



- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP66
- YEARS OF WARRANTY: 5
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 11.940 KG



The connection switchgear from Polish producer KENO 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	Phoenix T1/T2
Overcurrent circuit breaker	Noark B80A 3F
Residual current circuit breaker	1 x 300mA type 0

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)	210.00 400.00 500.00
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 B80

Rated current

80A; 3-F

Rated operational voltage U_e

230/415 V AC

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72 V DC to the pole (1P, 2P)

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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

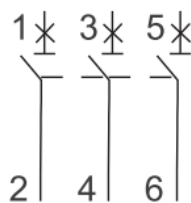
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Category of use

A

Feed direction

Any (top or bottom)



Overvoltage limiter used AC (SPD)

Manufacturer / Model

Phoenix / VAL-MS-T1/T2 335/12.5/3+1

Made in accordance with

EN 61643-11 / IEC 61643-11

Test class IEC	I / II, T1 / T2
Type EN	T1 / T2
Power system IEC	TT, TN-S
Number of poles	4
Protective tracks	L-N, L-PE, N-PE
Direction of action	3L-N & N-PE
Rated voltage U_n	240/415 V AC (TN-S)
	240/415 V AC (TT)
Rated frequency f_N	50 Hz (60 Hz)
The highest working voltage U_c (L-N)	335 V AC
Maximum permanent voltage U_c (L-PE)	335 V AC
The highest working voltage U_c (N-PE)	264 V AC
Rated load current I_L	80 A
Current of the protective conductor I_{PE}	$\leq 5 \mu A$
Power consumption in standby mode P_C	≤ 810 mVA
Nominal discharge current I_n (8/20) μs (L-N)	12,5 kA
Nominal discharge current I_n (8/20) μs (L-PE)	12,5 kA
Nominal discharge current I_n (8/20) μs (N-PE)	50 kA
Maximum discharge current I_{max} (8/20) μs	50 kA
Testing lightning current (10/350) μs (L-N), ładunek	6,25 As
Testing lightning current (10/350) μs (L-N), Specific energy	39 kJ/ Ω
Testing lightning current (10/350) μs , (L-N) wartość szczytowa prądu I_{imp}	12,5 kA
Testing lightning current (10/350) μs (L-PE), ładunek	6,25 As
Testing lightning current (10/350) μs (L-PE), Specific energy	39 kJ/ Ω
Testing lightning current (10/350) μs , (L-PE) wartość szczytowa prądu I_{imp}	12,5 kA
Testing lightning current (10/350) μs (N-PE), ładunek	25 As
Testing lightning current (10/350) μs (N-PE), Specific energy	625 kJ/ Ω
Testing lightning current (10/350) μs , (N-PE) wartość szczytowa prądu I_{imp}	50 kA
Total current discharged I_{total} (8/20) μs	50 kA
Total current discharged I_{total} (10/350) μs	50 kA
Follow current extinguishing capability I_{fi} (N-PE)	100 A
Short circuit resistant I_{SCCR}	25 kA
Protection level U_p (L-N)	$\leq 1,2$ kV
	$\leq 1,6$ kV (30 kA - 8/20 μs)

Protection level U_p (L-PE)	≤ 2 kV
Protection level U_p (N-PE)	$\leq 1,7$ kV
Residual voltage U_{res} (L-N)	$\leq 1,2$ kV (by I_n)
	$\leq 1,1$ kV (by 10 kA)
	≤ 1 kV (by 5 kA)
	$\leq 0,9$ kV (by 3 kA)
Residual voltage U_{res} (L-PE)	≤ 2 kV (by I_n)
	$\leq 1,5$ kV (by 10 kA)
	$\leq 1,2$ kV (by 5 kA)
	$\leq 1,1$ kV (by 3 kA)
Residual voltage U_{res} (N-PE)	$\leq 0,6$ kV (by I_n)
	$\leq 0,5$ kV (by 10 kA)
	$\leq 0,5$ kV (by 5 kA)
	$\leq 0,4$ kV (by 3 kA)
TOV behavior for U_t (L-N)	415 V AC (5 s / withstand mode)
	457 V AC (120 min / safe failure mode)
TOV behavior for U_t (N-PE)	1200 V AC (200 ms / withstand mode)
Response time t_A (L-N)	≤ 25 ns
Response time t_A (L-PE)	≤ 100 ns
Response time t_A (N-PE)	≤ 100 ns
Maximum pre-fuse in through-flow installations V	80 A (gG - 16 mm ²)
Maximum fuse value for radial installations	160 A (gG)
Maximum discharge current I_{max} (8/20) μ s	65 kA

