## COOPER Bussmann

### Surge Protection Made Simple<sup>™</sup> for LV Control Applications UL Type 3 BSP LV Control Series for 24Vac/dc to 230Vac/dc LV Systems



#### Description

The Cooper Bussmann UL Type 3 24Vac/dc, 48Vac/dc, 60Vac/dc, 120Vac/dc and 230Vac/dc, two-pole, modular surge arresters feature local, *easy*ID<sup>™</sup> visual indication and optional remote contact signaling. The unique module locking system fixes the protection module to the base part. Modules can be easily replaced without tools by simply depressing the release buttons. Integrated mechanical coding between the base and protection module ensures against installing an incorrect replacement module.

#### LV Control System Arresters

The features of these two-pole devices are for use in coordination with other upstream SPDs in UL 508A Applications\*.

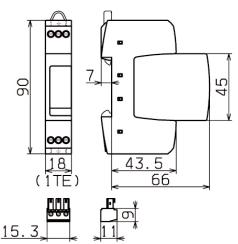
- Surge arrester according to UL 1449 3<sup>tdl</sup> Edition, Type 3 Component Assembly helps meet UL 508A requirements
- Proven MOV and GDT hybrid technology for reliable surge protection
- "Thermo Dynamic Control" SPD monitoring device ensures high reliability against surge events
- Module locking system with module release button make module replacement easy without tools
- Optional remote signaling of all protection modules make status monitoring easy and accurate in any monitoring scheme
- No upstream overcurrent protection necessary to make installation easier and more economical
- Vibration and shock tested according to EN 60068-2 to withstand harsh environments

#### **Optional Remote Signaling Contact**

The remote signaling contact versions have a floating changeover contact for use as a break or make contact for easy adoption in any monitoring application.

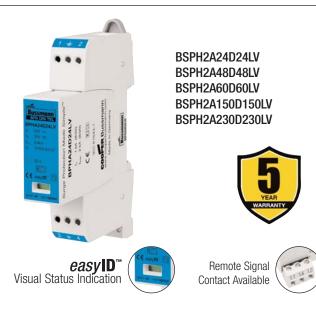
\* UL 1449 3<sup>dd</sup> Edition not applicable to DC voltages.

#### **Dimensions - mm**



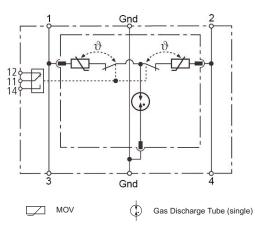
Shown with optional remote contact signaling

www.cooperbussmann.com/surge



# Non SCCR BSP LV Control Series

#### **Circuit Diagrams**



#### BSPHA24D24LV, BSPHA48D48LV, BSPHA60D60LV BSPHA150D150LV, BSPHA230D230LV\*

Shown with optional remote contact signaling

\* For remote signaling contact, add "R" suffix to the part number. E.g., BSPHA230D230LV $\!R$ 

