

Motor Protective Circuit Breakers

by IEC 60947-4-1, DIN EN 60947-4-1, VDE 0660-102



IE3
READY

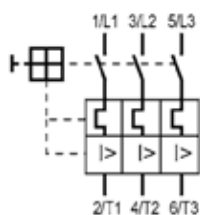


switch to Quality!

Motor Protective Circuit Breakers MS25

By IEC 60947-4-1, DIN EN 60947-4-1, VDE 0660-102

Our MS motor protective circuit breakers (MPCBs) offer optimal protection for motors and other loads up to 32 A, due to its high breaking capacity with strongly limited current. The new products of our MS series are IE3 compliant and therefore perfectly suitable for the safe operation of IE3 motors. They are equipped with main switch and disconnecting functions; 14 ranges are covering nominal rated currents from 0.1 up to 32 A. The MPCBs are self protected up to 6.3 A at 400 V. The ranges > 6.3 A provide a short circuit withstand rating of 6 kA. The MPCBs are temperature compensated; the actuating current of the short circuit trip is $15 \times I_n$.

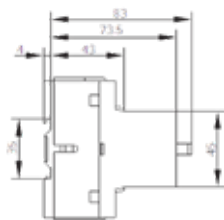
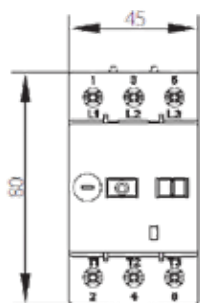


ITEM NO.	RATED CURRENT A	MAX. RATED OPERATING POWER (kW/AC 3)				OPERATING CURRENT SHORT CIRCUIT TRIP (A)	WEIGHT g/EACH	PU
		220 V	380 V	440 V	500 V			
		230 V	400 V		660 V			
		240 V	415 V		690 V			

MS with overload and short circuit tripping.

Phase failure sensitivity.

2513100000E	0,10 - 0,16		0,02			0,06	2,4	252	1
2513100100E	0,16 - 0,25		0,06	0,06	0,06	0,09	3,75	252	1
2513100200E	0,25 - 0,40	0,06	0,09	0,12	0,12	0,18	6	252	1
2513100300E	0,40 - 0,63	0,09	0,12	0,18	0,25	0,25	9,45	252	1
2513100400E	0,63 - 1,00	0,09...0,12	0,18...0,25	0,25	0,37	0,37...0,55	15	252	1
2513100500E	1,00 - 1,60	0,18...0,25	0,37...0,55	0,37...0,55	0,55...0,8	0,75...1,1	24	252	1
2513100600E	1,60 - 2,50	0,37	0,75...1,10	0,75...1,1	1,1	1,5	37,5	252	1
2513100700E	2,50 - 4,00	0,55...0,80	1,1...1,5	1,5	1,5...2,2	2,2...3,0	60	252	1
2513100800E	4,00 - 6,30	1,1...1,5	2,2...2,5	2,2...3,0	3	4	94,5	252	1
2513100900E	6,30 - 10,0	1,5...2,5	3...4	4...5	4,0...5,5	5,5...7,5	150	252	1
2513101000E	10 - 16	3...4	5...7,5	5,5...9,0	7,5...9,0	11	240	252	1
2513101100E	16 - 20	5,5	9	11	11...12,5	15	300	252	1
2513101200E	20 - 25	5,5...7,5	11...12,5	12,5	15	18,5	375	252	1
2513101300E	25 - 32	9	15	15	18,5		480	252	1



ITEM NO.	RATED ULTIMATE SHORT-CIRCUIT BREAKING CAPACITY I_{cu}				MAX. BACK-UP FUSE, IF $I_{cc} > I_{cu}$			
	230 V	400 V	500 V	690 V	230 V	400 V	500 V	690 V

2513100000E	50	50	50	50				
2513100100E	50	50	50	50				
2513100200E	50	50	50	50	No back-up fuse required			
2513100300E	50	50	50	50				
2513100400E	50	50	50	50				
2513100500E	50	50	50	50				
2513100600E	50	50	3	2,5			25	20
2513100700E	50	50	3	2,5			35	25
2513100800E	50	50	3	2,5			50	35
2513100900E	50	50	3	2,5		80	50	35
2513101000E	10	6	2,5	2	80	80	63	35
2513101100E	10	6	2,5	2	80	80	63	50
2513101200E	10	6	2,5	2	80	80	63	50
2513101300E	10	6	2,5	2	80	80	63	50

