

Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2023</b>					
4 man's EI		Earthing resistor	0.4kV 20A 10s IP54	Current transformer	1
ABB AB, Machines	PPCL-GS	Earthing resistor	11kV 400A 10s 20A cont IP23	Vacuum contactor, current transformer	3
ABB AB, Machines	Rhourde El Baguel	Earthing resistor	11kV 10A 10s 2A cont IP23	Current transformer	1
ABB AB, Machines	Paradip PTA	Earthing resistor	11kV 30A 10s 2A cont IP54	Current transformers	1
ABB AS, Process Automation	Oseberg Field	Earthing resistor	11.3kV 15A 10s IP31	Current transformer, MCT Brattberg cable entry	1
ABB AS, Process Automation	Rosebank	Earthing resistor with DNV certification	11kV 20A 10s 5A cont IP23	Off-load isolator, current transformers	1
ABB Oy, Process Automation	Northvolt	Earthing resistor	6.6kV 100A 10s 2A cont IP23	Off-load isolator, current transformers	1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6.3kV 10A 10s 3A cont IP00		1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6.6kV 5A 10s IP00		1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	10.5kV 5A 10s IP00		2
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		19
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		11
Elektromontage Söderköping		Earthing resistor	500V 127A 10s 25A cont IP23		1
Jernbro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		2
<b>2022</b>					
ABB AB, Machines	Barossa GTC	Earthing resistor with DNV certification	13.8kV 10A 10s 4A cont IP23	Vacuum contactor	6
ABB AS, Power Generation	Solbergfoss Kraftverk	Earthing resistor	10.4kV 10A 10s IP00		13
ABB AS, Process Automation	Oseberg Field Centre-Power from Shore	Earthing resistor	13.8kV 15A 10s IP31	Current transformer, MCT Brattberg cable entry	2
ABB AS, Process Automation	Oseberg Field OGP transformer	Earthing resistor	11.3kV 15A 10s IP54	Current transformer, MCT Brattberg cable entry	1
ABB AS, Process Automation	Oseberg Field OGP transformer	Earthing resistor	11kV 15A 10s IP54	Current transformer, MCT Brattberg cable entry	1
Actemium Electro	ST1	Earthing resistor	3.3kV 15A 10s IP54	Off-load isolator	2
Ahlsell Sverige	Nouryon Pulp &Perf. Chemicals	Earthing resistor	10.5kV 15A 100s IP54	Overtemperature indication	1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6.6kV 5A 10s IP00		7
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		17
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 10A 10s IP00		7
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	13.8kV 5A 10s IP00		24
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		4
Eureka Pump	Scarborough EMG/BS Project	Earthing resistor with DNV certification	0.69kV 100A 10s 20A cont IP42	Current transformer	2
General Serve		Earthing resistor	220V 144.3A 10s 43.3A cont IP00		1
Hitachi Energy Germany		Earthing resistor	0.69kV 100A 10s IP00		2
Jernbro Industrial Services		Earthing resistor	500V 125A 10s IP00		1
Jernbro Industrial Services		Earthing resistor	500V 160A 10s 32A cont IP00		2
Jernbro Industrial Services		Earthing resistor	10.5kV 10A 10s 2A cont IP00		1
Jernbro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		2
Jernbro Industrial Services		Earthing resistor	13.8kV 10A 10s 2A cont IP00		4
Jernbro Industrial Services		Earthing resistor	13.8kV 25A 20s 4A cont IP00		2

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Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2021</b>					
