

Phoenix | 菲尼克斯 2963912 PDF



深圳创唯电子有限公司

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Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2 - 2963912

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, single- or two-channel operation, 8 enabling current paths, $U_s = 24 \text{ V AC/DC}$, plug-in screw terminal block

Your advantages

- ✓ Up to Cat.4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061
- ✓ Manually monitored and automatic activation in a single device
- ✓ Single and two-channel control
- ✓ 8 enabling current paths, 1 signaling current path



Key Commercial Data

| | |
|----------------------|---|
| Packing unit | 1 pc |
| GTIN |  4 017918 899707 |
| GTIN | 4017918899707 |
| Custom tariff number | 8536411000 |
| Sales Key | DNA114 |

Technical data

Note

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

Dimensions

| | |
|--------|----------|
| Width | 45 mm |
| Height | 99 mm |
| Depth | 114.5 mm |

Ambient conditions

| | |
|---|-------------------------------------|
| Ambient temperature (operation) | -20 °C ... 55 °C (observe derating) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |

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Ambient conditions

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

Input data

| | |
|---|--|
| Rated control circuit supply voltage U_s | 24 V AC/DC -15 % / +10 % |
| Rated control supply current I_s | typ. 177 mA AC |
| | typ. 93 mA DC |
| Power consumption at U_s | typ. 4.25 W (AC) |
| | typ. 2.23 W (DC) |
| Inrush current | 2 A ($\Delta t = 10$ ms at U_s) |
| | < 60 mA (with U_s/I_x to S10) |
| | < 110 mA (with U_s/I_x to S12) |
| | > -110 mA (with U_s/I_x to S22) |
| | < 60 mA (with U_s/I_x to S34) |
| | < 60 mA (with U_s/I_x to S35) |
| Current consumption | < 50 mA (with U_s/I_x to S10) |
| | < 50 mA (with U_s/I_x to S12) |
| | > -50 mA (with U_s/I_x to S22) |
| | 0 mA (with U_s/I_x to S34) |
| | 0 mA (with U_s/I_x to S35) |
| Voltage at input/start and feedback circuit | 24 V DC -15 % / +10 % |
| Typical response time | < 380 ms (automatic start) |
| | < 60 ms (manual start) |
| Typ. starting time with U_s | < 500 ms (when controlled via A1) |
| Typical release time | < 20 ms (when controlled via S11/S12 and S21/S22) |
| | < 50 ms (when controlled via A1) |
| Concurrence | ∞ |
| Recovery time | < 1 s |
| Operating voltage display | 1 x green LED |
| Status display | 2 x green LEDs |
| Protective circuit | Surge protection Suppressor diode and varistors |
| Maximum switching frequency | 0.5 Hz |
| Max. permissible overall conductor resistance | approx. 11 Ω (Input and start circuits at U_s) |
| Filter time | 2 ms (at A1 in the event of voltage dips at U_s) |
| | max. 1.5 ms (at S10, S12; test pulse width) |
| | 7.5 ms (at S10, S12; test pulse rate) |
| | Test pulse rate = 5 x Test pulse width |

Output data

| | |
|--------------|--------------------------|
| Contact type | 8 enabling current paths |
|--------------|--------------------------|

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Technical data

Output data

| | |
|--|--|
| | 1 signaling current path |
| Contact material | AgSnO ₂ |
| Maximum switching voltage | 250 V AC/DC (Observe the load curve) |
| Minimum switching voltage | 5 V AC/DC |
| Limiting continuous current | 6 A (N/O contact, pay attention to the derating) |
| | 6 A (N/C contact) |
| Maximum inrush current | 20 A ($\Delta t \# 100 \text{ ms}$) |
| Inrush current, minimum | 10 mA |
| Sq. Total current | 50 A ² (observe derating) |
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, $\tau = 0 \text{ ms}$) |
| | 288 W (48 V DC, $\tau = 0 \text{ ms}$) |
| | 110 W (110 V DC, $\tau = 0 \text{ ms}$) |
| | 88 W (220 V DC, $\tau = 0 \text{ ms}$) |
| | 1500 VA (250 V AC, $\tau = 0 \text{ ms}$) |
| Maximum interrupting rating (inductive load) | 42 W (24 V DC, $\tau = 40 \text{ ms}$) |
| | 42 W (48 V DC, $\tau = 40 \text{ ms}$) |
| | 42 W (110 V DC, $\tau = 40 \text{ ms}$) |
| | 42 W (220 V DC, $\tau = 40 \text{ ms}$) |
| Switching capacity min. | 50 mW |
| Mechanical service life | 10x 10 ⁶ cycles |
| Switching capacity (360/h cycles) | 4 A (24 V DC) |
| | 4 A (230 V AC) |
| Output fuse | 10 A gL/gG (N/O contact) |
| | 6 A gL/gG (N/C contact) |

