



DATA SHEET

# UE42-2HD2D2

UE42-2HD  
Safety relays



Illustration may differ

SAFETY RELAYS

UE42-2HD2D2

ORDERING INFORMATION

| Type        | part no. |
|-------------|----------|
| UE42-2HD2D2 | 6024878  |

Further device versions and accessories at [www.sick.com/UE42-2HD](http://www.sick.com/UE42-2HD)

DETAILED TECHNICAL DATA

SAFETY-RELATED PARAMETERS

|                                                                     |                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety integrity level                                              | SIL 3 (IEC 61508)                                                                                                                                                                                                                                                            |
| Category                                                            | Category 4 (EN ISO 13849)                                                                                                                                                                                                                                                    |
| Performance level                                                   | PL e (EN ISO 13849)                                                                                                                                                                                                                                                          |
| B <sub>10d</sub> parameter                                          | 1.26 x 10 <sup>6</sup> switching cycles (AC-15, 230 V, I = 1.5 A)<br>5.9 x 10 <sup>6</sup> switching cycles (AC-15, 230 V, I = 0.75 A)<br>4.35 x 10 <sup>5</sup> switching cycles (DC-13, 24 V, I = 2.5 A)<br>1 x 10 <sup>7</sup> switching cycles (DC-13, 24 V, I = 0.63 A) |
| PFH <sub>d</sub> (mean probability of a dangerous failure per hour) | 3.0 x 10 <sup>-8</sup> (EN ISO 13849)                                                                                                                                                                                                                                        |
| T <sub>M</sub> (mission time)                                       | 20 years (EN ISO 13849)                                                                                                                                                                                                                                                      |

ELECTRONICS - OPERATING DATA

|                                                  |                                             |
|--------------------------------------------------|---------------------------------------------|
| Voltage supply                                   | A1, A2                                      |
| Output circuit > 25 V AC / 60 V DC               | PELV                                        |
| Output circuit ≤ 25 V AC / 60 V DC               | PELV or SELV                                |
| Supply voltage V <sub>s</sub>                    | A1, A2<br>24 V DC (20.4 V DC ... 26.4 V DC) |
| Residual ripple                                  | (≤ 2.4 V <sub>pp</sub> ) <sup>1)</sup>      |
| Power consumption                                | (≤ 2.4 W (DC))                              |
| Overvoltage category                             | II                                          |
| Rated insulation voltage U <sub>i</sub>          | 300 V AC                                    |
| Rated impulse withstand voltage U <sub>imp</sub> | 4 kV                                        |
| Test voltage                                     | 2 kV (50 Hz) (EN 60439-1)                   |

<sup>1)</sup> In DC operation, within the limits of V<sub>s</sub>.

**ELECTRONICS - INPUT CIRCUITS: Y11, Y12, Y14, Y21, Y22, Y23**

|                          |                              |
|--------------------------|------------------------------|
| Control voltage          | 24 V DC                      |
| Control current          | 40 mA                        |
| Short-circuit current    | 2 A, between Y14, Y22 and A2 |
| Short-circuit protection | PTC resistor                 |

