Non-contact safety switches CET-AR-... with guard locking and guard lock monitoring

- Safety switch with guard locking and integrated evaluation electronics
- Locking force up to 6,500 N
- Up to 20 switches in series
- Short circuit monitoring
- 2 safety outputs (semiconductor outputs)
- Up to category 4 / PL e according to EN ISO 13849-1

For possible combinations see page 179

For ordering table see page 200/201/203.

Approach direction
- Horizontal
  Can be adjusted in 90° steps

Safety switch
The safety switch CET is only allowed to be operated in conjunction with the actuator CET-A-BWK-50X.

Important: The actuator must be ordered separately (see page 218).

Available coding options (see page 5)
- Unicode evaluation
- Multicode evaluation

Mechanical release
Is used for releasing the guard locking with the aid of a tool. The mechanical release must be sealed to prevent tampering (for example with sealing lacquer).

Escape release (optional)
Is used for the manual release of the guard locking from within the danger area without tools.

Wire front release (optional)
The wire front release permits remote release of the guard locking via a pull rope. Flexible routing of the pull wire permits release of the guard locking in inaccessible installation situations.
The handle for the wire front release is not included. Please order separately (see page 174).

Lockout mechanism
The lockout mechanism can be used to prevent maintenance personnel from being unintentionally locked in the danger area, for example. In locked position, the lockout mechanism prevents activation of guard locking. The lockout mechanism can be secured in locking position with up to three locks. The mechanical release can still be used.

Feedback loop
Versions with feedback loop permit monitoring of connected devices (e.g. contactors). Additionally, a start button can be integrated (see wiring diagrams on pages "Wiring diagrams" on page 197 ff.).

Solenoid operating voltage
- DC 24 V +10%, -15%

Guard locking types
- CET1
  Guard locking by spring force
  Release by applying voltage to the guard locking solenoid.
- CET2
  Guard locking by solenoid force
  Guard locking by applying voltage to the guard locking solenoid.
  Release by spring force.
- CET3
  Function as for CET1-AR, but here the door position is also monitored. The door monitoring output OUT D is set to HIGH as soon as the actuator protrudes beyond the extended lift tappet (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.
- CET4
  Function as for CET2-AR, but here the door position is also monitored. The door monitoring output OUT D is set to HIGH as soon as the actuator protrudes beyond the extended lift tappet (state: door closed, guard locking not active). The output OUT D remains set also with guard locking active.

LED function display
- LED State  Status LED
- LED DIA  Diagnostics LED
- LED 1 red  see wiring diagram
- LED 2 green  see wiring diagram

Additional connections
- OUT  Monitoring output (semiconductor)
- OUT D  Door monitoring output (only CET3/4)
- RST  Reset input

Category according to EN ISO 13849-1
Due to two redundant design semiconductor outputs (safety outputs) with internal monitoring suitable for:
- Category 4 / PL e according to EN ISO 13849-1

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.
The category is dependent on the installation position of the safety switch:

<table>
<thead>
<tr>
<th>Installation position</th>
<th>Achievable category and PL according to EN ISO 13849-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head upward</td>
<td>3 / PL e</td>
</tr>
<tr>
<td>Head downward or horizontal</td>
<td>4 / PL e</td>
</tr>
</tbody>
</table>
Non-contact safety switches CET-AR...
with 2 plug connectors M12

Dimension drawing

Actuator CET-A-BWK-50X
for safety switch CET-AR

Safety switch CET-AR...
with escape release

Safety switch CET-AR...
with plug connector RC18

For connection cable see page 155

1) German Social Accident Insurance approval pending
2) No UL approval for version with plug connector RC18

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
<table>
<thead>
<tr>
<th>Non-contact safety switches CET-AR...</th>
<th>Non-contact safety switches CET-AR...</th>
</tr>
</thead>
<tbody>
<tr>
<td>with lockout mechanism</td>
<td>with wire front release</td>
</tr>
</tbody>
</table>

**Dimension drawing**

![Dimension drawing](image)
Safety Switches CES-AR/CET-AR

Wiring diagrams

Connection example for separate operation, version with teach-in input

Connection example for separate operation, version with start button and feedback loop

Connection example for separate operation, version without feedback loop and without teach-in input

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
### Terminal assignment for version without door monitoring output (CET1/2)

<table>
<thead>
<tr>
<th>Plug connector (view of connection side)</th>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
<th>Wire color of connection cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1.1</td>
<td>IB</td>
<td>Enable input for channel 2</td>
<td>WH</td>
<td></td>
</tr>
<tr>
<td>X1.2</td>
<td>$U_B$</td>
<td>Operating voltage of AR electronics, 24 V DC</td>
<td>BN</td>
<td></td>
</tr>
<tr>
<td>X1.3</td>
<td>OA</td>
<td>Safety output, channel 1</td>
<td>GN</td>
<td></td>
</tr>
<tr>
<td>X1.4</td>
<td>OB</td>
<td>Safety output, channel 2</td>
<td>YE</td>
<td></td>
</tr>
<tr>
<td>X1.5</td>
<td>OUT</td>
<td>Monitoring output</td>
<td>GY</td>
<td></td>
</tr>
<tr>
<td>X1.6</td>
<td>IA</td>
<td>Enable input for channel 1</td>
<td>PK</td>
<td></td>
</tr>
<tr>
<td>X1.7</td>
<td>$0\ V_{UB}$</td>
<td>Operating voltage of AR electronics 0 V</td>
<td>BU</td>
<td></td>
</tr>
<tr>
<td>X1.8</td>
<td>RST</td>
<td>Reset input</td>
<td>RD</td>
<td></td>
</tr>
<tr>
<td>X2.1</td>
<td>$0\ V_{U_{CM}}$</td>
<td>Operating voltage of guard locking solenoid 0 V</td>
<td>BN</td>
<td></td>
</tr>
<tr>
<td>X2.2</td>
<td>LED 1</td>
<td>LED 1 red, freely configurable, 24 V DC</td>
<td>WH</td>
<td></td>
</tr>
<tr>
<td>X2.3</td>
<td>LED 2</td>
<td>LED 2 green, freely configurable, 24 V DC</td>
<td>BU</td>
<td></td>
</tr>
<tr>
<td>X2.4</td>
<td>$U_{CM}$</td>
<td>Operating voltage of guard locking solenoid, 24 V DC</td>
<td>BK</td>
<td></td>
</tr>
</tbody>
</table>

