



CONNECT AND PROTECT

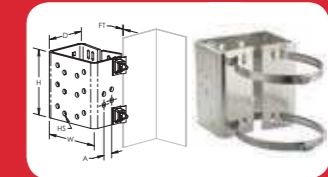
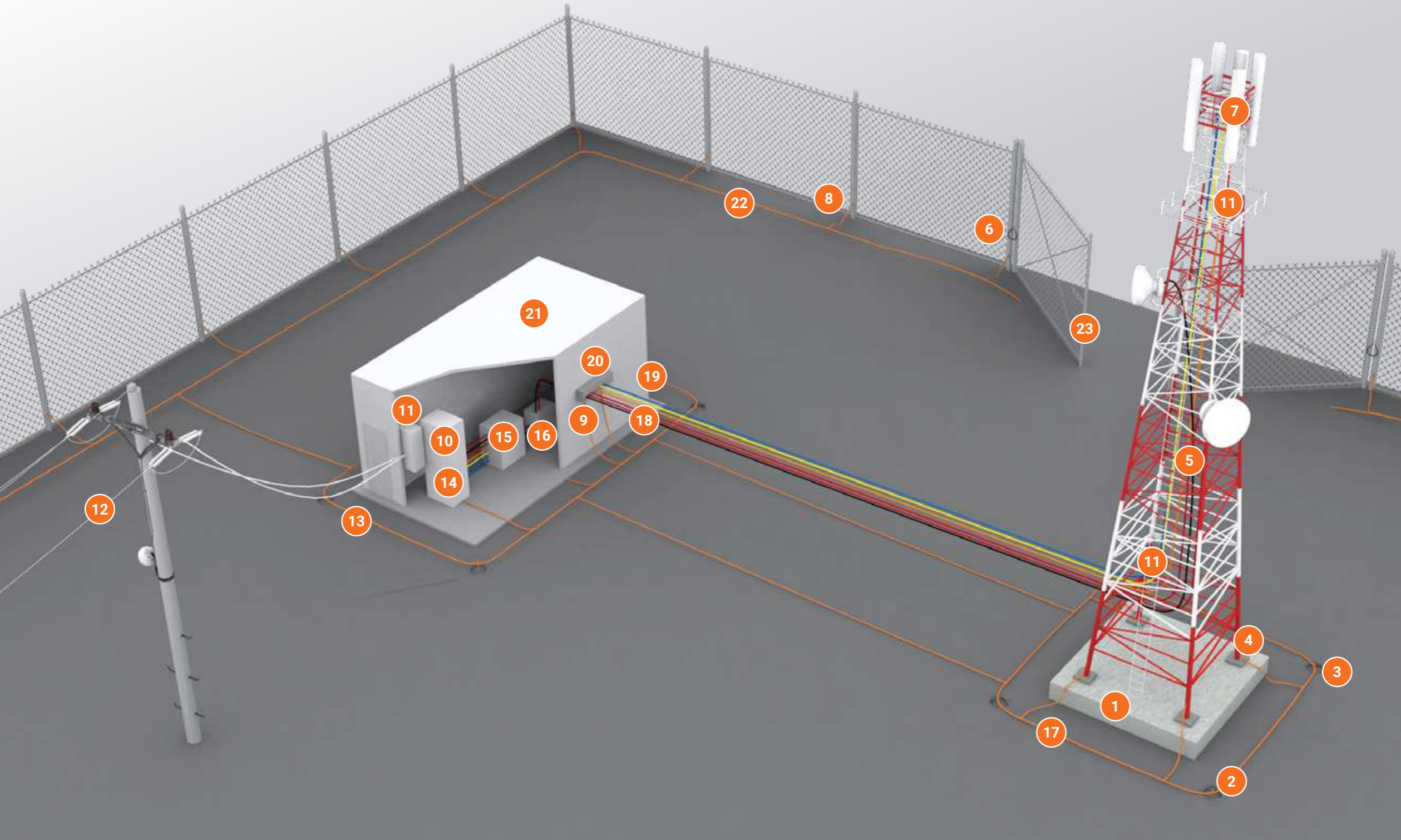
Telecommunication Grounding,
Bonding and Protection
Selection Guide—Oceania—Asia


nVent

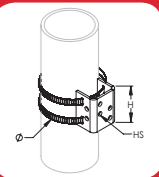
ERICO

Outdoor Grounding and Protection Arrangement

The outdoor arrangement of a grounding system at a typical telecommunication radio site



