EM-680N AC

SECURE SERIES

- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP66
- YEARS OF WARRANTY: 2
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 12.53 KG

The connection switchgear from Polish producer EMITER is designed to power photovoltaic inverters in grounded and isolated photovoltaic installations. It realizes protection against the effects of short circuits and overloads, as well as protection against the effects of direct and indirect discharges on the AC side. Due to the high degree of IP protection, outdoor installation is possible. The design of the switchgear is intended for surface mounting. Depending on the equipment, switchboards can perform various functions.

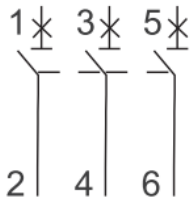
BASIC PARAMETERS AC SIDE	
AC Surge Protector | Type	Noark | T1/T2
Overcurrent circuit breaker	Noark B100A 3F
FR switch disconnector	100A
Phase signaling	YES

ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING	
Model	GW-IP66
The number of modules	54
Dimensions of housing without chokes and MC4 (Length|Width|Height)	210.00 | 495.00 | 500.00
Design in accordance with	EN 61439-1, EN 61439-2, EN62208, EN 60670-1, IEC 60670-24
Level of security	IP66
Protection class	II
Rated insulation voltage U_i	1000 V in accordance with the standard EN 62208 both for alternating current (AC), as well as direct (DC)
The incandescent rod test	960°C
Impact resistance	IK10

UV resistance	UV resistance (EN 62208)
Operating Temperature °C	-25 +60 °C
Material	Glass fibre reinforced polyester

Overcurrent circuit breaker used (MCB) (1)

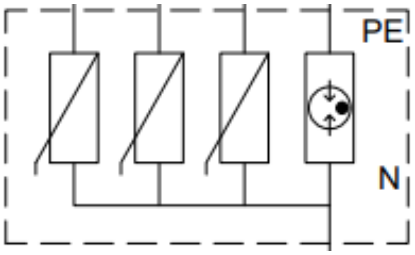
Manufacturer / Model	Noark / Ex9BN 3P B100
Rated current	100A; 3-F
Rated operational voltage U_e	230/415 V AC
-	72 V DC to the pole (1P, 2P)
-	48 V DC to the pole (3P, 4P)
Minimum voltage	12 V AC/DC
Rated impulse withstand voltage U_{imp} in accordance with IEC 60898-1	6 kV
Rated impulse withstand voltage U_{imp} in accordance with IEC 60947-2	6 kV
Rated short-circuit breaking capacity I_{cn} in accordance with IEC 60898-1	6 kA
Rated short-circuit breaking capacity I_{cn} in accordance with IEC 60947-2	10 kA
Rated voltage of the insulation U_i	690 V AC
Number of poles	3
Frequency	50/60 Hz
Characteristic	B
Design in accordance with	IEC/EN 60898-1, IEC/EN 60947-2
Mechanical durability	20 000 connections
Electrical durability	10 000 connections
Energy limitation class	3
Category of use	A
Feed direction	Any (top or bottom)



Overvoltage limiter used AC (SPD)

Manufacturer / Model	Noark Ex9UE1+2 12.5 3PN 275

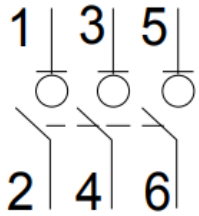
Connection	L-N/PE	N-PE
Made in accordance with	EN 61643-11	
Type of delimiter	Typee 1+2 (klasa I+II, B+C, T1+T2)	
Making the insert	MOV (Warystor)GDT (Iskiernik)	
Rated voltage U_n	230 V AC	
Reference test voltage U_{REF}	255 V AC	
Continuous working voltage U_c	275 V AC	255 V AC
Frequency f	25 kA to the pole	50 kA to the pole
Specific energy W/R	156.25 kJ/Ω	
Maximum impulse current I_{imp} (10/350 µs)	12.5 kA to the pole	50 kA to the pole
Maximum discharge current I_{max} (8/20 µs)	50 kA to the pole	
Voltage protection level U_p for electricity I_n	1.5 kV	1.5 kV
Voltage protection level U_p for electricity I_{max}	1.8 kV	1.5 kV
Voltage protection level U_p dla 5 kA (8/20 µs)	1 kV	-
N-PE Follow current extinguishing capability I_{fi}	-	100 A
5 s	335 V	335 V
200 ms	335 V	1200 V
Residual current I_{PE} by U_{REF}	≤ 1 mA	-
Limiter voltage for current 1mA	387 - 473 V	
Response time	≤ 25 ns	≤ 100 ns
Maximum fuse protection	160 A gG	-
Ability to withstand short-circuit current	50kA	-
Short-circuit withstand I_{SCCR}	10kA	-
Current factor k	1kA	-
Type of system LV	TN-S, TT (3+1)	



Switch disconnector used

Model	Ex9I125 3P 100A
Design in accordance with	IEC/EN 60947-3
Rated operational voltage U_e	230/400 V AC

Frequency	50/60 Hz
Rated current Ie AC-22A 230/400 V AC	100
Number of poles	3
Category of use	AC-22A
Rated voltage of the insulation U_i	500 V
Rated impulse withstand voltage U_{imp}	6 kV
Rated short-time withstand current I_{cw}, 1s	12 x Ie
Rated short-circuit making current I_{cm} (wartość szczytowa)	2500 A
Maximum fuse protection	160 A gG
Mechanical durability	20 000 connections
Electrical durability	4 000 connections



Phase indicator used

Model	Ex9PDe
Made in accordance with	EN 60947-5-1
Rated operational voltage U_e	24/48 DC 240 V AC
Rated current Ie	≤20mA / LED
Conventional thermal current in open space I_n	20 mA
Frequency f	50 Hz
Rated voltage of the insulation U_i	500V
Rated voltage impact resistance U_{imp}	4kV
Electrical durability	≥30 000 work hours
Diode luminance	≥ 40 cd/m2