NA	NA	NA	NA	NA
Rated current (A)			1 250	1 250	2 000	1 250	2 000	1 250	2 000
Withstand current	Rated short-time withstand current (kA effective)		31,5	31,5	40	31,5	40	31,5	40
	Rated peak withstand current (kA)		81,9	81,9	104	81,9	104	81,9	104

SWITCH DISCONNECTORS

PANTOGRAPH THREE-POLE

General description
» 3-pole pantograph-type switch disconnectors use a motorized mechanism.
» Horizontal-mount only.

Characteristics
» Maximum design voltage from 123 to 420 kV
» Standard operating frequency, 60 Hz
» Rated current 2 000 amperes (A)
» Lightning-impulse withstand voltage (BIL) from 1 050 to 1 425 kV

Applications
» Used in stations and substations for transmission and distribution.

Advantages
» Extended service life.
» Design adaptable to any structure.
» Suitable for use in areas with different levels of contamination.

Applicable standards
» CFE V4200-12
» NMX-J-323-ANCE
» IEC 60168
» IEC 62217
» IEC 62271-102

Notes
» Pantograph-type switch disconnector specifications are written by CFE and are not included in this document.

CODE	CAT.	DESCRIPTION	MASTER
216995	SP-123-550	Three-pole pantograph switch disconnector SP-123-550 3 ACC	1
216996	SP-123-650	Three-pole pantograph switch disconnector SP-123-650 3 ACC	1
216997	SP-245-1050	Three-pole pantograph switch disconnector SP-245-1050 3 ACC	1
216998	SP-245-1175	Three-pole pantograph switch disconnector SP-245-1175 3 ACC	1
216999	SP-420-1425	Three-pole pantograph switch disconnector SP-420-1425 3 ACC	1
217000	SP-420-1550	Three-pole pantograph switch disconnector SP-420-1550 3 ACC	1

SPECIFICATIONS			SP-123-550	SP-123-650	SP-245-1050	SP-245-1175	SP-420-1425	SP-420-1550
Nominal system voltage (kV)			115	115	230	230	400	400
Maximum design voltage (kV)			123	123	245	245	420	420
Rated lightning-impulse withstand voltage (BIL)	From phase to ground and between phases with switch closed (kV)		550	650	1 050	1 175	1 425	1 550
	Open across contacts with switch open (kV)		630	750	1 200	1 175 (+205)	1 425 (+240)	1 550 (+315)
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	230	275	460	460	520	620
		10 sec. wet (kV effective)	230	275	460	460	520	620
	Between contacts with switch open	1 min. dry (kV effective)	265	315	530	520	610	800
		10 sec. wet (kV effective)	265	315	530	520	610	800
Rated power-frequency withstand voltage	From phase to ground (kV)		NA	NA	NA	950	1 050	1 175
	Between phases (kV)		NA	NA	NA	1 425	1 575	1 760
	Between contacts with switch open (kV)		NA	NA	NA	800 (+295)	900 (+345)	900 (+450)
Rated current (A)			2 000	2 000	2 000	2 000	2 000	2 000
Withstand current	Rated short-time withstand current (kA effective)		40	40	50	50	50	50
	Rated peak withstand current (kA)		104	104	130	130	130	130

TTT-7 THREE-POLE

General description
»TTT-7 switch disconnectors are double lateral-central opening with three column-type insulators with revolving center pole. Group-operated without load, grounded or not grounded, with motorized operation for the main switch. Horizontal-mount only.

Characteristics
»Maximum design voltage from 245 to 420 kV
»Standard operating frequency, 60 Hz
»Rated current 2 000 amperes (A)
»Lightning-impulse withstand voltage (BIL) from 1 050 to 1 550 kV

Applications
»Used in stations and substations for transmission and distribution.

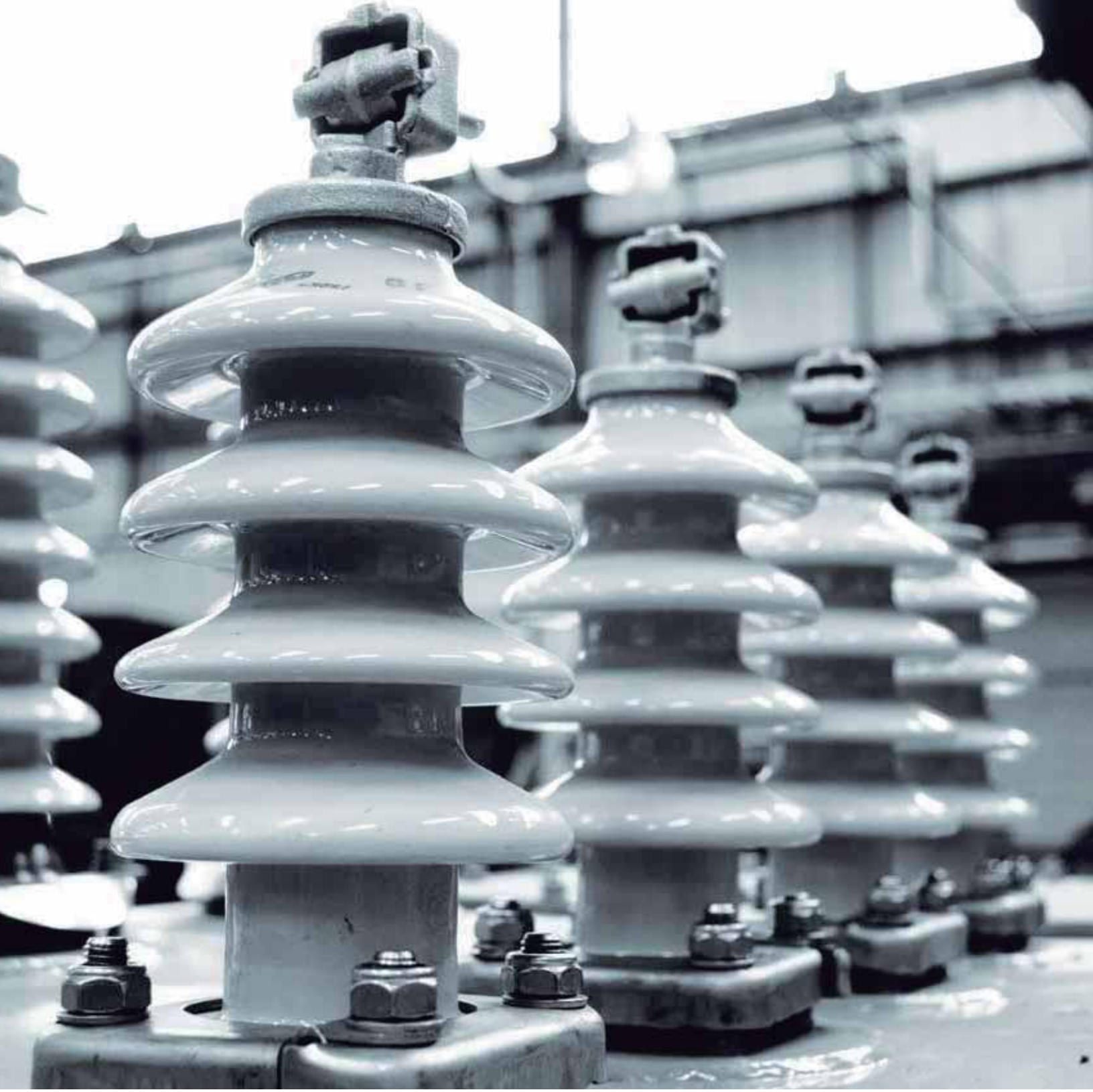
Advantages
»Extended service life.
»Design adaptable to any structure.
»Suitable for use in areas with different levels of contamination.

Applicable standards
»CFE V4200-12
»NMX-J-102-ANCE
»NMX-J-564-ANCE
»IEC 62271-102

Notes
»TTT-7 switch disconnectors specifications are written by CFE and are not included in this document. For questions regarding the 3 150 ampere (A), please contact our engineering area.

CODE	CAT.	DESCRIPTION	MASTER
372053	TTT7-1050-2000	Three-pole switch disconnector TTT7-1050-2000 w/o shield	1
384787	TTT7-1175-2000	Three-pole switch disconnector TTT7-1175-2000 w/o shield	1
372052	TTT7-1425-2000	Three-pole switch disconnector TTT7-1425-2000 w/o shield	1
318728	TTT7-1550-2000	Three-pole switch disconnector TTT7-1550-2000 w/o shield	1

SPECIFICATIONS			TT7-1050-2000	TT7-1175-2000	TT7-1425-2000	TT7-1550-2000
Nominal system voltage (kV)			230	230	400	400
Maximum design voltage (kV)			245	245	420	420
Rated lightning-impulse withstand voltage (BIL)	From phase to ground and between phases with switch closed (kV)		1 050	1 175	1 425	1 550
	Open across contacts with switch open (kV)		1 200	1 175 (+205)	1 425 (+240)	1 550 (+315)
Rated withstand voltage at system frequency	Closed to ground and between contacts	1 min. dry (kV effective)	460	450	520	620
		10 sec. wet (kV effective)	460	450	520	620
	Between contacts with switch open	1 min. dry (kV effective)	530	520	610	800
		10 sec. wet (kV effective)	530	520	610	800
Rated power-frequency withstand voltage	From phase to ground (kV)		NA	950	1 050	1 175
	Between phases (kV)		NA	1 425	1 575	1 760
	Between contacts with switch open (kV)		NA	800 (+295)	900 (+345)	900 (+450)
Rated current (A)			2 000	2 000	2 000	2 000
Withstand current	Rated short-time withstand current (kA effective)		50	50	50	50
	Rated peak withstand current (kA)		130	130	130	130



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TRANSFORMERS

SINGLE-PHASE

POST-MOUNT

General description
» Designed for overhead distribution grids. Configured for installation on a post or similar structure.
» Standard and costal region models available.

Characteristics
» Built to specification by customer request, from 10 to 100 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV & 33 kV
» Custom built to operate at any desired secondary voltage, standard value being 120/240 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 200 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude is 2 300 meters above sea level (MASL)
» Conventional and YT connection.
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Optional thermomagnetic interruptor
» Models available for normal or hot climates, or for highly contaminated areas, with suitable insulators.
» Clema-type bushings for medium and low voltage
» Designed with rectangular tank
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in overhead distribution systems.

Advantages
» Quick and easy installation with dependable energy distribution.
» Savings on initial investment.
» Versatility in both rural and urban electrical grids.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-116-ANCE
» NMX-J-123-ANCE
» NMX-J-169-ANCE

Abbreviations
» TPO: Post-mount transformer
» 1: Single-phase
» J: J-Class
» YT: Neutral ground connection
» ACI: Stainless steel

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	10 to 100
Rated medium voltage capacity (kV)	13,2
	23
	33
Rated low voltage capacity (V)	120/240
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
	200
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2 300
Connection	YT (1P + 1N)
	Conventional (2P)
Tap changer (optional)	Yes
Thermomagnetic interruptor (optional)	Yes
Medium voltage lightning arrester (optional)	Yes
Low voltage lightning arrester (optional)	Yes
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-116-ANCE

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
13 200YT/7 620 - 120/240 VOLT			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	TPO-1-J-10kVA-13,2YT-240	Single-phase post-mount YT transformer with tank and cover fabricated in carbon steel. Primary voltage 13 200YT/7 620 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-13,2YT-240		1
-	TPO-1-J-25kVA-13,2YT-240		1
-	TPO-1-J-37,5kVA-13,2YT-240		1
-	TPO-1-J-50kVA-13,2YT-240		1
	TPO-1-J-75kVA-13,2YT-240		1
-	TPO-1-J-100kVA-13,2YT-240		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
13 200 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-13,2-240	Single-phase post-mount conventional transformer with tank and cover fabricated in carbon steel. Primary voltage 13 200V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-13,2-240		1
-	TPO-1-J-25kVA-13,2-240		1
-	TPO-1-J-37,5kVA-13,2-240		1
-	TPO-1-J-50kVA-13,2-240		1
	TPO-1-J-75kVA-13,2-240		1
-	TPO-1-J-100kVA-13,2-240		1

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
23 000YT/13 280 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-23YT-240	Single-phase post-mount YT transformer with tank and cover fabricated in carbon steel. Primary voltage 23 000YT/13 280 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-23YT-240		1
-	TPO-1-J-25kVA-23YT-240		1
-	TPO-1-J-37,5kVA-23YT-240		1
-	TPO-1-J-50kVA-23YT-240		1
	TPO-1-J-75kVA-23YT-240		
-	TPO-1-J-100kVA-23YT-240		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
23 000 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-23-240	Single-phase post-mount conventional transformer with tank and cover fabricated in carbon steel. Primary voltage 23 000 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-23-240		1
-	TPO-1-J-25kVA-23-240		1
-	TPO-1-J-37,5kVA-23-240		1
-	TPO-1-J-50kVA-23-240		1
	TPO-1-J-75kVA-23-240		
-	TPO-1-J-100kVA-23-240		1

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
33 000YT/19 050 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-33YT-240	Single-phase post-mount YT transformer with tank and cover fabricated in carbon steel. Primary voltage 33 000YT/19 050 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-33YT-240		1
-	TPO-1-J-25kVA-33YT-240		1
-	TPO-1-J-37,5kVA-33YT-240		1
-	TPO-1-J-50kVA-33YT-240		1
-	TPO-1-J-75kVA-33YT-240		
-	TPO-1-J-100kVA-33YT-240		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
33 000 - 120/240 VOLTS			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-33-240	Single-phase post-mount conventional transformer with tank and cover fabricated in carbon steel. Primary voltage 33 000 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-33-240		1
-	TPO-1-J-25kVA-33-240		1
-	TPO-1-J-37,5kVA-33-240		1
-	TPO-1-J-50kVA-33-240		1
	TPO-1-J-75kVA-33-240		1
-	TPO-1-J-100kVA-33-240		1

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
13 200YT/7 620 - 120/240 VOLTS			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-13,2YT-240-ACI	Single-phase post-mount YT transformer with tank and cover fabricated in stainless steel. Primary voltage 13 200YT/7 620 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-13,2YT-240-ACI		1
-	TPO-1-J-25kVA-13,2YT-240-ACI		1
-	TPO-1-J-37,5kVA-13,2YT-240-ACI		1
-	TPO-1-J-50kVA-13,2YT-240-ACI		1
-	TPO-1-J-75kVA-13,2YT-240-ACI		
-	TPO-1-J-100kVA-13,2YT-240-ACI		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
13 200 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-13,2-240-ACI	Single-phase post-mount conventional transformer with tank and cover fabricated in stainless steel. Primary voltage 13 200 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-13,2-240-ACI		1
-	TPO-1-J-25kVA-13,2-240-ACI		1
-	TPO-1-J-37,5kVA-13,2-240-ACI		1
-	TPO-1-J-50kVA-13,2-240-ACI		1
-	TPO-1-J-75kVA-13,2-240-ACI		1
-	TPO-1-J-100kVA-13,2-240-ACI		1

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
23 000YT/13 280 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-23YT-240-ACI	Single-phase post-mount YT transformer with tank and cover fabricated in stainless steel. Primary voltage 23 000YT/13 280 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-23YT-240-ACI		1
-	TPO-1-J-25kVA-23YT-240-ACI		1
-	TPO-1-J-37,5kVA-23YT-240-ACI		1
-	TPO-1-J-50kVA-23YT-240-ACI		1
-	TPO-1-J-75kVA-23YT-240-ACI		1
-	TPO-1-J-100kVA-23YT-240-ACI		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
23 000 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-23-240-ACI	Single-phase post-mount conventional transformer with tank and cover fabricated in stainless steel. Primary voltage 23 000 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-23-240-ACI		1
-	TPO-1-J-25kVA-23-240-ACI		1
-	TPO-1-J-37,5kVA-23-240-ACI		1
-	TPO-1-J-50kVA-23-240-ACI		1
-	TPO-1-J-75kVA-23-240-ACI		1
-	TPO-1-J-100kVA-23-240-ACI		1

SINGLE-PHASE POST-MOUNT YT TRANSFORMER			
33 000YT/19 050 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-33YT-240-ACI	Single-phase post-mount YT transformer with tank and cover fabricated in stainless steel. Primary voltage 33 000YT/19 050 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-33YT-240-ACI		1
-	TPO-1-J-25kVA-33YT-240-ACI		1
-	TPO-1-J-37,5kVA-33YT-240-ACI		1
-	TPO-1-J-50kVA-33YT-240-ACI		1
-	TPO-1-J-75kVA-33YT-240-ACI		1
-	TPO-1-J-100kVA-33YT-240-ACI		1

SINGLE-PHASE POST-MOUNT CONVENTIONAL TRANSFORMER			
33 000 - 120/240 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-1-J-10kVA-33-240-ACI	Single-phase post-mount conventional transformer with tank and cover fabricated in stainless steel. Primary voltage 33 000 V from 2 phases. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema-type bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-1-J-15kVA-33-240-ACI		1
-	TPO-1-J-25kVA-33-240-ACI		1
-	TPO-1-J-37,5kVA-33-240-ACI		1
-	TPO-1-J-50kVA-33-240-ACI		1
-	TPO-1-J-75kVA-33-240-ACI		1
-	TPO-1-J-100kVA-33-240-ACI		1

PAD-MOUNT

General description
» Transformer paired with a cabinet which includes connection accessories for connecting to underground single-phase distribution systems. Designed for pad mounting and harsh weather conditions.

Characteristics
» Built to specification by customer request, from 15 to 100k VA
» Operates at any medium voltage load such as 13,2 kV; 22,86 kV & 33 kV
» Custom built to operate at any desired secondary voltage, standard value being 120/240 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude is 2 300 meters above sea level (MASL)
» YT connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Optional thermomagnetic interruptor
» Optional failure indicator
» Radial or ring main operation
» Models available for normal or hot climates
» Well-type bushings in medium voltage mode
» Square-type bushings with voltage supressors for 4 low voltage circuits
» Protection coordination by means of bayonet-type expulsion fuse
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in underground distribution systems.

Advantages
» Superior resistance to extreme conditions.
» Secure distribution system, no live electrical parts exposed, eliminating shock hazard.
» Complementary accessories and terminals.
» Security and estetics in a distribution system.

Applicable standards
» CFE K0000-04
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-285-ANCE

Abbreviations
» TP: Pad-mount transformer
» J: J-Class
» YT: Neutral ground connection
» ACI: Stainless steel

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department

SPECIFICATIONS	
Capacity (kVA)	15 to 100
Rated medium voltage capacity (kV)	13,2
	22,86
	33
Rated low voltage capacity (V)	240/120
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2 300
Connection	YT (1P + 1N)
Tap changer (optional)	Yes
Thermomagnetic interruptor (optional)	Yes
Failure indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-285-ANCE

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
13 200YT/7 620 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
285054	TP-1-J-15kVA-13,2YT-240-RADIAL	Single-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 13 200YT/7 620 V from a single phase. Secondary voltage 240/12 0V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
361759	TP-1-J-25kVA-13,2YT-240-RADIAL		1
-	TP-1-J-37,5kVA-13,2YT-240-RADIAL		1
361778	TP-1-J-50kVA-13,2YT-240-RADIAL		1
-	TP-1-J-75kVA-13,2YT-240-RADIAL		1
-	TP-1-J-100kVA-13,2YT-240-RADIAL		1

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
13 200YT/7 620 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-1-J-15kVA-13,2YT-240-RADIAL-ACI	Single-phase pad-mount transformer with tank and cabinet fabricated in stainless steel. Primary voltage 13 200YT/7 620 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors, and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-1-J-25kVA-13,2YT-240-RADIAL-ACI		1
-	TP-1-J-37,5kVA-13,2YT-240-RADIAL-ACI		1
-	TP-1-J-50kVA-13,2YT-240-RADIAL-ACI		1
-	TP-1-J-75kVA-13,2YT-240-RADIAL-ACI		1
-	TP-1-J-100kVA-13,2YT-240-RADIAL-ACI		1

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
22 860YT/13 200 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-1-J-15kVA-22,86YT-240-RADIAL	Single-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 22 860YT/13 200 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors, and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-1-J-25kVA-22,86YT-240-RADIAL		1
-	TP-1-J-37,5kVA-22,86YT-240-RADIAL		1
-	TP-1-J-50kVA-22,86YT-240-RADIAL		1
-	TP-1-J-75kVA-22,86YT-240-RADIAL		1
-	TP-1-J-100kVA-22,86YT-240-RADIAL		1

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
22 860YT/13 200 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-1-J-15kVA-22,86YT-240-RADIAL-ACI	Single-phase pad-mount transformer with tank and cabinet fabricated in stainless steel. Primary voltage 22 860YT/13 200 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors, and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-1-J-25kVA-22,86YT-240-RADIAL-ACI		1
-	TP-1-J-37,5kVA-22,86YT-240-RADIAL-ACI		1
-	TP-1-J-50kVA-22,86YT-240-RADIAL-ACI		1
-	TP-1-J-75kVA-22,86YT-240-RADIAL-ACI		1
-	TP-1-J-100kVA-22,86YT-240-RADIAL-ACI		1

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
33 000YT/19 050 - 240/120 VOLTS			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-1-J-15kVA-33YT-240-RADIAL	Single-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 33 000YT/19 050 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage.Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors, and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-1-J-25kVA-33YT-240-RADIAL		1
-	TP-1-J-37,5kVA-33YT-240-RADIAL		1
-	TP-1-J-50kVA-33YT-240-RADIAL		1
-	TP-1-J-75kVA-33YT-240-RADIAL		1
361762	TP-1-J-100kVA-33YT-240-RADIAL		1

SINGLE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
33 000YT/19 050 - 240/120 VOLTS			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-1-J-15kVA-33YT-240-RADIAL-ACI	Single-phase pad-mount transformer with tank and cabinet fabricated in stainless steel. Primary voltage 33 000YT/19 050 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type bushings and square-type low voltage bushings with suppressors, and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-1-J-25kVA-33YT-240-RADIAL-ACI		1
-	TP-1-J-37,5kVA-33YT-240-RADIAL-ACI		1
-	TP-1-J-50kVA-33YT-240-RADIAL-ACI		1
-	TP-1-J-75kVA-33YT-240-RADIAL-ACI		1
-	TP-1-J-100kVA-33YT-240-RADIAL-ACI		1

SINGLE-PHASE

SUBMERSIBLE

General description
» Transformer designed for vault installation. Hermetically sealed accessories withstand ocassional flooding with dead front for connection in underground distribution systems.

Characteristics
» Built to specification by customer request, from 25 to 100 kVA
» Operates at any medium voltage load such as 13,2 kV; 22,86 kV & 33 kV
» Custom built to operate at any desired secondary voltage, standard value being 120/240 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» YT connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Radial or ring main operation
» Models available for normal or hot climates
» Well-type bushings in medium voltage mode
» Spring-type bushings in low voltage mode
» Protection coordination by means of bayonet-type expulsion fuse
» Single-phase selector for low-load operation
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in underground distribution systems.

Advantages
» Optimal use of space
» Superior operation reliability.
» Outstanding protection against the elements and vandalism.
» Security and estetics for distribution systems.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-287-ANCE

Abbreviations
» SUMERG: Submersible transformer
» 1: Single-phase
» J: J-Class
» YT: Neutral ground connection
» ACI: Stainless steel

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	25 to 100
Rated medium capacity (kV)	13,2
	22,86
	33
Rated low voltage capacity (V)	240/120
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altutude (MASL)	2 300
Connection	YT (1P + 1N)
Tap changer (optional)	Yes
Type of operation	Radial
	Ring main
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-287-ANCE

SINGLE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
13 200YT/7 620 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-1-J-25kVA-13,2YT-240-RADIAL	Single-phase submersible transformer with carbon steel tank. Primary voltage 13 200YT/7 620 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Medium voltage well-type and low voltage spring-type bushings and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-1-J-37,5kVA-13,2YT-240-RADIAL		1
-	SUMERG-1-J-50kVA-13,2YT-240-RADIAL		1
-	SUMERG-1-J-75kVA-13,2YT-240-RADIAL		1
-	SUMERG-1-J-100kVA-13,2YT-240-RADIAL		1

SINGLE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
13 200YT/7 620 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-1-J-25kVA-13,2YT-240-RADIAL-ACI	Single-phase submersible transformer with stainless steel tank. Primary voltage 13 200YT/7 620 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Medium voltage well-type and low voltage spring-type bushings and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-1-J-37,5kVA-13,2YT-240-RADIAL-ACI		1
-	SUMERG-1-J-50kVA-13,2YT-240-RADIAL-ACI		1
-	SUMERG-1-J-75kVA-13,2YT-240-RADIAL-ACI		1
-	SUMERG-1-J-100kVA-13,2YT-240-RADIAL-ACI		1

SINGLE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
22 860YT/13 200 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-1-J-25kVA-22,86YT-240-RADIAL	Single-phase submersible transformer with carbon steel tank. Primary voltage 22 860YT/13 200 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Medium voltage well-type and low voltage spring-type bushings and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-1-J-37,5kVA-22,86YT-240-RADIAL		1
-	SUMERG-1-J-50kVA-22,86YT-240-RADIAL		1
-	SUMERG-1-J-75kVA-22,86YT-240-RADIAL		1
-	SUMERG-1-J-100kVA-22,86YT-240-RADIAL		1

SINGLE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
22 860YT/13 200 - 240/120 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-1-J-25kVA-22,86YT-240-RADIAL-ACI	Single-phase submersible-type transformer with stainless steel tank. Primary voltage 22 860YT/13 200 V from a single phase. Secondary voltage 240/120 V with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Medium voltage well-type and low voltage spring-type bushings and bayonet ejection fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-1-J-37,5kVA-22,86YT-240-RADIAL-ACI		1
-	SUMERG-1-J-50kVA-22,86YT-240-RADIAL-ACI		1
-	SUMERG-1-J-75kVA-22,86YT-240-RADIAL-ACI		1
-	SUMERG-1-J-100kVA-22,86YT-240-RADIAL-ACI		1

TWO-PHASE PRISM

POST-MOUNT

General description
» Designed for overhead distribution grids. Configured for installation on a post or similar structure.
» Standard and costal region models available.