7. Tower mount bond, ETMAG



7. Tower mount bond, ETMAG



8. Fence bonding



9. DC surge protection



10. Surge reduction filter, SRF range



10. DIN mounted surge protection, DT/EDT range



10. AC surge protection, TDX range



11. Equipotential equipment ground bar

12. AC power line

13. Telecom ground electrode

14. AC main switch board & Surge protection

15. Rectifier

16. DC surge protection remote radio feed

17. Tower ground electrode

18. DC, alarm, other copper cables

19. Fiber, Coaxial & Waveguide feeders

20. Point of entry grounding

21. Telecom shelter or cabinet

22. Fence grounding

23. Gate grounding



1. Copper tape



1. Copper bonded steel conductor, CBSC



1. Theft deterrent composite cable, TDCC



2. Ground enhancement material, GEM or Quickfill



3. Ground rod



3. Cadweld connections



3. Mechanical connector, REC16120



3. Mechanical connector, GU16070



3. nVent ERICO Hammerlock



3. Mechanical connector, SP58



4. Cadweld tower bond



5. Tower mount ground bar



6. Gate bonding

Earth Rods and Couplers

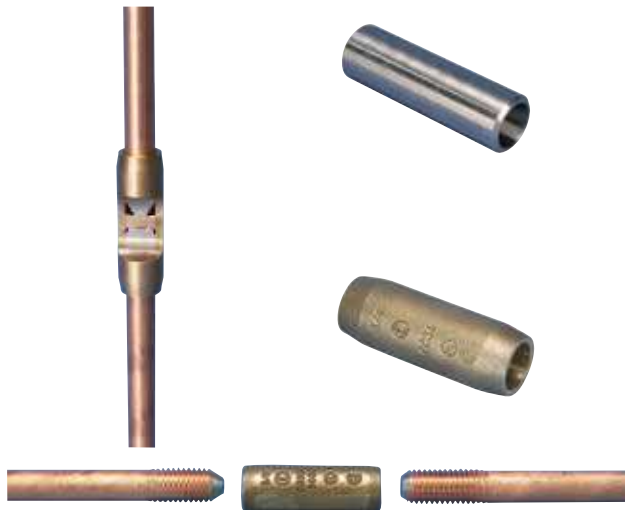
Copper-Bonded Ground Rod

The copper-bonded ground rod has an electrolytic coating of copper deposited over a layer of nickel. This process ensures a long lasting, molecular bond between the copper layer and the steel core. nVent ERICO recommends copper-bonded ground rods because the copper coating will not slip or tear when driven, nor will it crack if the rod is bent. The tough, carbon steel core has good characteristics for deep driving. Copper-bonded ground rods have a high resistance to corrosion and provide a low resistance path to ground.











The Stainless Steel Ground Rod Option

It is important to note that certain soils and land fill areas may not be compatible with copper. In these situations, stainless steel is a better proposition. Stainless steel may also be an alternative, where structures or components, such as steel towers, poles or lead sheathed cables are in close proximity to an array of ground electrodes.