ABB AB, Machines		Earthing resistor	10,5kV 10A 10s 2A cont IP55	Current transformer	2
ABB AB, Machines		Earthing resistor	13,8kV 15A 10s NEMA3R	Current transformer, CSA certified	1
ABB AB, Machines	Guam	Earthing system, single phase transformer+resistor	13,8kV 10A 10s 2A cont primary IP23	Current transformer+voltage metering circuit	3
ABB AS, Process Automation	Ormen Lange	Earthing resistor	24,4kV 40A 10s IP54	Current transformer+earthing balls	1
ABB AS, Process Automation	Janz project	Earthing resistor	0.69kV 100A 10s 10A cont, IP32	Current transformer	4
ABB Oy, Process Automation	Northvolt Ett - Skellefteå	Earthing resistor	6,6kV 100A 10s 2A cont. IP54	Off-load isolator+2 current transformers	2
ABB Oy, Process Automation	Metsä Fibre Kemi BTT	Earthing resistor	33kV 100A 10s 2A cont IP54	Current transformer	2
ABB Oy, Process Automation	Metsä Fibre Kemi BTT	Earthing resistor	6,3kV 10A 10s 2A cont IP54	Current transformer	3
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 5A 10s IP00		3
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	10,5kV 5A 10s IP00		1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		25
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		3
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		20
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 25A 10s 2A cont IP23	Current transformer	1
ApQ Power		Earthing resistor	12kV 40A 10s IP54	Vacuum contactor	1
Caverion Sverige AB	St1	Earthing resistor	3,3kV 15A 10s IP54	Off-load isolator+ adj.overtemperature indication	1
Dawnthrive Ltd		Earthing resistor	0,24kV 252A 10s IP00		1
Elektromontage Söderköping		Earthing resistor	13,8kV 10A 10s 2A cont IP00		3
Jembro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		3
Jembro Industrial Services		Earthing resistor	13,8kV 10A 10s 2A cont IP00		2
One Nordic		Earthing resistor	6,6kV 10A 10s IP54	Voltage transformer	1
<b>2020</b>					
ABB AB, Machines	ADNOC, Adma Gas	Earthing system, single phase transformer+resistor	11kV 10A 10s 2A cont primary IP54+heat shield	Current transformer+voltage metering circuit	4
ABB AB, Machines		Earthing resistor	13,8kV 15A 10s NEMA3R	Current transformer, CSA certified	2
ABB Oy, Process Automation	UPN Taurus Pulp Mill	Earthing resistor	33kV 100A 10s IP54	Current transformer	2
ABB Oy, Process Automation	Northvolt Ett - Skellefteå Block 1&2	Earthing resistor	6,6kV 100A 10s 2A cont. IP54	Off-load isolator+2 current transformers	2
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6kV 5A 10s IP00		1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 5A 10s IP00		1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6,6kV 5A 10s IP00		2
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		14
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		7
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 100A 10s 30A cont IP23	Voltage transformer+2 current transformers	1
Boliden Electro		Earthing resistor	6,6kV 10A 10s 1,2A cont IP54		1
Equinor Energy AS		Earthing resistor	0,69kV 20A 10s IP23		1
Jembro Industrial Services		Earthing resistor	10,5kV 10A 10s 2A cont IP00		4
Jembro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		1
Jembro Industrial Services		Earthing resistor	12,4kV 10A 10s 2A cont IP00		2
