

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

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Safety relay for emergency stop, safety door, and magnetic switches, as well as light grid, up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, 2 N/O contacts, TBUS interface, automatic or manual activation, plug-in screw connection terminal blocks

Your advantages

- ✓ Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- ✓ Single and two-channel control
- ✓ 2 enabling current paths, 1 signaling current path
- ✓ For emergency stop and safety door monitoring, plus evaluation of light grids
- ✓ Modular system with TBUS extension



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 051682 |
| GTIN | 4046356051682 |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 114.5 mm |

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -20 °C ... 55 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Max. permissible relative humidity (operation) | 75 % (on average, 85% infrequently, non-condensing) |

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Ambient conditions

| | |
|---|---|
| Max. permissible humidity (storage/transport) | 75 % (on average, 85% infrequently, non-condensing) |
| Maximum altitude | ≤ 2000 m (Above sea level) |

Input data

| | |
|---|--|
| Nominal input voltage U_N | 24 V DC |
| Input voltage range in reference to U_N | 0.85 ... 1.1 |
| Typical input current at U_N | 70 mA |
| Voltage at input/start and feedback circuit | approx. 24 V DC |
| Typical response time | 20 ms (manual start) 150 ms (automatic start) |
| Typical release time | 10 ms |
| Recovery time | 1 s |
| Max. permissible overall conductor resistance | 50 Ω (Input and start circuits at U_N) |

Output data

| | |
|--|--|
| Contact type | 2 enabling current paths 1 semiconductor signaling output |
| Contact material | AgSnO ₂ |
| Maximum switching voltage | 250 V AC/DC |
| Minimum switching voltage | 15 V AC/DC |
| Limiting continuous current | 6 A (N/O contact) 100 mA (signal output) |
| Maximum inrush current | 6 A |
| Inrush current, minimum | 25 mA |
| Sq. Total current | $72 A^2 (I_{TH}^2 = I_1^2 + I_2^2)$ |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, τ = 0 ms) 288 W (48 V DC, τ = 0 ms) 77 W (110 V DC, τ = 0 ms) 88 W (220 V DC, τ = 0 ms) 1500 VA (250 V AC, τ = 0 ms) |
| Maximum interrupting rating (inductive load) | 48 W (24 V DC, τ = 40 ms) 40 W (48 V DC, τ = 40 ms) 35 W (110 V DC, τ = 40 ms) 33 W (220 V DC, τ = 40 ms) |
| Switching capacity min. | 0.4 W |
| Mechanical service life | approx. 10 ⁷ cycles |
| Switching capacity (360/h cycles) | 6 A (24 V DC) 5 A (230 V (AC15)) |
| Output fuse | 10 A gL/gG NEOZED (N/O contact) Miniature circuit breaker C6 (24 V / 20 A power supply unit) |

General

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Technical data

General

| | |
|---|---|
| Relay type | Electromechanical relay with forcibly guided contacts in accordance with EN 50205 |
| Nominal operating mode | 100% operating factor |
| Net weight | 224.8 g |
| Mounting position | any |
| Mounting type | DIN rail mounting |
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Housing color | yellow |

Connection data

| | |
|---------------------------------------|---------------------|
| Connection method | Screw connection |
| pluggable | Yes |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |
| Conductor cross section flexible max. | 2.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |
| Screw thread | M3 |

Safety-related characteristic data

| | |
|---|-------------------------|
| Stop category | 0 |
| Designation | IEC 61508 - High demand |
| Safety Integrity Level (SIL) | 3 |
| Designation | IEC 61508 - Low demand |
| Safety Integrity Level (SIL) | 3 |
| Designation | EN ISO 13849 |
| Performance level (PL) | e |
| Category | 4 (Undelayed contacts) |
| Designation | EN 62061 |
| Safety Integrity Level Claim Limit (SIL CL) | 3 |