Part Number	Description	Pack Qty
613460	Earth Rod Copper Bonded Steel 3/4"x6ft (17.1 mm x 1800 mm)	Each
615850	Earth Rod Copper Bonded Steel 5/8" x 5ft (14.2 mm x 1500 mm)	Each
611300	Earth Rod Copper Bonded Steel 5/8" x 5ft (12.7 mm x 3000 mm)	Each
611350	Earth Rod Copper Bonded Steel 1/2" x 5ft (12.7 mm x 1500 mm)	Each
631300	10' x 3/4" Copper-Bonded Ground Rod, threaded	Each
615800	Earth Rod Copper Bonded Steel 5/8" x 10ft (14.2 mm x 3000 mm)	Each
635800	Earth Rod Copper Bonded Steel 5/8" x 10ft (14.2 mm x 3000 mm). Threaded	Each
685880S	Earth Rod Stainless 16 mm x 2400mm threaded both ends	Each
GRS141500	Earth Rod Stainless Steel SS 14 mm x 1500 mm pointed	Each
683450	Steel Earth Stainless Rod SS316 19 mm x 1500 mm, pointed	Each
683400S	Earth Rod Stainless Steel SS 19mm x 3000 mm, threaded both ends	Each
683450S	Earth Rod Stainless Steel SS 19 mm x 1500 mm, threaded both ends	Each
CC12F	Compression Coupler for 1/2" earth rod	Each
CC58	Compression Coupler for 5/8" earth rod	Each
CR34	Threaded Coupler for 3/4" earth rod	Each
CC34SS	Stainless Steel Coupler SS for 19 mm	Each
CCSS14	Stainless Steel Earth Rod Coupler SS316 14 mm Thread	Each

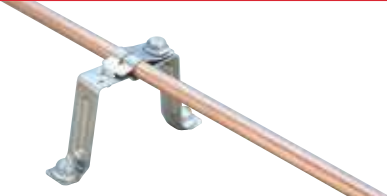
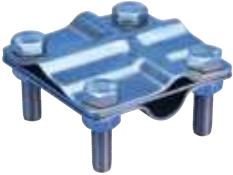



Mechanical Connectors and Fixings

	Part Number	Description	Pack Qty
	BBBC	Tower clamp 25 x 3 Copper Tape M10	Each
	GUV16070	GUV style clamp, suits 1/2"-3/4" earth rods to 16-70 mm ² cables.	Each
	REC16120	Ground Rod Clamps, suits, 1/2"-5/8" earth rod to between 16-70 mm ² cable	Each
	RTC1626	Rod to Tape Clamp 16 mm OD to 26 mm wide	Each
	RC100	Rebar Clamp, suits, 16 to 95 mm ² and 18-36 mm dia. Rebar	Each
	RC70	Rebar Clamp, suits, 16 to 70 mm ² and 8-18mm dia. Rebar	Each
	FC079	nVent ERICO Fence Post Clamp Up to 60 mm Nom. Dia Pipe, 35 mm ² Cable	Each
	LPC557L	Beam Clamp, tinned copper for Angle Tower Member	Each
	TAPC253	Tape Clip, 25 X 3 mm - 711570	Each




Mechanical Connectors and Fixings

	Part Number	Description	Pack Qty
	STCS253	Square tape clamp 25 mm x 3 mm	Each
	OBC268	Tape to Tape Clamp, 25 mm x 3 mm tape	Each
	LPC513	Inline Conductor Connection for CBSC8 and CBSC10	Each
	CRT8CU	T Connectors for CBSC8 and CBSC10	Each
	LPC595NB	Cross Connector, CBSC10 to CBSC8 and CBSC10	Each
	LPC466B	Universal parallel clamp CBSC8 and CBSC10	Each
	BCR8T	Connection CBSC8 to ground bar	Each
	SBCS0810	Beam or Tower bonding clap CBSC8 and CBSC10	Each
	CSS0810000	Flush mount connector CBSC8 and CBSC10	Each


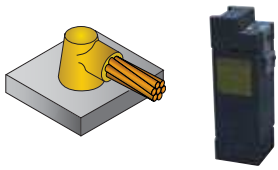




Mechanical Connectors and Fixings

	Part Number	Description	Pack Qty
	CSS0810050	50 mm Offset Munt connector for CBSC8 and CBSC10	
	MPSC404SS	Multi-Purpose Grounding Clamp, Stainless Steel, Tape to tape, tape to CBSC10 or CBSC10 to CBSC10	Each
 	PDCUC	Copper Tape Holding Clip Plastic	Each
	PDCUCABGY	Copper Tape Clip Plastic Base Mount	Each
	563420	Tinned copper flexible connector, 28 x 3.4 mm braid, M12.5 holes, 300 mm hole centres	Each