Jembro Industrial Services		Earthing resistor	13,8kV 10A 10s 2A cont IP00		4
Jembro Industrial Services		Earthing resistor	15kV 10A 10s 2A cont IP00		1
OKG AB		Earthing resistor	0,22kV 204/44/44 ohm IP20		1
One Nordic	Långgölsmåla G1	Earthing resistor	0,69kV 5A 10s IP23	Voltage transformer	1
SME GmbH		Earthing resistor	10kV 10A 10s 2A cont IP23		2

## Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2019</b>					
ABB AB, Machines	PTT-NF	Earthing resistor	11kV 10A 10s 2A cont. IP55	Current transformer	2
ABB AB, Machines	PTT-NF Pertamina	Earthing resistor	11kV 100A 10s 2A cont IP56	Current transformer	3
ABB AB, Machines	LSP Complex	Earthing resistor	11,5kV 200A 10s 5A cont. IP55	Vacuum contactor+2 current transformers	2
ABB AB, Machines	DUQM STG	Earthing system, single phase transformer+resistor	11kV 10A 10s 2A cont. primary IP55	Voltage metering circuit	1
ABB AB, Machines	BP Azeri	Earthing resistor	11kV 100A 10s 10A cont IP54	2 current transformers	1
ABB AB, Machines	PET-TNG	Earthing resistor	13,8kV 15A 10s NEMA3R	Current transformer, CSA certified	2
ABB Oy, Process Automation	Aurora	Earthing resistor	3kV 50A 10s 6A cont. IP23	2 earthing balls	1
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 5A 10s IP00		2
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		5
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	12,6kV 5A 10s IP00		30
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		20
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		13
Alfen Elkamo Oy	Wärtsilä	Earthing resistor	0,4kV 105A 10s IP54		6
Boliden Electro		Earthing resistor	3,3kV 10A 10s 1,2A cont IP54	Current transformer	1
Jernbro Industrial Services		Earthing resistor	10,5kV 10A 10s 2A cont IP00		1
Jernbro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		4
Jernbro Industrial Services		Earthing resistor	13,8kV 10A 10s 2A cont IP00		2
Jernbro Industrial Services		Earthing resistor	0,5kV 160A 10s 31,9A cont IP00		1
Siemens Turbomachine	Hurl Gorakhpur	Earthing system, single phase transformer+resistor	11kV 10A 10s 2A cont primary IP54	Current transformer+voltage metering circuit	2
Siemens AS	Tonstad Vindpark	Earthing resistor	33kV 500A 3s IP54	2 vacuum circuit breakers+2 current transformers	1
<b>2018</b>					
ABB AB, Machines	Sinopec Zhejiang	Earthing resistor	10kV 10A 10s 2A cont. IP23		2
ABB AB, Machines	PTSC-C	Earthing resistor	11kV 5A 10s 2A cont IP23		1
ABB AB, Machines	TWM-P	Earthing resistor	13,8kV 10A 10s 2A cont. IP23	Current transformer	2
ABB AB, Machines	Caofeidan	Earthing resistor	10,5kV 50A 10s IP56	Off-load isolator	3
ABB AB, Machines	Luda	Earthing resistor	10,5kV 15A 10s 2A cont IP23	Vacuum contactor+current transformer	4
ABB AB, Machines	XOM-AOM	Earthing resistor	13,8kV 10A 10s 2A cont. IP23	2 current transformers+sensing resistor	2
ABB Oy, Process Automation	Aurora/Inftratek M180	Earthing resistor	10kV 50A 10s 6A cont. IP23	Earthing ball	2
ABB Oy, Process Automation	Boliden Kevitsa Kontti3	Earthing resistor	6kV 50A 5s IP54	Off-load isolator+current transformer	1
ABB Oy, Process Automation	Visy Pulp & Paper	Earthing resistor	11kV 20A 10s 2A cont IP54	2 current transformers	1
Burmeister & Wain	North Power Station, Bermuda	Earthing resistor	13,8kV 25A 10s 2A cont. IP44	Current transformer	4
Elkamo Oy	Wärtsilä	Earthing resistor	6,6kV 73A 10s IP00		4