Data Sheet 2057

COOPER Bussmann

System Voltage   24Vac/dc   48Vac/dc   60Vac/dc   120Vac/dc   230Vac/dc     Galado Numbers   With Unit Remote Signaling   BSPH22A2024/U   BSPH22A40048/V   BSPH22A20020/U   BSPH22A200230/V     (Base + Modules)   With Remote Signaling   BSPH22A2024/W   BSPH22A200240/W   BSPH22A200230/V   BSPH22A200230/V     (Base + Modules)   With Remote Signaling   BSPH22A2024/W   BSPH22A200230/W   BSPH22A200230/W     Nominal AC voltage [V_i]   24V   48V   60V   120V   230V     Nominal AC voltage [V_i]   30V   60V   75V   150V   255V     Max. continuous operating DC voltage [V_i]   30V   60V   75V   150V   255V     Nominal discharge current (8/20 µs) [L_i]   11kA   11kA   21kA   44kA   44kA   56kA     Combined impube [U_i]   12kA   22kV   22kV   24V   44kA   44kA   56A     Combined impube [U_i]   12kA   12kA   26A   16A   16A     Combined impube [U_i]   12kA   26A   44kA	Ordering Information							
Max. Continuous operating AC voltage (MCOV) [Vd] (Statalog Numbers: Without Remote Signaling (Sear + Modules)   BSPH2A24024UX Without Remote Signaling (Sear + Modules)   BSPH2A24024UX BSPH2A40048UX BSPH2A40060UX BSPH2A40006UX BSPH2A40006UX BSPH2A400020UX BSPH2A40020UX BSPH2A40020UX BSPH2A40020UX BSPH2A40020UX BSPH2A40020UX BSPH2A200220UX BSPH2A40020UX BSPH2A200220UX BSPH2A40020UX BSPH2A200220UX BSPH2A40020UX BSPH2A200220UX BSPH2A4000 SSUC002000000000000000000000000000000000	System Voltage			60Vac/dc	120Vac/dc	230Vac/dc		
Catalog Numbers   Within Remote Signaling BSPH2A4024UV   BSPH2A4024UV BSPH2A4004UV   BSPH2A4004UV BSPH2A4000E0UV   BSPH2A4000E0UV BSPH2A4000E0UV   BSPH2A4001SUV BSPH2A4000E0UV   BSPH2A4000E0UV BSPH2A4000E0UV   BSPH2A4000E0UV BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A4000E0UV   BSPH2A400E0UV   Statue								
(gase + Modules)   With Remote Signaling   BSPH2A4D24Ux   BSPH2A40D4UX   BSPH2A40D0UV   BPHA60D60UV   BSPH2A50D150UX   BSPH2A3201V     Specification     Nominal AC voltage [V_]   24V   48V   66V   120V   230V     Max. continuous operating AC voltage [V_2]   30V   66V   75V   150V   255V     Max. continuous operating AC voltage [V_2]   30V   66V   75V   150V   255V     Max. continuous operating AC voltage [V_2]   30V   66V   75V   150V   255V     Mominal discharge current (X_20 µs) [L_1N-Grd] [Lug]   14K   14K   2KA   2KA   2KA   4KA   4KA   5KA     Combined impulse [L_N-Grd] [Lug; total]   4KV   4KV   4KV   6KV   570V   <150V								
Replacement Modules   BPHA24D24LV   BPHA48D48LV   BPHA60D60LV   BPHA150D150LV   BPHA230D230LV     Nominal AC voltage [V_0]   24V   48V   60V   120V   230V     Max. continuous operating DC voltage [V_0]   30V   60V   75V   150V   225N     Nominal discharge current (8/20 µs) [I,]   18A   18A   28A   28A   25A   25A     Ital discharge current (8/20 µs) [I,]   18A   18A   28A   28A   38A     Combined impulse [Lo_0]   28A   28A   28A   38A   38A     Combined impulse [Lo_0]   28A   28A   48A   48A   48A   56A     Combined impulse [Lo_0]   24V   48V   48V   68V   56A   56A     Combined impulse [Lo_0]   24N   28A   126V   560V								
Nominal AC voltage [V_c]24V48V60V120V230VMax. continuous operating AC voltage [V_c]30V60V75V150V255VMax. continuous operating DC voltage [V_c]30V60V75V150V225NMominal discharge current (8/20 µs) [I_a]11KA11KA2KA2KA3KATotal discharge current (8/20 µs) [I_a]11KA11KA2KA2KA3KACombined impulse [L+h-Gnd] [Ibog]2KV2KV2KV4KV4KV6KVCombined impulse [L+h-Gnd] [Ibog]4KV3KA2KA2KA150V≤ 1250VVoltage protection level [L-h] [M-p_1]<180V		nti nomoto olgnaling						