Characteristics
» Primary operates as a 2-phase, 3-wire system or a 2-phase, 2-wire system
» Secondary operates as a 3-phase, 4-wire system with an additional phase generated
» Built to specification by customer request, from 15 to 105 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 y 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Prism - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Models available for normal or hot climates, or for highly contaminated areas, with suitable insulators
» Clema-type bushings in medium and low voltage mode
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

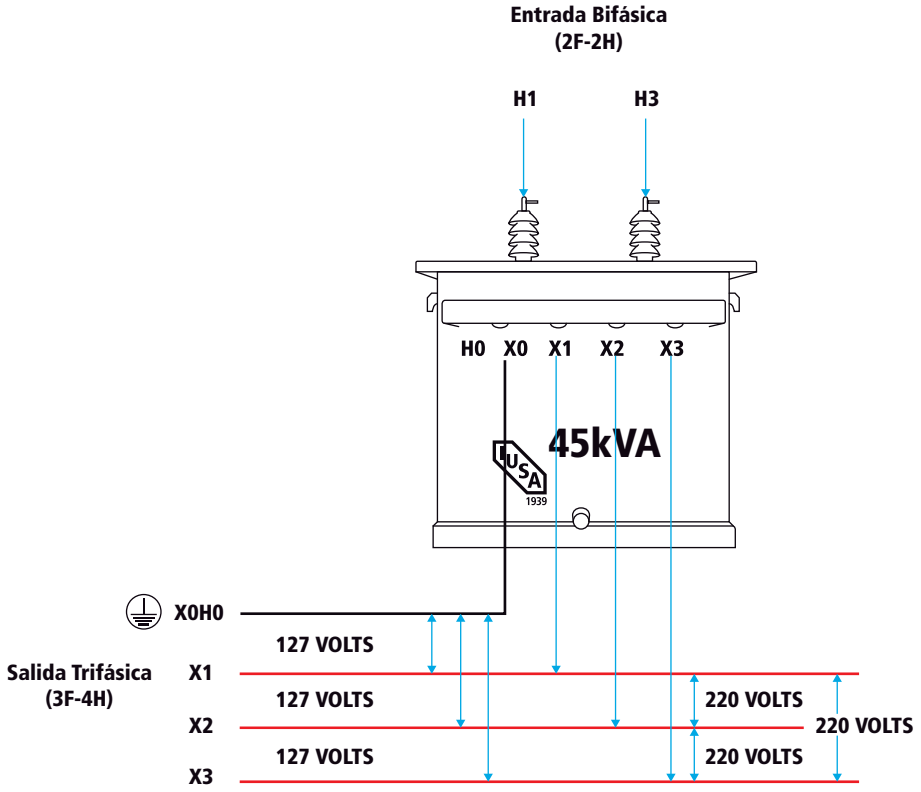
Applications
» Used in overhead distribution systems.

Advantages
» Quick and easy installation with dependable energy distribution.
» Savings on initial investment.
» Versatility in both rural and urban electrial grids.
» Three-phase energy from a two-phase source.
» Energy efficiency ratings superior to conventional 3-phase units.
» Existing 3-phase grids can be interconnected to 2 live lines, with one phase disabled. This configuration facilitates easy maintenance work as well as the ability to immediately restore service in case of failure on one of the active phases.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-116-ANCE
» NMX-J-123-ANCE
» NMX-J-169-ANCE

Abbreviations
» TPOC: Prism post mount transformer
» 2: Two-phase
» J: J-Class
» P: Prism connection
» Y: Star connection

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.



TWO-PHASE POST-MOUNT PRISM TRANSFORMER			
13 200VT/7 620 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
217047	TPOC-2-J-15kVA-13,2P-220Y	Post-mount two-phase to three-phase prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 13 200VT/7 620 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
205040	TPOC-2-J-30kVA-13,2P-220Y		1
285041	TPOC-2-J-45kVA-13,2P-220Y		1
285042	TPOC-2-J-75kVA-13,2P-220Y		1
285043	TPOC-2-J-112,5kVA-13,2P-220Y		1
285044	TPOC-2-J-150kVA-13,2P-220Y		1

TWO-PHASE POST-MOUNT PRISM TRANSFORMER			
23 000VT/13 280 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPOC-2-J-15kVA-23P-220Y	Post-mount two-phase to three-phase prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 23 000VT/13 280 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPOC-2-J-30kVA-23P-220Y		1
-	TPOC-2-J-45kVA-23P-220Y		1
-	TPOC-2-J-75kVA-23P-220Y		1
-	TPOC-2-J-112,5kVA-23P-220Y		1
361721	TPOC-2-J-150kVA-23P-220Y		1

TWO-PHASE POST-MOUNT PRISM TRANSFORMER			
33 000VT/19 050 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
375200	TPOC-2-J-30kVA-33P-220Y	Post-mount two-phase to three-phase prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 33 000VT/19 050 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
361740	TPOC-2-J-45kVA-33P-220Y		1
-	TPOC-2-J-75kVA-33P-220Y		1
361784	TPOC-2-J-112,5kVA-33P-220Y		1
-	TPOC-2-J-150kVA-33P-220Y		1

TWO-PHASE POST-MOUNT PRISM TRANSFORMER			
34 500VT/19 920 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPOC-2-J-30kVA-34,5P-220Y	Post-mount two-phase to three-phase prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 34 500VT/19 920 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPOC-2-J-45kVA-34,5P-220Y		1
-	TPOC-2-J-75kVA-34,5P-220Y		1
-	TPOC-2-J-112,5kVA-34,5P-220Y		1
-	TPOC-2-J-150kVA-34,5P-220Y		1

SPECIFICATIONS	
Capacity (kVA)	15 to 150
Medium-voltage handling capacity (kV)	13,2
	23
	33
	34,5
Low-voltage handling capacity (V)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2 300
Connection	Prism - Star
Tap changer (optional)	Yes
Medium voltage lightning arrester (optional)	Yes
Low voltage lightning arrester (optional)	Yes
Tank material	Carbon Steel
	Stainless steel
Applicable standards	NMX-J-116-ANCE

TWO-PHASE PRISM

SUBSTATION

General description

» Transformer designed for feeding overhead and underground distribution systems. For mounting on a platform, cement pad, or similar structure. Optional throats permit direct connection to medium voltage distribution panels.

Characteristics

» Primary operates as a 2-phase, 3-wire system or a 2-phase, 2-wire system
» Secondary operates as a 3-phase, 4-wire system with an additional phase generated
» Built to specification by customer request, from 225 to 3 500 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Prism - Star connection.
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Cover-type temperature indicator
» Insulation liquid level indicator
» Optional throat couplers for medium and low voltage modes
» High temperature model available (55°C)
» Clema-type bushings in medium voltage mode
» Spade-type bushings in low voltage mode
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications

» Used in indoor and outdoor substations as well as with medium voltage distribution panels.

Advantages

» Safe and reliable for both indoor and outdoor substations.
» Versatile connection to both overhead and underground grids.
» Three-phase energy from a two-phase source.

Applicable standards

» NOM-002-SEDE/ENER-2014
» NMX-J-116-ANCE
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-284-ANCE

Abbreviations

» TSC: Substation prism transformer
» 2: Two-phase
» J: J-Class
» P: Prism connection
» Y: Star connection

Notes

» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	225 to 3500
Medium-voltage handling capacity (kV)	13,2
	23
	33
	34,5
Low-voltage handling capacity (V)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2300
Connection	Prism - Star
Tap changer (optional)	Yes
Cover-type temperature indicator	Yes
Cooling liquid level indicator	Yes
Throats (optional)	Yes
Tank material	Carbon Steel
	Stainless Steel
Applicable standards	NMX-J-116-ANCE
	NMX-J-284-ANCE

TWO-PHASE SUBSTATION PRISM TRANSFORMER			
13 200VT/7 620 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
337933	TSC-2-J-225kVA-13,2P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 13 200VT/7 620 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/ mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TSC-2-J-300kVA-13,2P-220Y		1
-	TSC-2-J-500kVA-13,2P-220Y		1
-	TSC-2-J-750kVA-13,2P-220Y		1
-	TSC-2-J-1000kVA-13,2P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 13 200VT/7 620 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/ mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TSC-2-J-1250kVA-13,2P-220Y		1
-	TSC-2-J-1500kVA-13,2P-220Y		1
-	TSC-2-J-1750kVA-13,2P-220Y		1
-	TSC-2-J-2000kVA-13,2P-220Y		1

TWO-PHASE SUBSTATION PRISM TRANSFORMER			
23 000VT/13 280 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSC-2-J-225kVA-23P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 23 200VT/13 280 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters. Complies with NMX-J-116-ANCE standard.	1
-	TSC-2-J-300kVA-23P-220Y		1
-	TSC-2-J-500kVA-23P-220Y		1
-	TSC-2-J-750kVA-23P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 23 000VT/13 280V operating in 2 phases. Secondary voltage 220Y/127V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TSC-2-J-1000kVA-23P-220Y		1
-	TSC-2-J-1250kVA-23P-220Y		1
-	TSC-2-J-1500kVA-23P-220Y		1
-	TSC-2-J-1750kVA-23P-220Y		1
-	TSC-2-J-2000kVA-23P-220Y		1

TWO-PHASE SUBSTATION PRISM TRANSFORMER			
33 000VT/19 050 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSC-2-J-225kVA-33P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 33 000VT/19 050 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TSC-2-J-300kVA-33P-220Y		1
-	TSC-2-J-500kVA-33P-220Y		1
-	TSC-2-J-750kVA-33P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 33 000VT/19 050 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TSC-2-J-1000kVA-33P-220Y		1
-	TSC-2-J-1250kVA-33P-220Y		1
-	TSC-2-J-1500kVA-33P-220Y		1
-	TSC-2-J-1750kVA-33P-220Y		1
-	TSC-2-J-2000kVA-33P-220Y		1

TWO-PHASE SUBSTATION PRISM TRANSFORMER			
34 500VT/19 920 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSC-2-J-225kVA-34,5P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 34 500VT/19 920 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TSC-2-J-300kVA-34,5P-220Y		1
-	TSC-2-J-500kVA-34,5P-220Y		1
-	TSC-2-J-750kVA-34,5P-220Y	Two-phase to three-phase prism substation transformer with tank fabricated in carbon steel. Primary voltage 34 500VT/19 920 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TSC-2-J-1000kVA-34,5P-220Y		1
-	TSC-2-J-1250kVA-34,5P-220Y		1
-	TSC-2-J-1500kVA-34,5P-220Y		1
-	TSC-2-J-1750kVA-34,5P-220Y		1
-	TSC-2-J-2000kVA-34,5P-220Y		1

TWO-PHASE PRISM

PAD-MOUNT

General description

» Transformer paired with a cabinet which includes connection accessories for connecting to underground single-phase distribution systems. Designed for pad mounting and harsh weather conditions.

Characteristics

» Primary operates as a 2-phase, 3-wire system or a 2-phase, 2-wire system
» Secondary operates as a 3-phase, 4-wire system with an additional phase generated
» Built to specification by customer request, from 15 to 3 000 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Prism - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Thermomagnetic interruptor in models up to 150 kVA
» Cover-type temperature indicator in models from 225 kVA and up
» Insulation liquid level indicator in models from 225 kVA and up
» Optional failure indicator
» Radial or ring main operation
» Models available for normal and hot climates
» Well-type bushings in medium voltage mode
» Spade-type bushings in low tension mode
» Protection coordination by means of bayonet-type expulsion fuse in series with current limiting fuse
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications

» Used in underground distribution systems.

Advantages

» Superior resistance to extreme conditions.
» Complementary accessories and terminals.
» Security and estetics for distribution systems.
» Three-phase energy from a two-phase source.

Applicable standards

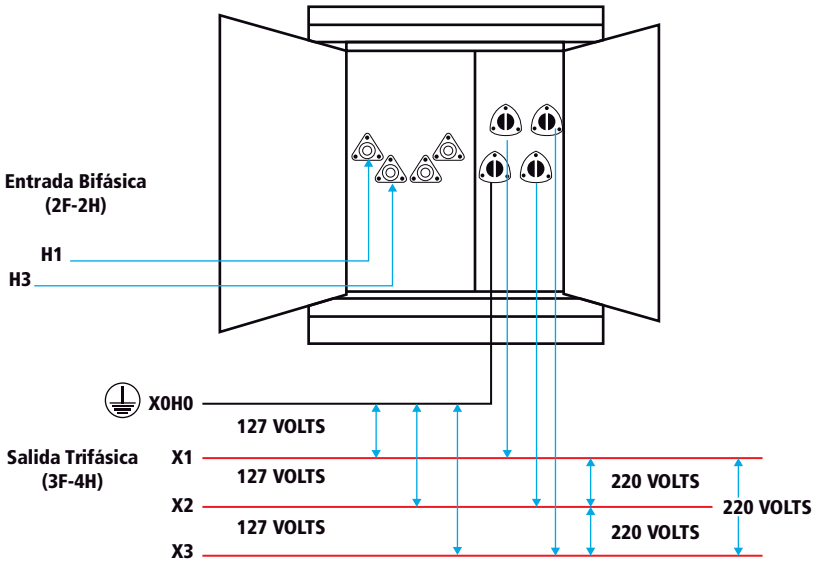
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-285-ANCE

Abbreviations

» TPDC: Pad-mount prism transformer
» 2: Two-phase
» J: J-Class
» P: Prism connection
» Y: Star connection

Notes

» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.



TWO-PHASE PAD-MOUNT RADIAL OPERATION PRISM TRANSFORMER			
13 200VT/7 620 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPDC-2-J-15kVA-13,2P-220Y-RADIAL	Two-phase to three-phase pad-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 13 200VT/7 620 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type and low voltage spike-type bushings, with a bayonet ejection fuse in series with a current limiting fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
375175	TPDC-2-J-30kVA-13,2P-220Y-RADIAL		1
361701	TPDC-2-J-45kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-75kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-112,5kVA-13,2P-220Y-RADIAL		1
284880	TPDC-2-J-150kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-225kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-300kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-500kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-750kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-1000kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-1250kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-1500kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-1750kVA-13,2P-220Y-RADIAL		1
-	TPDC-2-J-2000kVA-13,2P-220Y-RADIAL		1

TWO-PHASE PAD-MOUNT RADIAL OPERATION PRISM TRANSFORMER			
23 000VT/13 280 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPDC-2-J-15kVA-23P-220Y-RADIAL	Two-phase to three-phase pad-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 23 000VT/13 280 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type and low voltage spike-type bushings, with a bayonet ejection fuse in series with a current limiting fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TPDC-2-J-30kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-45kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-75kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-112,5kVA-23P-220Y-RADIAL		1
361702	TPDC-2-J-150kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-225kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-300kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-500kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-750kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-1000kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-1250kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-1500kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-1750kVA-23P-220Y-RADIAL		1
-	TPDC-2-J-2000kVA-23P-220Y-RADIAL		1

TWO-PHASE PAD-MOUNT RADIAL OPERATION PRISM TRANSFORMER			
33 000VT/19 050 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPDC-2-J-30kVA-33P-220Y-RADIAL	Two-phase to three-phase pad-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 33 000VT/19 050 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type and low voltage spike-type bushings, with a bayonet ejection fuse in series with a current limiting fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TPDC-2-J-45kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-75kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-112,5kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-150kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-225kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-300kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-500kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-750kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-1000kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-1250kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-1500kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-1750kVA-33P-220Y-RADIAL		1
-	TPDC-2-J-2000kVA-33P-220Y-RADIAL		1

TWO-PHASE PAD-MOUNT RADIAL OPERATION PRISM TRANSFORMER			
34 500VT/19 920 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPDC-2-J-30kVA-34,5P-220Y-RADIAL	Two-phase to three-phase pad-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 34 500VT/19 920 V operating in 2 phases. Secondary voltage 220Y/127 V operating in 3 phases with 4 taps; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium voltage well-type and low voltage spike-type bushings, with a bayonet ejection fuse in series with a current limiting fuse, radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TPDC-2-J-45kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-75kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-112,5kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-150kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-225kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-300kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-500kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-750kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-1000kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-1250kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-1500kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-1750kVA-34,5P-220Y-RADIAL		1
-	TPDC-2-J-2000kVA-34,5P-220Y-RADIAL		1

SPECIFICATIONS	
Capacity (kVA)	15 to 3000
Medium-voltage handling capacity (kV)	13,2
	23
	33
	34,5
Low-voltage handling capacity (V)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2300
Connection	Prism - Star
Tap changer (optional)	Yes
Thermomagnetic interruptor (optional)	Yes
Failure indicator (optional)	Yes
Temperature indicator (optional)	Yes
Cooling liquid level indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank and cabinet material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-285-ANCE

TWO-PHASE PRISM

SUBMERSIBLE

General description
» Transformer designed for vault installation. Hermetically sealed accessories withstand ocassional flooding with dead front for connection in underground distribution systems.

Characteristics
» Primary operates as a 2-phase, 3-wire system or a 2-phase, 2-wire system
» Secondary operates as a 3-phase, 4-wire system with an additional phase generated
» Built to specification by customer request, from 15 to 2 000 kVA.
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV.
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 150 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Prism - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Cover-type temperature indicator in models from 225 kVA and up
» Insulation liquid level indicator in models from 225 kVA and up
» Radial or ring main operation
» Models available for normal or hot climates
» Well-type bushings in medium voltage mode
» Spring-type bushings in low voltage mode
» Protection coordination by means of bayonet-type expulsion fuse
» Three-phase selector for low-load operation
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in underground distribution systems.

Advantages
» Optimal use of space.
» Superior operation reliability.
» Outstanding protection against the elements and vandalism.
» Security and estetics for distribution systems.
» Three-phase energy from a two-phase source.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-287-ANCE

Abbreviations
» SUMERGC: Submersible prism transformer
» 2: Two-phase
» J: J-Class
» P: Prism connection
» Y: Star connection

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	15 to 2000
Medium voltage handling capacity (kV)	13,2
	23
	33
	34,5
Low voltage handling capacity (V)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
Standard operating frequency (Hz)	60
Maximum operating altitude (MASL)	2300
Connection	Prism - star
Tap changer (optional)	Yes
Temperature indicator (optional)	Yes
Cooling liquid level indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-287-ANCE

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
13 200VT/7 620 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-13,2P-220Y-RADIAL	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero al carbón, con voltaje en el lado primario de 13 200VT/7 620 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su tensión nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, operación radial, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-45kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-75kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-112,5kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-150kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-225kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-300kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-500kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-750kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-1000kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-1250kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-1500kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-1750kVA-13,2P-220Y-RADIAL		1
-	SUMERGC-2-J-2000kVA-13,2P-220Y-RADIAL		1

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
23 000VT/13 280 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-23P-220Y-RADIAL	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero al carbón, con voltaje en el lado primario de 23 000VT/13 280 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su capacidad nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, operación radial, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-45kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-75kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-112,5kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-150kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-225kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-300kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-500kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-750kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-1000kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-1250kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-1500kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-1750kVA-23P-220Y-RADIAL		1
-	SUMERGC-2-J-2000kVA-23P-220Y-RADIAL		1

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
33 000VT/13 280 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-33P-220Y-RADIAL	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero al carbón, con voltaje en el lado primario de 33 000VT/13 280 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su tensión nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, operación radial, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-45kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-75kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-112,5kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-150kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-225kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-300kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-500kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-750kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-1000kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-1250kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-1500kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-1750kVA-33P-220Y-RADIAL		1
-	SUMERGC-2-J-2000kVA-33P-220Y-RADIAL		1

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
13 200VT/7 620 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-13,2P-220Y-RADIAL-ACI	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero inoxidable, con voltaje en el lado primario de 13 200VT/7 620 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su tensión nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, operación radial, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-45kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-75kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-112,5kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-150kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-225kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-300kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-500kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-750kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1000kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1250kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1500kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1750kVA-13,2P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-2000kVA-13,2P-220Y-RADIAL-ACI		1

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
23 000VT/13 280 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-23P-220Y-RADIAL-ACI	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero inoxidable, con voltaje en el lado primario de 23 000VT/13 280 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su tensión nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-45kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-75kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-112,5kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-150kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-225kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-300kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-500kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-750kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1000kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1250kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1500kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1750kVA-23P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-2000kVA-23P-220Y-RADIAL-ACI		1

TRANSFORMADOR BIFÁSICO PRISMA TIPO SUMERGIBLE OPERACIÓN RADIAL			
33 000VT/13 280 - 220Y/127 VOLTS			
CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
-	SUMERGC-2-J-15kVA-33P-220Y-RADIAL-ACI	Transformador bifásico a trifásico Prisma tipo sumergible, tanque fabricado en acero inoxidable, con voltaje en el lado primario de 33 000VT/13 280 V, operando a 2 fases, y en el lado secundario a 220Y/127 V, operando en 3 fases, con 2 derivaciones arriba y 2 derivaciones por debajo de su capacidad nominal, con 2.5% diferencia en cada una, boquillas tipo pozo en media tensión y tipo muelle en baja tensión, con fusible de expulsión tipo bayoneta, clase de enfriamiento "ONAN" aceite mineral, para operar a una frecuencia de 60 Hz, a una altitud de 2 300 m s. n. m., bajo norma NMX-J-287-ANCE.	1
-	SUMERGC-2-J-30kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-45kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-75kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-112,5kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-150kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-225kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-300kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-500kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-750kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1000kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1250kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1500kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-1750kVA-33P-220Y-RADIAL-ACI		1
-	SUMERGC-2-J-2000kVA-33P-220Y-RADIAL-ACI		1

TWO-PHASE PRISM

DRY-TYPE

General description

» Transformer designed for low voltage distribution systems, which occasionally require elevated or reduced voltage levels to accomodate loads different from the general installation such as lighting systems, air conditioners, medical equipment, etc.

Characteristics

» Primary operates as a 2-phase, 3-wire system or a 2-phase, 2-wire system.
» Secondary operates as a 3-phase, 4-wire system with an additional phase generated.
» Built to specification by customer request, from 5 to 150 kVA.
» Primary operates with any low voltage input such as 220, 380, 440, 460 & 480 V.
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V.
» Nominal lightning-impulse withstand voltage (BIL) 10 kV.
» Standard operating frequency, 60 Hz.
» Maximum operating altitude, 2 300 meters above sea level (MASL).
» Prism - Star connection.
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal.
» AA cooling class (natural convection).
» Cabinet fabricated in carbon steel.

Applications

» Used in industrial and commercial low voltage installations, principally in areas where only two-phase connections are available.

Advantages

» Three-phase energy from a two-phase source.
» Energy efficiency ratings superior to conventional three-phase units.
» Non-contaminating.
» Greatly diminishes fire risk.
» Versatile installation.

Applicable standards

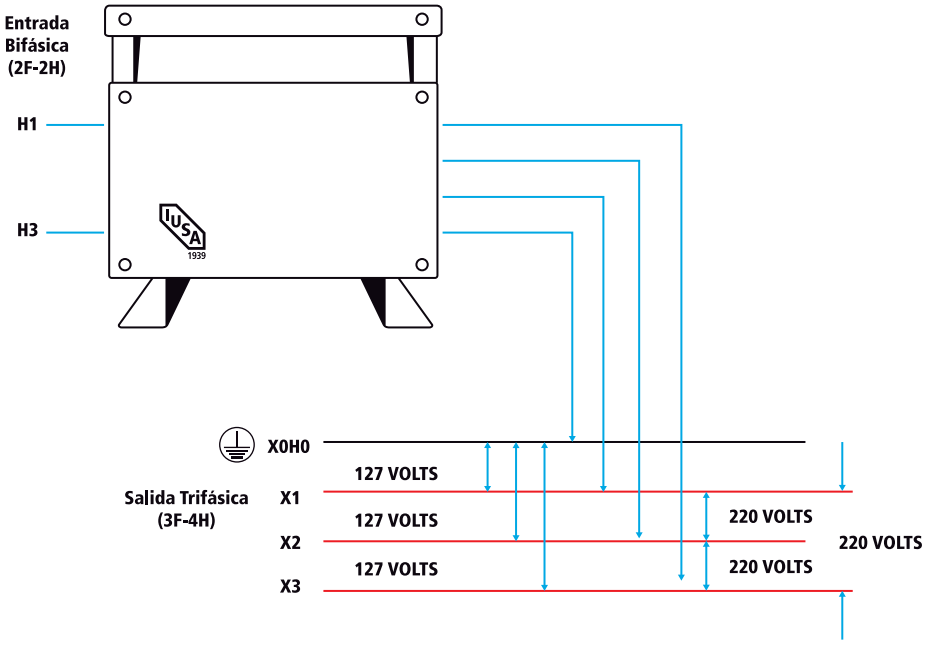
» NMX-J-351-ANCE

Abbreviations

» TSECOC: Dry-type prism transformer
» 2: Two-phase
» J: J-Class
» D: Delta connection
» Y: Star connection

Notes

» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department



TWO-PHASE DRY-TYPE PRISM TRANSFORMER			
220VT/127 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSECOC-2-J-5kVA-220P-220Y	Two-phase to three-phase dry-type prism transformer with carbon steel cabinet for indoor placement. Primary voltage 220VT/127 V, operating in 2 phases. Secondary voltage 220Y/127 V, operating in 3 phases with a 1:1 ratio. AA (natural convection) cooling class, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-351-ANCE standard.	1
-	TSECOC-2-J-10kVA-220P-220Y		1
-	TSECOC-2-J-15kVA-220P-220Y		1
-	TSECOC-2-J-30kVA-220P-220Y		1
-	TSECOC-2-J-45kVA-220P-220Y		1
-	TSECOC-2-J-75kVA-220P-220Y		1
-	TSECOC-2-J-112,5kVA-220P-220Y		1
-	TSECOC-2-J-150kVA-220P-220Y		1

TWO-PHASE DRY-TYPE PRISM TRANSFORMER			
480VT/277 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSECOC-2-J-5kVA-480P-220Y	Two-phase to three-phase dry-type prism transformer with carbon steel cabinet for indoor placement. Primary voltage 480VT/277 V, operating in 2 phases. Secondary voltage 220Y/127 V, operating in 3 phases with voltage reducer. AA (natural convection) cooling class, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-351-ANCE standard.	1
-	TSECOC-2-J-10kVA-480P-220Y		1
-	TSECOC-2-J-15kVA-480P-220Y		1
-	TSECOC-2-J-30kVA-480P-220Y		1
-	TSECOC-2-J-45kVA-480P-220Y		1
-	TSECOC-2-J-75kVA-480P-220Y		1
-	TSECOC-2-J-112,5kVA-480P-220Y		1
-	TSECOC-2-J-150kVA-480P-220Y		1

TWO-PHASE DRY-TYPE PRISM TRANSFORMER			
220VT/127 - 480Y/277 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSECOC-2-J-5kVA-220P-480Y	Two-phase to three-phase dry-type prism transformer with carbon steel cabinet for indoor placement. Primary voltage 220VT/277 V, operating in 2 phases. Secondary voltage 480Y/277 V, operating in 3 phases with voltage multiplier. AA (natural convection) cooling class, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-351-ANCE standard.	1
-	TSECOC-2-J-10kVA-220P-480Y		1
-	TSECOC-2-J-15kVA-220P-480Y		1
-	TSECOC-2-J-30kVA-220P-480Y		1
-	TSECOC-2-J-45kVA-220P-480Y		1
-	TSECOC-2-J-75kVA-220P-480Y		1
-	TSECOC-2-J-112,5kVA-220P-480Y		1
-	TSECOC-2-J-150kVA-220P-480Y		1

SPECIFICATIONS	
Capacity (kVA)	5 to 150
Medium voltage handling capacity (kV)	220
	380
	440
	460
	480
Low voltage handling capacity (V)	220/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	10
	60
	2300
Connection	Prism - Star
Cabinet material	Carbon Steel
Applicable standards	NMX-J-351-ANCE

THREE PHASE

POST-MOUNT

General description
» Designed for overhead distribution grids. Configured for installation on a post or similar structure.
» Standard and costal region models available.

Characteristics
» Built to specification by customer request, from 15 to 150 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 200 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Delta - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Models available for normal or hot climates, or for highly contaminated areas, with suitable insulators
» Clema-type bushings in medium and low voltage mode
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in overhead distribution systems.