Accessories for Motor Protective Circuit Breakers MS25



ITEM NO.	Types	CONTACTS	WEIGHT g/EACH	PU
----------	-------	----------	---------------	----

Auxiliary contact for side mounting

2513103000E	PS10	1 NO	35	1
2513103100E	PS01	1 NC	35	1
2513103200E	PS11	1 NO + 1 NC	35	1
2513103300E	PS20	2 NO	35	1



Trip-indicating auxiliary contact block RS for inside mounting

2513103700E	RS10	1 NO	35	1
2513103800E	RS01	1 NC	35	1

Rated operating voltage U_e : 230 / 400 / 500 V
 Rated operating current I_e : 3,5 / 2 / 1,5 A



ITEM-NO.	RATED OPERATING VOLTAGE	WEIGHT g/EACH	PU
----------	-------------------------	---------------	----

Shunt trip for inside mounting with connecting cable (140 mm long)

2513104100E	110 V 50 Hz	62	1
2513104200E	230 V 50 Hz	62	1
2513104300E	400 V 50 Hz	62	1

UNDERVOLTAGE trip for inside mounting with connecting cable (140 mm lang)

2513104500E	110 V 50 Hz	62	1
2513104600E	230 V 50 Hz	62	1
2513104700E	400 V 50 Hz	62	1

INSULATED ENCLOSURES FOR MOTOR PROTECTIVE CIRCUIT BREAKERS O-55 / CP-55



INSULATED ENCLOSURE IP55

with integrated PE(N) terminal top and bottom each 2xM25 metric knock-outs

ITEM-NO.	WEIGHT g/EACH	PU
2513105100E	222	1

O-55



INSULATED FLUSH MOUNTING ENCLOSURE IP55

with integrated PE(N) terminal

ITEM-NO.	WEIGHT g/EACH	PU
2513105300E	150	1

CP-55

ACCESSORIES FOR INSULATED ENCLOSURE O-55 / CP-55



EMERGENCY-STOP BUTTON

latching, turn to release red, on yellow surface

with keylock

Key	Type	ITEM-NO.	WEIGHT g/EACH	PU
no	MS25-TR	2513106100E	40	1
ja	MS25-TS	2513106200E	40	1



PADLOCKING FACILITY

for up to three padlocks

Typ	ITEM-NO.	WEIGHT g/EACH	PU
MS25-V	2513106300E	95	1



INDICATOR LIGHT

with glow bulb
nominal rated voltage 250 V

COLOUR	Type	ITEM-NO.	WEIGHT g/EACH	PU
green	MS25-SSZ 250V	2513106800E	175	25
red	MS25-SSZ 250V	2513107000E	175	25
white	MS25-SSB 250V	2513106600E	175	25



INDICATOR LIGHT

with glow bulb
nominal rated voltage 400 V

COLOUR	Type	ITEM-NO.	WEIGHT g/EACH	PU
green	MS25-SSZ 400V	2513106900E	175	25
red	MS25-SSZ 400V	2513107100E	175	25
white	MS25-SSB 400V	2513106700E	175	25



Push-button diaphragm

Type	ITEM-NO.	WEIGHT g/EACH	PU
MS25-IP55	2513106400E	12	1

Max. assembly of insulated enclosures

ITEM-NO.	MS	HMS	AM/UM/EHM	M-PV/M-VS	M-SLG
2513105100E	1	2	1	1	1
2513105300E	1	2	1	1	1



Accessories for Motor Protective Circuit Breakers MS25



DESCRIPTION	Max. BUSBAR CURRENT(A)	LENGTH	ITEM-NO.	WEIGHT g/EACH	PU
BUSBARS					
MS25-SA2 for 2 MPCBs without auxiliary contacts	63	80 mm	2513109000E	26	10
MS25-SA3 for 3 MPCBs without auxiliary contacts	63	125 mm	2513109001E	48	10
MS25-SA5 for 5 MPCBs without auxiliary contacts	63	215 mm	2513109011E	90	10
MS25-SA2-HR for 2 MPCBs each without 1 auxiliary contact fitted on the right side	63	85 mm	2513109003E	28	10
MS25-SA3-HR for 3 MPCBs each without 1 auxiliary contact fitted on the right side	63	135 mm	2513109004E	51	10
MS25-SA4-HR for 4 MPCBs each without 1 auxiliary contact fitted on the right side	63	185 mm	2513109005E	73	10
MS25-SA5-HR for 5 MPCBs each without 1 auxiliary contact fitted on the right side	63	233 mm	2513109006E	101	10
MS25-SA2-2H for 2 MPCBs each with 2 auxiliary contact	63	90 mm	2513109007E	30	10
MS25-SA3-2H for 3 MPCBs each with 2 auxiliary contact	63	145 mm	2513109012E	54	10
MS25-SA4-2H for 4 MPCBs each with 2 auxiliary contact	63	200 mm	2513109008E	78	10
MS25-SA5-2H for 5 MPCBs each with 2 auxiliary contact	63	250 mm	2513109013E	111	10



