



- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- YEARS OF WARRANTY: 5
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 2.72 KG



The connection panel from the Polish manufacturer EMITER is intended for supplying power to photovoltaic inverters., protects against the effects of short circuits and overloads, It also ensures protection against the effects 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   T2
Connection type	Array MC4 Stäubli

### BASIC PARAMETERS AC SIDE

AC Surge Protector   Type	Noark   T2
Overcurrent circuit breaker	Noark B10A 1F
Residual current circuit breaker	1 x 100mA type A

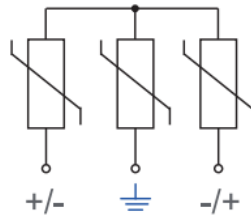
### ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

Model	PHS 12 T
Number of fields	12
Dimensions of housing without chokes and MC4 (Length Width Height)	144.00   259.00   319.00
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	-25°C - +60°C

### DC surge arrester used (SPD)

Manufacturer / Model	Noark Ex9UEP 20(R) 3P 1000
Made in accordance with	EN 50539-11
Surge protection	T2 (klasa II, C, T2)
Making the insert	MOV (Warystor)
Rated operational voltage $U_n$	1000 V
Maximum continuous operating voltage $U_{CPV} + \rightarrow PE, - \rightarrow PE + \leftrightarrow -$	1000 V
Maximum open circuit voltage $U_{OC} \max$	905 V
Frequency	DC
Nominal discharge current $I_n$ (8/20 $\mu$ s)	20 kA
Maximum discharge current $I_{max}$ (8/20 $\mu$ s)	40 kA
Total discharge current $I_{total}$ (8/20 $\mu$ s)	40 kA
Voltage protection level $U_p$ by $I_n + \rightarrow PE, - \rightarrow PE + \leftrightarrow -$	3.8 kV
Leakage current $I_{PE}$ by $U_{REF}$ DC	< 50 $\mu$ A
Leakage current $I_{PE}$ by $U_{REF}$ AC	< 1 mA
Maximum short-circuit current $I_{SCPV}$	1000 As



### Overcurrent circuit breaker used (MCB) (1)

Manufacturer / Model	Noark / Ex9BN 1P B10
Rated current	10A; 1-F
Rated operational voltage $U_e$	230/415 V AC

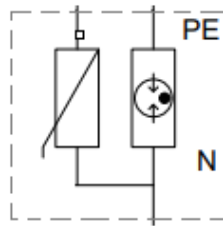
-	72 V DC to the pole (1P, 2P)
-	48 V DC to the pole (3P, 4P)
Minimum voltage	12 V AC/DC
Rated impulse withstand voltage $U_{imp}$ in accordance with IEC 60898-1	6 kV
Rated impulse withstand voltage $U_{imp}$ in accordance with IEC 60947-2	6 kV
Rated short-circuit breaking capacity $I_{cn}$ in accordance 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)



### Overvoltage limiter used AC (SPD)

Manufacturer / Model	Noark Ex9UE2 20 1PN 275	
Connection	L-N/PE	N-PE
Made in accordance with	EN 61643-11	
Type of delimiter	Typee 2 (klasa II, C, T2)	
Making the insert	MOV (Warystor)	GDT (Iskiernik)
Rated voltage $U_n$	230 / 400 V AC	
Reference test voltage $U_{REF}$	255 V AC	
Continuous working voltage $U_c$	275 V AC	255 V AC
Frequency $f$	50/60 Hz	
Nominal discharge current $I_n$ (8/20 $\mu$ s)	20 kA to the pole	40 kA to the pole

Maximum impulse current $I_{imp}$ (10/350 $\mu$ s)	-	40 kA to the pole
Maximum discharge current $I_{max}$ (8/20 $\mu$ s)		40 kA to the pole
Voltage protection level $U_p$ for electricity $I_n$	1.4 kV	1.5 kV
Voltage protection level $U_p$ for electricity $I_{max}$	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 $I_{fi}$	-	100 A
Occasional surges $U_t$ (paused)	335 V	1200 V
Residual current $I_{PE}$ by $U_{REF}$	$\leq 1$ mA	-
Limiter voltage for current 1mA	387 - 473 V	-
Response time	$\leq 25$ ns	$\leq 100$ ns
Maximum fuse protection	125 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)



### Residual current circuit breaker used (RCD)

Manufacturer / Model	Noark / Ex9L-N 100mA
Made in accordance with	EN 61008
Number of fields	2 / 4
Characteristic	A
Rated operational voltage $U_e$	240/415 V AC
Rated current	40 / 63 A
Minimum voltage for the RCD function	Independence from tension
Voltage range for test button	150 — 440 V
Frequency f	50 Hz
Rated voltage of the insulation $U_i$	500 V
Conditional rated short-circuit current $I_{nc}$	6 kA
Rated residual current $\Delta n$	100mA
Tenderness	sensitive to residual sinusoidal current, rectified pulsed and smooth, high frequency (1 kHz)

Response time	immediate
Rated impulse withstand voltage $U_{imp}$	6 kV
Shock resistance	3000 A
Mechanical durability	20 000 connections
Electrical durability	4 000 connections
Maximum fuse protection against overload	
$I_n = 40$ A	32 A gG
$I_n = 63$ A	50 A gG
Maximum fuse protection against short-circuit effects	
$I_n = 40$ A	63 A gG
$I_n = 63$ A	63 A gG
Rated making and breaking capacity $I_m$ $I_m$	
$I_n = 40$ A	500 A
$I_n = 63$ A	630 A
Feed direction	Any (top or bottom)