Advantages
» Quick and easy installation with dependable energy distribution.
» Savings on initial investment.
» Versatility in both rural and urban electrial grids.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-116-ANCE
» NMX-J-123-ANCE
» NMX-J-169-ANCE

Abbreviations
» TPO: Post-mount transformer
» 3: Three-phase
» J: J-Class
» D: Delta connection
» Y: Star connection

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	15 to 150
Rated medium voltage capacity (kV)	13,2
	23
	33
	34,5
Rated low voltage capacity (kV)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	150
	200
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Delta - Star
Tap changer (optional)	Yes
Medium voltage lightning arrester (optional)	Yes
Low voltage lightning arrester (optional)	Yes
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-116-ANCE

THREE-PHASE POST-MOUNT TRANSFORMER			
13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-3-J-15kVA-13,2D-220Y	Three-phase post-mount prism transformer with tank and cover fabricated in carbon steel. Primary voltage 13 200 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-3-J-30kVA-13,2D-220Y		1
-	TPO-3-J-45kVA-13,2D-220Y		1
-	TPO-3-J-75kVA-13,2D-220Y		1
-	TPO-3-J-112,5kVA-13,2D-220Y		1
-	TPO-3-J-150kVA-13,2D-220Y		1

THREE-PHASE POST-MOUNT TRANSFORMER			
23 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-3-J-15kVA-23D-220Y	Three-phase post-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 23 000 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
361765	TPO-3-J-30kVA-23D-220Y		1
217202	TPO-3-J-45kVA-23D-220Y		1
-	TPO-3-J-75kVA-23D-220Y		1
-	TPO-3-J-112,5kVA-23D-220Y		1
-	TPO-3-J-150kVA-23D-220Y		1

THREE-PHASE POST-MOUNT TRANSFORMER			
33 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-3-J-15kVA-33D-220Y	Three-phase post-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 33 200 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-3-J-30kVA-33D-220Y		1
-	TPO-3-J-45kVA-33D-220Y		1
-	TPO-3-J-75kVA-33D-220Y		1
-	TPO-3-J-112,5kVA-33D-220Y		1
-	TPO-3-J-150kVA-33D-220Y		1

THREE-PHASE POST-MOUNT TRANSFORMER			
34 500 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TPO-3-J-15kVA-34,5D-220Y	Three-phase post-mount prism transformer with tank and cabinet fabricated in carbon steel. Primary voltage 34 500 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with medium and low voltage clema bushings. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TPO-3-J-30kVA-34,5D-220Y		1
-	TPO-3-J-45kVA-34,5D-220Y		1
-	TPO-3-J-75kVA-34,5D-220Y		1
-	TPO-3-J-112,5kVA-34,5D-220Y		1
-	TPO-3-J-150kVA-34,5D-220Y		1

THREE PHASE

SUBSTATION

General description

» Transformer designed for feeding overhead and underground distribution systems. For mounting on a platform, cement pad, or similar structure. Optional throats permit direct connection to medium voltage distribution panels.

Characteristics

» Built to specification by customer request, from 225 to 3 500 kVA
» Operates at any medium voltage load such as 13,2 kV; 23 kV; 33 kV & 34,5 kV
» Operates at any medium voltage load such as 13,2 Kv; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 200 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Delta - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Cover-type temperature indicator
» Insulation liquid level indicator
» Optional throat couplers for medium and low voltage modes
» High temperature unit available (55° C)
» Clema-type bushings in medium voltage mode
» Spade-type bushings in low voltage mode
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs
» Normally connected to overhead distribution grids

Applications

» Used in indoor and outdoor substations as well as with medium voltage distribution panels.

Advantages

» Safe and reliable for both indoor and outdoor substations.
» Versatile connection to both overhead and underground grids.

Applicable standards

» NOM-002-SEDE/ENER-2014
» NMX-J-116-ANCE
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-284-ANCE

Abbreviations

» TS: Substation transformer
» 3: Three-phase
» J: J-Class
» D: Delta connection
» Y: Star connection

Notes

» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department

SPECIFICATIONS	
Capacity (kVA)	225 to 3 500
Rated medium voltage capacity (kV)	13,2
	23
	33
	34,5
Rated low voltage capacity(kV)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
	200
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Delta - Star
Tap changer (optional)	Yes
Cover-type temperature indicator	Yes
Insulator liquid level indicator	Yes
Throats (optional)	Yes
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-116-ANCE
	NMX-J-284-ANCE

THREE-PHASE SUBSTATION TRANSFORMER			
13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TS-3-J-225kVA-13,2D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 13 200V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TS-3-J-300kVA-13,2D-220Y		1
-	TS-3-J-500kVA-13,2D-220Y		1
-	TS-3-J-750kVA-13,2D-220Y		1
-	TS-3-J-1000kVA-13,2D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 13 200V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TS-3-J-1250kVA-13,2D-220Y		1
-	TS-3-J-1500kVA-13,2D-220Y		1
-	TS-3-J-1750kVA-13,2D-220Y		1
-	TS-3-J-2000kVA-13,2D-220Y		1

THREE-PHASE SUBSTATION TRANSFORMER			
33 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TS-3-J-225kVA-33D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 33 000V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TS-3-J-300kVA-33D-220Y		1
-	TS-3-J-500kVA-33D-220Y		1
-	TS-3-J-750kVA-33D-220Y		1
-	TS-3-J-1000kVA-33D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 33 000V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TS-3-J-1250kVA-33D-220Y		1
-	TS-3-J-1500kVA-33D-220Y		1
-	TS-3-J-1750kVA-33D-220Y		1
-	TS-3-J-2000kVA-33D-220Y		1

THREE-PHASE SUBSTATION TRANSFORMER			
23 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
372527	TS-3-J-225kVA-23D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 23 000V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TS-3-J-300kVA-23D-220Y		1
356128	TS-3-J-500kVA-23D-220Y		1
-	TS-3-J-750kVA-23D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 23 000V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TS-3-J-1000kVA-23D-220Y		1
-	TS-3-J-1250kVA-23D-220Y		1
-	TS-3-J-1500kVA-23D-220Y		1
-	TS-3-J-1750kVA-23D-220Y		1
-	TS-3-J-2000kVA-23D-220Y		1

THREE-PHASE SUBSTATION TRANSFORMER			
34 500 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TS-3-J-225kVA-34,5D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 34 500V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-116-ANCE standard.	1
-	TS-3-J-300kVA-34,5D-220Y		1
-	TS-3-J-500kVA-34,5D-220Y		1
-	TS-3-J-750kVA-34,5D-220Y	Three-phase substation transformer with tank fabricated in carbon steel. Primary voltage 34 500V. Secondary voltage 220Y/127V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with clema-type medium voltage and spade-type low voltage bushings, insulator liquid level indicator, and cover-type temperature indicator. No throats. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-284-ANCE standard.	1
-	TS-3-J-1000kVA-34,5D-220Y		1
-	TS-3-J-1250kVA-34,5D-220Y		1
-	TS-3-J-1500kVA-34,5D-220Y		1
-	TS-3-J-1750kVA-34,5D-220Y		1
-	TS-3-J-2000kVA-34,5D-220Y		1

THREE PHASE

PAD-MOUNT

General description

» Transformer paired with a cabinet which includes connection accessories for connecting to underground single-phase distribution systems. Designed for pad mounting and harsh weather conditions.

Characteristics

» Built to specification by customer request, from 15 to 3 000 kVA
» K- Class models fabricated with 75; 112,5; 150 & 300 kVA
» Operates at any medium voltage load such as 13,2 kV; 22,86 kV; 23 kV; 33 kV & 34,5 kV
» K- Class model medium voltage, 13,2 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» K- Class secondary voltages designes for 220 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 200 kV
» For K-Class, Nominal lightning-impulse withstand voltage (BIL)from 95 to 125 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Delta - Star & Star - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Thermomagnetic interruptor in models up to 150 kVA
» Cover-type temperature indicator in models from 225 kVA and up
» Insulation liquid level indicator in models from 225 kVA and up
» Failure indicator
» Radial or ring main operation
» K- Class radial or ring main operation from 75 to 150 kV
» Models available for normal or hot climates
» Well-type bushings in medium voltage mode
» Spade-type bushings in low voltage mode
» Three-phase selector for low-load operation
» Protection coordination by means of bayonet-type expulsion fuse in series with current limiting fuse
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications

» Used in underground distribution systems.

Advantages

» Superior resistance to extreme conditions.
» Secure distribution system, no live electrical parts exposed, eliminating shock hazard.
» Complementary accessories and terminals.
» Security and estetics for distribution systems.

Applicable standards

» CFE K0000-07
» CFE K0000-08
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-285-ANCE

Abbreviations

» TP: Pad-mount transformer
» D3SP: Three-phase underground distribution pedestal
» NOM: NOM standard
» 3: Three-phase
» D: Delta connection
» Y: Star connection
» J: J-Class
» K7: CFE K0000-07 standard
» K8: CFE K0000-08 standard
» CMB: Tap changer

Notes

» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department

J-CLASS SPECIFICATIONS	
Capacity (kVA)	15 to 3 000
Rated voltage in medium voltage (kV)	13,2
	23
	33
	34,5
Rated low voltage capacity (kV)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
	200
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Delta - Star
	Star - Star
Tap changer (optional)	Yes
Thermomagnetic interruptor (optional)	Yes
Failure indicator (optional)	Yes
Temperature indicator (optional)	Yes
Insulating liquid level indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank and cabinet material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-285-ANCE

K-CLASS SPECIFICATIONS	
Capacity (kVA)	75, 112,5, 150 & 300
Rated medium voltage capacity (kV)	13,2 & 22,86
Rated low voltage capacity (kV)	220Y/127
Rated lightning-impulse withstand voltage (kV)	95
	125
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Star - Star
Tap changer (optional)	Yes
Thermomagnetic interruptor (optional)	Yes
Failure indicator (optional)	Yes
Temperature indicator (optional)	Yes
Insulating liquid level indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank and cabinet material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-285-ANCE
	CFE K0000-07
	CFE K0000-08

THREE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-NOM-3-15kVA-13,2D-220Y-RADIAL	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 13 200 V. Secondary voltage 220Y/127 V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
361706	TP-NOM-3-30kVA-13,2D-220Y-RADIAL		1
361712	TP-NOM-3-45kVA-13,2D-220Y-RADIAL		1
361713	TP-NOM-3-75kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-112,5kVA-13,2D-220Y-RADIAL		1
361714	TP-NOM-3-150kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-225kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-300kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-500kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-750kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-1000kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-1250kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-1500kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-1750kVA-13,2D-220Y-RADIAL		1
-	TP-NOM-3-2000kVA-13,2D-220Y-RADIAL		1

THREE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
33 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-NOM-3-15kVA-33D-220Y-RADIAL	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 33 000 V. Secondary voltage 220Y/127 V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-NOM-3-30kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-45kVA-33D-220Y-RADIAL		1
285037	TP-NOM-3-75kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-112,5kVA-33D-220Y-RADIAL		1
285055	TP-NOM-3-150kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-225kVA-33D-220Y-RADIAL		1
345347	TP-NOM-3-300kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-500kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-750kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-1000kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-1250kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-1500kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-1750kVA-33D-220Y-RADIAL		1
-	TP-NOM-3-2000kVA-33D-220Y-RADIAL		1

THREE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
23 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
361715	TP-NOM-3-15kVA-23D-220Y-RADIAL	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 23 000 V. Secondary voltage 220Y/127 V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
345385	TP-NOM-3-30kVA-23D-220Y-RADIAL		1
345355	TP-NOM-3-45kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-75kVA-23D-220Y-RADIAL		1
345383	TP-NOM-3-112,5kVA-23D-220Y-RADIAL		1
345391	TP-NOM-3-150kVA-23D-220Y-RADIAL		1
361720	TP-NOM-3-225kVA-23D-220Y-RADIAL		1
345344	TP-NOM-3-300kVA-23D-220Y-RADIAL		1
345350	TP-NOM-3-500kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-750kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-1000kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-1250kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-1500kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-1750kVA-23D-220Y-RADIAL		1
-	TP-NOM-3-2000kVA-23D-220Y-RADIAL		1

THREE-PHASE PAD-MOUNT RADIAL OPERATION TRANSFORMER			
34 500 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TP-NOM-3-15kVA-34,5D-220Y-RADIAL	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. Primary voltage 34 500 V. Secondary voltage 220Y/127 V. Delta-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with NMX-J-285-ANCE standard.	1
-	TP-NOM-3-30kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-45kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-75kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-112,5kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-150kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-225kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-300kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-500kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-750kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-1000kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-1250kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-1500kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-1750kVA-34,5D-220Y-RADIAL		1
-	TP-NOM-3-2000kVA-34,5D-220Y-RADIAL		1

THREE-PHASE PAD-MOUNT RING MAIN TRANSFORMER - K STANDARD			
13 200YT/7 620 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
361783	D3SP-75kVA-13,2Y-220Y-K8-CMB	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. 15 kV insulation class. Star-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Ring main operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with CFE K0000-08 standard.	1
-	D3SP-112,5kVA-13,2Y-220Y-K8-CMB		1
325152	D3SP-150kVA-13,2Y-220Y-K8-CMB		1
221339	D3SP-300kVA-13,2Y-220Y-K7-CMB	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. 15 kV insulation class. Star-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Cannister-type full-range fuse.. Ring main operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with CFE K0000-07 standard.	1

THREE-PHASE PAD-MOUNT RING MAIN TRANSFORMER - K STANDARD			
22 860YT/13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	D3SP-150kVA-22,86Y-220Y-K8-CMB	Three-phase pad-mount transformer with tank and cabinet fabricated in carbon steel. 18 kV insulation class. Star-Star connection with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium voltage and spade-type low voltage bushings. Bayonet-type expulsion fuse in series with current limiting fuse. Ring main operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude to 2 300 meters above sea level. Complies with CFE K0000-08 standard.	1

THREE PHASE

SUBMERSIBLE

General description
» Transformer designed for vault installation. Hermetically sealed accessories withstand ocassional flooding with dead front for connection in underground distribution systems.

Characteristics
» Built to specification by customer request, from 15 to 2 000 kVA
» Operates at any medium voltage load such as 13,2 Kv; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 & 480Y/277 V
» Nominal lightning-impulse withstand voltage (BIL) from 95 to 200 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Delta - Star & Star - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» Cover-type temperature indicator in models from 225 kVA and up
» Insulation liquid level indicator in models from 225 kVA and up
» Radial or ring main operation
» Models available for normal or hot climates
» Well-type bushings in medium voltage mode
» Spring-type bushings in low voltage mode
» Protection coordination by means of bayonet-type expulsion fuse
» Three-phase selector for low-load operation
» ONAN cooling class (self-cooling w/mineral oil)
» Tank fabricated in carbon or stainless steel, according to user needs

Applications
» Used in underground distribution systems.

Advantages
» Optimal use of space.
» Superior operation reliability.
» Outstanding protection against the elements and vandalism.
» Security and estetics for distribution systems.

Applicable standards
» NOM-002-SEDE/ENER-2014
» NMX-J-123-ANCE
» NMX-J-169-ANCE
» NMX-J-287-ANCE

Abbreviations
» SUMERG: Submersible transformer
» 3: Three-phase
» J: J-Class
» D: Delta connection
» Y: Star connection

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

SPECIFICATIONS	
Capacity (kVA)	15 to 2 000
Rated medium voltage capacity (V)	13,2
	23
	33
	34,5
Rated low voltage capacity (V)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	125
	150
	200
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Delta - Star
	Star -Star
Tap changer	Yes
Temperature indicator (optional)	Yes
IInsulating liquid level indicator (optional)	Yes
Type of operation	Radial
	Ring main
Tank material	Carbon steel
	Stainless steel
Applicable standards	NMX-J-287-ANCE

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-13,2D-220Y-RADIAL	Three-phase submersible transformer with tank fabricated in carbon steel. Primary voltage 13 200 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-45kVA-13,2D-220Y-RADIAL		1
361776	SUMERG-3-J-75kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-112,5kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-150kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-225kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-300kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-500kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-750kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-1000kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-1250kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-1500kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-1750kVA-13,2D-220Y-RADIAL		1
-	SUMERG-3-J-2000kVA-13,2D-220Y-RADIAL		1

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
23 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-23D-220Y-RADIAL	Three-phase submersible transformer with tank fabricated in carbon steel. Primary voltage 23 000 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-45kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-75kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-112,5kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-150kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-225kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-300kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-500kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-750kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-1000kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-1250kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-1500kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-1750kVA-23D-220Y-RADIAL		1
-	SUMERG-3-J-2000kVA-23D-220Y-RADIAL		1

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
33 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-33D-220Y-RADIAL	Three-phase submersible transformer with tank fabricated in carbon steel. Primary voltage 33 000 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-45kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-75kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-112,5kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-150kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-225kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-300kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-500kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-750kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-1000kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-1250kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-1500kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-1750kVA-33D-220Y-RADIAL		1
-	SUMERG-3-J-2000kVA-33D-220Y-RADIAL		1

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
13 200 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-13,2D-220Y-RADIAL-ACI	Three-phase submersible transformer with tank fabricated in stainless steel. Primary voltage 13 200 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-45kVA-13,2D-220Y-RADIAL-ACI		1
361776	SUMERG-3-J-75kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-112,5kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-150kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-225kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-300kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-500kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-750kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1000kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1250kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1500kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1750kVA-13,2D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-2000kVA-13,2D-220Y-RADIAL-ACI		1

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
23 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-23D-220Y-RADIAL-ACI	Three-phase submersible transformer with tank fabricated in stainless steel. Primary voltage 23 000 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-45kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-75kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-112,5kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-150kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-225kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-300kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-500kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-750kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1000kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1250kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1500kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1750kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-2000kVA-23D-220Y-RADIAL-ACI		1

THREE-PHASE SUBMERSIBLE RADIAL OPERATION TRANSFORMER			
33 000 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	SUMERG-3-J-15kVA-33D-220Y-RADIAL-ACI	Three-phase submersible transformer with tank fabricated in stainless steel. Primary voltage 33 000 V. Secondary voltage 220Y/127 V, Delta-Star connection, with 4 shunts; 2 with 2.5% higher value, and 2 with 2.5% lower value than the nominal voltage. Equipped with well-type medium and spring-type low voltage bushings. Bayonet-type expulsion fuse. Radial operation. ONAN cooling class w/mineral oil, 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-287-ANCE standard.	1
-	SUMERG-3-J-30kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-45kVA-23D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-75kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-112,5kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-150kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-225kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-300kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-500kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-750kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1000kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1250kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1500kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-1750kVA-33D-220Y-RADIAL-ACI		1
-	SUMERG-3-J-2000kVA-33D-220Y-RADIAL-ACI		1

DRY-TYPE

General description
» Transformer designed for low voltage distribution systems, which occasionally require elevated or reduced voltage levels to accomodate loads different from the general installation such as lighting systems, air conditioners, medical equipment, etc.

Characteristics
» Built to specification by customer request, from 10 to 150 kVA
» Primary operates with any low voltage input such as 220, 380, 440, 460 & 480 V
» Operates at any medium voltage load such as 13,2 Kv; 23 kV; 33 kV & 34,5 kV
» Secondary voltages designed for any load value required such as 220Y/127, 380Y/220, 440Y/254, 460Y/266 &
» Nominal lightning-impulse withstand voltage (BIL) 10 kV
» Standard operating frequency, 60 Hz
» Maximum operating altitude, 2 300 meters above sea level (MASL)
» Delta - Star & Star - Star connection
» Optional five-position tap changer, nominal value, 2 with 2.5% greater value, and 2 with 2.5% lesser value than nominal
» AA cooling class (natural convection)
» Cabinet fabricated in carbon steel

Applications
» Used in industrial and commercial low voltage installations.

Advantages
» Non-contaminating.
» Greatly diminishes fire risk.
» Versatile installation.

Applicable standards
» NMX-J-351-ANCE

Abbreviations
» TSECO: Dry-type transformer
» 3: Three-phase
» J: J-Class
» D: Delta connection
» Y: Star connection

Notes
» Customized with different combinations of accessories in accordance with customer requirements.
» For special designs, please contact our engineering department.

THREE-PHASE DRY-TYPE TRANSFORMER			
480 - 220Y/127 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSECO-3-J-10kVA-480D-220Y	Three-phase dry-type transformer with cabinet fabricated in carbon steel for indoor use. Primary voltage 480 V. Secondary voltage 220Y/127 V, Delta-Star connection, with voltage reducer. AA cooling class (natural convection). 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-351-ANCE standard.	1
-	TSECO-3-J-15kVA-480D-220Y		1
-	TSECO-3-J-30kVA-480D-220Y		1
-	TSECO-3-J-45kVA-480D-220Y		1
-	TSECO-3-J-75kVA-480D-220Y		1
-	TSECO-3-J-112,5kVA-480D-220Y		1
-	TSECO-3-J-150kVA-480D-220Y		1

THREE-PHASE DRY-TYPE TRANSFORMER			
220 - 480Y/277 VOLT			
CODE	CAT.	DESCRIPTION	MASTER
-	TSECO-3-J-10kVA-220D-480Y	Three-phase dry-type transformer with cabinet fabricated in carbon steel for indoor use. Primary voltage 220 V. Secondary voltage 480Y/277 V, Delta-Star connection, with voltage elevator. AA cooling class (natural convection). 60 Hz operating frequency, operating altitude 2 300 meters above sea level. Complies with NMX-J-351-ANCE standard.	1
-	TSECO-3-J-15kVA-220D-480Y		1
-	TSECO-3-J-30kVA-220D-480Y		1
-	TSECO-3-J-45kVA-220D-480Y		1
-	TSECO-3-J-75kVA-220D-480Y		1
-	TSECO-3-J-112,5kVA-220D-480Y		1
-	TSECO-3-J-150kVA-220D-480Y		1

SPECIFICATIONS	
Capacity (kVA)	15 to 150
Rated medium voltage capacity (kV)	13,2
	23
	33
	34,5
Rated low voltage capacity (kV)	220Y/127
	380Y/220
	440Y/254
	460Y/266
	480Y/277
Rated lightning-impulse withstand voltage (kV)	95
	150
	200
Standard operating frequency (Hz)	60
Maximim operating altitude (MASL)	2 300
Connection	Delta - Star
Tap changer (optional)	Yes
Medium voltage lightning arrester (optional)	Yes

BUSHINGS

BUSHINGS

LOW VOLTAGE

General description
» Provides efficient insulation for predetermined current values in secondary transformer windings. Exterior installation.

Characteristics
» Porcelain bushing, with eye bolt and flange.
» Conventional or double connections.
» For secondary voltages in single-phase, 2-phase, and 3-phase transformers.

Applications
» Used with distribution transformers in low voltage phase and with some electrical equipment.

Advantages
» Efficient insulation and conduction.

Applicable standards
» IEC 60137

Abbreviations
» H: Hardware
» A: Porcelain only
» TT: High contaminacion
» MM: Metric thread

Notes
» Las boquillas únicamente de porcelana cumplen con los valores registrados con herraje.
» Only available in porcelain. Complies with values noted on hardware

CODE	CAT.	DESCRIPTION	MASTER
311501	10010-H	Low voltage bushing 10010-H MM	16
311503	10025-H	Low voltage bushing 10025-H MM	12
311505	10050-H	Low voltage bushing 10050-H MM	6
311506	10075-H	Low voltage bushing 10075-H MM	6
311509	10100-H	Low voltage bushing 10100-H MM750A	12
311500	10025-A	Low voltage bushing 10010-A 100A	16
311504	10050-A	Low voltage bushing 10050-A 500A/750A	6
377258	10075-A	Low voltage bushing 10075-A	6

LOW VOLTAGE TRANSFORMER SECONDARY BUSHINGS

SPECIFICATIONS		10010-H	10025-H	10050-H	10075-H	10100-H
220/127 VOLTS						
Transformer capacity (kVA)		15 / 30 / 45	75	112,5 / 150	225 / 300	300
Maximum design current (A)		39,37 / 78,74 / 118,11	196,85	295,27 / 393,7	590,55 / 787,40	787,40
440/254 VOLTS						
Transformer capacity (kVA)		15 / 30 / 45 / 75	112,5 / 150	225 / 300	500	500
Maximum design current (A)		19,68 / 39,37 / 59,08 / 98,42	147,63 / 196,85	295,27 / 393,7	656,16	656,16
480/277 VOLTS						
Transformer capacity (kVA)		15 / 30 / 45 / 75	112,5 / 150 / 225	300	500	500
Maximum design current (A)		18,05 / 36,10 / 54,15 / 90,25	135,37 / 180,50 / 270,75	361,01	601,68	601,68
GENERAL SPECIFICATIONS						
Rated current (A)		100	250	500	750	1 000
Low voltage insulation class (kV)		1,2	1,2	1,2	1,2	1,2
Maximum designed line-to-ground voltage (kV)		0,75	0,75	0,75	0,75	0,75
Basic insulation level at full impulse wave 1,2 x 50 µs (kV Peak)		30	30	30	30	30
Flashover voltage at 60 Hz	1 min. in dry conditions (kV)	10	10	10	10	10
	10 sec. in wet conditions (kV)	6	6	6	6	6
	At full impulse wave 1,2 / 50 µs (kV Peak)	30	30	30	30	30
Critical chopped-wave lightning flashover voltage at 1,2 x 50 µs	Peak voltage (kV)	36	36	36	36	36
	Minimum chopped wave lightning flashover time 1,2 x 50 µs (kV Peak)	1	1	1	1	1
Creepage distance (mm)		46	46	53	53	90
Stud diameter (in)		5/16"	1/2"	3/4"	7/8"	7/8"
Mounting hole diameter (mm)		44	44	44	44	44
Maximum operation altitude (meters above sea level)		3 000	3 000	3 000	3 000	3 000
Operating temperature range (°C)		-10 to +50	-10 to +50	-10 to +50	-10 to +50	-10 to +50

MEDIUM VOLTAGE

General description
»Provides efficient protection for predetermined current values for medium voltage primary transformer windings. Exterior installation.

Characteristics
»Porcelain medium voltage bushing, with connector, internal and external flange.

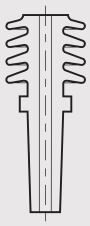
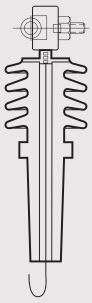
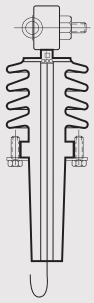
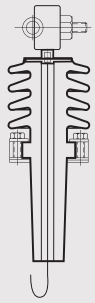
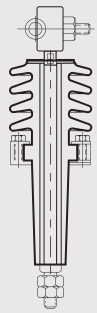
Applications
»Used with distribution transformers in medium voltage phase and with some electrical equipment.

Advantages
»Efficient insulation and conduction.
»Product available in porcelain only, with long tail, or with internal wire or with bar.