#### Version with teach-in input:
- To teach-in a new actuator, connect to 24 V DC; in normal operation connect to 0 V.

#### Version with feedback loop:
- If the feedback loop is not used, connect to 24 V DC.

#### Version without feedback loop and without teach-in input:
- This connection must be connected to 0 V.

1) Only for standard EUCHNER connection cable

### Terminal assignment for version with function earth connection (CET1/2)

<table>
<thead>
<tr>
<th>Plug connector (view of connection side)</th>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
<th>Wire color of connection cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1.1</td>
<td>IB</td>
<td>Enable input for channel 2</td>
<td>WH</td>
<td></td>
</tr>
<tr>
<td>X1.2</td>
<td>$U_B$</td>
<td>Operating voltage of AR electronics, 24 V DC</td>
<td>BN</td>
<td></td>
</tr>
<tr>
<td>X1.3</td>
<td>OA</td>
<td>Safety output, channel 1</td>
<td>GN</td>
<td></td>
</tr>
<tr>
<td>X1.4</td>
<td>OB</td>
<td>Safety output, channel 2</td>
<td>YE</td>
<td></td>
</tr>
<tr>
<td>X1.5</td>
<td>OUT</td>
<td>Monitoring output</td>
<td>GY</td>
<td></td>
</tr>
<tr>
<td>X1.6</td>
<td>IA</td>
<td>Enable input for channel 1</td>
<td>PK</td>
<td></td>
</tr>
<tr>
<td>X1.7</td>
<td>$0\ V_{UB}$</td>
<td>Operating voltage of AR electronics 0 V</td>
<td>BU</td>
<td></td>
</tr>
<tr>
<td>X1.8</td>
<td>RST</td>
<td>Reset input</td>
<td>RD</td>
<td></td>
</tr>
<tr>
<td>X2.1</td>
<td>$0\ V_{U_{CM}}$</td>
<td>Operating voltage of guard locking solenoid 0 V</td>
<td>BN</td>
<td></td>
</tr>
<tr>
<td>X2.2</td>
<td>LED 1</td>
<td>LED 1 red, freely configurable, 24 V DC</td>
<td>WH</td>
<td></td>
</tr>
<tr>
<td>X2.3</td>
<td>LED 2</td>
<td>LED 2 green, freely configurable, 24 V DC</td>
<td>BU</td>
<td></td>
</tr>
<tr>
<td>X2.4</td>
<td>$U_{CM}$</td>
<td>Operating voltage of guard locking solenoid, 24 V DC</td>
<td>BK</td>
<td></td>
</tr>
<tr>
<td>X2.5</td>
<td>FE</td>
<td>Function earth</td>
<td>GY</td>
<td></td>
</tr>
</tbody>
</table>

1) Only for standard EUCHNER connection cable
## Terminal assignment for version with door monitoring output (CET3/4), continued

### Wiring diagram C

<table>
<thead>
<tr>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
<th>Wire color of connection cable 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X 1.1</td>
<td>IB</td>
<td>Enable input for channel 2</td>
<td>WH</td>
</tr>
<tr>
<td>X 1.2</td>
<td>U_b</td>
<td>Operating voltage of AR electronics, 24 V DC</td>
<td>BN</td>
</tr>
<tr>
<td>X 1.3</td>
<td>OA</td>
<td>Safety output, channel 1</td>
<td>GN</td>
</tr>
<tr>
<td>X 1.4</td>
<td>OB</td>
<td>Safety output, channel 2</td>
<td>YE</td>
</tr>
<tr>
<td>X 1.5</td>
<td>OUT</td>
<td>Monitoring output</td>
<td>GY</td>
</tr>
<tr>
<td>X 1.6</td>
<td>IA</td>
<td>Enable input for channel 1</td>
<td>PK</td>
</tr>
<tr>
<td>X 1.7</td>
<td>0 V U_b</td>
<td>Operating voltage of AR electronics 0 V</td>
<td>BU</td>
</tr>
<tr>
<td>X 1.8</td>
<td>RST</td>
<td>Reset input</td>
<td>RD</td>
</tr>
<tr>
<td>X 2.1</td>
<td>0 V U_CM</td>
<td>Operating voltage of guard locking solenoid 0 V</td>
<td>BN</td>
</tr>
<tr>
<td>X 2.2</td>
<td>OUT_D</td>
<td>Door monitoring output</td>
<td>WH</td>
</tr>
<tr>
<td>X 2.3</td>
<td>LED 1</td>
<td>LED 1 red, freely configurable, 24 V DC</td>
<td>BU</td>
</tr>
<tr>
<td>X 2.4</td>
<td>U_CM</td>
<td>Operating voltage of guard locking solenoid, 24 V DC</td>
<td>BK</td>
</tr>
</tbody>
</table>

