

# JK101SPD Surge Protection Kit

Type 1/2 Class I/II Surge Protection Kit for Hager 125A TP&N Distribution Boards to aid compliance with 18<sup>th</sup> Edition BS 7671.

- Combination of high capacity voltage limiting varistors and N-PE spark gap
- Suitable for CT2 connection as per 534.4.3.2 BS7671 18th Edition
- Optical status indication for each cartridge  
Green = Healthy, Red = Replace
- Pluggable surge protection modules for ease of replacement
- Each cartridge incorporates its own thermal disconnect mechanism
- Cartridges are mechanically coded to prevent mis-connection
- Cartridges can be routinely checked and changed if required without interrupting supply to loads
- No secondary back-up protection required in distribution boards of 125A  $I_n$  or less



JK101SPD

## Product Description

A Surge protection device (SPD) kit specifically developed for Hager standard TPN (Type B) Distribution boards. Developed to ensure optimal performance of SPD technology within Hager distribution boards. SPD is CT2 type to ensure compatibility with all common UK Earthing arrangements e.g. TN-C-S (PME), TN-S and TT earthing arrangements. This is an IEC Type 1/2 / class I/II SPD for 3 – phase power supply networks. A type 1 SPD is generally used in the primary board.

This SPD kit fits within the standard distribution board. Line, Neutral and Earth connections are via copper busbar and copper links, minimising SPD conductor losses, maximising the effective performance of the SPD ( $U_p$  effective).

## Key Specifications

- Power Supply System -TN / TT
  - Requirement class -SPD class I/II acc. to IEC 61643-11; SPD Type 1/2 acc. to EN 61643-11
  - Max. continuous operating voltage  $U_c$  -L-N: 275 V a.c. / N-PE: 260 V a.c.
  - Nominal voltage  $U_n$  -230/400 V AC 50/60 Hz
  - Impulse discharge curr.  $I_{imp}$  (10/350)  $\mu$ s L-N / N-PE 12,5 kA / 50 kA
  - Nominal discharge current  $I_n$  (8/20) microseconds 20 kA
  - Max. discharge current  $I_{max}$  (8/20) microseconds 40 kA
- SPD Protection level  $U_p$  -L-N: < 1.35 kV/ N-PE: <1.5 kV

Solution Protection level  $U_p$  effective (measured at the main busbars on the TPN board) -L-N: <1.5kV/ N-PE: < 1.5kV

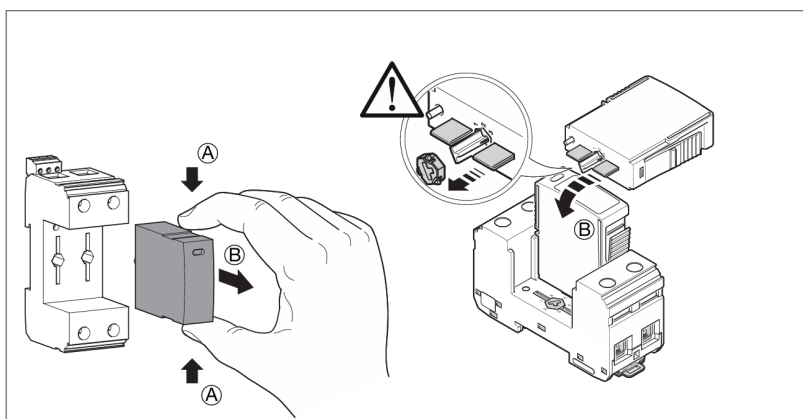
Short-circuit current rating  $I_{SCCR}$  - 25kA

Degree of protection - IP20

Tightening torque - see installation instructions.

3Nm (1.5 - 16mm <sup>2</sup> ) 4.5Nm 25 - 35mm <sup>2</sup>	16 mm	16 mm
min. L, N, PE, $\varnothing$	1,5mm <sup>2</sup>	
max. L, N, PE, $\varnothing$	25mm <sup>2</sup>	35mm <sup>2</sup>

SPA091 (L - N), SPA091N (N - PE)



## Backup Hager MCCB (P160/x160) Max Isc = 25kA

C1	$C1 \leq 160A$ ↓ 
C2	$C1 > 160A$ ↓ $C2 = x160 (160A)$ or P160 (160A)

### General Data

Standards/regulations	IEC 61643-11 2011 EN 61643-11 2012
IEC test classification	T1/2 I/II
EN type	T1/2 I/II
Mode of protection	L-N L-PE N-PE
Mounting type	DIN rail: 35 mm
Degree of pollution	2
Overvoltage category	III
Degree of protection	IP20
Shock (operation)	25g (Half-sine / 11 ms / 3x ±X, ± Y, ±Z)
Vibration (operation)	5g (10 ... 500 Hz/ 2.5 h / X, Y, Z)
Ambient temperature (operation)	-40 °C ... 80 °C
Ambient temperature (storage/transport) Permissible humidity (operation)	-40 °C ... 80 °C

### Electrical Data

Nominal voltage $U_n$	230 / 400 V AC (TN / TT)
Nominal frequency $f_n$	50 Hz (60 Hz)
Maximum continuous operating voltage $U_c$ (L-N)	335 V AC
Maximum continuous operating voltage $U_c$ (L-PE)	235 V AC
Maximum continuous operating voltage $U_c$ (N-PE)	260V AC
Residual current $I_{pE}$	$\leq 5 \mu A$
Standby power consumption $P_c$	$\leq 360 \text{ mVA}$
Impulse discharge curr. $I_{imp}$ (10/350) $\mu s$ L-N / N-PE	12,5 kA / 50 kA
Nominal discharge current $I_n$ (8/20) $\mu s$	20kA
Maximum discharge current $I_{max}$ (8/20) $\mu s$	50kA
Follow current interrupt rating $I_{fl}$ (N-PE)	100A
Short-circuit current rating $I_{scR}$	25kA
Voltage protection level $U_p$ (L-N)	$\leq 1.35kV$
Voltage protection level $U_p$ (L-PE)	$\leq 1.6 \text{ kV}$
Voltage protection level $U_p$ (N-PE)	$\leq 1.5kV$
Max. backup fuse	160 A (gG)
Max. backup fuse with V-type through wiring	80 A (gG)