



- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- YEARS OF WARRANTY: 5
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 5.570 KG



The connection panel from the Polish manufacturer KENO is intended for supplying power to photovoltaic inverters., Protections against short circuits and overloads., It provides overcurrent protection on the direct current side., 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	2 2
Quantity Type of DC surge arrester Type	2 Phoenix T1/T2
Overcurrent protection	4 x 15A gPV
Connection type	Array MC4 Stäubli

BASIC PARAMETERS AC SIDE

AC Surge Protector Type	Noark T1/T2
Overcurrent circuit breaker	Noark B6A 3F
Phase signaling	YES

ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

Model	PHS 24 T
Number of fields	24
Dimensions of housing without chokes and MC4 (Length Width Height)	144.00 319.00 384.00

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

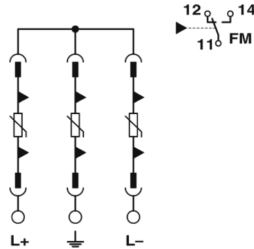
DC surge arrester used (SPD)

Manufacturer / Model	PHOENIX/VAL-MS-T1/T21000DC-PV/2+V
Surge protection	T1 / T2
Idle voltage U_{OCSTC}	≤ 975 V DC
Maximum discharge current I_{max} (8/20) μs	40 kA
Response time t_A	≤ 25 ns
Testing lightning current (10/350) μs , ładunek	2,5 As
Testing lightning current (10/350) μs , energia specyficzna	6,25 kJ/Ω
Test lightning current (10/350) μs , wartość szczytowa I_{imp}	5 kA
Total current discharged I_{total} (8/20) μs	40 kA
Total current discharged I_{total} (10/350) μs	5 kA
Insulation resistance R_{iso}	> 5 GΩ (by 500 V DC)
Nominal discharge current I_n (8/20) μs	15 kA
Rated load current I_L	80 A
Long-term operating current I_{CPV}	< 20 μA
Maximum permanent voltage U_{CPV}	1170 V DC
Short circuit resistant I_{SCPV}	2000 A
Residual voltage U_{res}	$\leq 3,5$ kV (by I_n)
-	$\leq 2,9$ kV (by 5 kA)
-	$\leq 3,2$ kV (by 10 kA)
-	$\leq 3,7$ kV (by 20 kA)
-	$\leq 4,1$ kV (by 30 kA)
-	$\leq 4,6$ kV (by 40 kA)
Current of the protective conductor I_{pE}	≤ 20 μA DC
-	≤ 350 μA AC

Protection level U_p $\leq 3,5$ kV

Power consumption in standby mode P_c ≤ 25 mVA

Connection configuration Configuration Y



Overcurrent circuit breaker used (MCB) (1)

Manufacturer / Model Noark / Ex9BN 3P B6

Rated current 6A; 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

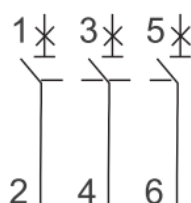
Mechanical durability 20 000 connections

Electrical durability 10 000 connections

Energy limitation class 3

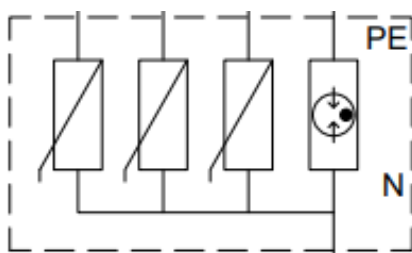
Category of use A

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)	



Overcurrent protection applied gPV DC

Model	10X38 1000V gPV 15A
Characteristic	gPV
Rated current	15A
Rated voltage	1000V DC
fuse	10,3 x 38 mm

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 I_e	$\leq 20\text{mA}$ / 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	$\geq 30\,000$ work hours
Diode luminance	$\geq 40\text{ cd/m}^2$