Applicable standards
»CFE 53100-84
»NMX-J-234 ANCE
»IEC 60137

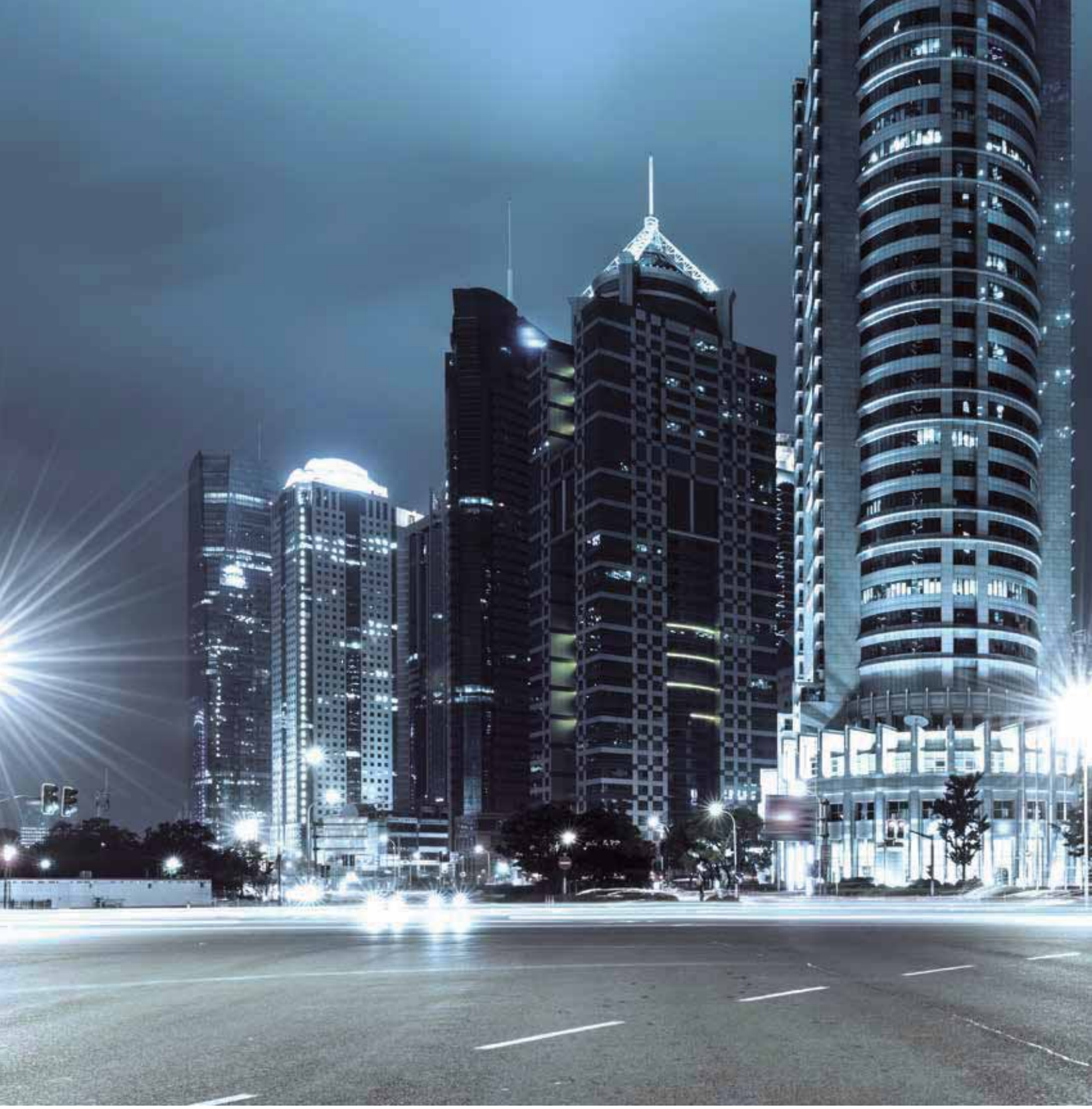
Abbreviations
»E: Exterior installation
»2: Air-oil insulation medium
»C: Contamination
»125: Basic insulation level
»170: Basic insulation level
»200: Basic insulation level
»100: Rated current
»250: Rated current
»CBTT: Bushing with external flange and wire
»CITT: Bushing with internal flange and wire
»CHTT: Bushing with external flange and bar
»CATT: Porcelain bushing only
»CCTT: Bushing without flange
»MM: Metric thread
»TT: High contamination
»C: Short tail bushing
»L: Long tail bushing

Notes
»Porcelain only bushings comply with same registered values.
»If long tail bushing is desired, please specify with sales agent

CAT.	CATT	CCTT	CITT	CBTT	CHTT
Nominal system voltage (kV)					
	Porcelain only	Bushing without flange, packaging or wire	Bushing with internal flange, wire, connector, packing, spring and flange packaging	Bushing with external flange, wire, connector, flange packing, squares, flange, bolts, and packing for external flange.	Bushing with external flange, bar, wire, connector, cover, packing, squares, nuts and bolts, flange packing
13,8	P-18415-CATT	P-18415-CCTT	P-18415-CITT	P-18415-CBTT	P-18415-CHTT
23	P-18423-CATT	P-18423-CCTT	P-18423-CITT	P-18423-CBTT	P-18423-CHTT
34,5	P-18434-CATT	P-18434-CCTT	P-18434-CITT	P-18434-CBTT	P-18434-CHTT

CÓDIGO	CAT.	DESCRIPCIÓN	MASTER
311492	P-18415-TT	Boquilla media tensión 18415-CC MM	4
311496	P-18415-TT	Boquilla media tensión 18415-CCTT MM	9
311472	P-18415-TT	Boquilla media tensión 18415-CH MM	9
311495	P-18415-TT	Boquilla media tensión 18415-CHTT MM	9
311471	P-18415-TT	Boquilla media tensión 18415-CI MM	4
311483	P-18415-TT	Boquilla media tensión 18415-CITT MM	9
311493	P-18415-TT	Boquilla media tensión 18415-LH	2
377256	P-18415-TT	Boquilla media tensión 18415-LC	9
311487	P-18423-TT	Boquilla media tensión 18423-CC MM	9
311477	P-18423-TT	Boquilla media tensión 18423-CH MM	9
311476	P-18423-TT	Boquilla media tensión 18423-CI MM	9
311489	P-18423-TT	Boquilla media tensión 18423-LH MM	2
311486	P-18423-TT	Boquilla media tensión 18423-CB	9
311476	P-18423-TT	Boquilla media tensión 18423-CI	9
318694	P-18423-TT	Boquilla media tensión 18423-LI MM	2
311499	P-18434-TT	Boquilla media tensión 18434-CC MM	2
311484	P-18434-TT	Boquilla media tensión 18434-CCTT MM	2
311481	P-18434-TT	Boquilla media tensión 18434-CH MM	1
311480	P-18434-TT	Boquilla media tensión 18434-CI MM	2
311485	P-18434-TT	Boquilla media tensión 18434-LA	1
320554	P-18434-TT	Boquilla media tensión 18434-LA	1
311499	P-18434-TT	Boquilla media tensión 18434-CC	2
377247	P-18434-TT	Boquilla media tensión 18434-CA	2

SPECIFICATIONS	P-18415-TT		P-18423-TT		P-18434-TT	
Brief CFE description	E2C125-100	E2C125-250	E2C170-100	E2C170-250	E2C200-100	E2C200-250
Nominal system voltage (kV)	13,8	13,8	23	23	34,5	34,5
Maximum design voltage (kV)	15,5	15,5	27	27	38	38
Normalized short duration voltage withstand, from phase to ground at 60 hz, wet (kV)	50	50	70	70	80	80
Normalized lightning-impulse voltage withstand (kV)	125	125	170	170	200	200
Creepage distance (mm)	387	387	675	675	960	960
Rated current (A)	100	250	100	250	100	250
Short time (2 sec.) thermic current rating (kA)	2,5	6,25	6,25	6,25	-	-
Maximum operation altitude (meters above sea level)	< 1 000	< 1 000	< 1 000	< 1 000	< 1 000	< 1 000
Operating temperature range (°C)	-10 a +50	-10 a +50	-10 a +50	-10 a +50	-10 a +50	-10 a +50



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CONDUCTORS

BARE COPPER WIRE AND STRANDED CABLE

General description
» 99.99% pure, bare copper solid wire and concentric lay stranded cable is manufactured in hard, half-hard, and soft temper.

Characteristics
» Highly resistant to corrosion in diverse environments

Applications
» Used for transmission and distribution in electrical power grids at various voltage levels.
» Depending on temper, used with insulators, neutral connections, and ground connections in electrical systems.

Advantages
» Meets highest national and international standards.
» Used as raw material to construct other conductors.

Applicable standards
» NOM-063-SCFI
» CFE E0000-32
» NMX-J-002–ANCE
» NMX-J-012-ANCE
» NMX-J-035-ANCE
» NMX-J-036-ANCE
» ASTM B-1
» ASTM B-2
» ASTM B-3
» ASTM B-8

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

SEMI HARD TEMPER BARE COPPER WIRE			
CODE	DESCRIPTION	MASTER	UNIT
313001	16 AWG semi hard temper bare copper wire	100	kg
302545	14 AWG semi hard temper bare copper wire	100	kg
302546	12 AWG semi hard temper bare copper wire	100	kg
302547	10 AWG semi hard temper bare copper wire	100	kg
302548	8 AWG semi hard temper bare copper wire	100	kg
302549	6 AWG semi hard temper bare copper wire	100	kg
302550	4 AWG semi hard temper bare copper wire	500	kg
362592	4 AWG semi hard temper bare copper wire	100	kg
302551	2 AWG semi hard temper bare copper wire	100	kg

SOFT TEMPER BARE STRANDED COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
375729	12 AWG (19S) soft temper bare copper cable	500	kg
375730	10 AWG (19S) soft temper bare copper cable	500	kg
375731	8 AWG (19S) soft temper bare copper cable	500	kg
375732	6 AWG (19S) soft temper bare copper cable	500	kg
375733	4 AWG (19S) soft temper bare copper cable	500	kg
375734	2 AWG (19S) soft temper bare copper cable	500	kg
302535	1/0 AWG (7S) soft temper bare copper cable	500	kg
375735	1/0 AWG (19S) soft temper bare copper cable	500	kg
375736	2/0 AWG (19S) soft temper bare copper cable	500	kg
375737	4/0 AWG (19S) soft temper bare copper cable	500	kg

HARD TEMPER BARE STRANDED COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302575	350 kcmil (19 S) hard temper bare copper cable	500	kg
302574	500 kcmil (37 S) hard temper bare copper cable	500	kg
326169	750 kcmil (37 S) hard temper bare copper cable	500	kg

SEMI HARD TEMPER BARE STRANDED COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302552	14 AWG (7S) semi hard temper bare copper cable	500	kg
302554	12 AWG (7S) semi hard temper bare copper cable	500	kg
302556	10 AWG (7S) semi hard temper bare copper cable	500	kg
362629	8 AWG (7S) semi hard temper bare copper cable	500	kg
302560	6 AWG (7S) semi hard temper bare copper cable	500	kg
302561	4 AWG (7S) semi hard temper bare copper cable	500	kg
302562	2 AWG (7S) semi hard temper bare copper cable	500	kg
302563	1/0 AWG (7S) semi hard temper bare copper cable	500	kg
302564	2/0 AWG (7S) semi hard temper bare copper cable	500	kg
302565	3/0 AWG (7S) semi hard temper bare copper cable	500	kg
302566	4/0 AWG (7S) semi hard temper bare copper cable	500	kg
302567	250 kcmil (12S) semi hard temper bare copper cable	500	kg
362628	14 AWG (19S) semi hard temper bare copper cable	500	kg
339187	14 AWG (19S) semi hard temper bare copper cable	100	m
337668	14 AWG (19S) semi hard temper bare copper cable	1 000	m
362627	12 AWG (19S) semi hard temper bare copper cable	500	kg
399381	12 AWG (19S) semi hard temper bare copper cable	100	m
337667	12 AWG (19S) semi hard temper bare copper cable	1 000	m
362626	10 AWG (19S) semi hard temper bare copper cable	500	kg
399382	10 AWG (19S) semi hard temper bare copper cable	100	m
337666	10 AWG (19S) semi hard temper bare copper cable	1 000	m
302558	8 AWG (19S) semi hard temper bare copper cable	500	kg
362573	2 AWG (19S) semi hard temper bare copper cable	500	kg
362572	1/0 AWG (19S) semi hard temper bare copper cable	500	kg
362574	2/0 AWG (19S) semi hard temper bare copper cable	500	kg
362575	4/0 AWG (19S) semi hard temper bare copper cable	500	kg
302573	250 kcmil (19S) semi hard temper bare copper cable	500	kg
302569	300 kcmil (19S) semi hard temper bare copper cable	500	kg
302568	500 kcmil (19S) semi hard temper bare copper cable	500	kg
367534	400 kcmil (37S) semi hard temper bare copper cable	500	kg
326171	500 kcmil (37S) semi hard temper bare copper cable	500	kg
302571	1000 kcmil (37S) semi hard temper bare copper cable	500	kg
308661	750 kcmil (61S) semi hard temper bare copper cable	500	kg

BARE COPPER WIRE AND STRANDED CABLE SPECIFICATIONS							
BARE COPPER WIRE							
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NOMINAL CONDUCTORDIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	HARD		HALF-HARD	
				RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	APPROXIMATE CALCULATED BREAKING LOAD (kN)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	APPROXIMATE CALCULATED BREAKING LOAD (kN)
6	13,30	4,115	118,2	1,348	5,720	1,340	4,520
4	21,15	5,190	188,0	0,848	8,777	0,843	7,085
2	33,62	6,540	298,9	0,533	13,280	0,531	10,920

BARE COPPER STRANDED CABLE-CLASS AA									
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL STRAND DIAMETER (mm)	NOMINAL CONDUCTORDIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)		APPROXIMATE CALCULATED BREAKING LOAD (kN)	
						HARD	HALF-HARD	HARD	HALF-HARD
4	21,15	3	2,996	6,46	189,90	0,865	0,861	8,47	6,57
2	33,62	3	3,777	8,14	301,90	0,544	0,541	13,16	10,59
1/0	53,48	7	3,119	9,36	484,95	0,342	0,340	21,42	16,61
2/0	67,43	7	3,502	10,51	611,44	0,271	0,270	26,40	20,63
3/0	85,01	7	3,932	11,80	770,85	0,215	0,214	33,28	26,01
4/0	107,20	7	4,416	13,25	972,07	0,171	0,170	41,01	32,32
250	126,70	12	3,667	15,23	1 148,89	0,144	0,144	49,62	39,35
300	152,00	12	4,016	16,69	1 378,31	0,120	0,120	59,51	47,21
350	177,30	12	4,337	18,02	1 607,72	0,103	0,103	67,81	54,26
400	202,70	19	3,686	18,43	1 838,04	0,090	0,090	79,38	62,04
500	253,40	19	4,121	20,60	2 297,78	0,072	0,072	98,08	77,55
750	380,00	37	3,616	25,31	3 445,76	0,048	0,048	148,76	117,96
1 000	506,70	37	4,176	29,23	4 594,65	0,036	0,036	196,12	157,32

BARE COPPER STRANDED CABLE-CLASS A									
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL STRAND DIAMETER (mm)	NOMINAL CONDUCTORDIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)		APPROXIMATE CALCULATED BREAKING LOAD (kN)	
						HARD	HALF-HARD	HARD	HALF-HARD
4	21,15	7	1,961	5,88	189,90	0,865	0,8610	8,47	6,57
2	33,62	7	2,473	7,42	301,90	0,544	0,5410	13,16	10,59
1/0	53,48	7	3,119	9,36	484,95	0,342	0,3400	21,42	16,61
2/0	67,43	7	3,502	10,51	611,44	0,271	0,2700	26,40	20,63
3/0	85,01	7	3,932	11,80	770,85	0,215	0,2140	33,28	26,01
4/0	107,20	7	4,416	13,25	972,07	0,171	0,1700	41,01	32,34
250	126,70	19	2,914	14,57	1 148,89	0,144	0,1440	50,75	39,34
300	152,00	19	3,192	15,96	1 378,31	0,120	0,1200	60,89	47,21
350	177,30	19	3,447	17,24	1 607,72	0,103	0,1030	69,42	54,25
400	202,70	19	3,686	18,43	1 838,04	0,090	0,0900	79,38	62,04
500	253,40	37	2,953	20,67	2 297,78	0,072	0,0718	98,08	77,55
750	380,00	61	2,816	25,34	3 445,76	0,048	0,0479	152,16	117,96
1 000	506,70	61	3,252	29,27	4 594,65	0,036	0,0359	202,92	157,32

BARE COPPER STRANDED CABLE-CLASE C						
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL STRAND DIAMETER (mm)	NOMINAL CONDUCTORDIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)
						SOFT
14	2,082	19	0,374	1,814	18,88	8,46
12	3,307	19	0,471	2,287	29,99	5,35
10	5,260	19	0,594	2,884	47,70	3,35

AAC

General description
» Concentric lay stranded All Aluminum Conductor (AAC) is made up of one or more strands of 99.5% pure 1350 H-19 hard or soft temper aluminum alloy.

Characteristics
» Highly resistant to harsh weather, heat, and corrosion in various environments.

Applications
» Used with insulators for various voltage level transmission and distribution networks and for low voltage primary distribution.

Advantages
» Meets highest national and international standards.
» Used as supply for other conductors.

Applicable standards
» NOM-063-SCFI
» CFE E1000-30
» NMX-J-027-ANCE
» NMX-J-032-ANCE
» NMX-J-509-ANCE
» ASTM B-230
» ASTM B-231

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

SOFT TEMPER BARE ALUMINUM WIRE			
CODE	DESCRIPTION	MASTER	UNIT
302668	AAC soft temper bare aluminum wire 6 AWG	35	kg
302665	AAC soft temper bare aluminum wire 4 AWG	35	kg
302666	AAC soft temper bare aluminum wire 2 AWG	35	kg

BARE ALUMINUM CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302683	AAC bare aluminum cable 2 AWG Iris	600	kg
302684	AAC bare aluminum cable AAC 1/0 AWG Poppy	600	kg
366520	AAC bare aluminum cable AAC 2/0 AWG Aster	600	kg
302685	AAC bare aluminum cable 3/0 AWG Phlox	600	kg
302686	AAC bare aluminum cable 4/0 AWG Oxlip	600	kg
302687	AAC bare aluminum cable 266.8 kcmil Daisy	2 000	kg
302688	AAC bare aluminum cable 266.8 kcmil Laurel	2 000	kg
302689	AAC bare aluminum cable 336.4 kcmil Tulip	2 000	kg
302690	AAC bare aluminum cable 397 kcmil Canna	2 000	kg
302691	AAC bare aluminum cable 477 kcmil Cosmos	2 000	kg

AAC BARE ALUMINUM SOLID WIRE AND STRANDED CABLE SPECIFICATIONS					
AAC SOFT TEMPER SOLID ALUMINUM WIRE					
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NOMINAL CONDUCTOR DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	APPROXIMATE CALCULATED D	BREAKING LOA (kN)
4	21,15	5,19	57,2	2,0	
2	33,62	6,54	90,9	3,2	

AAC 1350 HARD TEMPER STRANDED ALUMINUM CABLE							
SIZE (AWG/kcmil)	INTERNATIONAL DESIGNATION	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL OVERALL CONDUCTOR DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	APPROXIMATE CALCULATED BREAKING LOAD (kN)	RATED DC ELECTRICAL RESISTANCE 20°C (Ohm/km)
6	Peachbell	13,30	7	4,7	36,7	2,53	2,1700
4	Rose	21,15	7	5,9	58,4	3,91	1,3600
2	Iris	33,62	7	7,4	92,8	5,99	0,8560
1/0	Poppy	53,48	7	9,4	147,6	8,84	0,5380
2/0	Aster	67,43	7	10,5	186,1	11,10	0,4270
3/0	Phlox	85,01	7	11,8	234,6	13,50	0,3380
4/0	Oxlip	107,20	7	13,2	295,8	17,00	0,2690
250,0	Valerian	126,70	19	14,6	349,6	20,70	0,2280
266,8	Laurel	135,20	19	15,1	373,0	22,10	0,2130
300,0	Peony	152,00	19	16,0	419,4	24,30	0,1870
336,4	Tulip	170,50	19	16,9	470,4	27,30	0,1690
350,0	Daffodil	177,30	19	17,3	489,2	28,40	0,1620
397,5	Canna	201,40	19	18,4	555,7	31,60	0,1430
477,0	Cosmos	241,70	19	20,1	666,9	37,00	0,1190
500,0	Hyacinth	253,40	37	20,7	699,0	40,50	0,1140
556,5	Dahlia	282,00	19	21,8	778,0	43,30	0,1020
600,0	Meadowsweet	304,00	37	22,6	838,8	47,50	0,0948
700,0	Flag	354,70	61	24,5	978,6	57,10	0,0814
715,5	Violet	362,50	37	24,7	1 000,2	56,70	0,0792
750,0	Cattail	380,00	61	25,3	1 048,5	60,30	0,0758
795,0	Lilac	402,80	61	26,1	1 111,4	63,80	0,0713
900,0	Cockscomb	456,00	37	27,7	1 258,2	68,40	0,0633
954,0	Magnolia	483,50	37	28,6	1 334,0	72,60	0,0594
1000,0	Camellia	506,70	61	29,3	1 398,0	78,30	0,0568
1033,5	Larkspur	523,70	61	29,8	1 445,0	81,30	0,0549
1113,0	Marigold	564,00	61	30,9	1 556,0	87,30	0,0511

ACSR

General description
» Aluminum Conductor Steel Reinforced (ACSR) is concentrically stranded conductor with one or more layers of hard drawn 1350-H19 aluminum wire, wound around a galvanized steel wire core. The core can be a single or multiple wire configuration, depending on the size.

Characteristics
» 1350 H-19 hard drawn aluminum ACSR concentric lay cable
» Galvanized steel single-strand or multi-strand core
» Steel core supports desired voltage without sacrificing ampacity

Applications
» Used for transmission and sub-transmission in electrical power grids at various voltage levels.

Advantages
» Low weight when compared to copper reduces spool handling and cable installation costs.
» Low weight permits use of lighter weight hardware and posts.
» Galvanized steel core withstands overhead transmission line voltages.

Applicable standards
» NOM-063-SCFI
» CFE E1000-12
» NMX-J-027-ANCE
» NMX-J-058-ANCE
» NMX-J-441-ANCE
» ASTM B-232

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

ACSR BARE ALUMINUM CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302694	ACSR bare aluminum cable 2 AWG Sparrow	565	kg
302695	ACSR bare aluminum cable 1/0 AWG Raven	565	kg
302710	ACSR bare aluminum cable 2/0 AWG Quail	565	kg
302696	ACSR bare aluminum cable 3/0 AWG Pigeon	565	kg
302697	ACSR bare aluminum cable 4/0 AWG Penguin	565	kg
302698	ACSR bare aluminum cable 266 kcmil Partridge	2 000	kg
302699	ACSR bare aluminum cable 336 kcmil Linnet	2 000	kg
308727	ACSR bare aluminum cable 397 kcmil Lark	2 000	kg
302712	ACSR bare aluminum cable 477 kcmil Flicker	2 000	kg
302700	ACSR bare aluminum cable 477 kcmil Hawk	2 000	kg
302711	ACSR bare aluminum cable 477 kcmil Hen	2 000	kg
396916	ACSR bare aluminum cable 556 kcmil Dove	2 000	kg
302701	ACSR bare aluminum cable 795 kcmil Condor	2 000	kg
302703	ACSR bare aluminum cable 795 kcmil Drake	2 000	kg
302704	ACSR bare aluminum cable 900 kcmil Canary	2 589	kg
302706	ACSR bare aluminum cable 1113 kcmil Bluejay	2 806	kg

ACSR STEEL-REINFORCED CONCENTRIC LAY ALUMINUM CABLE SPECIFICATIONS									
ACSR 1350 HARD TEMPER ALUMINUM CABLE									
SIZE (AWG/kcmil)	INTERNATIONAL DESIGNATION	NOMINAL CROSS SECTIONAL AREA (mm^2)	STRANDING (ALUMINUM/STEEL)	INDIVIDUAL ALUMINUM WIRE DIAMETER (mm)	INDIVIDUAL STEEL WIRE DIAMETER (mm)	NOMINAL OVERALL CONDUCTOR DIAMETER (mm)	APPROXIMATE CALCULATED BREAKING LOAD (kN)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	TOTAL APPROXIMATE WEIGHT (kg/km)
6	Turkey	13,30	6/1	1,68	1,68	5,04	5,30	2,1500	53,70
4	Swan	21,15	6/1	2,12	2,12	6,36	8,30	1,3500	85,50
2	Sparrow	33,62	6/1	2,67	2,67	8,01	12,67	0,8530	135,70
1/0	Raven	53,48	6/1	3,37	3,37	10,11	19,48	0,5350	216,20
3/0	Pigeon	85,01	6/1	4,25	4,25	12,74	29,38	0,3360	343,80
4/0	Penguin	107,20	6/1	4,77	4,77	14,31	37,03	0,2670	433,10
266,8	Partridge	135,20	26/7	2,57	2,00	16,30	50,22	0,2140	545,40
336,4	Linnet	170,50	26/7	2,89	2,24	18,30	62,99	0,1700	689,90
477	Hawk	241,70	26/7	3,44	2,67	21,78	86,54	0,1190	975,80
795	Drake	402,80	26/7	4,44	3,45	28,13	140,07	0,0716	1 626,00
900	Canary	456,00	54/7	3,28	3,28	29,51	141,37	0,0633	1 726,00
1 113	Bluejay	564,00	45/7	4,00	2,66	31,97	133,17	0,0511	1 871,00

ACSR/AS

General description
»Aluminium Conductor Aluminium Clad Steel Reinforced (ACSR/AS) is concentrically stranded conductor with one or more layers of hard drawn 1350-H19 aluminium wires on aluminium clad steel wire core. The core can be single or multiple wire configuration depending on the size.

Characteristics
»Steel core facilitates use in high voltage appplications without sacrificing ampacity.
»Higher mechanical resistance than ACSR facilitates use for extra long spans.
»Used in costal regions due to high resistance to corrosion and harsh weather.

Applications
»Used for transmission and sub-transmission in electrical power grids at various voltage levels.

Advantages
»Low weight when compared to copper reduces spool handling and installation costs.
»Low weight permits use of lighter weight hardware and posts.
»Aluminum covered steel core conductors are designed for high voltage overhead lines.
»Aluminum outer layer provides protection against corrosion.