Standards and Regulations

| | |
|--------------------------------|--|
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178/VDE 0160 |
| Rated insulation voltage | 250 V |
| Rated surge voltage/insulation | 4 kV / Basic isolation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths.) |
| Degree of pollution | 2 |
| Overvoltage category | III |

Environmental Product Compliance

Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Technical data

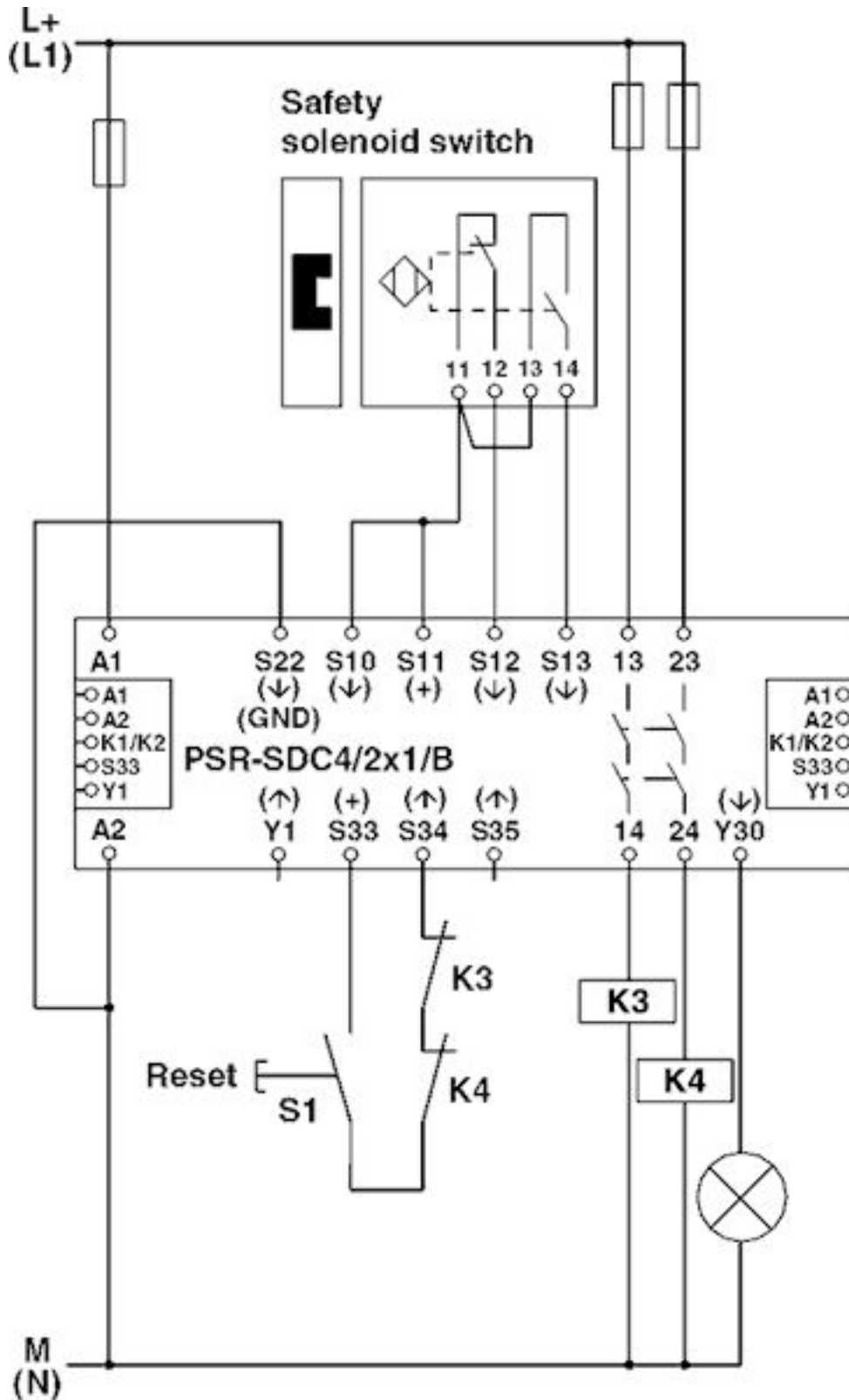
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