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		43
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		27
Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		13
Eureka Pumps	Johan Castberg	Earthing resistor	0,6kV 100A 10s 5A cont. IP54	Current transformer	1
Jernbro Industrial Services		Earthing resistor	11kV 10A 10s 2A cont IP00		9
Jernbro Industrial Services		Earthing resistor	13,8kV 10A 10s 2A cont IP00		7
Jernbro Industrial Services		Earthing resistor	6,3kV 10A 10s 2A cont IP00		1
Molea AS	Generator earthing	Earthing resistor	11kV 10A 10s 2A cont IP54	Voltage transformer	1
One Nordic		Earthing resistor	6,3kV 5A 10s IP23		1
Processkontroll		Earthing resistor	11kV 19A 10s IP00		1
Processkontroll	ST 1 Raff. Gothenburg Station SD 14	Earthing resistor	3,3kV 15A 10s IP54	Off-load isolator+ adj. overtemperature indication	1
Processkontroll	Visby	Earthing resistor	11kV 18,96A 20s IP23		1
Siemens AS	Norsk Miljøkraft, Kvittfjell, Raufjell	Earthing resistor	33kV 250A 3s IP54	2 vacuum circuit breakers+current transformer	1
Siemens AS	Norsk Miljøkraft, Kvittfjell, Raufjell	Earthing resistor	33kV 500A 3s IP54	2 vacuum circuit breakers+2 current transformers	1
Skellefteå Kraft Elnät	TT2700	Earthing resistor	11kV 3A 10s IP23	Overtemperature indication	1
Vattenfall Vindkraft	Horns Rev 3	Earthing resistor	32,9kV 1000A 10s 24A cont. IP54	2 current transformers	3

## Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2017</b>					
ABB AB, Machines	Dongfang project	Earthing resistor	10,5kV 15A 10s 2A cont. IP56	Off-load isolator	2
ABB AB, Machines	Solar Turbines Mobile	Earthing resistor	13,8kV 10A 10s 2A cont. IP23	Current transformer	2
ABB AB, Machines	MGH3 Ormat	Earthing system, single phase transformer+resistor	12,47kV 10A 10s 2A cont primary IP54	Current transformer+voltage metering circuit	3
ABB AB Power Generation	Forsmark	Earthing resistor	7,26kV 15A 20s IP54	Vacuum contactor+current transformer	1
ABB Oy, Process Automation	Metsä Group Äänekoski Bioproduct Mill	Earthing resistor	6,3kV 10A 10s IP54	Current transformer+overtemperature indication	1
Boliden Electro		Earthing resistor	6,6kV 10A 10s 1,2A cont. IP54		1
Burmeister & Wain	Sund3 Faroe Islands	Earthing resistor	10,5kV 25A 10s 2,5A cont. IP23	Current transformer	4
Coor Service Management		Earthing resistor	11kV 10A 10s 2A cont IP00		11
Coor Service Management		Earthing resistor	13,8kV 10A 10s 2A cont IP00		1
Coor Service Management		Earthing resistor	0,5kV 1271A 5s 26A cont IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 73A 10s IP00		8
Elkamo Oy	Wärtsilä	Earthing resistor	10,5kV 5A 10s IP00		25
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		24
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		8
MM Kotkamills Boards Oy		Earthing resistor	20kV 50A 10s IP54	Current transformer	1
Skellefteå Kraft Elnät		Earthing resistor	11kV 3A 10s IP23	Overtemperature indication	8
Skellefteå Kraft Elnät		Earthing resistor	22kV 3A 10s IP23	Overtemperature indication	2
<b>2016</b>					
ABB AB, Machines	Hubei Longchen	Earthing resistor	10,5kV 400A 10s 2A cont. IP55	Vacuum contactor	2
ABB AB, Machines	HTC Taiwan TASCO	Earthing resistor	11,4kV 10A 10s 2A cont. IP54		1
ABB AB, Machines	Tungsten	Earthing system, single phase transformer+resistor	1,47kV 10A 10s 2A cont primary IP54	Current transformer+voltage metering circuit	1