Applicable standards
»NOM-063-SCFI
»CFE E1000-18
»NMX-J-027-ANCE
»NMX-J-441 –ANCE

Notes
»Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

ACSR/AS BARE CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302714	ACSR/AS 1/0 AWG bare cable-Raven	541	kg
302715	ACSR/AS 3/0 AWG bare cable-Pigeon	538	kg
302717	ACSR/AS 266 kcmil bare cable-Partrigde	1 912	kg
302719	ACSR/AS 477 kcmil bare cable- Hawk	1 908	kg
302720	ACSR/AS 795 kcmil bare cable-Drake	1 910	kg
302721	ACSR/AS 900 kcmil bare cable-Canary	2 482	kg
302722	ACSR/AS 1113 kcmil bare cable-Bluejay	2 727	kg

ALUMINUM CLAD STEEL WIRE-REINFORCED (ACSR/AS) CONDUCTOR SPECIFICATIONS									
ACSR/AS 1350 SOFT TEMPER ALUMINUM CABLE									
SIZE (AWG/kcmil)	INTERNATIONAL DESIGNATION	NOMINAL CROSS SECTIONAL AREA (mm²)	STRANDING (ALUMINUM/STEEL)	INDIVIDUAL ALUMINUM WIRE DIAMETER (mm)	INDIVIDUAL STEEL WIRE DIAMETER (mm)	NOMINAL OVERALL CONDUCTOR DIAMETER (mm)	APPROXIMATE CALCULATED BREAKING LOAD (kN)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	TOTAL APPROXIMATE WEIGHT (kg/km)
4	Swan	21,15	6/1	2,12	2,12	6,36	7,90	1,266	81
2	Sparrow	33,62	6/1	2,67	2,67	8,02	12,30	0,796	129
1/0	Raven	53,48	6/1	3,37	3,37	10,11	18,90	0,500	205
3/0	Pigeon	85,01	6/1	4,25	4,25	12,74	28,00	0,315	326
4/0	Penguin	107,20	6/1	4,77	4,77	14,31	34,20	0,250	412
266,8	Partridge	135,20	26/7	2,57	2,00	16,30	48,00	0,198	519
336,4	Linnet	170,50	26/7	2,89	2,24	18,30	60,00	0,157	655
477	Hawk	241,70	26/7	3,44	2,67	21,78	84,10	0,111	929
795	Drake	402,80	26/7	4,44	3,45	28,13	135,70	0,066	1 549
795	Tern	402,80	45/7	3,38	2,25	28,13	95,60	0,067	1 298
900	Canary	456,00	54/7	3,28	3,28	29,51	137,90	0,059	1 653
1 113	Bluejay	564,00	45/7	4,00	2,66	31,97	130,30	0,049	1 819

ABC
(AERIEL BUNDLED CABLE) - 600 VOLT

General description
» Aerial bundled cable (ABC) is 2, 3, or 4 conductors, individually jacketed in black HDPE poliethylene. The conductors are either concentric lay half-hard drawn copper or 1350 hard drawn AAC aluminum. Different phases are identified by markings running the length of the cable. The jacketed cables are tightly wound around a messenger neutral cable comprised of half-hard bare copper cable, or AAC or ACSR bare aluminum cable.

Characteristics
» Rated voltage, 600 volts.
» Maximum operating temperature 75°C in dry and wet environments.
» Half-hard drawn copper conductors available in sizes from 8,37 to 107 mm^2 (8 AWG to 4/0 AWG).
» 1350 hard drawn aluminum conductors available in sizes from 13,30 to 253 mm^2 (6 AWG to 500 kcmil).
» HDPE insulation is resistant to abrasion and UV rays.

Applications
» Used for secondary distribution networks, temporary installations, and lighting installations.
» Used for low voltage connections.
» Available in 2, 3, or 4 conductor configurations.
» Used for open-air installations.

Advantages
» Hard drawn and half-hard drawn conductor supports required voltage and long installation spans.
» HDPE insulation is resistant to tree branch abrasion.
» Insulated conductors are more secure against energy theft.
» Resistant to sunlight and harsh weather.

Applicable standards
» NOM-063-SCFI
» CFE E0000-09
» NMX-J-032-ANCE
» NMX-J-061-ANCE
» ASTM B-230
» ASTM B-232
» ICEA S-76-474

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

ABC (ARIEL BUNDLED CABLE) AAC - AAC			
CODE	DESCRIPTION	MASTER	UNIT
302605	Ariel bundled cable, AAC-AAC (1+1) 6, 600 V	500	m
337389	Ariel bundled cable, AAC-AAC (1+1) 4, 600 V	500	m
374216	Ariel bundled cable, AAC-AAC (2+1) 6, 600 V	250	m
302608	Ariel bundled cable, AAC-AAC (2+1) 6, 600 V	300	m
374217	Ariel bundled cable, AAC-AAC (2+1) 6, 600 V	500	m
374218	Ariel bundled cable, AAC-AAC (2+1) 6, 600 V	1 000	m
302621	Ariel bundled cable, AAC-AAC (2+1) 4, 600 V	500	m
302610	Ariel bundled cable, AAC-AAC (2+1) 2, 600 V	200	m
308689	Ariel bundled cable, AAC-AAC (2+1) 1/0, 600 V	500	m
302617	Ariel bundled cable, AAC-AAC (2+1) 1/0-2, 600 V	500	m
302620	Ariel bundled cable, AAC-AAC (2+1) 3/0, 600V	250	m
302619	Ariel bundled cable, AAC-AAC (2+1) 3/0-1/0, 600 V	250	m
302609	Ariel bundled cable, AAC-AAC (3+1) 6, 600 V	250	m
302612	Ariel bundled cable, AAC-AAC (3+1) 4, 600 V	250	m
302611	Ariel bundled cable, AAC-AAC (3+1) 2, 600V	500	m
302613	Ariel bundled cable, AAC-AAC (3+1) 1/0-2, 600 V	250	m
302618	Ariel bundled cable, AAC-AAC (3+1) 3/0, 600V	250	m
302615	Ariel bundled cable, AAC-AAC (3+1) 3/0-1/0, 600 V	300	m

ABC (ARIEL BUNDLED CABLE) COPPER			
CODE	DESCRIPTION	MASTER	UNIT
301801	Ariel bundled cable, copper-copper (1+1) 8, 600 V	200	m
301802	Ariel bundled cable, copper-copper (2+1) 8, 600 V	200	m
301800	Ariel bundled cable, copper-copper (2+1) 4, 600 V	200	m
386112	Ariel bundled cable, copper-copper (2+1) 1/0-2, 600 V	250	m
301803	Ariel bundled cable, copper-copper (3+1) 8, 600 V	200	m
207736	Ariel bundled cable, copper-copper (3+1) 4, 600 V	200	m
389803	Ariel bundled cable, copper-copper (3+1) 1/0-2, 600 V	250	m
368561	Ariel bundled cable, copper-copper (3+1) 3/0-2/0, 600 V	250	m

ABC (ARIEL BUNDLED CABLE) AAC - ACSR			
CODE	DESCRIPTION	MASTER	UNIT
380664	Ariel bundled cable, AAC-ACSR (1+1) 6, 600 V	500	m
202031	Ariel bundled cable, AAC-ACSR (1+1) 1/0, 600 V	500	m
209520	Ariel bundled cable, AAC-ACSR (2+1) 6, 600 V	300	m
212638	Ariel bundled cable, AAC-ACSR (2+1) 4, 600 V	500	m
202538	Ariel bundled cable, AAC-ACSR (2+1) 2, 600 V	500	m
302471	Ariel bundled cable, AAC-ACSR (2+1) 1/0, 600 V	500	m
302622	Ariel bundled cable, AAC-ACSR (2+1) 1/0-2, 600 V	500	m
302623	Ariel bundled cable, AAC-ACSR (2+1) 3/0-1/0, 600 V	250	m
337136	Ariel bundled cable, AAC-ACSR (3+1) 1/0, 600 V	500	m
383826	Ariel bundled cable, AAC-ACSR (3+1) 1/0-2, 600 V	250	m
302614	Ariel bundled cable, AAC-ACSR (3+1) 3/0-1/0, 600 V	250	m

ABC (AERIAL BUNDLED CABLE) 600 VOLT CHARACTERISTICS								
ALUMINUM								
ALUMINUM PHASE					AAC NEUTRAL			
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL INSULATION THICKNESS (mm)	APPROXIMATE NET WEIGHT (kg/km)	SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF ALUMINUM WIRES	APPROXIMATE NET WEIGHT (kg/km)
6	13,30	7	1,14	59,70	6	13,30	7	36,70
4	21,15	7	1,14	87,40	4	21,15	7	58,40
2	33,62	7	1,14	129,90	4	21,15	7	58,40
					2	33,62	7	92,80
1/0	53,48	19	1,52	206,70	2	33,62	7	92,80
					1/0	53,48	19	147,60
2/0	67,43	19	1,52	252,80	1	42,41	7	117
					2/0	67,43	19	186
3/0	85,01	19	1,52	310,20	1/0	53,48	19	147,60
					3/0	85,01	19	234,60
4/0	107,20	19	1,52	381,90	2/0	67,43	19	186
					4/0	107,20	19	295,80

ALUMINUM - ACSR									
ALUMINUM PHASE					NEUTRAL ACSR				
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL INSULATION THICKNESS (mm)	APPROXIMATE NET WEIGHT (kg/km)	SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF ALUMINUM WIRES	NUMBER OF STEEL WIRES	APPROXIMATE NET WEIGHT (kg/km)
6	13,30	7	1,14	59,70	6	13,30	6	1	54,3
4	21,15	7	1,14	87,40	4	21,15	6	1	86,3
2	33,62	7	1,14	129,90	4	21,15	6	1	86,3
					2	33,62	6	1	137,2
1/0	53,48	19	1,52	206,70	2	33,62	6	1	137,2
					1/0	53,48	6	1	218,3
2/0	67,43	19	1,52	252,80	1	42,41	6	1	173,1
					2/0	67,43	6	1	275,2
3/0	85,01	19	1,52	310,20	1/0	53,48	6	1	218,3
					3/0	85,01	6	1	347
4/0	107,20	19	1,52	381,90	2/0	67,43	6	1	275,2
					4/0	107,2	6	1	437,6

COPPER								
COPPER PHASE					COPPER NEUTRAL			
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL INSULATION THICKNESS (mm)	APPROXIMATE NET WEIGHT (kg/km)	SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF COPPER WIRES	APPROXIMATE NET WEIGHT (kg/km)
8	8,367	7	1,14	94,4	8	8,367	7	75,9
6	13,300	7	1,14	143,6	6	13,300	7	120,6
4	21,150	7	1,14	220,8	6	13,300	7	120,6
					4	21,150	7	191,8
2	33,620	7	1,14	342	4	21,150	7	191,8
					2	33,620	7	304,9
1/0	53,480	19	1,52	544,1	2	33,620	7	304,9
					1/0	53,480	19	484,9
2/0	67,430	19	1,52	678,2	1	42,410	7	384,6
					2/0	67,430	19	611,4
3/0	85,010	19	1,52	846,5	1/0	53,480	19	484,9
					3/0	85,010	19	770,9
4/0	107,200	19	1,52	1 058,2	2/0	67,430	19	611,4
					4/0	107,200	19	972,1

CONDUCTORS

CONSTRUCTION	PHASE		NEUTRAL	NOMINAL CONDUCTOR DIAMETER (mm)	APPROXIMATE NET WEIGHT (kg/km)		
PHASE/NEUTRAL	NUMBER OF PHASES	SIZE (AWG/kcmil)	SIZE (AWG/kcmil)		COPPER - COPPER	AAC - ACC	AAC - ACSR
DUPLEX							
(1 + 1) 8	1	8	8	9,7	173,7	-	-
(1 + 1) 6	1	6	6	11,6	269,5	98,3	116,3
(1 + 1) 6 - 8	1	6	8	10,6	223,9	-	-
(1 + 1) 4	1	4	4	14	420,8	148,6	177,2
(1 + 1) 4 - 6	1	4	6	12,8	348,2	-	-
(1 + 1) 2	1	2	2	17,1	659,8	227,2	272,5
(1 + 1) 2 - 4	1	2	4	15,6	544,5	192,1	220,6
(1 + 1) 1/0	1	1/0	1/0	22	1 049,6	361,4	433,5
(1 + 1) 1/0 - 2	1	1/0	2	19,9	865,9	305,5	350,8
(1 + 1) 2/0	1	2/0	2/0	24,3	1 315,5	447,7	538,6
(1 + 1) 3/0	1	3/0	3/0	26,9	1 649,7	555,7	670,4
(1 + 1) 3/0 - 1/0	1	3/0	1/0	24,4	1 358,1	467	539,1
(1 + 1) 4/0	1	4/0	4/0	29,8	2 070,8	691,2	835,8
(1 + 1) 4/0 - 2/0	1	4/0	2/0	27,1	1 703	579,3	670,2
TRIPLEX							
(2 + 1) 8	2	8	8	12,9	270	-	-
(2 + 1) 6	2	6	6	15,0	416	159,2	177,2
(2 + 1) 6 - 8	2	6	8	15,0	370,4	-	-
(2 + 1) 4	2	4	4	17,6	646,1	237,8	266,3
(2 + 1) 4 - 6	2	4	6	17,6	573,5	-	-
(2 + 1) 2	2	2	2	20,9	1 008,7	359,7	405,1
(2 + 1) 2 - 4	2	2	4	20,9	893,4	324,6	353,1
(2 + 1) 1/0	2	1/0	1/0	26,9	1 604,6	572,2	644,3
(2 + 1) 1/0 - 2	2	1/0	2	26,9	1 420,9	516,3	561,7
(2 + 1) 2/0	2	2/0	2/0	29,5	2 007,3	705,6	796,5
(2 + 1) 3/0	2	3/0	3/0	32,3	2 513,2	872,1	986,8
(2 + 1) 3/0 - 1/0	2	3/0	1/0	32,3	2 221,6	783,4	855,6
(2 + 1) 4/0	2	4/0	4/0	35,4	3 150,2	1 080,7	1 225,3
(2 + 1) 4/0 - 2/0	2	4/0	2/0	35,4	2 782,3	968,8	1 059,8
QUADRUPLEX							
(3 + 1) 8	3	8	8	14,4	366,3	-	-
(3 + 1) 6	3	6	6	16,8	562,5	220,1	238,1
(3 + 1) 6 - 8	3	6	8	16,8	516,9	-	-
(3 + 1) 4	3	4	4	19,7	871,3	326,9	355,4
(3 + 1) 4 - 6	3	4	6	19,7	798,7	-	-
(3 + 1) 2	3	2	2	23,4	1 357,6	492,3	537,6
(3 + 1) 2 - 4	3	2	4	23,4	1 242,3	457,2	485,7
(3 + 1) 1/0	3	1/0	1/0	30,2	2 159,6	783,0	855,2
(3 + 1) 1/0 - 2	3	1/0	2	30,2	1 975,9	727,1	772,5
(3 + 1) 2/0	3	2/0	2/0	33	2 699,1	963,5	1 054,4
(3 + 1) 3/0	3	3/0	3/0	36,1	3 376,7	1 188,6	1 303,3
(3 + 1) 3/0 - 1/0	3	3/0	1/0	36,1	3 085,1	1 099,9	1 172
(3 + 1) 4/0	3	4/0	4/0	39,7	4 229,5	1 470,2	1 614,8
(3 + 1) 4/0 - 2/0	3	4/0	2/0	39,7	3 861,7	1 358,3	1 449,3

XLP UNDERGROUND DISTRIBUTION CABLE - 600 VOLT

General description

»XLP underground distribution cable is 1, 2, 3, or 4 conductors, individually jacketed in black cross-linked polyethylene. The conductors are either concentric lay half-hard drawn copper or 1350 hard drawn AAC aluminum. Different phases are identified by markings running the length of the cable. The jacketed cables are tightly wound around a messenger neutral cable comprised of half-hard, white XLP-jacketed copper cable, or white XLP-jacketed AAC or ACSR aluminum cable.

Characteristics

»Rated voltage, 600 volts.
»Maximum operating temperature 90°C in dry and wet environments.
»Half-hard drawn copper conductors available in sizes from 8,37 to 253 mm2 (8 AWG to 4/0 AWG).
»1350 hard drawn aluminum conductors available in sizes from 8,37 to 253 mm2 (8 AWG to 4/0 AWG).
»Cross-linked polyethylene is highly resistant to abrasion, impact, and chemical agents.
»Excellent resistance to humidity.

Applications

»Used in secondary underground distribution networks such as home connections, temporary installations, and lighting installations.

Advantages

»Cross-linked polyethylene is highly resistant to abrasion, impact, and chemical agents.
»Excellent resistance to humidity.
»Available in 1, 2, 3, or 4 conductor configurations.
»May be buried directly.
»XLP jacket offers excellent thermal stability.

Applicable standards

»NOM-063-SCFI
»CFE E1000-02
»NMX-J-061-ANCE
»UL-854
»UL-44
»ICEA S-105-692

Notes

»HDPE insulator may be substituted without prior notice.
»Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

XLP COPPER UNDERGROUND DISTRIBUTION CABLE			
CODE	DESCRIPTION	MASTER	UNIT
301833	XLP copper distribution cable 6 AWG, 600 V	500	m
301825	XLP copper distribution cable 4 AWG, 600 V	500	m
301826	XLP copper distribution cable 2 AWG, 600 V	500	m
301827	XLP copper distribution cable 1/0 AWG, 600 V	500	m
384837	XLP copper distribution cable 2C/1N (6-6), 600 V	500	m
206019	XLP copper distribution cable 3C/1N (4-4), 600 V	500	m
206326	XLP copper distribution cable 3C/1N (3/0-1/0), 600 V	500	m
301834	XLP copper distribution cable 300 kcmil, 600 V	500	m
301832	XLP copper distribution cable 500 kcmil, 600 V	500	m

XLP ALUMINUM UNDERGROUND DISTRIBUTION CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302624	XLP aluminum distribution cable 4 AWG, 600 V	500	m
336277	XLP aluminum distribution cable WHITE 4 AWG, 600 V	1 000	m
302625	XLP aluminum distribution cable 2 AWG, 600 V	500	m
302626	XLP aluminum distribution cable 1/0 AWG, 600 V	500	m
302627	XLP aluminum distribution cable 2/0 AWG, 600 V	500	m
302628	XLP aluminum distribution cable 3/0 AWG, 600 V	500	m
308694	XLP aluminum distribution cable 4/0 AWG, 600 V	500	m
302662	XLP aluminum distribution cable 1C/1N (6/6), 600 V	500	m
326106	XLP aluminum distribution cable 1C/1N (4-4), 600 V	500	m
324965	XLP aluminum distribution cable 1C/1N (2-2), 600 V	500	m
302638	XLP aluminum distribution cable 2C/1N (6/6), 600 V	500	m
302631	XLP aluminum distribution cable 2C/1N (4-4), 600V	500	m
392320	XLP aluminum distribution cable 2C/1N (4-6), 600 V	500	m
302632	XLP aluminum distribution cable 2C/1N (2-2), 600 V	500	m
302634	XLP aluminum distribution cable 2C/1N (2-4), 600 V	500	m
302633	XLP aluminum distribution cable 2C/1N (1/0-2), 600 V	500	m
302635	XLP aluminum distribution cable 2C/1N (3/0-1/0), 600 V	500	m
325121	XLP aluminum distribution cable 2C/1N (3/0-1/0), 600 V	500	m
302640	XLP aluminum distribution cable 2C/1N (3/0-3/0), 600 V	500	m
302636	XLP aluminum distribution cable 2C/1N (4/0-4/0), 600 V	500	m
368048	XLP aluminum distribution cable 2C/1N (250-3/0), 600 V	500	m
302637	XLP aluminum distribution cable 2C/1N (350-4/0), 600 V	500	m
302641	XLP aluminum distribution cable 3C/1N (4-4), 600 V	500	m
300782	XLP aluminum distribution cable 3C/1N (4-6), 600 V	500	m
302642	XLP aluminum distribution cable 3C/1N (2-2), 600 V	500	m
302644	XLP aluminum distribution cable 3C/1N (2-4), 600 V	500	m
302643	XLP aluminum distribution cable 3C/1N (1/0-2), 600 V	500	m
206021	XLP aluminum distribution cable 3C/1N (1/0-2), 600 V	500	m
302645	XLP aluminum distribution cable 3C/1N (3/0-1/0), 600 V	500	m
302647	XLP aluminum distribution cable 3C/1N (350-4/0), 600 V	500	m

XLP UNDERGROUND DISTRIBUTION CABLE SPECIFICATIONS - 600 VOLT							
ALUMINUM							
PHASE				NEUTRAL			
SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL JACKET THICKNESS	APPROXIMATE NET WEIGHT (kg/km)	SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL INSULATION THICKNESS (mm)	APPROXIMATE NET WEIGHT (kg/km)
6	7	1,14	62,4	6	7	1,14	58,8
4	7	1,52	101,7	4	7	1,52	95,6
2	7	1,52	147,2	2	7	1,52	139,5
				4	7	1,52	95,6
1/0	19	2,03	235,9	1/0	7	2,03	223,5
				2	7	1,52	139,5
2/0	19	2,03	285	2/0	19	2,03	271,1
				1	19	1,52	169,8
3/0	19	2,03	345,6	3/0	19	2,03	330,1
				1/0	19	2,03	223,5
4/0	19	2,03	421	4/0	19	2,03	403,4
				2/0	37	2,03	271,1
250	37	2,41	506,6	250	37	2,41	484,6
350	37	2,41	675,4	350	37	2,41	649,3
500	37	2,41	924,2	500	37	2,41	892,7

COPPER							
PHASE				NEUTRAL			
SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL JACKET THICKNESS	APPROXIMATE NET WEIGHT (kg/km)	SIZE (AWG/kcmil)	NUMBER OF WIRES	NOMINAL INSULATION THICKNESS (mm)	APPROXIMATE NET WEIGHT (kg/km)
6	7	1,14	146,3	6	7	1,14	142,7
4	7	1,52	235,1	4	7	1,52	229,0
2	7	1,52	359,3	2	7	1,52	351,6
				4	7	1,52	229,0
1/0	19	2,03	573,3	1/0	7	2,03	560,9
				2	19	1,52	351,6
2/0	19	2,03	710,4	2/0	19	2,03	696,5
				1	19	1,52	437,3
3/0	19	2,03	881,9	3/0	19	2,03	866,4
				1/0	19	2,03	560,9
4/0	19	2,03	1 097,3	4/0	19	2,03	1 079,7
				2/0	37	2,03	696,50
250	37	2,41	1 350,9	250	37	2,41	1 305,9
350	37	2,41	1 794	350	37	2,41	1 794
500	37	2,41	2 522,9	500	37	2,41	2 522,9

CONSTRUCTION	PHASE		NEUTRAL	APPROXIMATE NET WEIGHT (kg/km)	
PHASE/NEUTRAL	NUMBER OF PHASES	SIZE (AWG/kcmil)	SIZE (AWG/kcmil)	COPPER - COPPER	AAC - AAC
DUPLEX					
1C/1N (6-6)	1	6	6	294,8	123,6
1C/1N (4-4)	1	4	4	473,4	201,2
TRIPLEX					
2C/1N (6-6)	2	6	6	444	187,3
2C/1N (4-4)	2	4	4	713,2	305
2C/1N (2-2)	2	2	2	1 091,6	442,6
2C/1N (2-4)	2	2	4	966,5	397,7
2C/1N (1/0-1/0)	2	1/0	1/0	1 741,7	709,3
2C/1N (1/0-2)	2	1/0	2	1 528,3	623,6
2C/1N (2/0-2/0)	2	2/0	2/0	2 159,5	857,8
2C/1N (2/0-1)	2	2/0	1	1 895,2	754,5
2C/1N (3/0-1/0)	2	3/0	1/0	2 371,3	933,1
2C/1N (3/0-3/0)	2	3/0	3/0	2 682,9	1 041,8
2C/1N (4/0-2/0)	2	4/0	2/0	2 948,9	1 135,4
2C/1N (4/0-4/0)	2	4/0	4/0	3 339,8	1 270,3
2C/1N (250-3/0)	2	250	3/0	-	1 370,1
2C/1N (350-4/0)	2	350	4/0	-	1 789,4
QUADRUPLEX					
2C/1N (4-4)	3	4	4	953,1	408,7
2C/1N (2-2)	3	2	2	1 458	592,7
2C/1N (2-4)	3	2	4	1 333	547,9
2C/1N (1/0-1/0)	3	1/0	1/0	2 326,5	950
2C/1N (1/0-2)	3	1/0	2	2 113,1	864,3
2C/1N (2/0-2/0)	3	2/0	2/0	2 884,1	1 148,5
2C/1N (2/0-1)	3	2/0	1	2 619,8	1 045,1
2C/1N (3/0-1/0)	3	3/0	1/0	3 270,9	1 285,7
2C/1N (3/0-3/0)	3	3/0	3/0	3 582,4	1 394,3
2C/1N (4/0-2/0)	3	4/0	2/0	4 068,1	1 564,8
2C/1N (4/0-4/0)	3	4/0	4/0	4 459	1 699,8
2C/1N (4/0-2)	3	4/0	2	3 716,4	1 430,6
2C/1N (250-3/0)	3	250	3/0	-	1 886,8
2C/1N (350-4/0)	3	350	4/0	-	2 478,4

IUSASIL XLP SEMICONDUCTOR-INSULATED AERIAL DISTRIBUTION CABLE - 15, 25, 38 KV

General description
» Single AAC, ACSR, or soft-drawn copper conductor with extruded semiconductor screen and black-colored XLP (cross-linked polyethylene) jacket.

Characteristics
» Rated voltage 15, 25, 38 kV.
» Maximum operating temperature, 90ºC.
» Black-colored insulation is highly resistant to UV radiation, heat, and humidity.

Applications
» Used for distribution networks that feed industrial zones and housing complexes in wooded areas.

Advantages
» Black-colored insulation is highly resistant to UV radiation, heat, and humidity.
» Soft drawn copper and hard drawn ACSR cables are suitable for installations with greater distances between line posts.
» XLP jacket is highly resistant to tree branch abrasion.