Incoming terminal block					
	63		2513109009E	30	10



Shroud					
			2513109010E	5	10

ISO-Enclosure CM.7100 with Motor protective circuit breakers MS

■ Iso-Enclosure CM.7100 with MPCB - with CEE device plug 16A, 3P+N+PE, 400V 6h



2102110000E	CM.7100 / 0,4	
2102120000E	CM.7100 / 0,63	
2102130000E	CM.7100 / 1,0	
2102140000E	CM.7100 / 1,6	
2102150000E	CM.7100 / 2,5	
2102160000E	CM.7100 / 4,0	
2102170000E	CM.7100 / 6,3	
2102180000E	CM.7100 / 10	
2102190000E	CM.7100 / 16	

with undervoltage release 400V 50Hz

2102310000E	CM.7100 / 0,4 / U400	
2102320000E	CM.7100 / 0,63 / U400	
2102330000E	CM.7100 / 1,0 / U400	
2102340000E	CM.7100 / 1,6 / U400	
2102350000E	CM.7100 / 2,5 / U400	
2102360000E	CM.7100 / 4,0 / U400	
2102370000E	CM.7100 / 6,3 / U400	
2102380000E	CM.7100 / 10 / U400	
2102390000E	CM.7100 / 16 / U400	

with undervoltage release 230V 50Hz

2107770000E	CM.7100 / 0,4 / U230 / N	
2102760000E	CM.7100 / 0,63 / U230 / N	
2102750000E	CM.7100 / 1,0 / U230 / N	
2102420000E	CM.7100 / 1,6 / U230 / N	
2102480000E	CM.7100 / 2,5 / U230 / N	
2102490000E	CM.7100 / 4,0 / U230 / N	
2102500000E	CM.7100 / 6,3 / U230 / N	
2102510000E	CM.7100 / 10 / U230 / N	
2102520000E	CM.7100 / 16 / U230 / N	

Types breakdown

CM.7100	Iso-Enclosure with CEE device plug	/ V	lockout handle
CM.8000	Iso-Enclosure without CEE device plug	/ TR	Emergency-Stop Button latching
/ N	Neutral conductor	/ U230	undervoltage release 230V 50 Hz
/ PH	Phase inverter plug	/ U400	undervoltage release 400V 50 Hz
/ PH-V	Phase inverter plug /lockout handle		

ISO-Enclosure CM.7100 with Motor protective circuit breakers MS

■ Iso-Enclosure CM.7100 with MPCB - with CEE device plug 16A, 3P+N+PE, 400V 6h and Emergency-Stop Button latching



2104110000E	CM.7100 / 0,4 / TR
2104120000E	CM.7100 / 0,63 / TR
2104130000E	CM.7100 / 1,0 / TR
2104140000E	CM.7100 / 1,6 / TR
2104150000E	CM.7100 / 2,5 / TR
2104160000E	CM.7100 / 4,0 / TR
2104170000E	CM.7100 / 6,3 / TR
2104180000E	CM.7100 / 10 / TR
2104190000E	CM.7100 / 16 / TR

with CEE-Phase inverter device plug 16A, 3P+N+PE, 400V 6h

2104210000E	CM.7100 / 0,4 / PH / TR
2104220000E	CM.7100 / 0,63 / PH / TR
2104230000E	CM.7100 / 1,0 / PH / TR
2104240000E	CM.7100 / 1,6 / PH / TR
2104250000E	CM.7100 / 2,5 / PH / TR
2104260000E	CM.7100 / 4,0 / PH / TR
2104270000E	CM.7100 / 6,3 / PH / TR
2104280000E	CM.7100 / 10 / PH / TR
2104290000E	CM.7100 / 16 / PH / TR