Nominal AC voltage [V_d]24V48V60V120V230VMax. continuous operating DC voltage [V_d]30V60V75V150V225VMax. continuous operating DC voltage [V_d]30V60V75V150V225VNominal discharge current (8/20 µs) [L_1)25A25A25A25A25AItadi discharge current (8/20 µs) [L_1)14A14A24A24A34ACombined impulse [L_0C]24V24V44V44A44A5KACombined impulse [L_1] [U_1]44V24A24A44V44V66V640V≤ 150VVoltage protection level [L-1] [V_1]4630V<350V								
Max. continuous operating AC ontage [Vc]30V60V75V150V255VMax. continuous operating DC voltage [Vc]30V60V75V150V255VMominal load current AC [L]25A25A25A25A25ANominal load current (8/20 µs) [L]11KA11KA2kA2kA3kAClaid discharge current (8/20 µs) [L]11KA11KA2kA4kA4kA5kACombined impulse [L_0C]2kV2kV4kV4kV6kV6kVCombined impulse [L_N-Gnd] [Log_total]4kV4kV8kV8kV10kVVoltage protection level [L_N] [Meg]≤ 630V≤ 350V≤ 730V≤ 800V≤ 150VTemporary overvoltage (TOV) [L-NG336V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]WithstandTOV characteristics [L-N]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]FalureSPD according to EN 61643-11FalureSPD according to EN 61643-11 </td <td colspan="2">Nominal AC voltage [V_]</td> <td></td> <td></td> <td>60V</td> <td>120V</td> <td>230V</td>	Nominal AC voltage [V_]				60V	120V	230V	
Max. continuous operating DC voltage [V_c]30V660V75V150V255VNominal discharge current (8/20 µs) [h_1]11kA11kA11kA2kA25A25A25ATotal discharge current (8/20 µs) [L+N-Gnd] [h <sub>0eal</sub> ]2kA2kA2kA3kACombined impulse [L-N-Gnd] [h <sub>0eal</sub> ]2kV2kV2kV4kV4kV6kVCombined impulse [L-N-Gnd] [h <sub>0eal</sub> ]4kV4kV4kV6kV10kVVoltage protection level [L-N-Gnd] [h <sub>0eal</sub> ] $\leq$ 180V $\leq$ 350V $\leq$ 400V $\leq$ 640V $\leq$ 1500VVoltage protection level [L-N-Gnd] [h <sub>0eal</sub> ] $\leq$ 630V $\leq$ 730V $\leq$ 900V $\leq$ 1500VTemporary overvoltage (10V) [L-N]335V / 5 sec.Temporary overvoltage (10V) [L-N-Gnd]400V / 5 sec.Temporary overvoltage (10V) [L-N-Gnd]Withstand10V characteristics [L-N-Gnd]Withstand10V characteristics [L-N-Gnd]Withstand10V characteristics [L-N-Gnd]FalureSPD according to EK 61643-11FalureSPD according to EK 61643-11FalureSPD according to EK 61643-11FalureSPD according to EK 61643-11FalureSPD according to EK 61643-11FalureResponse time [L-N-Gnd] <td colspan="2"></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Nominal bad current $(k/20 \ \mu s) [l_{n}]$ 25A25A25A25A25ANominal discharge current $(k/20 \ \mu s) [l_{n}]$ 1kA1kA1kA2kA2kA3kACombined impulse [U_{n}]1kA1kA2kA2kA4kA4kA5kACombined impulse [U_{n}]2kV2kV2kV4kV4kV6kVCombined impulse [L_N-Gnd] [U_{n}]4kV4kV4kV8kV10kVVoltage protection level [L-N-Gnd] [V_{n}]< 630V								
Nominal discharge current (8/20 µs) [I,]1kA1kA2kA2kA3kATotal discharge current (8/20 µs) [L+N-Gnd] [Lota]2kA2kA4kA4kA5kACombined impulse [L-N-Gnd] [U <sub>DC</sub> tota]4kV2kV2kV4kV4kV6kVCombined impulse [L-N-Gnd] [U <sub>DC</sub> tota]4kV4kV4kV8kV8kV10kVVoltage protection level [L-N-Gnd] [V <sub>PR</sub> ] $\leq$ 800V $\leq$ 350V $\leq$ 400V $\leq$ 640V $\leq$ 1250VVoltage protection level [L-N-Gnd] [V <sub>PR</sub> ] $\leq$ 630V $\leq$ 730V $\leq$ 800V $\leq$ 1500V $\leq$ 1500VTemporary overvoltage (TOV) [L-N-Gnd]400V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]1200V + V <sub>0</sub> / 20TOV characteristics [L-N-Gnd]1200V + V <sub>0</sub> / 20TOV characteristics [L-N-Gnd]Type 3SPD according to EK 61643-11FailureSPD according to EK 61643-11SPD according to EK 61643-11SPD according to EK 61643-11SPD according to EK 61643-11SPD according to EK 61643-11Cross-sectional area (max)Number of portsNumber of ports<								