Applicable standards
» NOM-063-SCFI
» CFE E0000-29

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

IUSASIL SEMICONDUCTOR-INSULATED XLP - COPPER 15 KV			
CODE	DESCRIPTION	MASTER	UNIT
373341	Semiconductor-insulated cable - Copper (1/0)-XLP 15 kV	500	m
368560	Semiconductor-insulated cable - Copper (266.8)-XLP 15 kV	500	m

IUSASIL SEMICONDUCTOR-INSULATED XLP - ACSR 15 KV			
CODE	DESCRIPTION	MASTER	UNIT
305881	Semiconductor-insulated cable - ACSR (1/0)-XLP 15 kV	500	m
301061	Semiconductor-insulated cable - ACSR (3/0)-XLP 15 kV	500	m
384939	Semiconductor-insulated cable - ACSR (266.8)-XLP 15 kV	500	m
383455	Semiconductor-insulated cable - ACSR (336.4)-XLP 15 kV	500	m
300790	Semiconductor-insulated cable - ACSR (477)-XLP 15 kV	500	m

IUSASIL SEMICONDUCTOR-INSULATED XLP - ACSR 25 KV			
CODE	DESCRIPTION	MASTER	UNIT
301063	Semiconductor-insulated cable - ACSR (1/0)-XLP 25 kV	500	m
362394	Semiconductor-insulated cable - ACSR (3/0)-XLP 25 kV	500	m
380686	Semiconductor-insulated cable - ACSR (266.8)-XLP 25 kV	500	m
301066	Semiconductor-insulated cable - ACSR (336.4)-XLP 25 kV	500	m

IUSASIL SEMICONDUCTOR-INSULATED AERIAL DISTRIBUTION XLP CABLE - 15, 25, 38 KV						
IUSASIL SEMICONDUCTOR-INSULATED XLP CABLE 15 kV						
SIZE (AWG/kcmil)	**NOMINAL CROSS SECTIONAL AREA (mm²)**	**NUMBER OF WIRES**	**NOMINAL INSULATION THICKNESS (mm)**	**NOMINAL CONDUCTOR DIAMETER (mm)**	**APPROXIMATE NET WEIGHT (kg/km)**	**RATED CURRENT (A)**
COPPER CONDUCTOR						
1/0	53,48	7	2,5	14,60	59,00	260
3/0	85,01	7	3,0	17,85	92,30	345
ACC CONDUCTOR						
1/0	53,48	7	2,5	15,30	27,32	200
3/0	85,01	7	3,0	18,82	42,00	270
266,8	135,20	19	3,0	22,20	61,70	345
336,4	170,50	19	3,0	23,10	70,80	395
ACSR CONDUCTOR						
1/0	53,48	7	2,5	15,30	27,32	200
3/0	85,01	7	3,0	18,82	42,00	270
266,8	135,20	19	3,0	22,20	61,70	345
336,4	170,50	19	3,0	23,10	70,80	395
IUSASIL SEMICONDUCTOR-INSULATED XLP CABLE 25 kV						
SIZE (AWG/kcmil)	**NOMINAL CROSS SECTIONAL AREA (mm²)**	**NUMBER OF WIRES**	**NOMINAL INSULATION THICKNESS (mm)**	**NOMINAL CONDUCTOR DIAMETER (mm)**	**APPROXIMATE NET WEIGHT (kg/km)**	**RATED CURRENT (A)**
COPPER CONDUCTOR						
1/0	53,48	7	4	17,80	66,50	260
3/0	85,01	7	4	19,95	98,10	345
ACC CONDUCTOR						
1/0	53,48	7	4	18,50	35,20	200
3/0	85,01	7	4	20,95	48,10	270
266,8	135,20	19	4	24,30	68,80	345
336,4	170,50	19	4	25,20	78,20	395
ACSR CONDUCTOR						
1/0	53,48	6/1	4	22,60	45,95	200
3/0	85,01	6/1	4	23,80	60,30	270
266,8	135,20	26/7	4	25,50	83,60	345
336,4	170,50	26/7	4	27,50	100,50	395
IUSASIL SEMICONDUCTOR-INSULATED XLP CABLE 38 kV						
SIZE (AWG/kcmil)	**NOMINAL CROSS SECTIONAL AREA (mm²)**	**NUMBER OF WIRES**	**NOMINAL INSULATION THICKNESS (mm)**	**NOMINAL CONDUCTOR DIAMETER (mm)**	**APPROXIMATE NET WEIGHT (kg/km)**	**RATED CURRENT (A)**
COPPER CONDUCTOR						
1/0	53,48	7	5,3	20,45	74,00	260
3/0	85,01	7	5,3	22,65	106,40	345
ACC CONDUCTOR						
1/0	53,48	7	5,3	21,20	42,95	200
3/0	85,01	7	5,3	23,65	56,80	270
266,8	135,20	19	5,3	27,00	78,80	345
336,4	170,50	19	5,3	27,90	88,55	395
ACSR CONDUCTOR						
1/0	53,48	6/1	5,3	25,30	55,35	200
3/0	85,01	6/1	5,3	26,50	70,10	270
266,8	135,20	26/7	5,3	28,20	94,10	345
336,4	170,50	26/7	5,3	30,20	111,70	395

IUSASIL XLP SEMICONDUCTOR-INSULATED ENERGY DISTRIBUTION CABLE - 5, 15, 25, 35 KV

General description

» Single AAC, ACSR, or soft-drawn copper conductor with copper alloy electrostatic seal around the conductor, and with an extruded semiconductor screen and red colored or black with red stripe XLP (cross-linked polyethylene) jacket. Available with or without BoPET (Biaxially-oriented polyethylene terephthalate) moisture barrier (XLP or XLPE).

Characteristics

» Rated voltage 5, 15, 25, 35 kV.
» Category I (100%) insulation.
» Category II (133%) insulation.
» Maximum operating temperature, 90°C.
» Emergency operating temperature, 130°C.
» Short circuit operatiing temperature, 250°C.
» Available in sizes from 33,62 to 506,7 mm2 (2 AWG to 1 000 kcmil).
» Fabricated with moisture barrier around the conductor, under the metallic film for installation in humid environments.
» Insulator is resistant to flames, harsh weather, sunlight, and chemical agents.
» Metallic film used is a copper alloy in sizes 22 AWG (0,324 mm2), 20 AWG (0,519 mm2), and 18 AWG (0,824 mm2) in accordance with applicable standards (See technical data sheet for the metallic film).

Applications

» Used for primary underground distribution to feed residential, commercial, and industrial zones.
» May be installed in conduit, ducts, and trays.

Advantages

» Metallic film allows ground connection, increasing security personnel security.
» Metallic film confines electrostatic field.
» Metallic film facilitates the operation of electrical failure protection equipment.
» XLP insulator provides further protection against damage during installation and operation.
» XLP insulator provides low power losses.

Applicable standards

» NOM-063-SCFI
» CFE 1000-16
» NMX-J-142/1-ANCE

Notes

» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

IUSASIL XLP & XLPE COPPER POWER CABLE 15 KV

CODE	DESCRIPTION	MASTER	UNIT
301028	Copper cable (2) - XLP-15-100, PVC	500	m
206908	Copper cable (2) - XLP-15-133-B, Pe	500	m
301030	Copper cable (1/0) - XLP-15-100, PVC	500	m
301032	Copper cable (1/0) - XLP-15-100-B, PVC	500	m
336550	Copper cable (3/0) - XLP-15-100, PVC	500	m
306116	Copper cable (3/0) - XLP-RA-15-133-B, PVC	500	m
313170	Copper cable (500) - XLP-15-100, PVC	500	m
325157	Copper cable (750) - XLP-15-100, PVC	500	m
329744	Copper cable (750) - XLP-15-100-B, PVC	500	m
377114	Copper cable (750) - XLP-15-133, PVC	500	m
212635	Copper cable (750) - XLP-15-133-B, Pe	500	m
206909	Copper cable (1000) - XLP-15-133-B, Pe	500	m
301041	Copper cable (1000) - XLP-15-100, PVC	500	m

IUSASIL XLP & XLPE COPPER POWER CABLE 25 KV

CODE	DESCRIPTION	MASTER	UNIT
216928	Copper cable (1/0) - XLP-25-100, Pe	500	m
301043	Copper cable (1/0) - XLP-25-100, PVC	500	m
206325	Copper cable (1/0) - XLP-RA-25-100-B, PVC	500	m
369591	Copper cable (1/0) - XLP-25-100-B,PVC	500	m
205214	Copper cable (1/0) - XLP-25-133, PVC	500	m
205254	Copper cable (3/0) - XLP-25-100-B, PVC	500	m
206324	Copper cable (3/0) - XLP-RA-25-100-B, PVC	500	m
356111	Copper cable (4/0) - XLP-25-100, PVC	500	m
212657	Copper cable (300) - XLP-RA-25-133-B, Pe	500	m
202001	Copper cable (350) - XLP-25-100, PVC	500	m
205253	Copper cable (500) - XLP-25-100-B, PVC	500	m
204297	Copper cable (500) - XLP-25-133, PVC	500	m
205252	Copper cable (750) - XLP-25-100-B, PVC	500	m
325142	Copper cable (1000) - XLP-25-133, Pe	500	m

IUSASIL XLP & XLPE COPPER POWER CABLE 35 KV

CODE	DESCRIPTION	MASTER	UNIT
308736	Copper cable (1/0) - XLP-35-100, PVC	500	m
308737	Copper cable (4/0) - XLP-35-100, PVC	500	m
301058	Copper cable (750) - XLP-35-100-B, PVC	500	m
208977	Copper cable (750) - XLP-RA-35-100-B, PVC	500	m

IUSASIL XLP & XLPE ALUMINUM POWER CABLE 15 KV			
CODE	DESCRIPTION	MASTER	UNIT
212695	Aluminum cable (1/0) - XLP-15-100-B, Pe	500	m
301033	Aluminum cable (1/0) - XLP-15-100, PVC	500	m
380689	Aluminum cable (1/0) - XLP-15-100-B, PVC	500	m
313011	Aluminum cable (1/0) - XLP-15-133, PVC	500	m
366511	Aluminum cable (1/0) - XLP-15-133-B, PVC	500	m
212678	Aluminum cable (1/0) - XLP-RA-15-100-B, Pe	500	m
320385	Aluminum cable (1/0) - XLP-RA-15-100-B, PVC	500	m
370393	Aluminum cable (1/0) - XLP-RA-15-100, PVC	500	m
212123	Aluminum cable (1/0) - XLP-RA-15-133-B, PVC	500	m
206911	Aluminum cable (3/0) - XLP-15-133-B, Pe	500	m
208980	Aluminum cable (3/0) - XLP-RA-15-133-B, PVC	500	m
217068	Aluminum cable (3/0) - XLP-15-100, Pe	500	m
301035	Aluminum cable (3/0) - XLP-15-100, PVC	500	m
369028	Aluminum cable (3/0) - XLP-15-100-B, Pe	500	m
301036	Aluminum cable (3/0) - XLP-15-100-B, PVC	500	m
217067	Aluminum cable (3/0) - XLP-RA-15-100-B, Pe	500	m
384938	Aluminum cable (3/0) - XLP-RA-15-100-B, PVC	500	m
370394	Aluminum cable (3/0) - XLP-RA-15-100, PVC	500	m
363458	Aluminum cable (250) - XLP-15-100, PVC	500	m
301038	Aluminum cable (500) - XLP-15-100,PVC	500	m
369001	Aluminum cable (500) - XLP-15-100-B, Pe	500	m
386038	Aluminum cable (500) - XLP-15-100-B, PVC	500	m
217069	Aluminum cable (500) - XLP-RA-15-100-B, PVC	500	m
362454	Aluminum cable (500) - XLP-15-133, PVC	500	m
375186	Aluminum cable (500) - XLP-15-133-B, PVC	500	m
337388	Aluminum cable (500) - XLP-RA-15-133-B,PVC	500	m
366518	Aluminum cable (750) - XLP-15-100, Pe	500	m
301039	Aluminum cable (750) - XLP-15-100, PVC	500	m
369027	Aluminum cable (750) - XLP-15-100-B, Pe	500	m
379338	Aluminum cable (750) - XLP-15-100-B, PVC	500	m
398618	Aluminum cable (750) - XLP-RA-15-100-B, PVC	500	m
369561	Aluminum cable (750) - XLP-15-133, PVC	500	m
368559	Aluminum cable (750) - XLP-15-133-B, PVC	500	m

IUSASIL XLP & XLPE ALUMINUM POWER CABLE 25 KV			
CODE	DESCRIPTION	MASTER	UNIT
301042	Aluminum cable (1/0) - XLP-25-100, PVC	500	m
216927	Aluminum cable (1/0) - XLP-25-100-B, Pe	500	m
301044	Aluminum cable (1/0) - XLP-25-100-B, PVC	500	m
320386	Aluminum cable (1/0) - XLP-RA-25-100-B, PVC	500	m
313012	Aluminum cable (1/0) - XLP-25-133, PVC	500	m
326380	Aluminum cable (3/0) - XLP-25-100, PVC	500	m
301046	Aluminum cable (3/0) - XLP-25-100-B, PVC	500	m
208466	Aluminum cable (3/0) - XLP-25-133, PVC	500	m
209794	Aluminum cable (350) - XLP-25-100, PVC	500	m
301047	Aluminum cable (500) - XLP-25-100, PVC	500	m
382331	Aluminum cable (500) - XLP-25-100-B, PVC	500	m
325159	Aluminum cable (500) - XLP-RA-25-100-B, PVC	500	m
202030	Aluminum cable (500) - XLP-25-133, PVC	500	m
212124	Aluminum cable (500) - XLP-RA-25-133-B, PVC	500	m
325066	Aluminum cable (750) - XLP-25-133, PVC	500	m

IUSASIL XLP & XLPE ALUMINUM POWER CABLE 35 KV			
CODE	DESCRIPTION	MASTER	UNIT
339078	Aluminum cable (1/0) - XLP-35-100, PVC	500	m
312998	Aluminum cable (3/0) - XLP-35-100, PVC	500	m
377010	Aluminum cable (4/0) - XLP-35-100, PVC	500	m
375185	Aluminum cable (300) - XLP-RA-35-100-B, PVC	500	m
384937	Aluminum cable (350) - XLP-35-100, PVC	500	m
301056	Aluminum cable (500) - XLP-35-100, PVC	500	m
313013	Aluminum cable (500) - XLP-RA-35-100, PVC	500	m
202540	Aluminum cable (500) - XLP-RA-35-100-B, PVC	500	m

IUSASIL XLP & XLPE POWER CABLE 5, 15, 25 & 35 kV SPECIFICATIONS								
100% ALUMINUM XLP & XLPE PVC INSULATED POWER CABLE 15 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	17,11	24,30	27,32	600,74	708,32
1/0	53,48	19	8,55	18,85	26,04	29,06	706,40	820,15
2/0	67,43	19	9,57	19,87	27,40	30,42	782,30	900,86
3/0	85,01	19	10,80	21,10	28,29	31,31	863,29	985,01
4/0	107,20	19	12,10	22,40	29,93	32,95	971,32	1 098,84
250	126,70	37	13,20	23,50	30,69	33,71	1 061,93	1 192,14
300	152,00	37	14,50	24,80	31,99	35,01	1 172,57	1 307,39
350	177,30	37	15,70	26,00	33,79	36,81	1 317,38	1 458,56
500	253,40	37	18,70	29,00	36,79	39,81	1 626,79	1 778,60
750	380,00	61	23,00	33,30	42,69	45,71	2 282,34	2 460,51
1 000	506,70	61	26,90	37,20	46,59	49,61	2 779,21	2 971,19

100% ALUMINUM XLP & XLPE PVC INSULATED POWER CABLE 25 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	21,41	28,60	31,62	784,18	906,99
1/0	53,48	19	8,55	23,15	30,34	33,36	900,69	1 029,66
2/0	67,43	19	9,57	24,17	31,70	34,72	981,77	1 115,55
3/0	85,01	19	10,80	25,40	33,19	36,21	1 107,97	1 247,03
4/0	107,20	19	12,10	26,70	34,83	37,85	1 224,35	1 369,22
250	126,70	37	13,20	27,80	35,59	38,61	1 324,22	1 471,78
300	152,00	37	14,50	29,10	36,89	39,91	1 444,40	1 596,56
350	177,30	37	15,70	30,30	38,09	41,11	1 560,98	1 717,39
500	253,40	37	18,70	33,30	42,69	45,71	2 043,87	2 222,04
750	380,00	61	23,00	37,60	46,99	50,01	2 587,34	2 780,74
1 000	506,70	61	26,90	41,50	51,39	54,41	3 155,97	3 364,95

100% ALUMINUM XLP & XLPE PVC INSULATED POWER CABLE 35 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	25,81	33,60	36,62	1 036,31	1 176,82
1/0	53,48	19	8,55	27,55	35,34	38,36	1 165,84	1 312,52
2/0	67,43	19	9,57	28,57	36,70	39,72	1 253,37	1 404,86
3/0	85,01	19	10,80	29,80	37,59	40,61	1 353,59	1 508,24
4/0	107,20	19	12,10	31,10	39,23	42,25	1 477,09	1 637,54
250	126,70	37	13,20	32,20	39,99	43,01	1 585,16	1 748,30
300	152,00	37	14,50	33,50	42,89	45,91	1 869,13	2 048,01
350	177,30	37	15,70	34,70	44,09	47,11	1 997,80	2 180,94
500	253,40	37	18,70	37,70	47,09	50,11	2 356,14	2 549,90
750	380,00	61	23,00	42	51,89	54,91	2 974,96	3 185,71
1 000	506,70	61	26,90	45,90	55,79	58,81	3 524,60	3 749,16

100% COPPER XLP & XLPE PVC INSULATED POWER CABLE 15 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	17,11	24,30	27,32	812,84	920,42
1/0	53,48	19	8,55	18,85	26,04	29,06	1 043,79	1 157,54
2/0	67,43	19	9,57	19,87	27,40	30,42	1 207,70	1 326,26
3/0	85,01	19	10,80	21,10	28,29	31,31	1 399,60	1 521,31
4/0	107,20	19	12,10	22,40	29,93	32,95	1 647,61	1 775,13
250	126,70	37	13,20	23,50	30,69	33,71	1 861,25	1 991,46
300	152,00	37	14,50	24,80	31,99	35,01	2 131,50	2 266,31
350	177,30	37	15,70	26,00	33,79	36,81	2 435,91	2 577,10
500	253,40	37	18,70	29,00	36,79	39,81	3 225,42	3 377,23
750	380,00	61	23,00	33,30	42,69	45,71	4 679,64	4 857,82
1 000	506,70	61	26,90	37,20	46,59	49,61	5 975,82	6 167,81

100% COPPER XLP & XLPE PVC INSULATED POWER CABLE 25 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	21,41	28,60	31,62	996,28	1 119,09
1/0	53,48	19	8,55	23,15	30,34	33,36	1 238,08	1 367,05
2/0	67,43	19	9,57	24,17	31,70	34,72	1 407,16	1 540,95
3/0	85,01	19	10,80	25,40	33,19	36,21	1 644,27	1 783,33
4/0	107,20	19	12,10	26,70	34,83	37,85	1 900,64	2 045,51
250	126,70	37	13,20	27,80	35,59	38,61	2 123,53	2 271,09
300	152,00	37	14,50	29,10	36,89	39,91	2 403,32	2 555,48
350	177,30	37	15,70	30,30	38,09	41,11	2 679,51	2 835,93
500	253,40	37	18,70	33,30	42,69	45,71	3 642,49	3 820,67
750	380,00	61	23,00	37,60	46,99	50,01	4 984,65	5 178,05
1 000	506,70	61	26,90	41,50	51,39	54,41	6 352,59	6 561,57

100% COPPER XLP & XLPE PVC INSULATED POWER CABLE 35 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	25,81	33,60	36,62	1 248,41	1 388,92
1/0	53,48	19	8,55	27,55	35,34	38,36	1 503,23	1 649,91
2/0	67,43	19	9,57	28,57	36,70	39,72	1 678,76	1 830,25
3/0	85,01	19	10,80	29,80	37,59	40,61	1 889,90	2 044,54
4/0	107,20	19	12,10	31,10	39,23	42,25	2 153,38	2 313,83
250	126,70	37	13,20	32,20	39,99	43,01	2 384,47	2 547,61
300	152,00	37	14,50	33,50	42,89	45,91	2 828,05	3 006,94
350	177,30	37	15,70	34,70	44,09	47,11	3 116,34	3 299,47
500	253,40	37	18,70	37,70	47,09	50,11	3 954,77	4 148,52
750	380,00	61	23,00	42,00	51,89	54,91	5 372,26	5 583,01
1 000	506,70	61	26,90	45,90	55,79	58,81	6 721,22	6 945,78

133% ALUMINUM XLP & XLPE PVC INSULATED POWER CABLE 15 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	19,41	26,60	29,62	692,37	808,10
1/0	53,48	19	8,55	21,15	28,34	31,36	803,84	925,73
2/0	67,43	19	9,57	22,17	29,70	32,72	883,14	1 009,84
3/0	85,01	19	10,80	23,40	30,59	33,61	968,23	1 098,09
4/0	107,20	19	12,10	24,70	32,23	35,25	1 080,59	1 216,26
250	126,70	37	13,20	25,80	33,59	36,61	1 211,68	1 352,16
300	152,00	37	14,50	27,10	34,89	37,91	1 328,09	1 473,17
350	177,30	37	15,70	28,30	36,09	39,11	1 441,19	1 590,52
500	253,40	37	18,70	31,30	39,09	42,11	1 760,61	1 920,57
750	380,00	61	23,00	35,60	44,99	48,01	2 438,99	2 625,31
1 000	506,70	61	26,90	39,50	49,39	52,41	2 994,48	3 196,38

133% ALUMINUM XLP & XLPE PVC INSULATED POWER CABLE 25 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	24,41	31,60	34,62	923,93	1 057,36
1/0	53,48	19	8,55	26,15	33,34	36,96	1 085,20	1 226,91
2/0	67,43	19	9,57	27,17	35,30	38,32	1 171,83	1 318,37
3/0	85,01	19	10,80	28,40	36,19	39,21	1 268,38	1 418,07
4/0	107,20	19	12,10	29,70	37,83	40,85	1 390,42	1 545,91
250	126,70	37	13,20	30,80	38,59	41,61	1 495,07	1 653,25
300	152,00	37	14,50	32,10	39,89	42,91	1 620,90	1 783,69
350	177,30	37	15,70	33,30	42,69	45,71	1 897,47	2 075,65
500	253,40	37	18,70	36,30	45,69	48,71	2 249,72	2 438,52
750	380,00	61	23,00	40,60	50,49	53,51	2 858,52	3 064,31
1 000	506,70	61	26,90	44,50	54,39	57,41	3 400,25	3 619,85

133% COPPER XLP & XLPE PVC INSULATED POWER CABLE 15 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	19,41	26,60	29,62	904,47	1 020,20
1/0	53,48	19	8,55	21,15	28,34	31,36	1 141,23	1 263,12
2/0	67,43	19	9,57	22,17	29,70	32,72	1 308,54	1 435,24
3/0	85,01	19	10,80	23,40	30,59	33,61	1 504,54	1 634,39
4/0	107,20	19	12,10	24,70	32,23	35,25	1 756,89	1 892,55
250	126,70	37	13,20	25,80	33,59	36,61	2 010,99	2 151,47
300	152,00	37	14,50	27,10	34,89	37,91	2 287,01	2 432,09
350	177,30	37	15,70	28,30	36,09	39,11	2 559,73	2 709,06
500	253,40	37	18,70	31,30	39,09	42,11	3 359,24	3 519,19
750	380,00	61	23,00	35,60	44,99	48,01	4 836,30	5 022,62
1 000	506,70	61	26,90	39,50	49,39	52,41	6 191,10	6 392,99

133% COPPER XLP & XLPE PVC INSULATED POWER CABLE 25 kV								
SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF WIRES	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL OVERALL DIAMETER (mm)	OVERALL DIAMETER (mm)		TOTAL APPROXIMATE WEIGHT (kg/km)	
					WITHOUT	WITH	WITHOUT	WITH
					MOISTURE BARRIER		MOISTURE BARRIER	
2	33,62	7	6,81	24,41	31,60	34,62	1 136,03	1 269,46
1/0	53,48	19	8,55	26,15	33,34	36,96	1 422,59	1 564,30
2/0	67,43	19	9,57	27,17	35,30	38,32	1 597,23	1 743,76
3/0	85,01	19	10,80	28,40	36,19	39,21	1 804,68	1 954,37
4/0	107,20	19	12,10	29,70	37,83	40,85	2 066,71	2 222,20
250	126,70	37	13,20	30,80	38,59	41,61	2 294,38	2 452,57
300	152,00	37	14,50	32,10	39,89	42,91	2 579,82	2 742,61
350	177,30	37	15,70	33,30	42,69	45,71	3 016,01	3 194,18
500	253,40	37	18,70	36,30	45,69	48,71	3 848,35	4 037,15
750	380,00	61	23,00	40,60	50,49	53,51	5 255,83	5 461,62
1 000	506,70	61	26,90	44,50	54,39	57,41	6 596,87	6 816,47

METALLIC FILM CHARACTERISTICS								
SIZE (AWG/kcmil)	NUMBER OF 22 AWG WIRES				SIZE (AWG/kcmil)	NUMBER OF 18-20 AWG WIRES			
	5 kV	15 kV	25 kV	35 kV		5 kV	15 kV	25 kV	35 kV
2 to 4/0	10	12	14	16	2 to 4/0	7 (20 AWG)	8 (20 AWG)	9 (20 AWG)	10 (20 AWG)
250 to 500	14	16	18	20	250 to 500	10 (20 AWG)	10 (20 AWG)	12 (20 AWG)	13 (20 AWG)
600 to 1 000	18	20	22	24	600 to 1 000	12 (20 AWG)	8 (18 AWG)	9 (18 AWG)	10 (18 AWG)

TYPE CT

General description
»CT-type multiconductor (PVC+NYLON+PVC) is available in 2, 3, or 4 seperately PVC insulated/nylon coated, color coded THHN, THWN-2, or TFFN conductors, with BoPET seperator tape and black PVC outer jacket.

Characteristics
»Rated voltage, 600 volts.
»Maximum operating temperature, 90ºC.
»THHN or THWN-2, 19 strand, concentric lay soft temper copper conductor for 8, 10, 12, and 14 AWG.
»TFFN, K-class flexible conductor for 16 AWG.
»Individual color coded, PVC insulated, nylon coated conductors, with black outer jacket.
»BoPET seperator tape.

Applications
»Used to feed control circuits in industrial installations and to carry audio, control and instrumentation signals.
»May be installed in conduit, ducts, and trays.
»Withstands both humidity in underground installations and UV radiation in overhead installations.

Advantages
»Flexible, lightweight, easy to install.
»Resistant to abrasion, chemical agents, and humidity.
»Black PVC outer jacket is exceeds SR (Sunlight Resistant) standards.

Applicable standards
»NOM-063-SCFI
»NMX-J-010-ANCE
»UL-66
»UL-83
»UL-1277

Notes
»Specifications in technical data sheets are approximate and subject to manufacturing tolerances.
»If UL certification is required please contact our engineering department.

TYPE CT MULTICONDUCTOR THHN			
CODE	DESCRIPTION	MASTER	UNIT
284926	Type CT multiconductor 3 X 8	500	m
284925	Type CT multiconductor 3 X 10	500	m
212909	Type CT multiconductor 3 X 12	500	m

TYPE CT MULTICONDUCTOR THHN SPECIFICATIONS							
NUMBER OF CONDUCTORS	SIZE (AWG)	NOMINAL CROSS SECTIONAL AREA (mm^2)	NUMBER OF STRANDS AND CLASS	NOMINAL INSULATION THICKNESS (mm)	NYLON COATING THICKNESS (mm)	MINIMUM OUTER JACKET THICKNESS (mm)	NOMINAL OVERALL CONDUCTOR DIAMETER (mm)
2	8	8,367	19 strands (Class C)	0,76	0,15	1,52	14,02
2	10	5,260	19 strands (Class C)	0,51	0,12	1,14	10,60
2	12	3,307	19 strands (Class C)	0,38	0,12	1,14	8,90
2	14	2,082	19 strands (Class C)	0,38	0,12	1,14	7,90
2	16	1,307	26 strands (Class K)	0,38	0,12	1,14	7,20
3	8	8,367	19 strands (Class C)	0,76	0,15	1,52	14,90
3	10	5,260	19 strands (Class C)	0,51	0,12	1,14	11,30
3	12	3,307	19 strands (Class C)	0,38	0,12	1,14	9,40
3	14	2,082	19 strands (Class C)	0,38	0,12	1,14	8,40
3	16	1,307	26 strands (Class K)	0,38	0,12	1,14	7,60
4	8	8,367	19 strands (Class C)	0,76	0,15	1,52	16,30
4	10	5,260	19 strands (Class C)	0,51	0,12	1,14	12,40
4	12	3,307	19 strands (Class C)	0,38	0,12	1,14	10,30
4	14	2,082	19 strands (Class C)	0,38	0,12	1,14	9,10
4	16	1,307	26 strands (Class K)	0,38	0,12	1,14	8,20

THHN/THWN-2 90°C 600 VOLT WIRE AND CABLE

General description
» Soft drawn wire and cable with PVC insulation and nylon coating.

Characteristics
» Rated voltage, 600 volts.
» Maximum operating temperature 90°C in dry environments, 75°C in wet environments.
» Emergency operating temperature 50°C.
» PVC insulation is flame resistant and retardant.
» Excellent resistance to humidity, UV rays, oil and grease, high and low temperature, even when in critical condition.
» Nylon coating with anti-friction agent added to 1/0 gauges and larger notably reduces friction coefficient.
» PVC insulation is lead-free.
» Excellent electrical and mechanical properties.