ABB AB, Machines	NCIC Phosphatic Fertilizer Complex	Earthing resistor	11kV 400A 10s 20A cont IP23		3
ABB AB Power Generation	Forsmark	Earthing resistor	7,26kV 15A 20s IP54	Vacuum contactor+current transformer	8
ABB Oy, Process Automation		Earthing resistor	10kV 50A 10s 6A cont. IP23		1
ABB Oy, Process Automation	St1 – OTA1 Project	Earthing resistor	6,3kV 10A 10s IP23 top cable entry	Current transformer+overtemperature indication	1
ABB Oy, Transformers		Earthing resistor	6,9kV 30A 10s IP55	Off-load disconnecting link	3
ABB Oy, Transformers	Exxon Mobile - RAHC project Rotterdam	Earthing resistor	6,6kV 40A 10s IP55	Current transformer	1
AP&Q	Malmö Styrup Airport	Earthing resistor	22kV 10A 10s 1A cont IP23		1
AP&Q	SUS Lund	Earthing resistor	12kV 15A 10s IP54	Vacuum contactor+overtemperature indication	1
Bevi		Earthing resistor	2kV 5A 10s IP00		1
Burmeister & Wain	St Louis Power Station	Earthing resistor	11kV 10A 10s 2A cont IP54	Current transformer	4
Dong Energy	Borkum Riffgrund 2 Offshore Wind Farm	Earthing resistor	34kV 850A 5s IP23	2 current transformers	4
Coor Service Management		Earthing resistor	11kV 10A 10s 2A cont IP00		3
Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 73A 10s IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	10,5kV 5A 10s IP00		4
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		32
Elkamo Oy	Wärtsilä	Earthing resistor	13,2kV 5A 10s IP00		12
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		12
Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		6
Processkontroll	Vårta Harbour	Earthing resistor	11kV 18,96A 10s 3A cont IP00		1
Processkontroll	STYR1-T1	Earthing resistor	6,6kV 20A 20s IP23		1
Siemens Oy	Kotkamill	Earthing resistor	3kV 25A 10s IP54	Current transformer	1
Siemens Oy	Leppikoski	Earthing resistor	11kV 25A 10s IP00		2

Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2015</b>					
ABB AB, Machines	Lonchen Paper	Earthing resistor	11,4kV 400A 10s 2A cont. IP56	Vacuum contactor	1
ABB AB, Machines	YFY Xin Wu Paper Mill	Earthing resistor	11,4kV 400A 10s 2A cont. IP23	Vacuum contactor	1
ABB AB, Machines	KHI Turkmengas	Earthing resistor	10,5kV 300A 10s 2A cont. IP54	Vacuum contactor	1
ABB AB Power Generation		Earthing resistor	11kV 10A 10s 2A cont IP00		3
ABB Oy, Process Automation		Earthing resistor	6kV 50A 5s IP54	Current transformer	2
ABB Oy, Process Automation	FE2 - Flying Eagle Kotkamills	Earthing resistor	20kV 25A 10s IP54	Current transformer	1
ABB Oy, Transformers		Earthing resistor	11kV 30A 10s 3A cont IP55		1
ABB Oy, Transformers	Rabab Harwell Integration Project	Earthing resistor	6,9kV 30A 10s IP55		4
ABB Oy, Transformers	Rabab Harwell Integration Project	Earthing resistor	11,5kV 30A 10s IP55		4
Coor Service Management		Earthing resistor	11kV 10A 10s 2A cont IP00		5
Coor Service Management		Earthing resistor	13,8kV 10A 10s 2A cont IP00		1
Coor Service Management	Brigg	Earthing resistor	11kV 20A 10s 2A cont IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		15
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		8
Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		6
Elektromontage Söderköping		Earthing resistor	0,22kV 144,3A 10s 43,3A cont. IP00		5
IETV Elektroteknik AB	Ängabäck	Earthing resistor	6,3kV 5A 10s IP00		1