1) Only for standard EUCHNER connection cable

### Wiring diagram D

<table>
<thead>
<tr>
<th>Pin</th>
<th>Designation</th>
<th>Function</th>
<th>Wire color of connection cable 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X 1.1</td>
<td>IB</td>
<td>Enable input for channel 2</td>
<td>WH</td>
</tr>
<tr>
<td>X 1.2</td>
<td>U_b</td>
<td>Operating voltage of AR electronics, 24 V DC</td>
<td>BN</td>
</tr>
<tr>
<td>X 1.3</td>
<td>OA</td>
<td>Safety output, channel 1</td>
<td>GN</td>
</tr>
<tr>
<td>X 1.4</td>
<td>OB</td>
<td>Safety output, channel 2</td>
<td>YE</td>
</tr>
<tr>
<td>X 1.5</td>
<td>OUT</td>
<td>Monitoring output</td>
<td>GY</td>
</tr>
<tr>
<td>X 1.6</td>
<td>IA</td>
<td>Enable input for channel 1</td>
<td>PK</td>
</tr>
<tr>
<td>X 1.7</td>
<td>0 V U_b</td>
<td>Operating voltage of AR electronics 0 V</td>
<td>BU</td>
</tr>
<tr>
<td>X 1.8</td>
<td>RST</td>
<td>Reset input</td>
<td>RD</td>
</tr>
<tr>
<td>X 2.1</td>
<td>0 V U_CM</td>
<td>Operating voltage of guard locking solenoid 0 V</td>
<td>BN</td>
</tr>
<tr>
<td>X 2.2</td>
<td>OUT_D</td>
<td>Door monitoring output</td>
<td>WH</td>
</tr>
<tr>
<td>X 2.3</td>
<td>OUT</td>
<td>Monitoring output</td>
<td>BU</td>
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<td>X 2.4</td>
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<tr>
<td>X 2.5</td>
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1) Only for standard EUCHNER connection cable

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Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
### Ordering table CET.-AR-….SG-…. with 2 plug connectors M12

<table>
<thead>
<tr>
<th>Order no./item</th>
<th>Closed-circuit current principle</th>
<th>Open-circuit current principle</th>
<th>Door monitoring output</th>
<th>Unicode</th>
<th>Multicode</th>
<th>Single ramp</th>
<th>Double ramp</th>
<th>Teach-in input</th>
<th>Feedback loop</th>
<th>Escape release</th>
<th>Wire front release (L1*)</th>
<th>Lockout mechanism</th>
<th>Wiring diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>CET1 106275</td>
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<td>A</td>
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</tbody>
</table>

* L1 = hose length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see page 218).

### Ordering table CET.-AR-….SG-…. with 2 plug connectors M12 and function earth connection

<table>
<thead>
<tr>
<th>Order no./item</th>
<th>Closed-circuit current principle</th>
<th>Open-circuit current principle</th>
<th>Door monitoring output</th>
<th>Unicode</th>
<th>Multicode</th>
<th>Single ramp</th>
<th>Double ramp</th>
<th>Teach-in input</th>
<th>Feedback loop</th>
<th>Escape release</th>
<th>Wire front release (L1*)</th>
<th>Lockout mechanism</th>
<th>Wiring diagram</th>
</tr>
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<tbody>
<tr>
<td>CET1 109075</td>
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* L1 = hose length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see page 218).
### Ordering table CET-AR-...-SG-... with 2 plug connectors M12 (continued)

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<th>Multicode</th>
<th>Single ramp</th>
<th>Double ramp</th>
<th>Teach-in input</th>
<th>Feedback loop</th>
<th>Escape release</th>
<th>Wire front release (L1*)</th>
<th>Lockout mechanism</th>
<th>Wiring diagram</th>
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* L1 = hose length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see page 218).
## Terminal assignment

**Wiring diagram E**

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<th>Plug connector (view of connection side)</th>
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<th>Wire color of connection cable ¹)</th>
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<td>Version with feedback loop:</td>
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<td>If the feedback loop is not used, connect to 24 V DC. Version without feedback loop and without teach-in input:</td>
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¹) Only for standard EUCHNER connection cable
## Ordering table CET-AR-...-SH-... with plug connector RC18 (no UL approval)

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<th>Order no./Item</th>
<th>Closed-circuit current principle</th>
<th>Open-circuit current principle</th>
<th>Door monitoring output</th>
<th>Unicode</th>
<th>Multi-code</th>
<th>Single ramp</th>
<th>Double ramp</th>
<th>Teach-in input</th>
<th>Feedback loop</th>
<th>Escape release (L1)</th>
<th>Lockout mechanism</th>
<th>Wiring diagram</th>
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<td>116285</td>
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<td>●</td>
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<td>CET4-AR-CRA-AH-50X-SH-116285</td>
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<td>●</td>
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<td></td>
<td></td>
<td></td>
<td>E</td>
</tr>
</tbody>
</table>

* L1 = hose length; cable length = L1 + 1 m. Important: Handle must be ordered separately (see page 218).
### Technical data for non-contact safety switches CET-AR...