with undervoltage release 400V 50Hz

2103510000E	CM.7100 / 0,4 / U400 / TR
2103520000E	CM.7100 / 0,63 / U400 / TR
2103530000E	CM.7100 / 1,0 / U400 / TR
2103540000E	CM.7100 / 1,6 / U400 / TR
2103550000E	CM.7100 / 2,5 / U400 / TR
2103560000E	CM.7100 / 4,0 / U400 / TR
2103570000E	CM.7100 / 6,3 / U400 / TR
2103580000E	CM.7100 / 10 / U400 / TR
2103590000E	CM.7100 / 16 / U400 / TR

with CEE-Phase inverter device plug and undervoltage release 400V 50Hz

2104310000E	CM.7100 / 0,4 / U400 / PH / TR
2104320000E	CM.7100 / 0,63 / U400 / PH / TR
2104330000E	CM.7100 / 1,0 / U400 / PH / TR
2104340000E	CM.7100 / 1,6 / U400 / PH / TR
2104350000E	CM.7100 / 2,5 / U400 / PH / TR
2104360000E	CM.7100 / 4,0 / U400 / PH / TR
2104370000E	CM.7100 / 6,3 / U400 / PH / TR
2104380000E	CM.7100 / 10 / U400 / PH / TR
2104390000E	CM.7100 / 16 / U400 / PH / TR

with undervoltage release 230V 50Hz

2103910000E	CM.7100 / 0,4 / U230 / N / TR
2102900000E	CM.7100 / 0,63 / U230 / N / TR
2102910000E	CM.7100 / 1,0 / U230 / N / TR
2102920000E	CM.7100 / 1,6 / U230 / N / TR
2102930000E	CM.7100 / 2,5 / U230 / N / TR
2102940000E	CM.7100 / 4,0 / U230 / N / TR
2102950000E	CM.7100 / 6,3 / U230 / N / TR
2102960000E	CM.7100 / 10 / U230 / N / TR
2102970000E	CM.7100 / 16 / U230 / N / TR

ISO-Enclosure CM.7100 with Motor protective circuit breakers MS

■ Iso-Enclosure CM.7100 /.. -PH-V with MPCB - with CEE device plug 16A, 3P+N+PE, 400V 6h and lockout padlock



2103010000E	CM.7100 / 0,4 / V
2103020000E	CM.7100 / 0,63 / V
2103030000E	CM.7100 / 1,0 / V
2103040000E	CM.7100 / 1,6 / V
2103050000E	CM.7100 / 2,5 / V
2103060000E	CM.7100 / 4,0 / V
2103070000E	CM.7100 / 6,3 / V
2103080000E	CM.7100 / 10 / V
2103090000E	CM.7100 / 16 / V

with undervoltage release 400V 50Hz

2103110000E	CM.7100 / 0,4 / U400 / V
2103120000E	CM.7100 / 0,63 / U400 / V
2103130000E	CM.7100 / 1,0 / U400 / V
2103140000E	CM.7100 / 1,6 / U400 / V
2103150000E	CM.7100 / 2,5 / U400 / V
2103160000E	CM.7100 / 4,0 / U400 / V
2103170000E	CM.7100 / 6,3 / U400 / V
2103180000E	CM.7100 / 10 / U400 / V
2103190000E	CM.7100 / 16 / U400 / V

■ Iso-Enclosure CM.7100 /.. -PH-V with MPCB - with CEE-Phase inverter device plug 16A, 3P+N+PE, 400V 6h and lockout padlock



2103210000E	CM.7100 / 0,4 / PH-V
2103220000E	CM.7100 / 0,63 / PH-V
2103230000E	CM.7100 / 1,0 / PH-V
2103240000E	CM.7100 / 1,6 / PH-V
2103250000E	CM.7100 / 2,5 / PH-V
2103260000E	CM.7100 / 4,0 / PH-V
2103270000E	CM.7100 / 6,3 / PH-V
2103280000E	CM.7100 / 10 / PH-V
2103290000E	CM.7100 / 16 / PH-V

with undervoltage release 400V 50Hz

2103310000E	CM.7100 / 0,4 / U400 / PH-V
2103320000E	CM.7100 / 0,63 / U400 / PH-V
2103330000E	CM.7100 / 1,0 / U400 / PH-V
2103340000E	CM.7100 / 1,6 / U400 / PH-V
2103350000E	CM.7100 / 2,5 / U400 / PH-V
2103360000E	CM.7100 / 4,0 / U400 / PH-V
2103370000E	CM.7100 / 6,3 / U400 / PH-V
2103380000E	CM.7100 / 10 / U400 / PH-V
2103390000E	CM.7100 / 16 / U400 / PH-V