Semcon Engineering	Mörsil	Earthing resistor	10kV 3,8A 15s 1A cont. IP00		1
Skellefteå Kraft Elnät		Earthing resistor	22kV 5/3A 10s 1,5A cont. IP23		1
<b>2014</b>					
ABB AB, Machines	Dongi	Earthing resistor	6,6kV 10A 10s IP23	Current transformer	4
ABB AB, Machines	EM-TAP Solar Turbines	Earthing resistor	6,9kV 200A 10s 3A cont. IP55	Vacuum contactor+current transformer	1
ABB AB, Machines	McGinnes	Earthing system, single phase transformer+resistor	12,47kV 10A 10s 2A cont. primary IP54	Current transformer+voltage metering circuit	2
ABB AB, Machines		Earthing resistor	11kV 10A 10s 2A cont. IP54		5
ABB AB, Machines	ARE-LAK	Earthing resistor	13,8kV 10A 10s 2A cont. IP23	Current transformer	2
ABB AB, Machines	Reggane Nord	Earthing resistor	5,5kV 10A 10s 2A cont. IP54	Vacuum contactor	3
ABB AB, Machines	Don Cambell	Earthing system, single phase transformer+resistor	12,47kV 10A 10s 2A cont. primary IP54	Current transformer+voltage metering circuit	1
ABB AB, Machines	SRIP	Earthing system, single phase transformer+resistor	11kV 7,76A 10s 1A cont primary IP54	Current transformer	2
ABB AS Process Automation	Mariner	Earthing resistor	0,69kV 100A 10s IP23	Prepared for fitting current transformer	4
ABB AS Process Automation	Mariner	Earthing resistor	6,6kV 20A 10s IP23	Current transformer	1
ABB Germany		Earthing resistor	0,69kV 100A 10s 5A cont. IP23		2
ABB Oy, Industry Solutions	Borealis	Earthing resistor	10kV 50A 10s IP54		1
ABB Oy, Process Automation	Andritz Guacolda MP & SO2	Earthing resistor	4,16kV 1000A 10s IP54 wall mounted		2
ABB Oy, Transformers	Rabab Harwell Integration Project	Earthing resistor	11,5kV 30A 10s IP55		6
Austevoll Elektro		Earthing resistor	6kV 2,47A 10s IP54	Off-load isolator+Current transformer	1
Coor Service Management		Earthing resistor	11kV 10A 10s 2A cont IP00		8
Coor Service Management		Earthing resistor	13,2kV 10A 10s 2A cont IP00		1
Coor Service Management	BP SD2	Earthing resistor	11kV 100A 10s 10A cont IP00		2
Coor Service Management		Earthing resistor	10,5kV 4,85A 10s IP00		2
Coor Service Management	Brigg	Earthing resistor	11kV 20A 10s 2A cont IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 5A 10s IP00		3
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		19
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		13
Elektromontage Söderköping		Earthing resistor	0,5kV 159A 10s IP00		1
Elektromontage Söderköping		Earthing resistor	0,5kV 50A 60s 12,5A cont IP00		1
Elektromontage Söderköping		Earthing resistor	0,24kV 176A 10s 20A cont IP00		1
Eureka Pump	Aasta Hansteen Essential	Earthing resistor	11kV 20A 10s 1A cont IP54	Current transformer	1
Eureka Pump	Mariner Topside EPC	Earthing resistor	11kV 20A 10s 1A cont IP54	2 Current transformers	1
Eureka Pump	Mariner Project Emergency Power	Earthing resistor	0,72kV 100A 10s 5A cont. IP55	Heat shield	1
FQM Kevitsa Mining Oy		Earthing resistor	6kV 50A 10s IP54	Current transformer	3
Schneider Electric	Ringhals	Earthing resistor	6,8kV 10A 30s 2A cont. IP00		1

Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2014</b>					
Processkontroll	Fortum, Värtaverken	Earthing resistor	8,66kV 25A 20s IP23	Current transformer+overtemperature indication	2
Siemens Turbomachine	Halfaya	Earthing resistor	11kV 100A 10s 5A cont IP54	Vaccum contactor	3
Siemens Turbomachine		Earthing resistor	6,3kV 10A cont. IP23		1