Cadweld and Accessories

	Part Number	Description	Pack Qty
	200PLUSF20	Cadweld Plus 200G W/M for above Mold (10 Pack)	10
	150PLUSF20	Weld metal, #150 Plus package (Weld Metal for Connection Shown)	10
	90PLUSF20	Weld metal, #90 Plus package (Weld Metal for the connections shown)	10
	45PLUSF20	Weld metal, #45 Plus package (Weld metal for the Connections Shown)	20
	32PLUSF20	Cadweld Plus 32G W/M for above Mold (20 Pack)	20
	GYR14T2	Mold, nVent ERICO–Cadweld for connection of CBSC to 1/2" ground rod (use with 150PLUSF20)	Each
	GYR16T1	Mold, nVent ERICO–Cadweld for connection of CBSC8 to 5/8" ground rod (use with 150PLUSF20)	Each
	GYR16T2	Mold, nVent ERICO–Cadweld for connection of CBSC10 to 5/8" ground rod (use with 150PLUSF20)	Each
	SSCT1	Mold, nVent ERICO–Cadweld for splice connection of CBSC8 (use with 90PLUSF20 weld metal)	Each
	SSCT2	Mold, nVent ERICO–Cadweld for splice connection of CBSC10 (use with 90PLUSF20 weld metal)	Each
	PTCT2Y2	Mold, nVent ERICO–Cadweld for connection of 35 sqmm cable to CBSC10 (use with 150PLUSF20 weld metal)	Each
	PTCT2Y4	Mold, nVent ERICO–Cadweld for connection of 70 sqmm cable to CBSC10 (use with 150PLUSF20 weld metal)	Each
	PTCT1T1	Mold, nVent ERICO–Cadweld for connection of CBSC8 to CBSC8 (use with 150PLUSF20 weld metal)	
	PTCT2T2	Mold, nVent ERICO–Cadweld for connection of CBSC10 to CBSC10 (use with 150PLUSF20 weld metal)	Each
	GTC14T1	Mold, nVent ERICO–Cadweld for connection of CBSC8 to 1/2" ground rod (use with 150PLUSF20 weld metal)	Each
	GTC14T2	Mold, nVent ERICO–Cadweld for connection of CBSC10 to 1/2" ground rod (use with 150PLUSF20 weld metal)	Each
	GTC16T1	Mold, nVent ERICO–Cadweld for connection of CBSC8 to 5/8" ground rod (use with 150PLUSF20 weld metal)	Each
	GTC16T2	Mold, nVent ERICO–Cadweld for connection of CBSC10 to 5/8" ground rod (use with 150PLUSF20 weld metal)	Each

