



- DESIGN: MODULAR
- DEGREE OF PROTECTION: IP65
- YEARS OF WARRANTY: 5
- UV RESISTANCE: YES
- READY TO CONNECT: YES
- WEIGHT: 3.400 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 on the alternating and direct current side. 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   Dehn   T2     |
| Overcurrent protection                      | 2 x 15A gPV       |
| Connection type                             | Array MC4 Stäubli |

#### BASIC PARAMETERS AC SIDE

|                             |               |
|-----------------------------|---------------|
| AC Surge Protector   Type   | Dehn   T2     |
| Overcurrent circuit breaker | Noark B10A 3F |

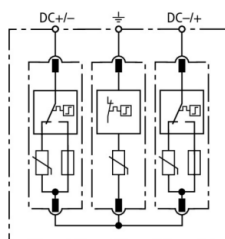
#### ELECTRICAL AND MECHANICAL PARAMETERS OF THE HOUSING

|                                                                       |                          |
|-----------------------------------------------------------------------|--------------------------|
| Model                                                                 | PHS 24 T                 |
| Number of fields                                                      | 24                       |
| Dimensions of housing without chokes and MC4<br>(Length Width Height) | 120.00   128.00   201.00 |
| 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)

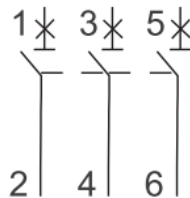
|                                                                           |                        |
|---------------------------------------------------------------------------|------------------------|
| Manufacturer / Model                                                      | Dehn DG M YPV SCI 1000 |
| Made in accordance with                                                   | PN-EN 50539-11         |
| Surge protection                                                          | T2                     |
| Maximum PV voltage ( $U_{CPV}$ )                                          | 1000V                  |
| Short-circuit withstand ( $I_{SCPV}$ )                                    | 10 kA                  |
| Total discharge current (8/20 $\mu$ s) ( $I_{total}$ )                    | 40 kA                  |
| Nominal discharge current (8/20 $\mu$ s) [(DC+/DC-) --> PE] ( $I_n$ )     | 12,5 kA                |
| Maximum discharge current (8/20 $\mu$ s) [(DC+/DC-) --> PE] ( $I_{max}$ ) | 25 kA                  |
| Voltage protection level ( $U_p$ )                                        | $\leq 4$ kV            |
| Voltage protection level by 5 kA ( $U_p$ )                                | $\leq 3,5$ kV          |
| Response time ( $t_A$ )                                                   | $\leq 25$ ns           |
| Working temperature range (TU)                                            | -40°C ... +80°C        |
| Operation / failure indicator                                             | green / red            |



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

|                                 |                              |
|---------------------------------|------------------------------|
| Manufacturer / Model            | Noark / Ex9BN 3P B10         |
| Rated current                   | 10A; 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)            |



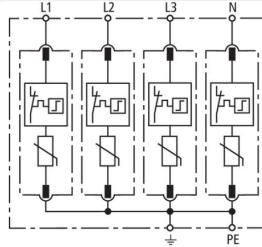
#### Overvoltage limiter used AC (SPD)

|                                                             |                            |
|-------------------------------------------------------------|----------------------------|
| Manufacturer / Model                                        | Dehn DG M TN 275           |
| Surge arrester according to PN-EN 61643-11                  | Type 2 / klasa II          |
| Energy coordination with the terminal device ( $\leq 10$ m) | Type 2 + Type 3            |
| Rated voltage AC ( $U_n$ )                                  | 230 / 400 V (50 / 60 Hz)   |
| The greatest voltage of permanent work AC ( $U_c$ )         | 275 V (50 / 60 Hz)         |
| Nominal discharge current (8/20 $\mu$ s) ( $I_n$ )          | 20 kA                      |
| Maximum discharge current (8/20 $\mu$ s) ( $I_{max}$ )      | 40 kA                      |
| Voltage protection level [L-PE]/[N-PE] ( $U_p$ )            | $\leq 1,5$ / $\leq 1,5$ kV |
| Voltage protection level [L-PE] / [N-PE] by 5 kA ( $U_p$ )  | $\leq 1$ / $\leq 1$ kV     |
| Response time ( $t_A$ )                                     | $\leq 25$ ns               |
| Maximum fuse protection                                     | 125 A gG                   |

Short-circuit withstand at maximum fuse ( $I_{SCCR}$ ) 50 kArms

Occasional surges (TOV) ( $U_t$ ) - characteristic 335 V / 5 s - durable

Occasional surges (TOV) ( $U_t$ ) - characteristic 440 V / 120 min - safe damage



#### 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