#### Safety switch

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value min.</th>
<th>Value typ.</th>
<th>Value max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material, ramp</td>
<td>Stainless steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material, safety switch housing</td>
<td>Die-cast aluminum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Installation position</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with plug connector M12</td>
<td>IP 67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with plug connector RC 18</td>
<td>IP65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(screwed tight with the related mating connector)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety class</td>
<td>III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of contamination</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature at $U_B$</td>
<td>-20°C</td>
<td>+20°C</td>
<td>+55°C</td>
<td>°C</td>
</tr>
<tr>
<td>Actuator approach speed, max.</td>
<td></td>
<td>-20</td>
<td></td>
<td>m/min</td>
</tr>
<tr>
<td>Locking force $F_{max}$</td>
<td>6,500</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Locking force $F_{ZH}$ in acc. with GS-ET-19</td>
<td>$F_{ZH} = F_{max}/1.3 = 5,000$</td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Mass</td>
<td>Approx. 1.0</td>
<td></td>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>Degrees of freedom (actuator in recess) X, Y, Z</td>
<td>$X, Y \leq 5, Z \leq 4$</td>
<td></td>
<td></td>
<td>mm</td>
</tr>
<tr>
<td>Connection type (depending on version)</td>
<td>2 plug connectors M12, 5 and 8-pin</td>
<td>1 plug connector RC 18, 19-pin (as yet no UL approval)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating voltage $U_B$ (reverse-polarity protected, regulated, residual ripple &lt; 5%)</td>
<td>$24 \pm 15%$ (PELV)</td>
<td></td>
<td></td>
<td>V DC</td>
</tr>
<tr>
<td>Current consumption $I_B$</td>
<td>80 mA</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>For the approval according to UL the following applies</td>
<td>Operation only with UL class 2 power supply, or equivalent measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching load according to UL</td>
<td>DC 24 V, class 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External fuse (operating voltage $U_I$)</td>
<td>0.25 A</td>
<td>-</td>
<td>2</td>
<td>A</td>
</tr>
<tr>
<td>External fuse (solenoid operating voltage $U_{CM}$)</td>
<td>0.5 A</td>
<td>-</td>
<td>8</td>
<td>A</td>
</tr>
<tr>
<td>Rated insulation voltage $U_I$</td>
<td>-</td>
<td>-</td>
<td>75</td>
<td>V</td>
</tr>
<tr>
<td>Resilience to vibration acc. to EN 60947-5-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMC protection requirements acc. to EN IEC 60947-5-3</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Safety outputs OA/OB</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semiconductor outputs, p-switching, short circuit-proof</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output voltage $U_{OA}/U_{OB}$</td>
<td>$U_B - 1.5$</td>
<td>-</td>
<td>$U_B$</td>
<td>V DC</td>
</tr>
<tr>
<td>Switching current per safety output</td>
<td>1 mA</td>
<td>-</td>
<td>200 mA</td>
<td></td>
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<tr>
<td>Utilization category according to EN 60947-5-2</td>
<td>DC-13 24V 200mA</td>
<td>Caution: outputs must be protected with a free-wheeling diode</td>
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<tr>
<td>Switching frequency</td>
<td>0.5 Hz</td>
<td></td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Repeat accuracy R acc. to EN IEC 60947-5-3</td>
<td>≤ 10</td>
<td></td>
<td></td>
<td>%</td>
</tr>
<tr>
<td>Monitoring outputs OUT and OUT D (optional)</td>
<td>(p-switching, short circuit-proof)</td>
<td></td>
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<tr>
<td>Output voltage</td>
<td>$0.8 \times U_I$</td>
<td>-</td>
<td>$U_I$</td>
<td>V DC</td>
</tr>
<tr>
<td>Max. load</td>
<td>-</td>
<td>-</td>
<td>50 mA</td>
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<td><strong>Teach-in input J or input feedback loop Y</strong></td>
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<tr>
<td>HIGH</td>
<td>15</td>
<td>-</td>
<td>$U_{CM}$</td>
<td>V</td>
</tr>
<tr>
<td>LOW</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td></td>
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<tr>
<td><strong>Solenoid</strong></td>
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<td></td>
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<tr>
<td>Solenoid operating voltage $U_{CM}$ (reverse polarity protected, regulated, residual ripple &lt; 5%)</td>
<td>DC 24 V ±10%/−15%</td>
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<tr>
<td>Current consumption solenoid $I_{CM}$</td>
<td>480 mA</td>
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<td>mA</td>
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<tr>
<td>Power consumption</td>
<td>10 W</td>
<td></td>
<td></td>
<td>W</td>
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<tr>
<td>Duty cycle</td>
<td>100 %</td>
<td></td>
<td></td>
<td>%</td>
</tr>
<tr>
<td><strong>Freely configurable LEDs 2)</strong></td>
<td>LED1 red, LED2 green</td>
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<tr>
<td>Operating voltage</td>
<td>$20.4$</td>
<td>$26.4$</td>
<td>V DC</td>
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</tr>
<tr>
<td><strong>Reliability values according to EN ISO 13849-1</strong></td>
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<tr>
<td>Head downward or horizontal</td>
<td>Category 4</td>
<td>3</td>
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<tr>
<td>Performance Level (PL)</td>
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<td>e</td>
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<tr>
<td>$PFH_e$</td>
<td>$3.1 \times 10^{-7}$/h</td>
<td>$4.29 \times 10^{-7}$/h</td>
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</tr>
<tr>
<td>Mission time</td>
<td>20 years</td>
<td>20 years</td>
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</table>

1) Values at a switching current of 50 mA without taking into account the cable lengths. 2) Can vary depending on version. See data sheet.

