

## EM-99N AC

#### STANDARD SERIES



DESIGN: MODULAR

DEGREE OF PROTECTION: IP65

YEARS OF WARRANTY: 5

UV RESISTANCE: YES

READY TO CONNECT: YES

WEIGHT: 2.48 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 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 | T2

Overcurrent circuit breaker

Noark B25A 3F

### ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

Model	PHS 12 T
Number of fields	12
Dimensions of housing without chokes and MC4 (Length Width Height)	144.00   259.00   325.00
Design in accordance with	EN 60670-1, EN 62208
Level of security	IP65
Protection class	II
Rated insulation voltage U <sub>i</sub>	400 V AC, 1500 V DC
The incandescent rod test	650°C
Impact resistance	IK08
UV resistance	YES
Recyclable plastic	bezhalogenowy
Working temperature	-25ºC - +60ºC



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Manufacturer / ModelNoark / Ex9BN 3 PB 25Rated current25A; 3-FRated operational voltage Ue230/415 V AC- 72 V DC to the pole (1P, 2P)- 18 V DC to the pole (1P, 2P)Minimum voltage12 V AC/DCRated impulse withstand voltage U <sub>imp</sub> in accordance with IEC 60898-16 kVRated impulse withstand voltage U <sub>imp</sub> in accordance with IEC 608947-26 kVRated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60947-26 kVRated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60947-26 kVRated voltage of the insulation U <sub>i</sub> 690 V ACNumber of poles3Frequency50/60 HzCharacteristicBDesign in accordance withIEC/EN 60898-1, IEC/EN 60947-2Mechanical durability20 000 connectionsElectrical durability10 000 connectionsEnergy limitation class3Category of useAFeed directionAny (top or bottom)	Overcurrent circuit breaker used (MCB) (1)				
Rated operational voltage Ue 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 <sub>imp</sub> in accordance with IEC 60898-1  Rated impulse withstand voltage U <sub>imp</sub> in accordance with IEC 60898-1  Rated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60898-1  Rated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60947-2  Rated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60947-2  Rated short-circuit breaking capacity I <sub>cn</sub> in accordance with IEC 60947-2  Rated voltage of the insulation U <sub>i</sub> 690 V AC  Number of poles 3  Frequency 50/60 Hz  Characteristic Besign in accordance with IEC/EN 60898-1, IEC/EN 60947-2  Mechanical durability 20 000 connections Electrical durability 10 000 connections Electrical durability 10 000 connections Energy limitation class 3  Category of use 150/60 Hz  Ategory of	Manufacturer / Model	Noark / Ex9BN 3P B25			
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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		10 kA			
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	Rated voltage of the insulation $U_{\rm i}$	690 V AC			
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	Number of poles	3			
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	Frequency	50/60 Hz			
Mechanical durability 20 000 connections Electrical durability 10 000 connections Energy limitation class 3 Category of use A	Characteristic	В			
Electrical durability 10 000 connections Energy limitation class 3 Category of use A	Design in accordance with	IEC/EN 60898-1, IEC/EN 60947-2			
Energy limitation class 3 Category of use A	Mechanical durability	20 000 connections			
Category of use A	Electrical durability	10 000 connections			
	Energy limitation class	3			
Feed direction Any (top or bottom)	Category of use	А			
	Feed direction	Any (top or bottom)			

Overvoitage	limiter used AC (SPD)			
Manufacturer / Model	Noark Ex9UE2	Noark Ex9UE2 20 3PN 275		
Connection	L-N/PE	N-PE		
Made in accordance with	EN 6164	EN 61643-11		
Type of delimiter	Typee 2 (klas	Typee 2 (klasa II, C, T2)		
Making the insert	MOV (Warystor)	GDT (Iskiernik)		
Rated voltage U <sub>n</sub>	230 / 400	230 / 400 V AC		
Reference test voltage U <sub>REF</sub>	255 V	255 V AC		
Continuous working voltage $U_{\text{c}}$	275 V AC	255 V AC		
Frequency f	50/60	50/60 Hz		
Nominal discharge current $I_n$ (8/20 $\mu$ s)	20 kA to the pole	40 kA to the pole		



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Maximum impulse current $I_{imp}$ (10/350 $\mu$ s)	-	12 kA to the pole
Maximum discharge current $I_{max}$ (8/20 $\mu$ s)	40 kA to the pole	
Voltage protection level $\boldsymbol{U}_{p}$ for electricity $\boldsymbol{I}_{n}$	1.4 kV	1.5 kV
Voltage protection level $\boldsymbol{U}_{p}$ for electricity $\boldsymbol{I}_{max}$	2 kV	1.5 kV
Voltage protection level $U_{p}$ dla 5 kA (8/20 $\mu$ s)	1 kV	-
N-PE Follow current extinguishing capability $I_{\rm fi}$	-	100 A
Occasional surges U <sub>t</sub> (paused)	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	125 A gG	-
Ability to withstand short-circuit current	50kA	-
Short-circuit withstand I <sub>SCCR</sub>	10kA	-
Current factor k	1	kA
Type of system LV	TN-S, T	TT (3+1)