Siemens Oy	Neste Oil	Earthing resistor	3,15kV 50A 15s 6A cont. IP23 wall mount		4
Siemens Oy	Neste Oil	Earthing resistor	10kV 50A 15s 6A cont. IP23 wall mount		2
Skandinaviska Kraftprodukter	Tomtebodå Stockholm Södra	Earthing resistor	11kV 144A 3s IP54	Vacuum contactor+current transformer	2
Skellefteå Kraft Elnät	TT1201 Sjövägen	Earthing resistor	11kV 5A 10s 1,5A cont. IP23		1
Voith Hydro	Akkats Kraftstation G3	Earthing resistor	13,8kV 10A 10s 1A cont IP23		1
Dong Energy	Gode Wind 01/02	Earthing resistor	34kV 850A 5s IP23	2 Current transformers	4
<b>2013</b>					
ABB AB, Machines		Earthing resistor	13,8kV 8A 10s 2A cont. IP23	Vacuum contactor+current transformer	2
ABB AB, Machines	PTT Thailand	Earthing resistor	11kV 400A 10s IP54	Vacuum breaker+current transformer	1
ABB AB, Machines	XOM-PNG Solar Turbines	Earthing resistor	10,5kV 10A 5s 2A cont. IP23	Current Transformer	1
ABB AB, Machines	GN-TGS	Earthing resistor	10,5kV 10A 10s IP23		6
ABB AB Offshore Wind Connections	DoWin2 HVDC Converter Platform	Earthing resistor	10kV 20A 10s 1A cont. IP31	Vacuum contactor+current transformer	2
ABB AB, Energy Industries	MIDSKOG G2	Earthing resistor	11,8kV 10A 10s 1A cont. IP00		1
ABB AS, Div Oil & Gas	Troll	Earthing resistor	0,69kV 20A 10s IP23		
ABB AS, Process Automation	Statoil-Heidrun (marine) Project	Earthing resistor with DNV certification	0,69kV 20A 10s IP23	Current transformer	4
ABB AS, Process Automation	Statoil-Heidrun (marine) Project	Earthing resistor with DNV certification	6,6kV 20A 10s IP23	Current transformer	1
ABB Oy, Industry Solutions	Neste Oil, Kojeisto	Earthing resistor	10,4kV 50A 10s 6A cont.IP23		1
ABB OY, Process Industry	LPPPI Jambi	Earthing resistor	3,3kV 10A cont. IP23	Current transformer	1
ABB OY, Process Industry	LPPPI Jambi	Earthing resistor	33kV 200A 10s IP23	Current transformer+overtemperature indication	2
ABB Oy, Electrification	Tuike/Buckingham	Earthing resistor	10,5kV 10A 10s IP54	Current transformer	2
ABB Oy, Electrification	Woikosky Air Separation Plant, Finland	Earthing resistor	6kV 100A 2s 5A cont. IP42	Current Transformer	1
Coor Service Management		Earthing resistor	10,5kV 10A 10s 2A cont IP00		2
Coor Service Management		Earthing resistor	11kV 10A 10s 2A cont IP00		7
Coor Service Management		Earthing resistor	10kV 20A 10s 4A cont IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	6,3kV 5A 10s IP00		2
Elkamo Oy	Wärtsilä	Earthing resistor	10,5kV 5A 10s IP00		12
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		11
Elkamo Oy	Wärtsilä	Earthing resistor	13,8kV 5A 10s IP00		9
Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		38
Elektromontage Söderköping		Earthing resistor	0,5kV 73A 20s IP00		1
Elektromontage Söderköping		Earthing resistor	0,5V 128A 10s 28A cont IP00		2
Goodtech Projects & Services	Skellefteå Lasarett	Earthing resistor	11kV 5A 10s IP54	Vacuum contactor	1
IETV Elektroteknik AB	Broby Kraftstation	Earthing resistor	6kV 5A 10s IP00		1
IETV Elektroteknik AB	E.ON Knislinge	Earthing resistor	0,69kV 5A 10s IP54		1
Mjölby- Svartådalen Energi AB	Hydro Power station	Earthing resistor	6,6kV 5A 10s 1,5A cont IP00		1
Siemens AS	Midtfjellet	Earthing resistor	34kV 218A 20A cont, IP23	Prepared for fitting current transformer	1
Skellefteå Kraft Elnät	TT1515 Ursviken	Earthing resistor	11kV 3A 10s 1A cont. IP23		