Cadweld and Accessories

	Part Number	Description	Pack Qty
	TACT1	Mold, nVent ERICO–Cadweld for TEE connection of CBSC8 (use with 90PLUSF20 weld metal)	Each
	TACT2	Mold, nVent ERICO–Cadweld for TEE connection of CBSC10 (use with 90PLUSF20 weld metal)	Each
	VSCY2	Mold, nVent ERICO–Cadweld for connection of 35 sqmm to metal post (use with 45PLUSF20 weld metal)	Each
	VSCY4	Mold, nVent ERICO–Cadweld for connection of 70 sqmm to metal post (use with 65PLUSF20 weld metal)	Each
	VSCT1	Mold, nVent ERICO–Cadweld for connection of CBSC8 to metal post (use with 90PLUSF20 weld metal)	Each
	VSCT2	Mold, nVent ERICO–Cadweld for connection of CBSC10 to metal post (use with 115PLUSF20 weld metal)	Each
	HSCT1	CBSC8 to Flat surface steel (use with 90PLUSF20 weld metal)	Each
	HSCT2	CBSC10 to Flat surface steel (use with 115PLUSF20 weld metal)	Each
	CQR14CAJ	Mold nVent ERICO–Cadweld for Connection of 25 x 3 mm Tape to 1/2" Ground Rod (use with 150PLUF20 weld metal)	Each
	LQR-CAJ14	Mold Cadweld Plus 25 x 3 mm Copper Tape to 1/2" Earth Rod (use with PLUS200F20 Weld Metal)	Each
	LQR-CAJ16	Mold Cadweld Plus 25 x 3 mm Copper Tape to 5/8" Earth Rod (use with PLUS200F20 Weld Metal)	Each
	BMCCAJCAJ	Mold Cadweld Plus 25 x 3 mm Copper Tape to Copper Tape TEE (use with PLUS90F20 Weld Metal)	Each
	BBCCAJ	Mold Cadweld Plus 25 x 3 mm Copper Tape to Copper Tape Straight (use with PLUS65F20 Weld Metal)	Each

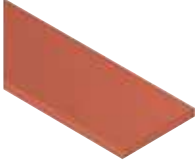





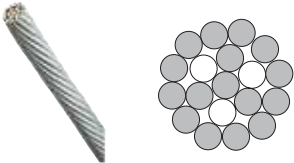
Cadweld and Accessories

	Part Number	Description	Pack Qty
	LJCCAJY2	Mold Cadweld Plus 35 mm ² Cable to 25 x 3 mm Copper Tape to Copper Tape TEE (use with PLUS45F20 Weld Metal)	
	LJCCAJY4	Mold Cadweld Plus 70mm ² Cable to 25 x 3 mm Copper Tape to Copper Tape TEE (use with PLUS90F20 Weld Metal)	
	L160	nVent ERICO-Cadweld Handle Clamp, to suit molds above	Each
	B-121-CE	1 Hole Tinned Copper Cadweld Cable Lug	20
	T394	Mold Cleaning Brush, Narrow	Each
	B136B	nVent ERICO-Cadweld Mold scraping tool	Each
	PLUSCU	nVent ERICO-Cadweld Plus electronic Igniter	Each
	T403	nVent ERICO-Cadweld Mold Sealer	Each







Grounding Tower and Rooftop Standoffs

	Part Number	Description	Pack Qty
	ETMAGS	OPTUS Tower Earthing Standoff	Each
	ETMAGSDAT	Bar, Ground, Standoff, Top Mount	Each
	ETMAGSDATHC13	Bar, Grounding, Standoff, Hose Clamp 1–3 Inch	Each
	ETMAGSDATHC35	Bar, Grounding, Standoff, Hose Clamp 3–5 Inch	Each
	ETMAGSDATBC	Bar, Grounding, Standoff, Beam Clamp	Each
	548480	NBN/Optus Insulators with fasteners M8 x 35 mm	Each
	548590	NBN/Optus Insulators with fasteners M10 x 50 mm	Each



Conductors

	Part Number	Description	Pack Qty
	TC-EC-2530-50	nVent ERICO 25 x 3 mm Electrical Grade Copper Tape	50 m
	CBSC10SM4	Copper Bonded Steel Conductor 10mm diameter, 4 m Long	10
	CBSC8	Copper Bonded Steel Conductor in 100 m Roll 8 mm diameter	100 m
	CBSC10	Copper Bonded Steel Conductor in 100 m Roll 10 mm diameter	100 m
	LPC122L250	Non-Insulated Stranded Conductor for Lightning Protection LPC122L250-Tinned Copper	76 m
	LPA100250	Non-Insulated Stranded Conductor for Lightning Protection LPA10025, Aluminum	76 m
	CC5A05C	nVent ERICO Cu-Bond Composite Cable CC5A05C Copper bonded steel stranded (19)Strands: (3) Tinned Copper, (16) Tin Plated Copper-Bonded Steel	76 m