Total discharge current (8/20 µs) [L+N-Gnd] [I <sub>btal</sub> ]2kA2kA4kA4kA4kACombined impulse [U <sub>AC</sub> ]2kV2kV2kV4kV4kV6kVCombined impulse [L-N-Gnd] [I <sub>DC</sub> total]4kV4kV8kV8kV10kVVoltage protection level [L-N] [V <sub>Pd</sub> ] $\leq$ 180V $\leq$ 350V $\leq$ 400V $\leq$ 640V $\leq$ 150VTemporary overvoltage (TOV) [L-N-Gnd]335V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]400V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]400V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]1200V + V <sub>0</sub> / 20ToV characteristics [L-N]1200V + V <sub>0</sub> / 20TOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]FalureSPD according to EC 61643-1FalureSPDSPD according to EC 61643-1Operating tamperature range [Tu]Operating tate/ault indicationOperating tate/ault indicationOperating tate/ault indicationCross-sectional area (max)Cross-sectional area (max)								
Combined impulse [L_h-Gnd]2kV2kV4kV4kV4kV6kVCombined impulse [L_h-M-Gnd] [Uoc total]4kV4kV4kV8kV10kVVoltage protection level [L_h-Gnd] [Vpg]<180V							-	
Combined impulse [L+N-Gnd] [Uo <sub>C</sub> total]4kV4kV8kV8kV10kVVoltage protection level [L-N [Mp] $\leq 180V$ $\leq 350V$ $\leq 400V$ $\leq 640V$ $\leq 1250V$ Voltage protection level [L-N Gnd] [Mp] $\leq 630V$ $\leq 730V$ $\leq 730V$ $\leq 640V$ $\leq 1250V$ Temporary overvoltage (TOV) [L-N] $335V/5$ sec.Temporary overvoltage (TOV) [L-N-Gnd] $400V/5$ sec.Temporary overvoltage (TOV) [L-N-Gnd] $400V/5$ sec.Temporary overvoltage (TOV) [L-N-Gnd] $400V/5$ sec.ToV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandPSP according to EIC 61643-1FailureSPD according to EIC 61643-1Response time [L-N] [M]- $\leq 100$ nsOperating state/ault indicationGreen (good) / Red (replace)Number of ports-1Cross-sectional area (min.)								
Voltage protection level [L-N] [V <sub>PR</sub> ] $\leq 180V$ $\leq 350V$ $\leq 400V$ $\leq 640V$ $\leq 1250V$ Voltage protection level [L-N-Gnd] [V <sub>PR</sub> ] $\leq 630V$ $\leq 730V$ $\leq 730V$ $\leq 800V$ $\leq 1500V$ Temporary overvoltage (TOV) [L-N-Gnd] $\sim 335V/5$ sec.Temporary overvoltage (TOV) [L-N-Gnd] $\sim 335V/5$ sec.Temporary overvoltage (TOV) [L-N-Gnd] $\sim 100V/5$ sec.ToV characteristics [L-N-Gnd] $\sim 100V/5$ sec.TOV characteristics [L-N-Gnd] $\sim 100V/5$ sec.TOV characteristics [L-N-Gnd] $\sim 100V/5$ sec.SPD according to EX 61643-11FailureSPD according to EX 61643-11Class IIIOperating temperature range [T <sub>1</sub> ]Operating temperature range [T <sub>1</sub> ]Operating temperature range [T <sub>1</sub> ]Operating temperature range [T <sub>1</sub> ]Cross-sectional area (max.)1Cross-sectional area (min.)1Cross-sectional area (min.)1Cross-sectional area (min.)1Cross-sectional area (min.)1Capacity1 <tr< <="" td=""><td colspan="2"></td><td></td><td></td><td></td><td></td><td>*</td></tr<>							*	