Applications
» Used for low voltage distribution and lighting.
» Recommended for installations where large groups of people gather. PVC insulation is fire-resistant and fire-retardant.
» May be installed in conduit, ducts, and trays. Gauges 4 AWG and larger printed with CT.

Advantages
» Nylon coating adds extra protection against petroleum based products.
» PVC insulation is lead-free and does not emit toxic gases.
» PVC insulation is flame resistant and retardant.
» Excellent resistance to humidity, UV rays, oil and grease, high and low temperature, even when in critical condition.
» Nylon coating with anti-friction agent added to 1/0 gauges and larger notably reduces friction coefficient.
» Excellent electrical and mechanical properties.

Applicable standards
» NOM-063-SCFI
» NMX-J-010-ANCE
» UL-83

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

THHN/THWN-2 SOLID COPPER WIRE			
CODE	DESCRIPTION	MASTER	UNIT
326388	THHN/THWN-2 14 AWG solid copper wire-yellow	100	m
326382	THHN/THWN-2 14 AWG solid copper wire-blue	100	m
300158	THHN/THWN-2 14 AWG solid copper wire-white	100	m
326389	THHN/THWN-2 14 AWG solid copper wire-brown	100	m
326384	THHN/THWN-2 14 AWG solid copper wire-gray	100	m
326385	THHN/THWN-2 14 AWG solid copper wire-orange	100	m
300157	THHN/THWN-2 14 AWG solid copper wire-black	100	m
326381	THHN/THWN-2 14 AWG solid copper wire-red	100	m
326386	THHN/THWN-2 14 AWG solid copper wire-pink	100	m
326383	THHN/THWN-2 14 AWG solid copper wire-green	100	m
326387	THHN/THWN-2 14 AWG solid copper wire-violet	100	m
326399	THHN/THWN-2 12 AWG solid copper wire-yellow	100	m
326393	THHN/THWN-2 12 AWG solid copper wire-blue	100	m
326391	THHN/THWN-2 12 AWG solid copper wire-white	100	m
326400	THHN/THWN-2 12 AWG solid copper wire-brown	100	m
326395	THHN/THWN-2 12 AWG solid copper wire-gray	100	m
326396	THHN/THWN-2 12 AWG solid copper wire-orange	100	m
326390	THHN/THWN-2 12 AWG solid copper wire-black	100	m
326392	THHN/THWN-2 12 AWG solid copper wire-red	100	m
326397	THHN/THWN-2 12 AWG solid copper wire-pink	100	m
326394	THHN/THWN-2 12 AWG solid copper wire-green	100	m
326398	THHN/THWN-2 12 AWG solid copper wire-violet	100	m
326410	THHN/THWN-2 10 AWG solid copper wire-yellow	100	m
326404	THHN/THWN-2 10 AWG solid copper wire-blue	100	m
326402	THHN/THWN-2 10 AWG solid copper wire-white	100	m
326411	THHN/THWN-2 10 AWG solid copper wire-brown	100	m
326406	THHN/THWN-2 10 AWG solid copper wire-gray	100	m
326407	THHN/THWN-2 10 AWG solid copper wire-orange	100	m
326401	THHN/THWN-2 10 AWG solid copper wire-black	100	m
326403	THHN/THWN-2 10 AWG solid copper wire-red	100	m

THHN/THWN-2 SOLID COPPER WIRE			
326408	THHN/THWN-2 10 AWG solid copper wire-pink	100	m
326405	THHN/THWN-2 10 AWG solid copper wire-green	100	m
326409	THHN/THWN-2 10 AWG solid copper wire-violet	100	m
398064	THHN/THWN-2 14 AWG solid copper wire-yellow	1 000	m
213003	THHN/THWN-2 14 AWG solid copper wire-blue	1 000	m
213004	THHN/THWN-2 14 AWG solid copper wire-white	1 000	m
213005	THHN/THWN-2 14 AWG solid copper wire-black	1 000	m
213006	THHN/THWN-2 14 AWG solid copper wire-red	1 000	m
213007	THHN/THWN-2 14 AWG solid copper wire-green	1 000	m
212997	THHN/THWN-2 12 AWG solid copper wire-yellow	1 000	m
212998	THHN/THWN-2 12 AWG solid copper wire-blue	1 000	m
212999	THHN/THWN-2 12 AWG solid copper wire-white	1 000	m
213000	THHN/THWN-2 12 AWG solid copper wire-black	1 000	m
213001	THHN/THWN-2 12 AWG solid copper wire-red	1 000	m
213002	THHN/THWN-2 12 AWG solid copper wire-green	1 000	m
212992	THHN/THWN-2 10 AWG solid copper wire-yellow	1 000	m
212993	THHN/THWN-2 10 AWG solid copper wire-blue	1 000	m
212994	THHN/THWN-2 10 AWG solid copper wire-white	1 000	m
212995	THHN/THWN-2 10 AWG solid copper wire-black	1 000	m
213009	THHN/THWN-2 10 AWG solid copper wire-red	1 000	m
212996	THHN/THWN-2 10 AWG solid copper wire-green	1 000	m
325533	THHN/THWN-2 14 AWG solid copper wire-blue	2 500	ft
325305	THHN/THWN-2 14 AWG solid copper wire-red	2 500	ft
325310	THHN/THWN-2 14 AWG solid copper wire-green	2 500	ft
325541	THHN/THWN-2 12 AWG solid copper wire-blue	2 500	ft
325540	THHN/THWN-2 12 AWG solid copper wire-white	2 500	ft
325544	THHN/THWN-2 12 AWG solid copper wire-brown	2 500	ft
325323	THHN/THWN-2 12 AWG solid copper wire-black	2 500	ft
301264	THHN/THWN-2 12 AWG solid copper wire-black	2 500	ft
325324	THHN/THWN-2 12 AWG solid copper wire-red	2 500	ft
325542	THHN/THWN-2 12 AWG solid copper wire-green	2 500	ft
325543	THHN/THWN-2 12 AWG solid copper wire-pink	2 500	ft
301294	THHN/THWN-2 10 AWG solid copper wire-yellow	2 500	ft
325551	THHN/THWN-2 10 AWG solid copper wire-blue	2 500	ft
325550	THHN/THWN-2 10 AWG solid copper wire-white	2 500	ft
325338	THHN/THWN-2 10 AWG solid copper wire-black	2 500	ft
325339	THHN/THWN-2 10 AWG solid copper wire-red	2 500	ft
301292	THHN/THWN-2 10 AWG solid copper wire-red	2 500	ft

THHN/THWN-2 COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
321980	THHN/THWN-2 14 AWG copper cable-blue	100	m
321988	THHN/THWN-2 14 AWG copper cable-white	100	m
321977	THHN/THWN-2 14 AWG copper cable-black	100	m
321979	THHN/THWN-2 14 AWG copper cable-red	100	m
321981	THHN/THWN-2 14 AWG copper cable-green	100	m
390461	THHN/THWN-2 14 AWG copper cable-gray	100	m
321985	THHN/THWN-2 12 AWG copper cable-blue	100	m
321983	THHN/THWN-2 12 AWG copper cable-white	100	m
321982	THHN/THWN-2 12 AWG copper cable-black	100	m
321984	THHN/THWN-2 12 AWG copper cable-red	100	m
321986	THHN/THWN-2 12 AWG copper cable-green	100	m
321978	THHN/THWN-2 10 AWG copper cable-white	100	m
321990	THHN/THWN-2 10 AWG copper cable-blue	100	m
321987	THHN/THWN-2 10 AWG copper cable-black	100	m
321989	THHN/THWN-2 10 AWG copper cable-red	100	m
321991	THHN/THWN-2 10 AWG copper cable-green	100	m
326153	THHN/THWN-2 10 AWG copper cable-yellow	100	m
326152	THHN/THWN-2 10 AWG copper cable-brown	100	m
326151	THHN/THWN-2 10 AWG copper cable-gray	100	m
326149	THHN/THWN-2 10 AWG copper cable-orange	100	m
321995	THHN/THWN-2 8 AWG copper cable-blue	100	m
321993	THHN/THWN-2 8 AWG copper cable-white	100	m
321992	THHN/THWN-2 8 AWG copper cable-black	100	m
321994	THHN/THWN-2 8 AWG copper cable-red	100	m
321996	THHN/THWN-2 8 AWG copper cable-green	100	m
338490	THHN/THWN-2 6 AWG copper cable-black	100	m
338492	THHN/THWN-2 2 AWG copper cable-black	100	m
362577	THHN/THWN-2 1/0 AWG copper cable-black	100	m
362425	THHN/THWN-2 10 AWG copper cable-blue	500	m
362426	THHN/THWN-2 10 AWG copper cable-white	500	m
369006	THHN/THWN-2 10 AWG copper cable-yellow	500	m
369009	THHN/THWN-2 10 AWG copper cable-brown	500	m
369007	THHN/THWN-2 10 AWG copper cable-gray	500	m
369008	THHN/THWN-2 10 AWG copper cable-orange	500	m
217131	THHN/THWN-2 8 AWG copper cable-blue	500	ft
217129	THHN/THWN-2 8 AWG copper cable-white	500	ft
325385	THHN/THWN-2 8 AWG copper cable-brown	500	ft
323105	THHN/THWN-2 8 AWG copper cable-gray	500	ft
217127	THHN/THWN-2 8 AWG copper cable-black	500	ft
217128	THHN/THWN-2 8 AWG copper cable-red	500	ft
217130	THHN/THWN-2 8 AWG copper cable-green	500	ft
387361	THHN/THWN-2 8 AWG copper cable-violet	500	ft
325935	THHN/THWN-2 6 AWG copper cable-yellow	500	ft
217136	THHN/THWN-2 6 AWG copper cable-blue	500	ft
217134	THHN/THWN-2 6 AWG copper cable-white	500	ft
325419	THHN/THWN-2 6 AWG copper cable-brown	500	ft
325423	THHN/THWN-2 6 AWG copper cable-gray	500	ft
325421	THHN/THWN-2 6 AWG copper cable-orange	500	ft
217132	THHN/THWN-2 6 AWG copper cable-black	500	ft
217133	THHN/THWN-2 6 AWG copper cable-red	500	ft
217135	THHN/THWN-2 6 AWG copper cable-green	500	ft
306045	THHN/THWN-2 6 AWG copper cable-white	500	m
306044	THHN/THWN-2 6 AWG copper cable-black	500	m
339186	THHN/THWN-2 4 AWG copper cable-blue	500	ft
217140	THHN/THWN-2 4 AWG copper cable-white	500	ft
217137	THHN/THWN-2 4 AWG copper cable-black	500	ft
217138	THHN/THWN-2 4 AWG copper cable-red	500	ft
217139	THHN/THWN-2 4 AWG copper cable-green	500	ft
306043	THHN/THWN-2 4 AWG copper cable-black	500	m
339171	THHN/THWN-2 2 AWG copper cable-blue	500	ft
362460	THHN/THWN-2 2 AWG copper cable-white	500	ft
217141	THHN/THWN-2 2 AWG copper cable-black	500	ft
339052	THHN/THWN-2 2 AWG copper cable-red	500	ft
339053	THHN/THWN-2 2 AWG copper cable-green	500	ft
306042	THHN/THWN-2 2 AWG copper cable-black	500	m
217142	THHN/THWN-2 1/0 AWG copper cable-black	500	ft
306046	THHN/THWN-2 1/0 AWG copper cable-black	500	m
217143	THHN/THWN-2 2/0 AWG copper cable-black	500	ft
306047	THHN/THWN-2 2/0 AWG copper cable-black	500	m
217144	THHN/THWN-2 3/0 AWG copper cable-black	500	ft
306048	THHN/THWN-2 3/0 AWG copper cable-black	500	m
217145	THHN/THWN-2 4/0 AWG copper cable-black	500	ft
306049	THHN/THWN-2 4/0 AWG copper cable-black	500	m
217146	THHN/THWN-2 250 AWG copper cable-black	500	ft
325511	THHN/THWN-2 300 AWG copper cable-black	500	ft
217147	THHN/THWN-2 350 AWG copper cable-black	500	ft
217148	THHN/THWN-2 400 AWG copper cable-black	500	ft
217149	THHN/THWN-2 500 AWG copper cable-black	500	ft
325835	THHN/THWN-2 750 AWG copper cable-black	500	ft
300107	THHN/THWN-2 14 AWG copper cable-blue	1 000	m
313022	THHN/THWN-2 14 AWG copper cable-white	1 000	m

THHN/THWN-2 COPPER CABLE			
313023	THHN/THWN-2 14 AWG copper cable-black	1 000	m
313024	THHN/THWN-2 14 AWG copper cable-red	1 000	m
399437	THHN/THWN-2 14 AWG copper cable-green	1 000	m
300111	THHN/THWN-2 14 AWG copper cable-yellow	1 000	m
300108	THHN/THWN-2 14 AWG copper cable-brown	1 000	m
300110	THHN/THWN-2 14 AWG copper cable-gray	1 000	m
300109	THHN/THWN-2 14 AWG copper cable-orange	1 000	m
300116	THHN/THWN-2 12 AWG copper cable-yellow	1 000	m
300113	THHN/THWN-2 12 AWG copper cable-brown	1 000	m
300115	THHN/THWN-2 12 AWG copper cable-gray	1 000	m
300114	THHN/THWN-2 12 AWG copper cable-orange	1 000	m
300112	THHN/THWN-2 12 AWG copper cable-blue	1 000	m
399436	THHN/THWN-2 12 AWG copper cable-white	1 000	m
399435	THHN/THWN-2 12 AWG copper cable-black	1 000	m
313020	THHN/THWN-2 12 AWG copper cable-red	1 000	m
313021	THHN/THWN-2 12 AWG copper cable-green	1 000	m
325842	THHN/THWN-2 10 AWG copper cable-blue	1 000	ft
302481	THHN/THWN-2 10 AWG copper cable-white	1 000	ft
300118	THHN/THWN-2 10 AWG copper cable-blue	1 000	m
300117	THHN/THWN-2 10 AWG copper cable-white	1 000	m
313025	THHN/THWN-2 10 AWG copper cable-black	1 000	m
313026	THHN/THWN-2 10 AWG copper cable-red	1 000	m
300122	THHN/THWN-2 10 AWG copper cable-yellow	1 000	m
300119	THHN/THWN-2 10 AWG copper cable-brown	1 000	m
300121	THHN/THWN-2 10 AWG copper cable-gray	1 000	m
300120	THHN/THWN-2 10 AWG copper cable-orange	1 000	m
300124	THHN/THWN-2 8 AWG copper cable-blue	1 000	m
300123	THHN/THWN-2 8 AWG copper cable-green	1 000	m
300128	THHN/THWN-2 8 AWG copper cable-yellow	1 000	m
300125	THHN/THWN-2 8 AWG copper cable-brown	1 000	m
300127	THHN/THWN-2 8 AWG copper cable-gray	1 000	m
300126	THHN/THWN-2 8 AWG copper cable-orange	1 000	m
325436	THHN/THWN-2 6 AWG copper cable-gray	1 000	ft
325431	THHN/THWN-2 6 AWG copper cable-black	1 000	ft
323113	THHN/THWN-2 4 AWG copper cable-green	1 000	ft
300129	THHN/THWN-2 4 AWG copper cable-white	1 000	m
300130	THHN/THWN-2 4 AWG copper cable-black	1 000	m
300131	THHN/THWN-2 4 AWG copper cable-green	1 000	m
325473	THHN/THWN-2 2 AWG copper cable-black	1 000	ft
323117	THHN/THWN-2 2 AWG copper cable-green	1 000	ft
300132	THHN/THWN-2 2 AWG copper cable-white	1 000	m
300133	THHN/THWN-2 2 AWG copper cable-black	1 000	m
325484	THHN/THWN-2 1/0 AWG copper cable-black	1 000	ft
377125	THHN/THWN-2 1/0 AWG copper cable-black	1 000	m
325502	THHN/THWN-2 4/0 AWG copper cable-black	1 000	ft
325508	THHN/THWN-2 250 kcmil copper cable-black	1 000	ft
325513	THHN/THWN-2 300 kcmil copper cable-black	1 000	ft
325517	THHN/THWN-2 350 kcmil copper cable-black	1 000	ft
325521	THHN/THWN-2 400 kcmil copper cable-black	1 000	ft
325525	THHN/THWN-2 500 kcmil copper cable-black	1 000	ft
325528	THHN/THWN-2 600 kcmil copper cable-black	1 000	ft
325834	THHN/THWN-2 750 kcmil copper cable-black	1 000	ft
325576	THHN/THWN-2 10 AWG copper cable-yellow	2 500	ft
325579	THHN/THWN-2 10 AWG copper cable-blue	2 500	ft
325578	THHN/THWN-2 10 AWG copper cable-white	2 500	ft
325382	THHN/THWN-2 10 AWG copper cable-brown	2 500	ft
325383	THHN/THWN-2 10 AWG copper cable-gray	2 500	ft
325575	THHN/THWN-2 10 AWG copper cable-orange	2 500	ft
387362	THHN/THWN-2 8 AWG copper cable-violet	2 500	ft
325587	THHN/THWN-2 6 AWG copper cable-black	2 500	ft
325589	THHN/THWN-2 6 AWG copper cable-red	2 500	ft
323112	THHN/THWN-2 4 AWG copper cable-green	2 500	ft
325472	THHN/THWN-2 2 AWG copper cable-black	2 500	ft
325483	THHN/THWN-2 1/0 AWG copper cable-black	2 500	ft
325501	THHN/THWN-2 4/0 AWG copper cable-black	2 500	ft
325507	THHN/THWN-2 250 kcmil copper cable-black	2 500	ft
325512	THHN/THWN-2 300 kcmil copper cable-black	2 500	ft
325516	THHN/THWN-2 350 kcmil copper cable-black	2 500	ft
325520	THHN/THWN-2 400 kcmil copper cable-black	2 500	ft
325524	THHN/THWN-2 500 kcmil copper cable-black	2 500	ft
337922	THHN/THWN-2 600 kcmil copper cable-yellow	2 500	ft
337924	THHN/THWN-2 600 kcmil copper cable-brown	2 500	ft
337923	THHN/THWN-2 600 kcmil copper cable-orange	2 500	ft
343390	THHN/THWN-2 600 kcmil copper cable-black	2 500	ft
325446	THHN/THWN-2 6 AWG copper cable-blue	5 000	ft
325445	THHN/THWN-2 6 AWG copper cable-white	5 000	ft
325440	THHN/THWN-2 6 AWG copper cable-black	5 000	ft
325469	THHN/THWN-2 3 AWG copper cable-black	5 000	ft
325474	THHN/THWN-2 2 AWG copper cable-black	5 000	ft
325475	THHN/THWN-2 2 AWG copper cable-green	5 000	ft
325485	THHN/THWN-2 1/0 AWG copper cable-black	5 000	ft

CONDUCTORS

THHN/THWN-2 7-STRAND COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
302374	THHN/THWN-2 14 AWG copper cable-blue (7S)	100	m
302371	THHN/THWN-2 14 AWG copper cable-white (7S)	100	m
302370	THHN/THWN-2 14 AWG copper cable-black (7S)	100	m
302372	THHN/THWN-2 14 AWG copper cable-red (7S)	100	m
302373	THHN/THWN-2 14 AWG copper cable-green (7S)	100	m
302379	THHN/THWN-2 12 AWG copper cable-blue (7S)	100	m
302376	THHN/THWN-2 12 AWG copper cable-white (7S)	100	m
302375	THHN/THWN-2 12 AWG copper cable-black (7S)	100	m
302377	THHN/THWN-2 12 AWG copper cable-red (7S)	100	m
302378	THHN/THWN-2 12 AWG copper cable-green (7S)	100	m
302381	THHN/THWN-2 10 AWG copper cable-white (7S)	100	m
302384	THHN/THWN-2 10 AWG copper cable-blue (7S)	100	m
302380	THHN/THWN-2 10 AWG copper cable-black (7S)	100	m
302382	THHN/THWN-2 10 AWG copper cable-red (7S)	100	m
302383	THHN/THWN-2 10 AWG copper cable-green (7S)	100	m
302389	THHN/THWN-2 8 AWG copper cable-blue (7S)	100	m
302386	THHN/THWN-2 8 AWG copper cable-white (7S)	100	m
302385	THHN/THWN-2 8 AWG copper cable-black (7S)	100	m
302387	THHN/THWN-2 8 AWG copper cable-red (7S)	100	m
302388	THHN/THWN-2 8 AWG copper cable-green (7S)	100	m
212925	THHN/THWN-2 6 AWG copper cable-white (7S)	100	m
212926	THHN/THWN-2 6 AWG copper cable-black (7S)	100	m
212927	THHN/THWN-2 6 AWG copper cable-red (7S)	100	m
212928	THHN/THWN-2 6 AWG copper cable-green (7S)	100	m
302400	THHN/THWN-2 10 AWG copper cable-blue (7S)	500	m
302401	THHN/THWN-2 10 AWG copper cable-white (7S)	500	m

THHN/THWN-2 7-STRAND COPPER CABLE			
302402	THHN/THWN-2 10 AWG copper cable-black (7S)	500	m
213065	THHN/THWN-2 8 AWG copper cable-blue (7S)	500	ft
213066	THHN/THWN-2 8 AWG copper cable-white (7S)	500	ft
213067	THHN/THWN-2 8 AWG copper cable-black (7S)	500	ft
213068	THHN/THWN-2 8 AWG copper cable-red (7S)	500	ft
213069	THHN/THWN-2 8 AWG copper cable-green (7S)	500	ft
213059	THHN/THWN-2 6 AWG copper cable-yellow (7S)	500	ft
213060	THHN/THWN-2 6 AWG copper cable-blue (7S)	500	ft
213061	THHN/THWN-2 6 AWG copper cable-white (7S)	500	ft
213062	THHN/THWN-2 6 AWG copper cable-black (7S)	500	ft
213063	THHN/THWN-2 6 AWG copper cable-red (7S)	500	ft
213064	THHN/THWN-2 6 AWG copper cable-green (7S)	500	ft
213054	THHN/THWN-2 4 AWG copper cable-blue (7S)	500	ft
213055	THHN/THWN-2 4 AWG copper cable-white (7S)	500	ft
213056	THHN/THWN-2 4 AWG copper cable-black (7S)	500	ft
213057	THHN/THWN-2 4 AWG copper cable-red (7S)	500	ft
213058	THHN/THWN-2 4 AWG copper cable-green (7S)	500	ft
217078	THHN/THWN-2 2 AWG copper cable-white (7S)	500	ft
213052	THHN/THWN-2 2 AWG copper cable-black (7S)	500	ft
213053	THHN/THWN-2 2 AWG copper cable-red (7S)	500	ft
217077	THHN/THWN-2 2 AWG copper cable-green (7S)	500	ft
210854	THHN/THWN-2 10 AWG copper cable-blue (7S)	1 000	m
210855	THHN/THWN-2 10 AWG copper cable-white (7S)	1 000	m
210856	THHN/THWN-2 10 AWG copper cable-black (7S)	1 000	m
210857	THHN/THWN-2 10 AWG copper cable-red (7S)	1 000	m
210858	THHN/THWN-2 10 AWG copper cable-green (7S)	1 000	m

THHN/THWN-2 SOLID WIRE & STRANDED CABLE, 600 VOLT 90ºC SPECIFICATIONS

SOLID WIRE

SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF CONDUCTORS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL NYLON COATING THICKNESS (mm)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	NOMINAL OVERALL DIAMETER (mm)
14	2,082	1	1,63	0,38	0,10	8,450 0	2,49
12	3,307	1	2,05	0,38	0,10	5,320 0	2,91
10	5,260	1	2,59	0,51	0,10	3,340 0	3,62

STRANDED CABLE

SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF CONDUCTORS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL NYLON COATING THICKNESS (mm)	RATED DC ELECTRICAL RESISTANCE AT 20°C (Ohm/km)	NOMINAL OVERALL DIAMETER (mm)
14	2,082	19	1,83	0,38	0,10	8,450 0	2,86
12	3,307	19	2,05	0,38	0,10	5,320 0	3,38
10	5,260	19	2,87	0,51	0,10	3,340 0	4,15
8	8,367	19	3,63	0,76	0,13	2,100 0	5,40
6	13,300	19	4,60	0,76	0,13	1,320 0	6,45
4	21,160	19	5,92	1,02	0,15	0,832 0	8,30
2	33,620	19	7,30	1,02	0,15	0,523 0	9,72
1/0	53,480	19	9,20	1,27	0,18	0,329 0	12,20
2/0	67,430	19	10,22	1,27	0,18	0,261 0	13,22
3/0	85,010	19	11,52	1,27	0,18	0,207 0	14,55
4/0	107,200	19	13,00	1,27	0,18	0,164 0	16,02
250	126,700	37	14,28	1,52	0,20	0,139 0	18,07
350	177,300	37	17,10	1,52	0,20	0,099 2	20,61
500	253,400	37	20,15	1,52	0,20	0,069 5	23,65
600	304,000	61	22,15	1,78	0,23	0,057 9	26,25
750	380,000	61	24,48	1,78	0,23	0,046 3	28,60
1000	506,700	61	29,12	1,78	0,23	0,034 7	33,25

THW-LS/THHW-LS WIRE AND CABLE 75°C/90°C 600 VOLT

General description
»Soft copper conductor comprised of one or various individual PVC insulated, colored cables.

Characteristics
»Rated voltage, 600 volts.
»THW-LS maximum operating temperature, 75°C in both dry and wet environments.
»THHW-LS maximum operating temperature, 90°C in dry environments and 75°C in wet environments.
»Emergency operating temperature 105°C.
»Short circuit operating temperature 105°C.
»PVC insulation is fire-resistant and fire-retardant.
»Excellent resistance to humidity, UV rays, oil and grease, high and low temperature, even when in critical condition.
»4 AWG and larger gauges printed with SR symbol (Sunlight Resistant).
»Excellent electrical and mecahnical properties.

Applications
»Used for low voltage distribution and lighting.
»Recommended for installations where large groups of people gather. PVC insulation is fire-resistant and fire-retardant.
»May be installed in conduit, ducts, and trays. Gauges 4 AWG and larger printed with CT.

Advantages
»Ecologically friendly properties. Fire-resistant and fire-retardant, with
»Low emission of dense, black, and toxic smoke.
»Low acidic gas content.
»PVC insulation is flame-resistant and flame-retardant.
»Excellent resistance to humidity, UV rays, oil and grease, high and low temperature, even when in critical condition.
»Excellent electrical and mecahnical properties.