### Actuator

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value min.</th>
<th>Value typ.</th>
<th>Value max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing material</td>
<td>Stainless steel</td>
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<tr>
<td>Installation position</td>
<td>Active face opposite read head</td>
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<tr>
<td>Degree of protection according to IEC/EN 60529</td>
<td>IP67</td>
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<tr>
<td>Mechanical life</td>
<td>$1 \times 10^6$ operating cycles</td>
<td>-</td>
<td>+55°C</td>
<td>°C</td>
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<tr>
<td>Locking force, max. (locked)</td>
<td>6,500</td>
<td></td>
<td></td>
<td>N</td>
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<tr>
<td>Mass</td>
<td>Approx. 0.25</td>
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<td></td>
<td>kg</td>
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<tr>
<td>Stroke max.</td>
<td>15 mm</td>
<td></td>
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<td>mm</td>
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<tr>
<td>Power supply</td>
<td>Inductive, via read head</td>
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</table>
Connection cables with plug connectors

<table>
<thead>
<tr>
<th>Flying lead</th>
<th>Flying lead</th>
<th>Flying lead</th>
<th>Plug on both ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 female connector 8-pin</td>
<td>M12 female connector 8-pin</td>
<td>M12 female connector 5-pin</td>
<td>M12 plug and female connector 5-pin</td>
</tr>
</tbody>
</table>

**Dimension drawing**

**View of connection side**

1. **Flying lead**
   - M8 female connector 8-pin
   - M12 female connector 8-pin
   - M12 female connector 5-pin
   - M12 plug and female connector 5-pin

**Cable end sleeves**

1 = WH  IB
2 = BN  UB
3 = GN  OA
4 = YE  OB
5 = GY  OUT
6 = PK  IA
7 = BU  O V
8 = RD  RST

1 = BN  IB
2 = WH  UB
3 = GN  OA
4 = YE  OB
5 = GY  OUT
6 = PK  IA
7 = BU  O V
8 = RD  RST

1 = BN  IB
2 = WH  UB
3 = GN  OA
4 = YE  OB
5 = GY  OUT
6 = PK  IA
7 = BU  O V
8 = RD  RST

1 = BN  IB
2 = WH  UB
3 = GN  OA
4 = YE  OB
5 = GY  OUT
6 = PK  IA
7 = BU  O V
8 = RD  RST

1 = BN  IB
2 = WH  UB
3 = GN  OA
4 = YE  OB
5 = GY  OUT
6 = PK  IA
7 = BU  O V
8 = RD  RST

**Ordering table see next page.**
## Connection cables with plug connectors

### Ordering table connection cables PVC with plug connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>Comment</th>
<th>Order no./item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M8</strong></td>
<td>M8 connection cable PVC, 8-core, flying lead, 8 x 0.24 mm² for the connection of one CES-AR-C.2-..-SG</td>
<td>110933</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M8 female connector 8-pin, length 5 m</td>
<td>110933</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 10 m</td>
<td>110934</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 15 m</td>
<td>110935</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 20 m</td>
<td>111603</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 connection cable PVC, 5-core, flying lead, 5 x 0.34 mm² for the connection of one CET-AR</td>
<td>100183</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin, length 5 m</td>
<td>100183</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin, length 10 m</td>
<td>100184</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin, length 20 m</td>
<td>100185</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 extension cable PVC, 5-core, plug connectors at both ends for the connection of one CET-AR to decentralized peripheral equipment</td>
<td>100180</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin to M12 plug connector, length 5 m</td>
<td>100180</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin to M12 plug connector, length 10 m</td>
<td>100181</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 5-pin to M12 plug connector, length 20 m</td>
<td>100182</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 connection cable PVC, 8-core, flying lead, 8 x 0.25 mm² for the connection of one CES-AR-C01-..-SA / CES-AR-C.2-..-SA / CET-AR</td>
<td>100177</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 8-pin, length 5 m</td>
<td>100177</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 8-pin, length 10 m</td>
<td>100178</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector 8-pin, length 20 m</td>
<td>100179</td>
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</tbody>
</table>

### Ordering table connection cables PUR with plug connectors

<table>
<thead>
<tr>
<th>Series</th>
<th>Comment</th>
<th>Order no./item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M8</strong></td>
<td>M8 connection cable PUR, 8-core, flying lead, 8 x 0.14 mm² for the connection of one CES-AR-C.2-..-SG</td>
<td>106671</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 5 m</td>
<td>106671</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 10 m</td>
<td>106672</td>
</tr>
<tr>
<td><strong>M8</strong></td>
<td>M8 female connector 8-pin, length 20 m</td>
<td>106673</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 connection cable PUR, 8-core, flying lead, 8 x 0.25 mm² for the connection of one CES-AR-C01-..-SA / CES-AR-C.2-..-SA / CET-AR</td>
<td>113189</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector, angled, 8-pin, length 10 m, cable outlet right</td>
<td>113189</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector, angled, 8-pin, length 10 m, cable outlet left</td>
<td>113188</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 extension cable PUR, 5-core, plug connectors at both ends for the connection of one CET-AR to decentralized peripheral equipment</td>
<td>113190</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector, angled, 5-pin to M12 plug connector, length 10 m, cable outlet right</td>
<td>113187</td>
</tr>
<tr>
<td><strong>M12</strong></td>
<td>M12 female connector, angled, 5-pin to M12 plug connector, length 10 m, cable outlet left</td>
<td>115566</td>
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Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
### Technical data for M8 connection cable PVC, 8-core