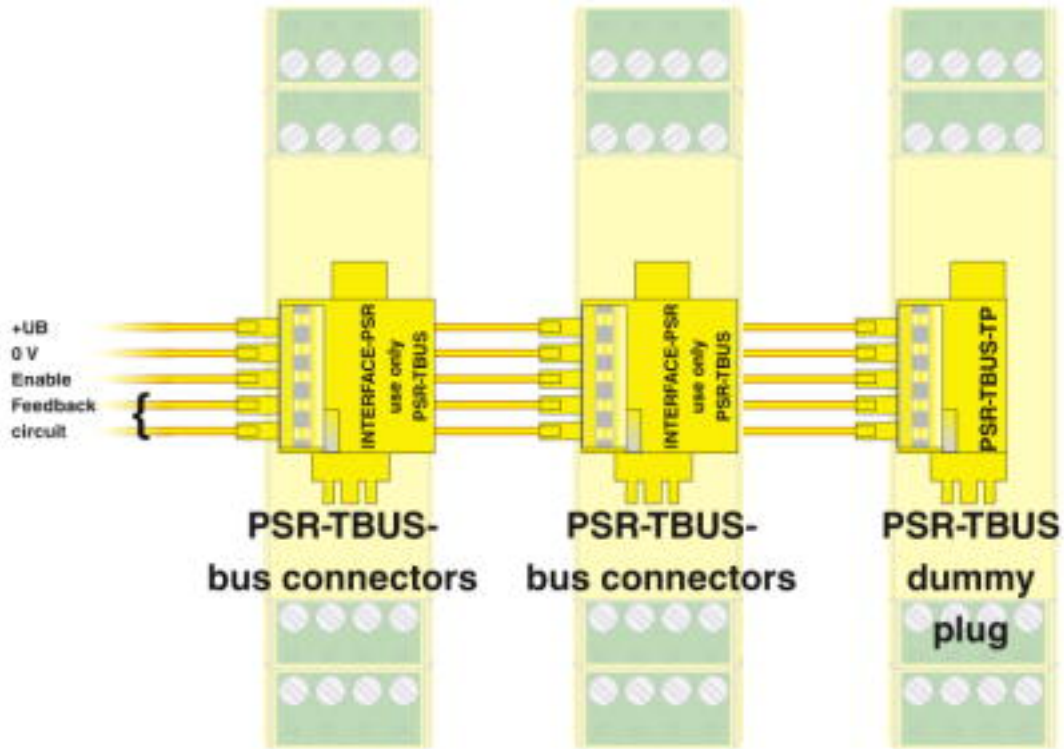
Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Circuit diagram