Applicable standards
»NOM-001-SEDE
»NOM-063-SCFI
»NMX-J-010-ANCE

Notes
»Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

THW-LS/THHW-LS SOLID COPPER WIRE - BAG			
CODE	DESCRIPTION	MASTER	UNIT
397467	THW-LS,THHW-LS 14 solid copper wire-blue	100	m
397463	THW-LS,THHW-LS 14 solid copper wire-white	100	m
397462	THW-LS,THHW-LS 14 solid copper wire-black	100	m
397464	THW-LS,THHW-LS 14 solid copper wire-red	100	m
397465	THW-LS,THHW-LS 14 solid copper wire-green	100	m
397473	THW-LS,THHW-LS 12 solid copper wire-blue	100	m
397469	THW-LS,THHW-LS 12 solid copper wire-white	100	m
397468	THW-LS,THHW-LS 12 solid copper wire-black	100	m
397470	THW-LS,THHW-LS 12 solid copper wire-red	100	m
397471	THW-LS,THHW-LS 12 solid copper wire-green	100	m
397479	THW-LS,THHW-LS 10 solid copper wire-blue	100	m
397475	THW-LS,THHW-LS 10 solid copper wire-white	100	m
397474	THW-LS,THHW-LS 10 solid copper wire-black	100	m
397476	THW-LS,THHW-LS 10 solid copper wire-red	100	m
397477	THW-LS,THHW-LS 10 solid copper wire-green	100	m

THW-LS/THHW-LS COPPER CABLE - BAG			
CODE	DESCRIPTION	MASTER	UNIT
397451	THW-LS/THHW-LS 14 copper cable-white	100	m
397450	THW-LS/THHW-LS 14 copper cable-black	100	m
397452	THW-LS/THHW-LS 14 copper cable-red	100	m
397453	THW-LS/THHW-LS 14 copper cable-green	100	m
397455	THW-LS/THHW-LS 12 copper cable-white	100	m
397454	THW-LS/THHW-LS 12 copper cable-black	100	m
397456	THW-LS/THHW-LS 12 copper cable-red	100	m
397457	THW-LS/THHW-LS 12 copper cable-green	100	m
397459	THW-LS/THHW-LS 10 copper cable-white	100	m
397458	THW-LS/THHW-LS 10 copper cable-black	100	m
397460	THW-LS/THHW-LS 10 copper cable-red	100	m
397461	THW-LS/THHW-LS 10 copper cable-green	100	m

THHW-LS ROHS COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
399319	THHW-LS ROHS 14 copper cable-white	100	m
399318	THHW-LS ROHS 14 copper cable-black	100	m
399320	THHW-LS ROHS 14 copper cable-red	100	m
399321	THHW-LS ROHS 14 copper cable-green	100	m
375123	THHW-LS ROHS 12 copper cable-white	100	m
399323	THHW-LS ROHS 12 copper cable-black	100	m
375124	THHW-LS ROHS 12 copper cable-red	100	m
399326	THHW-LS ROHS 12 copper cable-green	100	m
399328	THHW-LS ROHS 10 copper cable-black	100	m
399329	THHW-LS ROHS 10 copper cable-white	100	m
399330	THHW-LS ROHS 10 copper cable-red	100	m
399331	THHW-LS ROHS 10 copper cable-green	100	m
399350	THHW-LS ROHS 8 copper cable-black	100	m
399351	THHW-LS ROHS 8 copper cable-white	100	m
399352	THHW-LS ROHS 8 copper cable-red	100	m
399353	THHW-LS ROHS 8 copper cable-green	100	m
201001	THHW-LS ROHS 6 copper cable-black	100	m
201002	THHW-LS ROHS 4 copper cable-black	100	m
201003	THHW-LS ROHS 2 copper cable-black	100	m
201004	THHW-LS ROHS 1/0 copper cable-black	100	m
201005	THHW-LS ROHS 2/0 copper cable-black	100	m
201006	THHW-LS ROHS 3/0 copper cable-black	100	m
201007	THHW-LS ROHS 4/0 copper cable-black	100	m

THW-LS/THHW-LS COPPER CABLE			
CODE	DESCRIPTION	MASTER	UNIT
301131	THW-LS/THHW-LS 14 copper cable-green	500	m
301129	THW-LS/THHW-LS 14 copper cable-white	500	m
301126	THW-LS/THHW-LS 14 copper cable-black	500	m
301127	THW-LS/THHW-LS 14 copper cable-red	500	m
301145	THW-LS/THHW-LS 12 copper cable-white	500	m
301142	THW-LS/THHW-LS 12 copper cable-black	500	m
301143	THW-LS/THHW-LS 12 copper cable-red	500	m
301147	THW-LS/THHW-LS 12 copper cable-green	500	m
301161	THW-LS/THHW-LS 10 copper cable-white	500	m
301158	THW-LS/THHW-LS 10 copper cable-black	500	m
301159	THW-LS/THHW-LS 10 copper cable-red	500	m
301163	THW-LS/THHW-LS 10 copper cable-green	500	m
301170	THW-LS/THHW-LS 8 copper cable-black	500	m
301175	THW-LS/THHW-LS 8 copper cable-green	500	m
301171	THW-LS/THHW-LS 8 copper cable-red	500	m
373389	THW-LS/THHW-LS 6 copper cable-black	500	m
373390	THW-LS/THHW-LS 4 copper cable-black	500	m
373391	THW-LS/THHW-LS 2 copper cable-black	500	m
375161	THW-LS/THHW-LS 1/0 copper cable-black	500	m
375162	THW-LS/THHW-LS 2/0 copper cable-black	500	m
375163	THW-LS/THHW-LS 3/0 copper cable-black	500	m
375164	THW-LS/THHW-LS 4/0 copper cable-black	500	m
375165	THW-LS/THHW-LS 250 kcmil copper cable-black	500	m
301203	THW-LS/THHW-LS 250 kcmil copper cable-black	500	m
375166	THW-LS/THHW-LS 300 kcmil copper cable-black	500	m

THW-LS/THHW-LS COPPER CABLE			
301204	THW-LS/THHW-LS 300 kcmil copper cable-black	500	m
301205	THW-LS/THHW-LS 350 kcmil copper cable-black	500	m
375167	THW-LS/THHW-LS 350 kcmil copper cable-black	500	m
375168	THW-LS/THHW-LS 400 kcmil copper cable-black	500	m
301206	THW-LS/THHW-LS 400 kcmil copper cable-black	500	m
375169	THW-LS/THHW-LS 500 kcmil copper cable-black	500	m
301207	THW-LS/THHW-LS 500 kcmil copper cable-black	500	m
375170	THW-LS/THHW-LS 600 kcmil copper cable-black	500	m
301208	THW-LS/THHW-LS 600 kcmil copper cable-black	500	m
301209	THW-LS/THHW-LS 750 kcmil copper cable-black	500	m
373379	THW-LS/THHW-LS 14 copper cable-white	1 000	m
373378	THW-LS/THHW-LS 14 copper cable-black	1 000	m
399168	THW-LS/THHW-LS 14 copper cable-red	1 000	m
399169	THW-LS/THHW-LS 14 copper cable-green	1 000	m
399167	THW-LS/THHW-LS 12 copper cable-white	1 000	m
399166	THW-LS/THHW-LS 12 copper cable-black	1 000	m
300191	THW-LS/THHW-LS 12 copper cable-red	1 000	m
300192	THW-LS/THHW-LS 12 copper cable-green	1 000	m
373385	THW-LS/THHW-LS 10 copper cable-white	1 000	m
373384	THW-LS/THHW-LS 10 copper cable-black	1 000	m
373383	THW-LS/THHW-LS 10 copper cable-red	1 000	m
373382	THW-LS/THHW-LS 10 copper cable-green	1 000	m
396942	THW-LS/THHW-LS 8 copper cable-white	1 000	m
396941	THW-LS/THHW-LS 8 copper cable-black	1 000	m
396943	THW-LS/THHW-LS 8 copper cable-red	1 000	m
373387	THW-LS/THHW-LS 8 copper cable-green	1 000	m

THW-LS/THHW-LS 600V 75°/90°C SOLID WIRE & CABLE SPECIFICATIONS

SOLID WIRE

SIZE (AWG)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL INSULATION THICKNESS (mm)	MASA TOTAL APROXIMADA (kg/km)	NOMINAL CONDUCTOR DIAMETER (mm)	AMPACITY		RATED ELECTRICAL RESISTANCE
						75°C	90°C	DC 20°C (Ohm/km)
14	2,08	1	0,76	26,95	3,15	25	25	8,290 0
12	3,31	1	0,76	39,19	3,58	25	30	5,250 0
10	5,26	1	0,76	58,53	4,11	35	40	2,280 0

CABLE

SIZE (AWG/kcmil)	NOMINAL CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL INSULATION THICKNESS (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL CONDUCTOR DIAMETER (mm)	AMPACITY		RATED ELECTRICAL RESISTANCE
						75°C	90°C	DC 20°C (Ohm/km)
14	2,08	19	0,76	29	3,5	20	25	8,460 0
12	3,31	19	0,76	42	3,9	25	30	5,350 0
10	5,26	19	0,76	63	4,5	35	40	3,350 0
8	8,37	19	1,14	105	6,1	50	55	2,100 0
6	13,30	19	1,52	170	7,9	65	75	1,320 0
4	21,20	19	1,52	251	9,1	85	95	0,830 0
2	33,62	19	1,52	378	10,6	115	130	0,522 0
1/0	53,48	19	2,03	613	13,7	150	170	0,328 0
2/0	67,43	19	2,03	756	14,8	175	195	0,261 0
3/0	85,01	19	2,03	932	16,1	200	225	0,207 0
4/0	107,20	19	2,03	1 154	17,6	230	260	0,164 0
250	126,70	37	2,41	1 380	19,5	255	290	0,139 0
300	152,00	37	2,41	1 630	20,9	285	320	0,116 0
350	177,30	37	2,41	1 880	22,2	310	350	0,099 1
400	202,70	37	2,41	2 136	23,4	335	380	0,086 6
500	253,40	37	2,41	2 625	25,6	380	430	0,069 5
600	304,00	61	2,79	3 163	28,3	420	475	0,057 8
750	380,00	61	2,79	3 902	30,8	475	535	0,046 3
1000	506,70	61	2,79	5 128	35,0	545	615	0,034 8

CONTROL PANEL CABLE

General description
»Soft temper copper cable; B, C, and K-flexible classes; with PVC-LS insulation.

Characteristics
»Rated voltage, 600 volts.
»Maximum operating temperature 90°C.
»Fire-resistant.
»High-flexibility makes handling and installation easy.
»Excellent electrical and mechanical properties.

Applications
»Used for interior installations and to wire control, protection, metering, and signal circuit boards where a high level of security and resistance to fires is necessary.

Advantages
»Meets highest national standards.
»High-flexibility makes handling and installation easy.
»Excellent electrical and mechanical properties.
»Flame-resistant.

Applicable standards
»NMX-J-012-ANCE
»NMX-J-297-ANCE
»NMX-J-438-ANCE

Notes
»Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

CABLE ALAMBRADO DE TABLEROS			
CÓDIGO	DESCRIPCIÓN	MASTER	UNIDAD DE MEDIDA
285010	Cable alambrado de tableros 16 AWG rojo	1	m
285008	Cable alambrado de tableros 16 AWG negro	1	m
217301	Cable alambrado de tableros 20 AWG blanco	100	m
217302	Cable alambrado de tableros 20 AWG negro	100	m
217303	Cable alambrado de tableros 20 AWG rojo	100	m
217304	Cable alambrado de tableros 20 AWG verde	100	m
217306	Cable alambrado de tableros 18 AWG negro	100	m
217305	Cable alambrado de tableros 18 AWG blanco	100	m
217308	Cable alambrado de tableros 18 AWG verde	100	m
217307	Cable alambrado de tableros 18 AWG rojo	100	m
217309	Cable alambrado de tableros 16 AWG blanco	100	m
217310	Cable alambrado de tableros 16 AWG negro	100	m
217311	Cable alambrado de tableros 16 AWG rojo	100	m
217312	Cable alambrado de tableros 16 AWG verde	100	m
217313	Cable alambrado de tableros 16 AWG azul	100	m
399362	Cable alambrado de tableros 16 AWG blanco	1 000	m
399361	Cable alambrado de tableros 16 AWG negro	1 000	m
217314	Cable alambrado de tableros 16 AWG azul	1 000	m
399364	Cable alambrado de tableros 16 AWG verde	1 000	m
399363	Cable alambrado de tableros 16 AWG rojo	1 000	m

CABLE ALAMBRADO DE TABLEROS				
CALIBRE AWG	ÁREA NOMINAL DE LA SECCIÓN TRANSVERSAL (mm²)	CONSTRUCCIÓN NÚMERO DE ALAMBRES	ESPESOR NOMINAL DEL AISLAMIENTO (mm)	MASA TOTAL APROXIMADA (kg/100m)
20	0,51	10/30	0,76	11
18	0,82	16/30	0,76	15
16	1,31	26/30	0,76	20
14	2,08	41/30	0,76	29
12	3,31	65/30	0,76	42
10	5,26	104/30	0,76	61

USE-2/RHH/RHW-2

General description
» Copper or aluminum compressed, concentric lay cable with BoPET seperator tape. Black XLP insulation.

Characteristics
» Rated voltage, 600 volts.
» Maximum operating temperature 90°C
» Excellent resistent to chemical compounds, both acidic and alkaline
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition
» Abrasion and crush resistant
» Excellent electrical and mechanical properties

Applications
» Used for distribution networks, lighting installations, and for networks and circuits not exceeding 600 volts and 90°C. temperatures in both dry and wet environments.
» May be installed in conduit, ducts, trays.
» Direct burial and/or aerial installation.

Advantages
» Supports temperatures down to -25°C.
» Excellent resistent to chemical compounds, both acidic and alkaline.
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition.
» Abrasion and crush resistant.
» Excellent electrical and mechanical properties.

Applicable standards
» NOM-063-SCFI
» NMX-J-451-ANCE
» NEMA/ICEA S-95-658
» UL-44
» UL-854

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

RHH/RHW ALUMINUM CABLE			
CODE	DESCRIPTION	MASTER	UNIT
325042	RHH/RHW-2 2/0 AWG, 600 V Aluminum cable-black	500	m
325043	RHH/RHW-2 4/0 AWG, 600 V Aluminum cable-black	500	m
325044	RHH/RHW-2 250 kcmil, 600 V Aluminum cable-black	500	m
325045	RHH/RHW-2 300 kcmil, 600 V Aluminum cable-black	500	m
325048	RHH/RHW-2 350 kcmil, 600 V Aluminum cable-black	500	m
325046	RHH/RHW-2 400 kcmil, 600 V Aluminum cable-black	500	m
325047	RHH/RHW-2 500 kcmil, 600 V Aluminum cable-black	500	m
376993	RHH/RHW-2 1000 kcmil, 600 V Aluminum cable-black	500	m

USE-2/RHH/RHW-2 CABLE SPECIFICATIONS						
ALUMINIUM						
SIZE (AWG/kcmil)	CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
6	13,30	7	4,67	1,52	7,86	75,72
4	21,15	7	5,88	1,52	9,08	106,26
2	33,62	7	7,42	1,52	10,61	152,52
1	42,41	7	8,44	2,03	12,67	-
1/0	53,48	19	9,47	2,03	13,70	245,17
2/0	67,43	19	10,63	2,03	14,86	294,97
3/0	85,01	19	11,93	2,03	16,16	356,52
4/0	107,20	19	13,40	2,03	17,62	432,87
250	126,70	37	14,62	2,41	19,62	515,78
350	177,30	37	17,29	2,41	22,29	685,92
500	253,40	37	20,67	2,41	25,66	936,31
750	380,00	61	25,35	2,79	31,10	1 384,98

COPPER						
SIZE (AWG/kcmil)	CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
6	13,30	7	4,67	1,52	7,86	163,44
4	21,15	7	5,88	1,52	9,08	244,74
2	33,63	7	7,42	1,52	10,61	371,43
1	42,41	19	8,44	2,03	12,67	486,31
1/0	53,48	19	9,47	2,03	13,70	599,09
2/0	67,44	19	10,63	2,03	14,86	740,33
3/0	85,01	19	11,94	2,03	16,16	916,77
4/0	107,00	19	13,40	2,03	17,62	1 136,62
250	126,70	37	14,62	2,41	19,62	1 361,89
350	177,30	37	17,29	2,41	22,29	1 866,26
500	253,40	37	20,67	2,41	25,66	2 617,02
750	380,00	61	25,34	2,79	31,10	3 906,18

XHHW-2

General description
» Copper or aluminum cable with BoPET seperator tape. Black XLP insulation.

Characteristics
» Rated voltage, 600 volts.
» Maximum operating temperature 90°C in dry and wet conditions.
» Excellent resistent to chemical compounds, both acidic and alkaline.
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition.
» Abrasion and crush resistant.
» Excellent electrical and mechanical properties.

Applications
» Used for low voltage distribution and lighting installations.
» May be installed in conduit, ducts and trays.
» Suitable for direct burial and aerial installation.

Advantages
» XLP insulation offers El aislamiento termofijo ofrece mayor estabilidad térmica.
» Excellent resistent to chemical compounds, both acidic and alkaline.
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition.
» Abrasion and crush resistant.
» Excellent electrical and mechanical properties.

Applicable standards
» NOM-063-SCFI
» NMX-J-451-ANCE
» NEMA/ICEAS-95-658
» UL-44

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.
» No product code exists. For order form, use dummy code.

XHHW-2 CABLE SPECIFICATIONS						
ALUMINIUM						
SIZE (AWG/kcmil)	CROSS SECTIONAL AREA (mm²)	NUMBER OF STRANDS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
6	13,30	7	4,67	1,14	7,02	67,41
4	21,15	7	5,88	1,14	8,24	97,08
2	33,62	7	7,42	1,14	9,77	142,11
1	-	-	-	-	-	-
1/0	53,48	19	9,47	1,40	12,34	219,56
2/0	67,43	19	10,63	1,40	13,50	267,50
3/0	85,01	19	11,93	1,40	14,81	329,10
4/0	107,20	19	13,40	1,40	16,28	403,11
250	126,70	37	14,62	1,65	17,99	487,98
350	177,30	37	17,29	1,65	20,67	656,90
500	253,40	37	20,67	1,65	24,05	906,81
750	380,00	61	25,35	2,03	29,48	1 326,35
1000	506,70	61	29,27	2,03	33,41	1 726,28

COPPER						
SIZE (AWG/kcmil)	CROSS SECTIONAL ARE A (mm²)	NUMBER OF STRANDS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
6	13,30	7	4,67	1,14	7,08	152,23
4	21,15	7	5,88	1,14	8,29	231,70
2	33,63	7	7,42	1,14	9,83	356,10
1	42,41	19	8,44	1,40	11,37	456,40
1/0	53,48	19	9,47	1,40	12,40	566,62
2/0	67,44	19	10,63	1,40	13,56	704,97
3/0	85,01	19	11,94	1,40	14,87	878,17
4/0	107,00	19	13,40	1,40	16,33	1 094,38
250	126,70	37	14,62	1,65	18,05	1 305,36
350	177,30	37	17,29	1,65	20,72	1 801,71
500	253,40	37	20,67	1,65	24,09	2 542,36
750	380,00	61	25,34	2,03	29,54	3 815,18

PVC/PVC CONTROL CABLE 600 VOLT

General description
» Soft-drawn concentric lay class-B multi-conductor cable with PVC insulation and THHW-type color codes. BoPET seperator tape with black PVC outer jacket.

Characteristics
» Rated voltage, 600 volts
» Maximum operating temperature 90°C in dry and wet environments
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition
» Abrasion and crush resistant
» Low emission of dense, black smoke
» PVC insulation is lead-free
» Excellent electrical and mechanical properties

Applications
» Used for interior installations and to wire control, protection, metering, and signal circuit boards where a high level of security and resistance to fires is necessary.
» May be installed in conduit, ducts, trays.
» Direct burial and/or aerial installation.

Advantages
» Colored insulator facilitates easy identification and optimizes time when connecting multiple cables for control units.
» Fire-resistant/retardant PVC insulation makes for safer installions.
» Excellent resistance to humidity, sunlight, oil and grease, high and low temperature, even when in critical condition.
» Abrasion and crush resistant.
» Low emission of dense, black smoke.
» PVC insulation is lead-free
» Excellent electrical and mechanical properties.

Applicable standards
» NOM-063-SCFI
» NMX-J-010-ANCE
» NMX-J-012-ANCE
» NMX-J-300-ANCE
» UL-83
» UL-1277

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.

PVC CONTROL CABLE/PVC - 600 V			
CODE	DESCRIPTION	MASTER	UNIT OF MEASUREMENT
325781	Control cable	500	m
376282	Control cable	500	m
362635	Control cable	500	m
204287	Control cable	500	m
325783	Control cable	500	m
325782	Control cable	500	m
204288	Control cable	500	m
366501	Control cable	500	m
212121	Control cable	500	m
320503	Control cable	500	m
320477	Control cable	1000	m
376283	Control cable	500	m
399386	Control cable	500	m
366502	Control cable	500	m
300760	Control cable	500	m
325784	Control cable	500	m
399335	Control cable	500	m
376284	Control cable	500	m
366503	Control cable	500	m
377143	Control cable	500	m
362636	Control cable	500	m
399387	Control cable	500	m
387332	Control cable	500	m
325785	Control cable	500	m
300759	Control cable	500	m
205996	Control cable	500	m
325780	Control cable	500	m
325138	Control cable	500	m
376281	Control cable	500	m
211573	Control cable	500	m

PVC CONTROL CABLE/PVC - 600 V SPECIFICATIONS					
SIZE (AWG)	NOMINAL CROSS SECTIONAL AREA (mm^2)	NUMBER OF STRANDS	NOMINAL CONDUCTOR DIAMETER (mm)	NOMINAL INSULATION THICKNESS (mm)	NOMINAL OVERALL DIAMETER (mm)
20	0,519	7	0,92	0,76	2,50
18	0,824	7	1,16	0,76	2,74
16	1,307	7	1,46	0,76	3,04
14	2,082	7	1,85	1,14	4,19
12	3,307	7	2,33	1,14	4,67
10	5,259	7	2,93	1,14	5,28
8	8,365	7	3,70	1,52	6,83

SIZE (AWG)	20		18		16		14	
NUMBER OF CONDUCTORS	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
2	7,6	75,1	8,1	88,4	8,7	107,4	11,0	171,2
3	8,0	85,9	8,5	102,6	9,2	126,9	11,7	203,7
4	8,7	102,2	9,2	123,3	10,0	154,0	12,8	249,7
5	9,4	120,9	10,0	146,8	10,8	184,6	14,6	324,3
6	10,1	141,5	10,9	172,7	11,8	218,1	15,9	384,0
7	10,1	145,3	10,9	178,7	11,8	227,8	15,9	399,4
8	10,9	167,9	11,7	206,9	12,7	264,1	17,2	464,4
9	11,7	191,3	12,5	236,0	14,3	323,3	18,4	531,6
10	12,6	222,4	14,3	296,0	15,5	373,8	20,1	619,6

SIZE (AWG)	12		10		8	
NUMBER OF CONDUCTORS	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)	NOMINAL OVERALL DIAMETER (mm)	TOTAL APPROXIMATE WEIGHT (kg/km)
2	12,0	215,3	13,2	279,8	17,0	458,3
3	12,7	260,5	14,7	367,3	18,0	563,7
4	14,6	344,6	16,1	455,1	19,8	703,6
5	15,9	416,3	17,6	553,1	21,8	860,0
6	17,3	494,8	19,1	659,5	25,0	1 095,9
7	17,3	519,4	19,1	698,8	25,0	1 158,5
8	18,8	604,4	21,9	871,0	27,1	1 348,4
9	20,2	692,1	23,5	993,4	29,1	1 544,0
10	23,2	866,2	25,6	1 149,4	31,8	1 794,1

SPS SEAMLESS COPPER BUS PIPE

General description
» High conductuvity ETP and DLP type SPS copper pipe makes it ideal for electrical terminal and electrical conductor use.

Characteristics
» Available from soft to hard tempers.
» C1100 alloy copper contains ETP (Electrolytic Tough Pitch) copper, minimum 99.9% pure.
» C12000 alloy copper contains DLP (Phosphorized Low Residual Phosphorus) copper, minimum 99.9% pure; phosfphorus percentage is 0.004-0.012%.

Applications
» Used as conductor for the industrial sector.

Advantages
» Excellent electrical conductor.

Applicable standards
» ASTM B-188

Notes
» Specifications in technical data sheets are approximate and subject to manufacturing tolerances.
» Complies with CFE standards.
» *2,5 A/mm² is considered a theoritical value for safety considerations.

SPS HARD DRAWN SEAMLESS COPPER BUS PIPE			
CODE	DESCRIPTION	MASTER	UNIT
284916	SPS hard drawn copper tube 1/4" - 6 mm X 20' 6.1 m	1	m
284917	SPS hard drawn copper tube 3/8" - 9 mm X 20' 6.1 m	1	m
217184	SPS hard drawn copper tube 1/2" - 13 mm X 20' 6.1 m	1	m
308791	SPS hard drawn copper tube 3/4" - 19 mm X 20' 6.1 m	1	m
363432	SPS hard drawn copper tube 1" - 25 mm X 20' 6.1 m	1	m
308792	SPS hard drawn copper tube 1 1/4" - 32 mm X 20' 6.1 m	1	m
308823	SPS hard drawn copper tube 1 1/2" - 38 mm X 20' 6.1 m	1	m
362603	SPS hard drawn copper tube 2" - 51 mm X 20' 6.1 m	1	m

HARD DRAWN SPS SEAMLESS COPPER BUS PIPE SPECIFICATIONS					
H80 TEMPER					
MECHANICAL AND ELECTRICAL PROPERTIES					
ROCKWELL HARDNESS		BREAKING LOAD	ELONGATION -2"	CONDUCTIVITY % AT 20°C	
SCALE	VALUE	psi (MPa)	%	C11000 ALLOY	C12000 ALLOY
F	80 Minimum	40 000 (275) Minimum	3 Minimum	96,60	88,00

O60 TEMPER					
MECHANICAL AND ELECTRICAL PROPERTIES					
ROCKWELL HARDNESS		BREAKING LOAD	ELONGATION -2"	CONDUCTIVITY % AT 20°C	
SCALE	VALUE	psi (MPa)	%	C11000 ALLOY	C12000 ALLOY
F	50 Maximum	37000 (255) Maximum	25 Minimum	100,00	90,00

O40 TEMPER						
NOMINAL SIZE	EXTERNAL DIAMETER		WALL THICKNESS		ESTIMATED WEIGHT	
(in)	(in)	(mm)	(in)	(mm)	(lb/ft)	(kg/m)
1/4	0,540	13,7	0,082	2,08	0,457	0,680
3/8	0,675	17,1	0,090	2,29	0,641	0,954
1/2	0,840	21,3	0,107	2,72	0,955	1,420
3/4	1,050	26,7	0,114	2,90	1,300	1,930
1	1,315	33,4	0,126	3,20	1,820	2,710
1 1/4	1,660	42,2	0,146	3,71	2,690	4,000
1 1/2	1,900	48,3	0,150	3,81	3,200	4,760
2	2,375	60,3	0,156	3,96	4,220	6,280

CURRENT RATINGS				
NOMINAL SIZE	EXTERNAL DIAMETER (in)	WALL (in)	AREA (mm²)	*Ampere/mm²
1/4	0,540	0,082	75,93	189,825
3/8	0,675	0,090	106,55	266,375
1/2	0,840	0,107	158,77	396,925
3/4	1,050	0,114	216,83	542,075
1	1,315	0,126	303,60	759,000
1 1/4	1,660	0,146	448,61	1 121,500
1 1/2	1,900	0,150	532,52	1 331,300
2	2,375	0,156	700,91	1 752,300


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