Housing ISO-Enclosure CM.7100 and DM.8000

■ Housing - Iso-Enclosure CM.7100 with CEE device plug 16A, 3P+N+PE, 400V 6h



CM.7100 with CEE device plug

210200000E	Enclosure
2102010000E	Enclosure with neutral conductor
2102020000E	Enclosure with CEE-Phase inverter and neutral conductor
2102040000E	Enclosure with Emergency-Stop Button latching
2102060000E	Enclosure with lockout padlock



■ Housing - Iso-Enclosure DM.8000 without CEE device plug



DM.8000 without CEE device plug

210220000E	Enclosure
2102220000E	Enclosure with Emergency-Stop Button latching
2102240000E	Enclosure with lockout padlock
2102250000E	Enclosure with neutral conductor



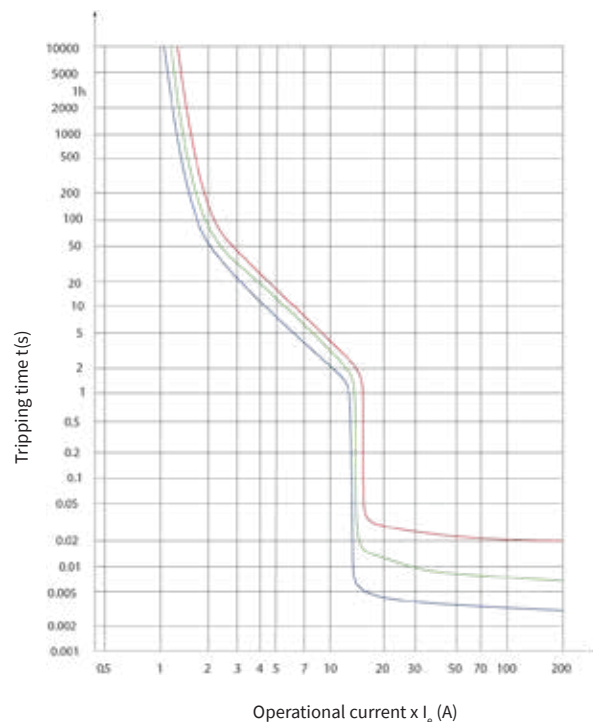
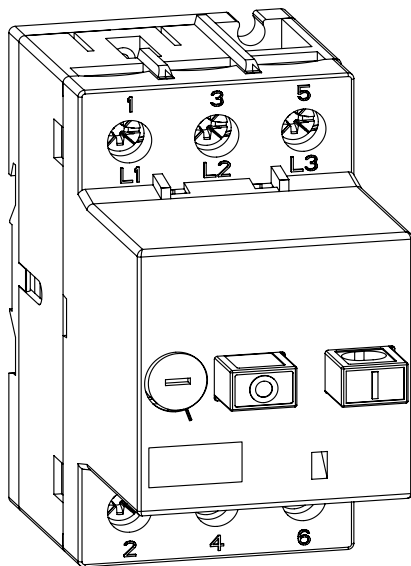
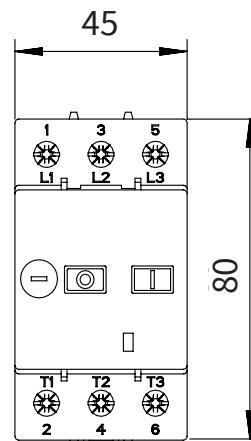
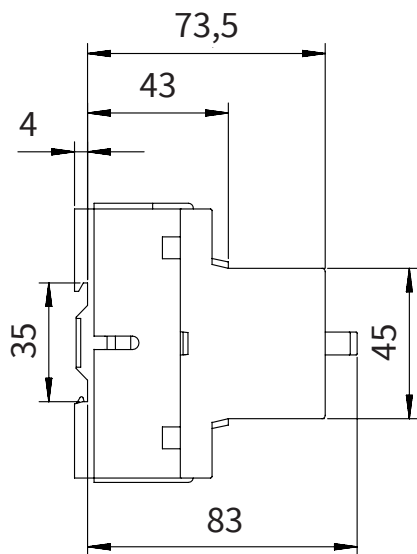
Motor protective circuit breakers MS25 - Dimensions in mm