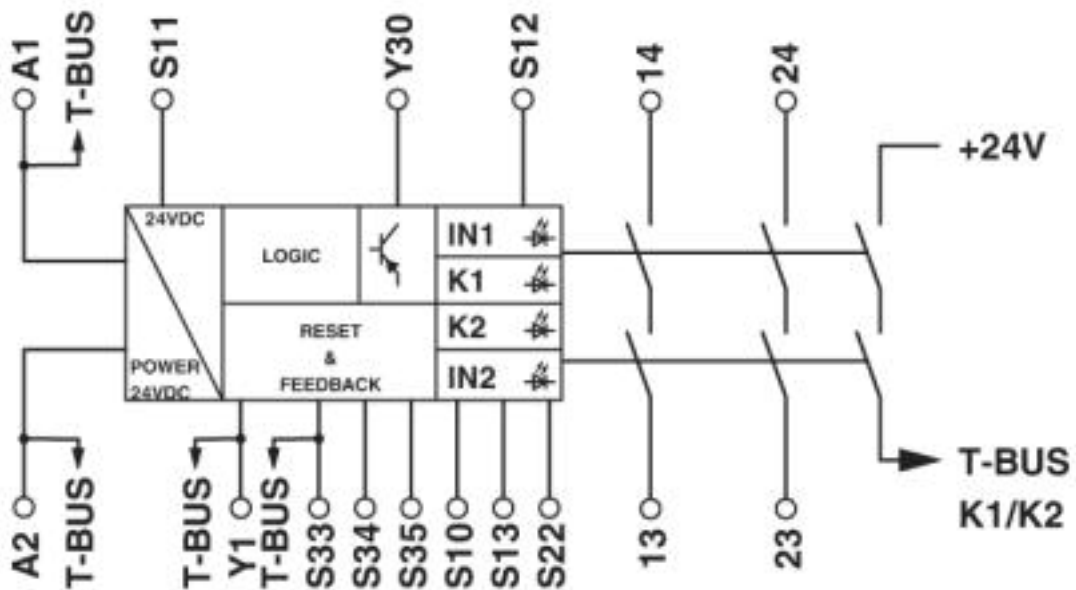
Safety relays - PSR-SCP- 24DC/SDC4/2X1/B - 2981486

Connection diagram



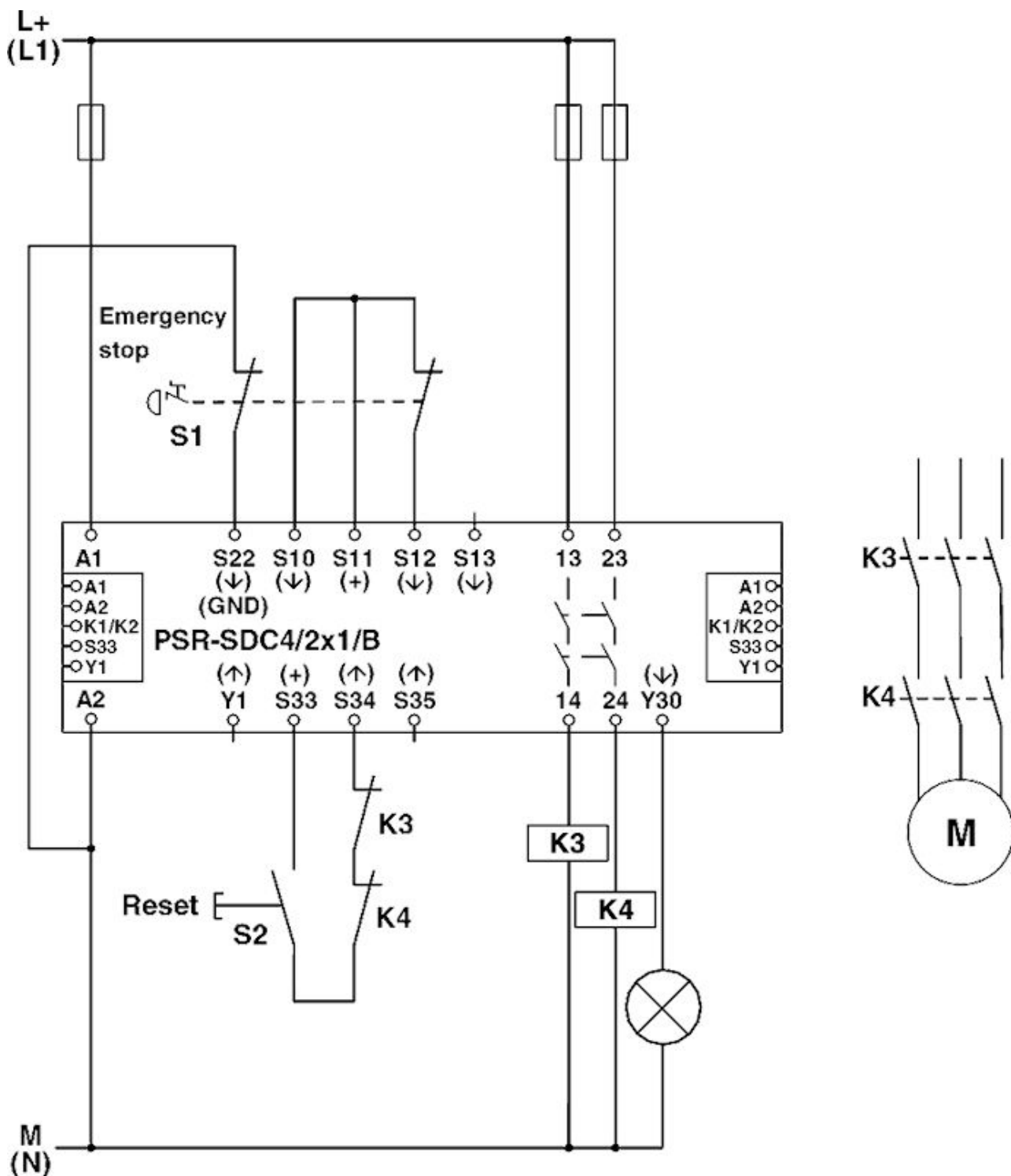
PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