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>min.</th>
<th>typ.</th>
<th>max.</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Plug connector</td>
<td>8-pin M8 female connector, straight</td>
<td></td>
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<tr>
<td>Connection</td>
<td>Screw terminal</td>
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<tr>
<td>Conductor cross-section</td>
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<td>mm²</td>
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<tr>
<td>Material, connector housing</td>
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<tr>
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<td>Static bending radius</td>
<td>min. 5 x cable diameter</td>
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### Technical data for M8 connection cable PUR, 8-core

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<tbody>
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<td>Plug connector</td>
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<tr>
<td>Connection</td>
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</tr>
<tr>
<td>Conductor cross-section</td>
<td>8 x 0.14</td>
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<td></td>
<td></td>
<td>mm²</td>
</tr>
<tr>
<td>Material, connector housing</td>
<td>TPU</td>
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<tr>
<td>Material, outer sheath</td>
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<tr>
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### Technical data for M12 connection cable PVC, 5-core

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<th>Value</th>
<th>min.</th>
<th>typ.</th>
<th>max.</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Plug connector</td>
<td>5-pin M12 female connector, straight</td>
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<tr>
<td>Connection</td>
<td>Screw terminal</td>
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<tr>
<td>Material, outer sheath</td>
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<tr>
<td>Static bending radius</td>
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<td>mm</td>
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### Technical data for M12 connection cable PVC, 8-core

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<th>typ.</th>
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<th>Unit</th>
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<tbody>
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<td>8-pin M12 female connector, straight</td>
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<tr>
<td>Connection</td>
<td>Screw terminal</td>
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### Technical data for M12 connection cable PUR, 5-core, with female connector, angled

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<td>Connection</td>
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<tr>
<td>Conductor cross-section</td>
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<td>mm²</td>
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<tr>
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<tr>
<td>Material, outer sheath</td>
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### Technical data for M12 connection cable PUR, 8-core, with female connector, angled

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<th>typ.</th>
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<th>Unit</th>
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<td>8-pin M12 female connector, angled</td>
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<td>Connection</td>
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<tr>
<td>Conductor cross-section</td>
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<td>mm²</td>
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Connection cables with plug connector RC18 for CET-AR

**Female connector RC18 with cable**
18-pin + PE

**Assignment connection cable RC18 for CET-AR**

<table>
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<tr>
<th>Pin</th>
<th>Core color</th>
<th>Conductor cross-section [mm]</th>
<th>Pin</th>
<th>Core color</th>
<th>Conductor cross-section [mm]</th>
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<td>BK</td>
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<td>GY</td>
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<td>13</td>
<td>PK</td>
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<tr>
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<td>RD/BU</td>
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<td>14</td>
<td>BN/GY</td>
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<td>GN</td>
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<td>BN/YE</td>
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<td>BU</td>
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<td>WH</td>
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<td>GY/WH</td>
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</table>

**Female connector RC18 angulated with cable**
18-pin + PE

**Female connector RC18 angled with cable halogen-free**
18-pin + PE
### Safety Switches CES-AR/CET-AR

#### Ordering table

<table>
<thead>
<tr>
<th>Designation</th>
<th>Cable length [m]</th>
<th>Order no./item</th>
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<td>092816 RC18EF3MC1825</td>
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<td>077014 RC18EF6MC1825</td>
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<td>077015 RC18EF8MC1825</td>
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<td>092898 RC18EF10MC1825</td>
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<td>077016 RC18EF15MC1825</td>
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<td>092726 RC18EF20MC1825</td>
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<td>092727 RC18EF25MC1825</td>
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<td>095993 RC18EF30MC1825</td>
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<td>092884 RC18EF3MF-C1825</td>
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<td>092885 RC18EF6MF-C1825</td>
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<td>092886 RC18EF8MF-C1825</td>
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<td>092913 RC18WF25MLC1825</td>
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Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
## Connection cables with plug connector RC18 for CET-AR

### Technical data for female connector RC18, straight/angled, with cable

<table>
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<th>max.</th>
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<tbody>
<tr>
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<td></td>
<td>Female connector 19pin + PE with spring bonding clamp</td>
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</tr>
<tr>
<td>Connection</td>
<td></td>
<td>Screw terminal</td>
<td></td>
</tr>
<tr>
<td>Conductor cross-section</td>
<td></td>
<td>16 x 0.5 / 3 x 1.0</td>
<td>mm²</td>
</tr>
<tr>
<td>Material, connector housing</td>
<td></td>
<td>CuZn</td>
<td></td>
</tr>
<tr>
<td>Material, outer sheath</td>
<td></td>
<td>Polyurethane</td>
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</tr>
<tr>
<td>Bending radius</td>
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<td>min. 10 x cable diameter</td>
<td>mm</td>
</tr>
</tbody>
</table>

### Technical data for female connector RC18, straight/angled, with halogen-free cable

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<th>typ.</th>
<th>max.</th>
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<tbody>
<tr>
<td>Plug connector</td>
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<td>Female connector 19pin + PE with spring bonding clamp</td>
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<tr>
<td>Connection</td>
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<tr>
<td>Conductor cross-section</td>
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<td>16 x 0.5 / 3 x 1.0</td>
<td>mm²</td>
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<tr>
<td>Material, connector housing</td>
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<td>Polyurethane, halogen-free</td>
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<td>Material, outer sheath</td>
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<td>Polyurethane, halogen-free</td>
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<td>Material, union nut</td>
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<td>CuZn</td>
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<tr>
<td>Bending radius</td>
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<td>min. 10 x cable diameter</td>
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Safety Switches CES-AR/CET-AR