Earth Enhancement and Inspection Pits

		Part Number	Description	Pack Qty
		Quickfill25	nVent ERICO Quickfill no-mix ground-enhancing backfill 11 kg bags	Each
		GEM25A	GEM, Premium Ground Enhancement Material, 11 kg bags	Each
		T416D	Inspection Housing, Lightweight Polymer Concrete	Each
		PIT03	Polymer Earth Pit-Trafficable	Each

Test Equipment

	Part Number	Description	Pack Qty
	EST3640	2- and 3-Point Ground Resistance Tester Kit	Each
	EST4620	2-, 3- and 4-Point Ground Resistance Tester Kit	Each




Surge Protective Devices

	Part Number	Description	Pack Qty
	TDX-100M277/480TT	Modular TDX Panel Protector, 100 kA TDX100M277/480TT, 3 Phase to Neutral, N-E Protection	Each
	TDX-200M277/480TT	Modular TDX Panel Protector, 200 kA TDX100M277/480TT, 3 Phase to Neutral, N-E Protection, Class II	Each
	EDT230031R	EDT2 Enhanced Din Rail Surge Protection Class II, 50 kA, 240V 3+1 Mode EDT230031R (high TOV withstand)	Each
	DT230031R	DT2 Din Rail Surge Protection Class II, 50kA, 240V 3+1 Mode DT230031R	Each
	EDT230010R	EDT2 Enhanced Din Rail Surge Protection Class II, 50 kA, 240V 1+0 Mode EDT230010R (high TOV withstand)	Each
	DT230010R	DT2 Din Rail Surge Protection Class II, 50kA, 240V 1+0 Mode DT230010R	Each
	DT130031R	DT1 Din Rail Surge Protection Class, 50 kA Class I+II 3+1 Mode DT130031R Impulse Current (Iimp)12.5 kA 10/350 μs L-N, 50.0 kA 10/350 μs N-P	Each
	DT130010R	DT1 Din Rail Surge Protection Class, 50 kA CLASS I+II 1+0 Mode DT130010R Impulse Current (Iimp)12.5 kA 10/350 μs L-N, 50.0 kA 10/350 μs N-P	Each

Surge Protective Devices

	Part Number	Description	Pack Qty
	DT1M27531R	DT1M Din Rail Surge Protection Class, 50 kA Class I+II 3+1 Mode DT1M27531R Impulse Current (Iimp)25 kA 10/350 μs L-N, 50.0 kA 10/350 μs N-P	Each
	DT1M27510R	DT1M Din Rail Surge Protection Class, 50 kA Class I+II 1+0 Mode DT1M27510R Impulse Current (Iimp)25 kA 10/350 μs L-N, 50.0 kA 10/350 μs N-P	Each
 	DSD1402BR24/48	DSD1402BR24/48, 24V/48V 40 kA DC Surge Protective Device for RRU Protection , 3 Mode	Each
	DT27510R	DT2 Din Rail Surge Protection 50 Ka Class II, 1+0 Mode DT27510R 60V for RRU Protection , 1 Mode	Each
	DT17510R	DT1 Din Rail Surge Protection Class I+II 12.5 KA, 1+0 Mode DT17510R for RRU Protection , 1 Mode Impulse Current (Iimp)12.5 kA 10/350 μs L-N, 50.0 kA 10/350 μs N-P	Each
	SRF163N	Surge Reduction Filter N-Series, Single Phase SRF163N 63 Amps	Each
	SRF363N	Surge Reduction Filter N-Series, Three Phase SRF363N 63 Amps	Each
	SRF3125N	Surge Reduction Filter N-Series, Three Phase SRF3125N 125 Amps	Each

Distribution Block

	Part Number	Description	Pack Qty
	UDJ-125A (569020)	Single Pole Distribution Block UDJ-125A (569020)	Each
	UDJ-160A (569030)	Single Pole Distribution Block UDJ-160A (569030)	Each
	UD-250A (569040)	Single Pole Distribution Block UD-250A (569040)	Each

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