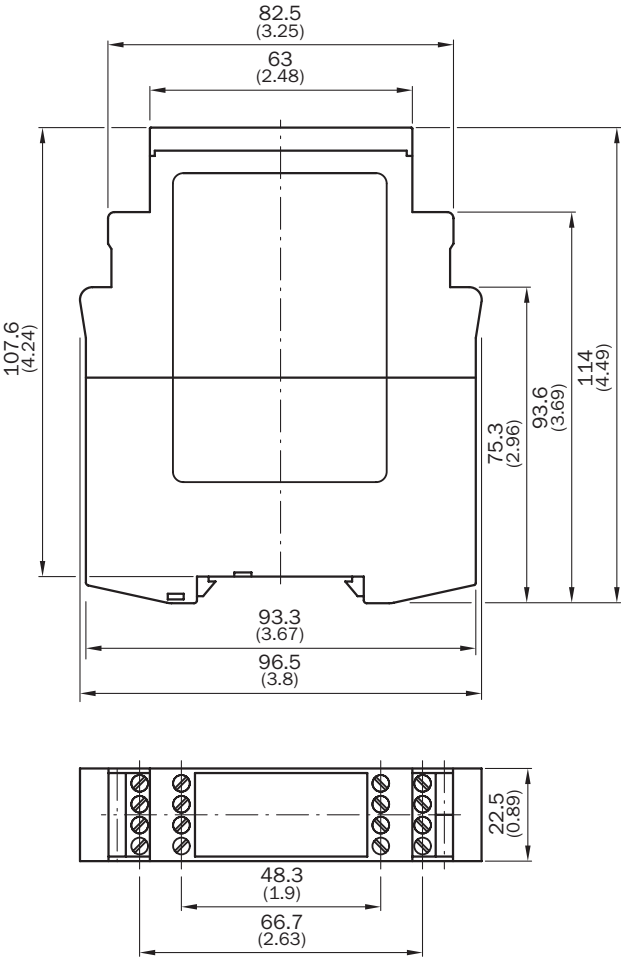
**ELECTRONICS - OUTPUT CURRENT PATHS: 13/14, 23/24, 31/32**

|                                                     |                                                                                                                                                                    |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response time                                       | 50 ms ( $\leq 50$ ms)                                                                                                                                              |
| Number of enabling current paths (N/O)              | 2, relevant for safety                                                                                                                                             |
| Number of signaling current paths (normally closed) | 1, not safety-relevant                                                                                                                                             |
| Contact type                                        | Positively driven                                                                                                                                                  |
| Contact material                                    | Silver alloy, gold flashed                                                                                                                                         |
| Switching voltage                                   |                                                                                                                                                                    |
| Enabling current path                               | 10 V AC ... 230 V AC<br>10 V DC ... 300 V DC                                                                                                                       |
| Signaling current path                              | 10 V AC, 10 V DC ... 230 V AC, 300 V DC                                                                                                                            |
| Current loading                                     |                                                                                                                                                                    |
| Enabling current path                               | 10 mA ... 6 A                                                                                                                                                      |
| Signaling current path                              | 10 mA ... 6 A                                                                                                                                                      |
| Total current                                       | $\leq 12$ A                                                                                                                                                        |
| Usage category                                      | AC-15/DC-13 (EN 60947-5-1)                                                                                                                                         |
| Rated operating current (voltage)                   | 4 A (230 V AC) 360 switching cycles/h<br>3 A (230 V AC) 3600 switching cycles/h<br>4 A (24 V DC) 360 switching cycles/h<br>2.5 A (24 V DC) 3600 switching cycles/h |
| Switching frequency                                 | $\leq 3600$ /h                                                                                                                                                     |
| Mechanical life (relay contacts)                    | $1 \times 10^7$ switching cycles                                                                                                                                   |
| Electrical life (relay contacts)                    | $2 \times 10^6$ switching cycles                                                                                                                                   |

**MECHANICS**

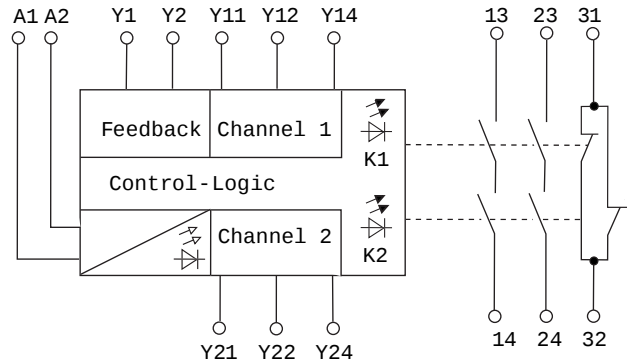
|                        |                            |
|------------------------|----------------------------|
| Dimensions (W x H x D) | 22.5 mm x 114 mm x 96.5 mm |
| Contamination rating   | 3 (EN 50178)               |
| Weight                 | 0.2 kg                     |

DIMENSIONAL DRAWING SAFETY RELAY



Dimensions in mm (inch)

CONNECTION DIAGRAM



Further information as well as suitable accessories, example applications and downloads such as CAD di-  
mensional models, operating instructions and software can be found at [www.sick.com/6024878](http://www.sick.com/6024878)



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