Voltage protection level [L/N-Gnd] [V <sub>PR</sub> ] $\leq 630V$ $\leq 730V$ $\leq 730V$ $\leq 800V$ $\leq 1500V$ Temporary overvoltage (TOV) [L-N]335V / 5 sec.Temporary overvoltage (TOV) [L-NGnd]400V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]1200V + V <sub>0</sub> / 20TOV characteristics [L-N]1200V + V <sub>0</sub> / 20TOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]FailureSPD according to EN 61643-11Type 3SPD according to EN 61643-11SPD according to EI 6 61643-1Class IIIResponse time [L/N-Gnd] [t <sub>A</sub> ] $\leq 25$ nsResponse time [L/N-Gnd] [t <sub>A</sub> ] $\leq 100$ nsOperating temperature range [T <sub>U</sub> ] $\leq 40^\circ$ C to $+80^\circ$ COperating state/fault indicationOperating state/fault indicationGreen (good) / Red (replace)Number of portsTorse-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleFor mounting on35mm DIN rail per EN 60715Enclosure materialThermoplastic, UL 94V0Location categoryIndoorIndoorIP20Capacity1 Mod., DIN 43880Agency Information*UL / clL, CSA, KEMAProduct WarrantyFive Years**Remote Contact Signaling TypeChangeover ContactConductor Ra								
Temporary overvoltage (TOV) [L-N]335V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]440V / 5 sec.440V / 5 sec.Temporary overvoltage (TOV) [L-N-Gnd]440V / 5 sec.1200V + $V_0$ / 20TOV characteristics [L-N]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]WithstandTOV characteristics [L-N-Gnd]FailureSPD according to EN 61643-11Class IIIFype 3Sec.Sec.SPD according to EN 61643-11Class IIISec.Sec.Sec.Operating temperature range [Tu]FailureOperating temperature range [Tu]Sec.Operating state/fault indicationGreen (good) / Red (replace)Sec.Sec.Sec.Number of ports11Cross-sectional area (min.)0.5mm²/12AWG flexibleSec.Cross-sectional area (min.)0.5mm²/10AWG solid/2.5mm²/12AWG flexibleSec.Sec.Sec.For nourting on35mm DIN rail per EN 60715Sec.Sec.Sec.Location categoryIndoorIP20Sec.Sec.Sec.Degree of protectionIP20Changeover ContactSec.Sec.Sec.Remote Contact Signaling TypeChangeover ContactAc Switching Capacity (Volts/Amps)								
Temporary overvoltage (TOV) [L/N-Gnd]      400V / 5 sec.     Temporary overvoltage (TOV) [L+N-Gnd]      1200V + V <sub>0</sub> / 20     TOV characteristics [L-N]      Withstand     TOV characteristics [L-N-Gnd]      Withstand     TOV characteristics [L-N-Gnd]      Withstand     TOV characteristics [L-N-Gnd]      Failure     SPD according to EIC 61643-11   Type 3    SPD according to EIC 61643-1   Class III     Response time [L-N] [t <sub>A</sub> ]								
Temporary overvoltage (TOV) [L+N-Gnd]      1200V + V <sub>0</sub> / 20     TOV characteristics [L-N]      Withstand     TOV characteristics [L-N-Gnd]      Withstand     TOV characteristics [L-N-Gnd]     Withstand   Withstand     TOV characteristics [L-N-Gnd]      Withstand     SPD according to EN 61643-11   Type 3   SPD according to EC 61643-1   Class III     Response time [L-N] [t <sub>A</sub> ]   <								
TOV characteristics [L-N]      Withstand     TOV characteristics [L-N-Gnd]      Withstand     TOV characteristics [L-N-Gnd]      Withstand     TOV characteristics [L-N-Gnd]     Withstand   Tov     SPD according to EN 61643-11     Failure   SP     SPD according to EN 61643-11    <-								
TOV characteristics [L/N-Gnd]       Withstand     TOV characteristics [L-N-Gnd]       Failure     SPD according to EK 61643-11      Failure     SPD according to EK 61643-11      Failure     SPD according to EK 61643-11    <-								