Motor protective circuit breakers MS (MPCB)

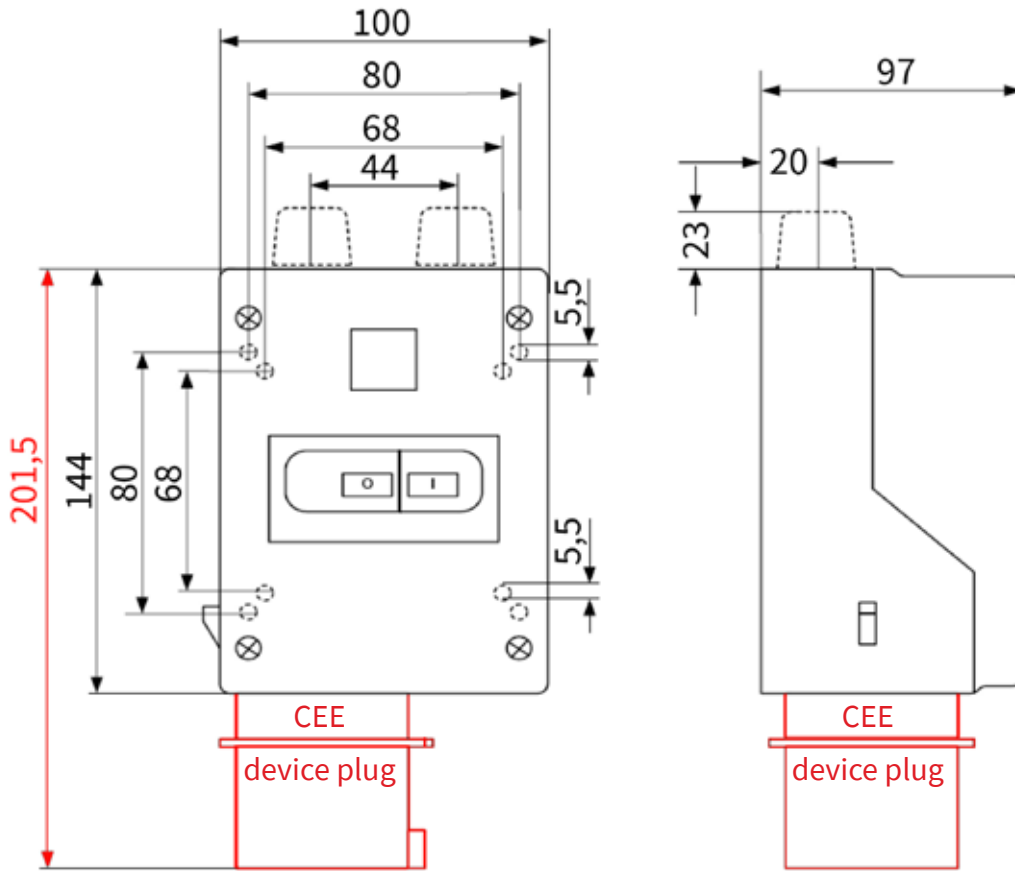
Our MS motor protective circuit breakers (MPCBs) offer optimal protection for motors and other loads up to 32 A, due to its high breaking capacity with strongly limited current.

The new products of our MS series are IE3 compliant and therefore perfectly suitable for the safe operation of IE3 motors. They are equipped with main switch and disconnecting functions; 14 ranges are covering nominal rated currents from 0.1 up to 32 A. The MPCBs are self protected up to 6.3 A at 400 V.

The ranges > 6.3 A provide a short circuit withstand rating of 6 kA. The MPCBs are temperature compensated; the actuating current of the short circuit trip is $15 \times I_n$.



ISO-Enclosure CM.7100 and DM.8000 - Dimensions in mm



CM.7100



DM.8000



ISO-Enclosure DM.8000 Dimensions in >black<,
ISO-Enclosure CM.7100 with CEE device plug Dimensions in >black and red<.



How we work

Technically sound solutions
customized requirements.

www.merz-schaltgeraete.de

Any questions?

We also find for your project the
right switch.

Contact us.

Telefon +49 (0) 7971 252-252
www.merz-schaltgeraete.de

MERZ Schaltgeräte GMBH + CO KG

Kernerstraße 15
D-74405 Gaildorf

Telefon +49 (0) 7971 252-252
Fax +49 (0) 7971 252-351

info@merz-schaltgeraete.de
www.merz-schaltgeraete.de



Switch to Quality!