Female connector RC18 CET-AR

**Female connector RC18**
18-pin + PE

**Dimension drawing**

---

**Female connector RC18 angled**
18-pin + PE, direction of the cable outlet can be adjusted

**Dimension drawing**

---

**Ordering table**

<table>
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<tr>
<th>Series</th>
<th>Comment</th>
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<td>18-pin + PE</td>
<td>074618</td>
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<td>Female connector</td>
<td>RC18EF</td>
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<td></td>
<td>Female connector angled</td>
<td>RC18WF</td>
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<td>Replacement pin crimp contacts</td>
<td>094309</td>
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<td></td>
<td>Conductor cross-section 19 x 0.75 - 1 mm²</td>
<td>Pin crimp contact RCM</td>
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1) Crimp contacts included

**Technical data**

<table>
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<th>Unit</th>
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<td>CuZn nickel-plated</td>
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</tr>
<tr>
<td>Degree of protection acc. to EN 60529</td>
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<td>IP65 (inserted)</td>
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</tr>
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Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Bridging plug / Y-distributor

**Bridging plug**
Male plug 4-pin

**Y-distributor M12 with connection cable**
1 x 8-pin, 2 x 5-pin

**Y-distributor M12**
1 x 8-pin, 2 x 5-pin

**Dimension drawing**

**Plug**

**Socket**

**Wiring bridging plug**

**Note:** For the connection to the Y-distributor, 5-pin standard plug connectors M12 can be used.

**Important:** Switch chains must always be terminated with a bridging plug. Switch chains up to maximum 200 m are allowed taking into account the voltage drop due to the cable resistance (see operating instructions of your AR device).

**Ordering table**

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<th>Series</th>
<th>Comment</th>
<th>Order no.</th>
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<td>M12 plug connector 4-pin</td>
<td>097645 Bridging plug</td>
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<td>Y-distributor M12 with connection cable</td>
<td>M12, 1 x 8-pin, 2 x 5-pin</td>
<td>111696 Y-distributor with connection cable</td>
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<td>Length A = 200 mm</td>
<td>112395 Y-distributor with connection cable</td>
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<td>Length A = 1,000 mm</td>
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<td>Y-distributor M12</td>
<td>M12, 1 x 8-pin, 2 x 5-pin</td>
<td>097627 Y-distributor M12</td>
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Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
### Technical data for bridging plug

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### Technical data for Y-distributor M12 with connection cable

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<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip material</td>
<td>TPU, self-extinguishing</td>
<td></td>
</tr>
<tr>
<td>Threaded bushing/union nut material</td>
<td>CuZn nickel-plated</td>
<td></td>
</tr>
<tr>
<td>Material, outer sheath</td>
<td>PVC</td>
<td></td>
</tr>
<tr>
<td>Degree of protection acc. to EN 60529</td>
<td>IP67 (inserted)</td>
<td></td>
</tr>
</tbody>
</table>

### Technical data for Y-distributor M12

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grip material</td>
<td>TPU, self-extinguishing</td>
<td></td>
</tr>
<tr>
<td>Threaded bushing/union nut material</td>
<td>CuZn nickel-plated</td>
<td></td>
</tr>
<tr>
<td>Degree of protection acc. to EN 60529</td>
<td>IP67 (inserted)</td>
<td></td>
</tr>
</tbody>
</table>
Safety Switches CES-AR/CET-AR

Mounting plate CET

- Mounting plate for safety switch CET for hinged or sliding doors
- Suitable for aluminum profiles 40 ... 45 mm
- Horizontal and vertical mounting
- Made of aluminum
- Suitable for CET with escape release

Mounting plate EMP-L-CET

for read head CET

Dimension drawing

Mounting plate EMP-B-CET

for actuator CET

Ordering table

<table>
<thead>
<tr>
<th>Designation</th>
<th>Use</th>
<th>Order no./Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting plate EMP-L-CET</td>
<td>for safety switch CET</td>
<td>106695 EMP-L-CET</td>
</tr>
<tr>
<td>Mounting plate EMP-B-CET</td>
<td>for actuator CET</td>
<td>106694 EMP-B-CET</td>
</tr>
</tbody>
</table>

Material thickness 10 mm

Profile marking 45 x 45

Installation example mounting plates EMP-.-CET
## Safety screws

### Ordering table

<table>
<thead>
<tr>
<th>Fixing material/screw size</th>
<th>Version/usage</th>
<th>Packaging unit [qty.]</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety screws M4 x 14</td>
<td>Actuator CES-A-BBA, CES-A-BCA</td>
<td>20</td>
<td>071863</td>
</tr>
<tr>
<td>(small head)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety screws M4 x 14</td>
<td>Safety switch CES-AR-C.2 and actuator CES-A-BLN-.2</td>
<td>100</td>
<td>086232</td>
</tr>
<tr>
<td>(large head)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety screws M5 x 16</td>
<td>Actuator CES-A-BRN, CET-A-BWK</td>
<td>100</td>
<td>073456</td>
</tr>
<tr>
<td>Safety screws M5 x 10</td>
<td>Safety switch CES-AR-C01-EH-SA and actuator CES-A-BPA</td>
<td>100</td>
<td>073455</td>
</tr>
</tbody>
</table>
Safety Switches CES-AR/CET-AR

Miscellaneous accessories

- Mechanical key release for safety switch CET
- Emergency unlocking for safety switch CET

Mechanical key release
The mechanical key release is used in combination with safety switch CET. It enables authorized personnel to actuate the mechanical release using the related key. The unlocking mechanism holds the solenoid in the "unlocked" position. A screw is used to fix the lock to the cover of the safety switch CET (over the mechanical release). The lock is identical locking.