Circuit diagram



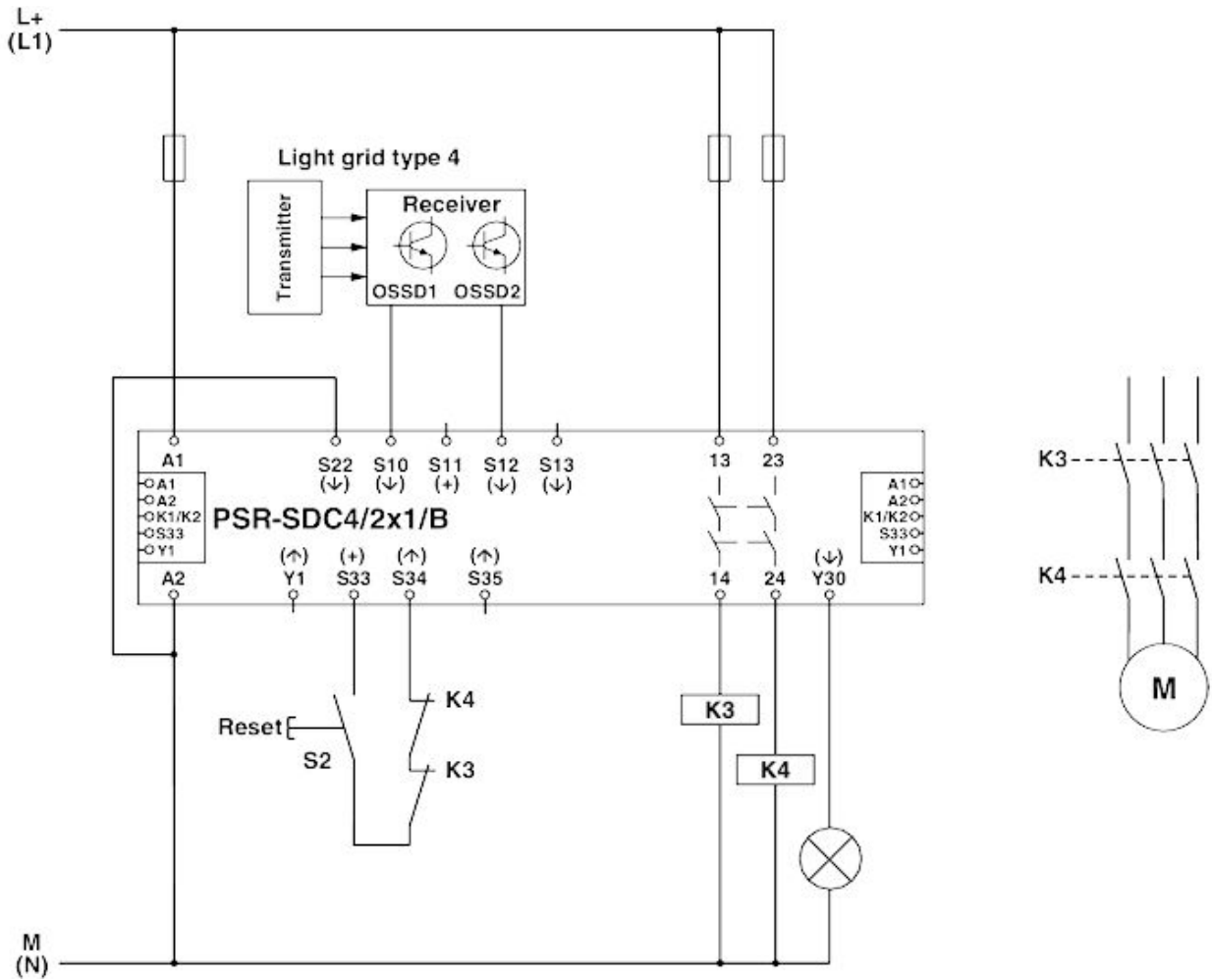
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Circuit diagram