TOV characteristics [L+N-Gnd]FailureSPD according to EN 61643-11Type 3SPD according to EC 61643-1Class IIIResponse time [L-N] [t_a] $\leq 25$ nsResponse time [L-N-Gnd] [t_a] $\leq 100$ nsOperating temperature range [Tu] $-40^{\circ}$ C to $+80^{\circ}$ COperating state/fault indicationGreen (good) / Red (replace)Number of ports1Cross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (max.) $4mm^2/10AWG$ solid/flexibleFor mounting on $35mm$ DIN rail per EN 60715Enclosure materialThermoplastic, UL 94V0Location categoryI Mod., DIN 43880Agency Information*UL / CLL, CSA, KEMAProduct WarrantyFive Years**Changeover ContactAgency Information* $250V/0.5A$ DC Switching Capacity (Volts/Amps) $250V/0.1A; 125V/0.2A; 75V/0.5A$ DC Switching Capacity (Volts/Amps) $250V/0.1A; 1.5mm^2/14AWG$ Solid/Flexible		d]						
SPD according to EN 61643-11 Type 3   SPD according to IEC 61643-1 Class III   Response time [L-N] [t <sub>d</sub> ] ≤ 26 ns   Pesponse time [L/N-Gnd] [t <sub>d</sub> ] ≤ 100 ns   Operating state/fault indication Green (good) / Red (replace)   Number of ports 1   Cross-sectional area (min.) 0.5mm²/18AWG solid/flexible   Cross-sectional area (max.) 4m²/10AWG solid/?lexible   For mounting on 35mm DIN rail per EN 60715   Enclosure material Thermoplastic, UL 94V0   Location category Indoor   Degree of protection IP20   Caparity 1 Mod., DIN 43880   Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**   Remote Contact Signaling Type Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signaling Treminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
SPD according to IEC 61643-1Class IIIResponse time [L-N] [t <sub>A</sub> ] $\leq 25$ nsResponse time [L-N-Gnd] [t <sub>A</sub> ] $\leq 100$ nsOperating temperature range [Tu] $-40^{\circ}$ C to $+80^{\circ}$ COperating state/fault indicationGreen (good) / Red (replace)Number of ports1Cross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (max.) $4mm^2/10AWG$ solid/2.5mm²/12AWG flexibleFor mounting on $35mm$ DIN rail per EN 60715Enclosure materialThermoplastic, UL 94V0Location categoryIndoorDegree of protectionIP20Capacity1 Mod., DIN 43880Agency Information*UL / cUL, CSA, KEMAProduct WarrantyFive Years**Remote Contact Signaling TypeChangeover ContactAC Switching Capacity (Volts/Amps) $250V/0.1A; 125V/0.2A$ , 75V/0.5AConductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals $60/75^{\circ}$ C Max. 1.5mm²/14AWG Solid/Flexible								
Response time [L-N] [ $t_A$ ] $\leq 25 \text{ ns}$ Response time [L/N-Gnd] [ $t_A$ ] $\leq 100 \text{ ns}$ Operating temperature range [ $T_{L}$ ] $-40^{\circ}$ C to $+80^{\circ}$ COperating state/fault indicationGreen (good) / Red (replace)Number of ports1Cross-sectional area (min.) $0.5mm^2/18AWG$ solid/flexibleCross-sectional area (max.) $4mm^2/10AWG$ solid/2.5mm²/12AWG flexibleFor mounting on $35mm$ DIN rail per EN 60715Enclosure materialIndoorLocation categoryIndoorDegree of protectionIP20Capacity1 Mod., DIN 43880Agency Information*UL / cuL, CSA, KEMAProduct WarrantyFive Years**Remote Contact Signaling TypeContact Signaling TypeChangeover ContactAC Switching Capacity (Volts/Amps) $250V/0.1A$ ; $125V/0.2A$ ; $75V/0.5A$ Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals $60/75^{\circ}$ CMax. 1.5mm²/14AWG Solid/Flexible	SPD according to IEC 61643-1		, ,					
