EM-831N DCAC

STANDARD SERIES

- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- **UV RESISTANCE: YES**
- **READY TO CONNECT: YES**
- **WEIGHT: 2.24 KG**

The connection panel is intended for supplying power to photovoltaic inverters., Protections against short circuits and overloads., It also ensures protection against the effects and direct on the alternating and direct current sides. The distribution board should be used in grounded and isolated photovoltaic installations. 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 DC SIDE	
Number of inputs | PV string outputs	1 | 1
Quantity | Type of DC surge arrester | Type	1 | Noark | T1/T2
Connection type	Array MC4 Stäubli

BASIC PARAMETERS AC SIDE	
AC Surge Protector | Type	Noark | T1/T2
Overcurrent circuit breaker	Noark B16A 1F

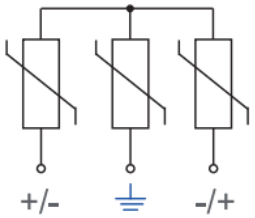
ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING	
Model	PHS 8 T
Number of fields	8
Dimensions of housing without chokes and MC4 (Length|Width|Height)	120.00 | 201.00 | 205.00
Design in accordance with	EN 60670-1, EN 62208
Level of security	IP65
Protection class	II

Rated insulation voltage U_i	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

DC surge arrester used (SPD)

Manufacturer / Model	Noark Ex9UEP1+2 6.25(R) 3P 1000
Made in accordance with	EN 61643-31
Surge protection	PV T1+T2 (Klasa I+II, B+C, Typ 1+2)
Making the insert	MOV (Warystor)
Protection function	thermal
Protection mode	+ → PE
-	− → PE
-	+ ↔ -
Maximum continuous operating voltage U_{CPV}	
+ → PE, − → PE	1000 V
+ ↔ -	1000 V
Frequency	DC
Nominal discharge current I_n (8/20 µs)	20 kA
Maximum discharge current I_{max} (8/20 µs)	40 kA
Surge current I_{imp} (10/350 µs)	
+ → PE, − → PE	6.25 kA
+ ↔ -	6.25 kA
Voltage protection level U_p by I_n	
+ → PE, − → PE	3.8 kV
+ ↔ -	3.8 kV
Leakage current I_{PE} by U_{REF} DC	< 50 µA
Leakage current I_{PE} by U_{REF} AC	< 1 mA
Maximum short-circuit current I_{SCPV}	1000 As
Number of ports	1
LV system type	DC, nieuziemiony system PV
Auxiliary contact (optional)	1 przemienny (CO)
Auxiliary contact, voltage / current	

AC U_{max} / I_{max}	250 V AC / 1 A
DC U_{max} / I_{max}	250 V DC / 0.1 A; 75 V DC / 0.5 A
Connection configuration	Y



Overcurrent circuit breaker used (MCB) (1)

Manufacturer / Model	Noark / Ex9BN 1P B16
Rated current	16A; 1-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	1
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)

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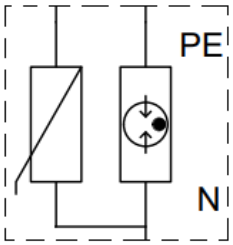
Overvoltage limiter used AC (SPD)		
Manufacturer / Model	Noark Ex9UE1+2 12.5 1PN 275	
Connection	L-N/PE	
Made in accordance with	EN 61643-11	
Type of delimiter	Typee 1+2 (klasa I+II, B+C, T1+T2)	
Making the insert	MOV (Warystor)GDT (Iskiernik)	
Rated voltage U_n	230 V AC	
Reference test voltage U_{REF}	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 (1+1)	


PE
N