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Circuit diagram



Light grid monitoring

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Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27371819 |
| eCl@ss 4.0 | 40020600 |
| eCl@ss 4.1 | 40020600 |
| eCl@ss 5.0 | 27371900 |
| eCl@ss 5.1 | 27371900 |
| eCl@ss 6.0 | 27371800 |
| eCl@ss 7.0 | 27371819 |
| eCl@ss 8.0 | 27371819 |
| eCl@ss 9.0 | 27371819 |

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001449 |
| ETIM 3.0 | EC001449 |
| ETIM 4.0 | EC001449 |
| ETIM 5.0 | EC001449 |
| ETIM 6.0 | EC001449 |
| ETIM 7.0 | EC001449 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211901 |
| UNSPSC 7.0901 | 39121501 |
| UNSPSC 11 | 39121501 |
| UNSPSC 12.01 | 39121501 |
| UNSPSC 13.2 | 39121501 |
| UNSPSC 18.0 | 39122205 |
| UNSPSC 19.0 | 39122205 |
| UNSPSC 20.0 | 39122205 |
| UNSPSC 21.0 | 39122205 |

Approvals

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Functional Safety / Functional Safety / UL Listed / cUL Listed / Functional Safety / EAC / EAC / cULus Listed

Ex Approvals

Approval details

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Approvals

| | | |
|-------------------|--|------------------|
| Functional Safety | | 968/EZ 369.02/15 |
|-------------------|--|------------------|

| | | |
|-------------------|--|------------------|
| Functional Safety | | 968/EZ 369.02/15 |
|-------------------|--|------------------|

| | | | |
|-----------|--|---|---------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|-----------|--|---|---------------|

| | | | |
|------------|--|---|---------------|
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|------------|--|---|---------------|

| | | |
|-------------------|--|-------------------|
| Functional Safety | | 01/205/0660.01/15 |
|-------------------|--|-------------------|

| | | |
|-----|--|---------------|
| EAC | | EAC-Zulassung |
|-----|--|---------------|

| | | |
|-----|--|--------------------------|
| EAC | | RU C- DE.A*30.B.01082 |
|-----|--|--------------------------|

| | | |
|--------------|--|--|
| cULus Listed | | |
|--------------|--|--|

Accessories

Accessories

DIN rail connector

DIN rail bus connectors - PSR-TBUS - 2890425



DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)

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Accessories

DIN rail bus connectors - PSR-TBUS-TP - 2981716



Blind plug for the PSR-TBUS DIN rail connector used with the modular safety relay system (PSR-SDC4)

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