Response time [L/N-Gnd] [t <sub>A</sub> ] ≤ 100 ns   Operating temperature range [T <sub>U</sub> ] -40°C to +80°C   Operating state/fault indication Green (good) / Red (replace)   Number of ports 1   Cross-sectional area (min.) 0.5mm²/18AWG solid/flexible   Cross-sectional area (max.) 4mm²/10AWG solid/2.5mm²/12AWG flexible   For mounting on 35mm DIN rail per EN 60715   Enclosure material Thermoplastic, UL 94V0   Location category Indoor   Degree of protection IP20   Capacity 1 Mod., DIN 43880   Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**   Remote Contact Signaling Type Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Operating temperature range [T <sub>1</sub> ] -40°C to +80°C   Operating state/fault indication Green (good) / Red (replace)   Number of ports 1   Cross-sectional area (min.) 0.5mm²/18AWG solid/flexible   Cross-sectional area (max.) 4mm²/10AWG solid/2.5mm²/12AWG flexible   For mounting on 35mm DIN rail per EN 60715   Enclosure material Thermoplastic, UL 94V0   Location category Indoor   Degree of protection IP20   Capacity 1 Mod., DIN 43880   Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**    250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
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Enclosure materialThermoplastic, UL 94V0Location categoryIndoorDegree of protectionIP20Capacity1 Mod., DIN 43880Agency Information*UL / CUL, CSA, KEMAProduct WarrantyFive Years**Remote Contact Signaling TypeAc Switching Capacity (Volts/Amps)250V/0.5ADC Switching Capacity (Volts/Amps)250V/0.1A; 125V/0.2A; 75V/0.5AConductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
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Degree of protection IP20   Capacity 1 Mod., DIN 43880   Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**   Remote Contact Signaling Type   Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Capacity 1 Mod., DIN 43880   Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**   Remote Contact Signaling Type   Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible	Location category							
Agency Information* UL / cUL, CSA, KEMA   Product Warranty Five Years**   Remote Contact Signaling Type   Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible	Degree of protection							
Product Warranty   Five Years**     Remote Contact Signaling Type   Remote Contact Signaling Type     AC Switching Capacity (Volts/Amps)   250V/0.5A     DC Switching Capacity (Volts/Amps)   250V/0.1A; 125V/0.2A; 75V/0.5A     Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals   60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Remote Contact Signaling     Remote Contact Signaling Type   Changeover Contact     AC Switching Capacity (Volts/Amps)   250V/0.5A     DC Switching Capacity (Volts/Amps)   250V/0.1A; 125V/0.2A; 75V/0.5A     Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals   60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Remote Contact Signaling Type Changeover Contact   AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
AC Switching Capacity (Volts/Amps) 250V/0.5A   DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
DC Switching Capacity (Volts/Amps) 250V/0.1A; 125V/0.2A; 75V/0.5A   Conductor Ratings and Cross-Sectional Area for 60/75°C Max. 1.5mm²/14AWG Solid/Flexible   Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Conductor Ratings and Cross-Sectional Area for Remote Contact Signal Terminals 60/75°C Max. 1.5mm²/14AWG Solid/Flexible								
Remote Contact Signal Terminals		250V/0.1A; 125V/0.2A; 75V/0.5A						
Remote Contact Signal Terminals			60/75°C May 1 5mm²/144WG Solid/Elevible					
Ordering Information Order from Catalog Numbers Above		inals						

\* Standards information not applicable to DC ratings.

\*\* See Cooper Bussmann SPD Limited Warranty Statement (3A1502) for details at www.cooperbussmann.com/surge.

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