General

| | |
|---|--|
| Relay type | Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3 |
| Nominal operating mode | 100% operating factor |
| Net weight | 429 g |
| Mounting position | any |
| Mounting type | DIN rail mounting |
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Housing material | PBT |
| Housing color | yellow |

Connection data

| | |
|----------------------------------|---|
| Connection method | Screw connection |
| pluggable | Yes |
| Conductor cross section solid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |

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Technical data

Connection data

| | |
|-----------------------------|-----------|
| Conductor cross-section AWG | 24 ... 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 |
| 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 AC |
| Rated surge voltage/insulation | Basic insulation 4 kV: between all current paths and housing Safe isolation, reinforced insulation 6 kV: between A1/A2 and 63/64, 73/74, 83/84 between S10/S11/S12/S33/S34/S35 and 63/64, 73/74, 83/84 between 63/64, 73/74, 83/84 among one another |
| Degree of pollution | 2 |
| Overvoltage category | III |
| Shock | 15g |
| Vibration (operation) | 10 Hz ... 150 Hz, 2g |
| Conformance | CE-compliant |

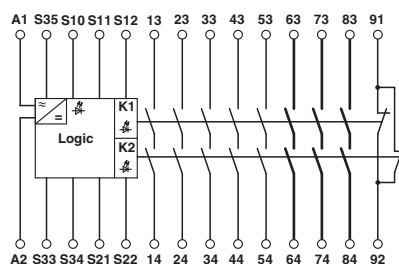
Environmental Product Compliance

| | |
|------------|---|
| 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" |

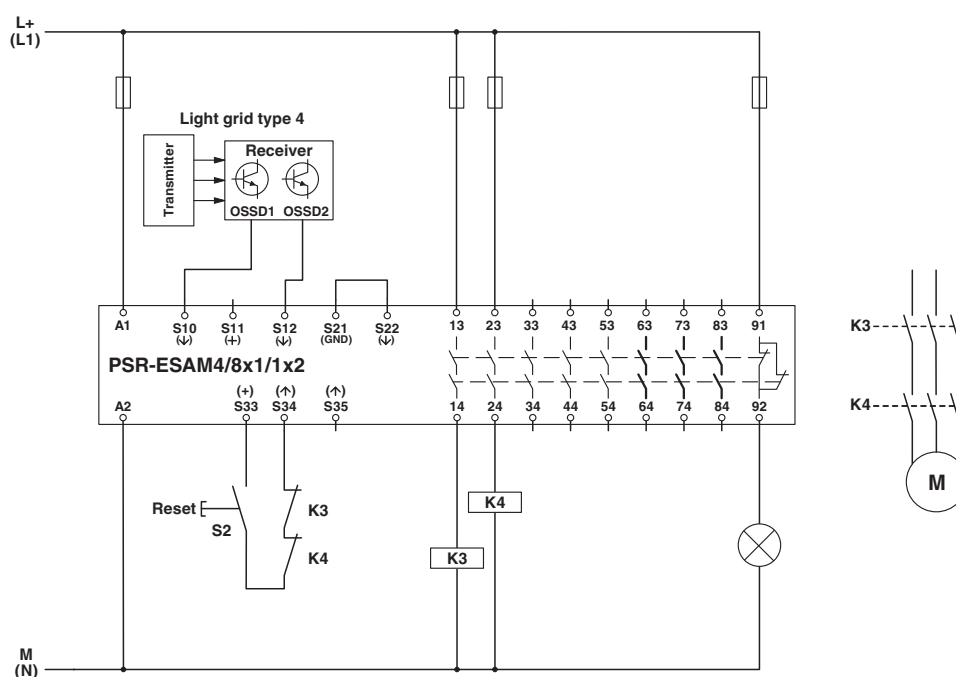
Drawings

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Circuit diagram



Circuit diagram



Light grid monitoring

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27371819 |
| eCl@ss 11.0 | 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 9.0 | 27371819 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC000196 |
| ETIM 3.0 | EC001449 |
| ETIM 4.0 | 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

Approvals

Approvals


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

Ex Approvals

Approval details


| | | | |
|-----------|---|---|---------------|
| 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 |  | 01/205/5363.01/16 |
|-------------------|---|-------------------|

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Approvals

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

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

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