Reference List - Earthing Resistors and Earthing Systems

Customer	Project/End user	Type	Data	Accessories	Quantity
<b>2012</b>					
ABB AB, Machines		Earthing system, single phase transformer+resistor	11kV 10A 10s primary IP54		1
ABB AB, Machines		Earthing system, single phase transformer+resistor	13,8kV		1
ABB AB, Machines	SHL-SUN	Earthing resistor	6,9kV 25A 10s 5A cont IP23		2
ABB AB, Machines		Earthing resistor	6,9kV 25A 10s 2A cont IP23	Current transformer	2
ABB AB, Machines	OXY M4	Earthing resistor	11kV 500A 10s IP23	Current transformer	2
ABB AB, Machines		Earthing resistor	11kV 20A 10s 4A cont. IP23	Current transformer	4
ABB AB, Machines		Earthing resistor	6,6kV 20A 10s IP54	Voltage transformer	1
ABB AB, Machines	XOM-BU	Earthing resistor	11kV 60A 10s 16,6A cont IP23	Double skin design, heater	6
ABB AB, Machines		Earthing resistor	11kV 10A 10s 2A cont IP55	Vacuum contactor+current transformer	1
ABB AB, Machines	Yanbu ERP	Earthing resistor	13,8kV 100A 10s IP55	Current transformer	1
ABB AB, Machines	APLNG	Earthing resistor	11kV 10A 10s IP55	Current transformer	7
ABB AB, Offshore Wind		Earthing resistor	10kV 20A 20S IP54	Vakuumpkontaktor+strömtrafo	2
ABB AB, Power Generation		Earthing resistor	13,8kV 10A 10s 1A cont IP00		1
ABB Oy, Process Automation		Earthing resistor	33kV 100A 10s IP23	Vacuum breaker+current transformer	1
ABB Oy, Process Automation		Earthing resistor	3,3kV 10A cont. IP23	Current transformer	2
ABB OY Power Generation System	Katim 5	Earthing resistor	11kV 400A 10s IP54	Current transformer	1
ABB OY Power Generation System		Earthing resistor	33kV 100A 10s IP54	2 current transformers	4
ABB Oy, Service		Earthing resistor	6,6kV 15A 10s IP54		2
Bravida Sverige AB		Earthing resistor	11kV 5A 10s IP54	2 vacuum contactors	1
Burmeister & Wain Scandinavian Contr. AS		Earthing resistor	11kV 25A 10s 2,5A cont IP22		1
Dong Energy Borkum Riffgrund 1		Earthing resistor	34kV 850A 5s IP23	2 current transformers	2
Elkamo Oy	Wärtsilä	Earthing resistor	20kV 100A 10s IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	10,5kV 5A 10s IP00		3
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 10A 10s IP00		1
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 10s IP00		4
Elkamo Oy	Wärtsilä	Earthing resistor	12,4kV 5A 10s IP00		2
Elkamo Oy	Wärtsilä	Earthing resistor	15kV 5A 10s IP00		47
Elkamo Oy	Wärtsilä	Earthing resistor	11kV 5A 30s IP00		1
Jernbro Industrial Services (Coor)	ABB AB Machines	Earthing resistor	11kV 10A 10s 2A cont. IP00		20
Jernbro Industrial Services (Coor)	ABB AB Machines	Earthing resistor	11kV 10A 10s 2A cont. IP00		2
JV West Of DuddonSands Wind Farm Project	Duddon Sands Wind Farm	Earthing resistor	34kV 1000A 5s IP23	2 current transformers	2
Mjölby-Svartådalens Energi		Earthing resistor	6,6kV 5A 10s 1,5A cont IP00		3
Semcon Sweden AB		Earthing resistor	3,3kV 1A 10s 0,3A cont IP00		1
Siemens AS		Earthing resistor	6,kV 10A 30s IP23	Current transformer	8
Siemens AS		Earthing resistor	6,6kV 10A 30s IP23	Current transformer	4
Siemens AS		Earthing resistor	11kV 10A 30s IP23	Current transformer	16
Siemens AS		Earthing system, single phase transformer+resistor	11kV 10A 10s primary IP54		1
Siemens Turbomachines		Earthing resistor	11kV 10A 10s IP54		1
Skellefteå Kraft		Earthing resistor	11kV 3A 10s 1A cont. IP23	Current transformer	1