- Order safety switch CET separately
- 2 keys included (for spare keys see ordering table below)
- Every safety switch in the CET series can be upgraded with the mechanical key release.

Emergency unlocking
Using the emergency unlocking the safety switch can be unlocked manually. In the locked position of the emergency unlocking, a ball detent mechanism prevents unintentional unlocking of the safety switch due to vibration or similar. In the unlocked position of the emergency unlocking, an integrated bolt engages in a bore on the flange. To reset the emergency unlocking, first the bolt must be pressed inwards, out of the detent mechanism, using a tool.

The emergency unlocking can be lead-sealed (lead seal kit order no. 087256).

Ordering table

<table>
<thead>
<tr>
<th>Designation</th>
<th>Use</th>
<th>Version</th>
<th>Order no./Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical key release</td>
<td>for safety switch CET</td>
<td>identical locking, incl. 2 keys</td>
<td>098850 Mechanical key release</td>
</tr>
<tr>
<td>Replacement key</td>
<td>for mechanical key release, identical locking</td>
<td>2 keys, identical locking</td>
<td>099434 Replacement key</td>
</tr>
<tr>
<td>Emergency unlocking</td>
<td>for safety switch CET</td>
<td>latching in both positions</td>
<td>103714 Emergency unlocking CET</td>
</tr>
<tr>
<td>Lead seal kit</td>
<td>for emergency unlocking</td>
<td></td>
<td>087256 Lead seal kit for emergency unlocking</td>
</tr>
</tbody>
</table>

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Safety Switches CES-AR/CET-AR

- Cover for safety switch CET
- Double ramp for safety switch CET

**Cover**
With the CET cover, tampering with the safety switch CET is effectively prevented. The cover prevents the use of simple tools to manually press up the actuator.

**Double ramp**
The ramp can be approached from two sides. It can be passed over, e.g. for sliding doors.

**Ordering table**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Use</th>
<th>Version</th>
<th>Order no./Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>for safety switch CET and actuator CET</td>
<td>door hinge right</td>
<td>098808 CET cover right</td>
</tr>
<tr>
<td>Cover</td>
<td></td>
<td>door hinge left</td>
<td>098807 CET cover left</td>
</tr>
<tr>
<td>Double ramp</td>
<td>for safety switch CET</td>
<td></td>
<td>114091 Double ramp for CET</td>
</tr>
</tbody>
</table>

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Safety Switches CES-AR/CET-AR

Miscellaneous accessories

- Actuator for safety switch CET
- Handle for wire front release for safety switch CET

<table>
<thead>
<tr>
<th>Designation</th>
<th>Version/usage</th>
<th>Order no./item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuator CET-A-BWK-50X</td>
<td>4 safety screws M5x16 included</td>
<td>096327 CET-A-BWK-50X</td>
</tr>
<tr>
<td>Handle for wire front release</td>
<td>For safety switch CET-AR with wire front release</td>
<td>099795 Handle for wire front release</td>
</tr>
</tbody>
</table>

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Connection examples CES-AR

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

Connection of a single CES-AR-C

If a single CES-AR-C is used, connect the switch as shown in figure below. The OUT output can also be connected here to a control system as a monitoring output.

The switch can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.

Important: Switch chains must always be terminated with a bridging plug.

Connection of several CES-AR-C in series

The switches are connected in series using plug connectors and Y-distributors. If, in this connection example, a safety door is opened or if a fault occurs on one of the switches, the system shuts down the machine. A higher level control system can, however, not detect which safety door is open or on which switch a fault has occurred. So that a control system can detect the status of each switch in a switch chain, the monitoring output OUT must be connected separately for each switch. A special AR evaluation unit is required for this purpose (see page 170).

The switches can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.

Important: Switch chains must always be terminated with a bridging plug.
Safety Switches CES-AR/CET-AR

Connection examples CET-AR

Important: To achieve the stated category in accordance with EN ISO 13849-1, both safety outputs (OA and OB) must be evaluated.

Connection of a single CET-AR, version without feedback loop

If a single CET-AR is used, connect the switch as shown in figure below. The OUT output can also be connected here to a control system as a monitoring output.

The switch can be reset via the RST input. To do this, a voltage of 24 V is applied to the RST input for at least 3 seconds. The supply voltage to the switches is interrupted during this time. If input RST is not used in your application, it should be connected to 0 V.

Connection of a CET-AR in a CES-AR switch chain

Important: The subsystem CET-AR complies with PL e in accordance with EN 13849-1. To integrate the subsystem in a category 3 or 4 structure, it is necessary to monitor the downstream load (the feedback loop must be monitored).

These examples show only an excerpt that is relevant for connection of the CET system. The example illustrated here does not show complete system planning. The user is responsible for safe integration in the overall system.
Bolts for safety guards

According to EN 12100-2 movable safety guards must be equipped with an interlocking device, with or without guard locking.

Here it must be ensured that

- dangerous machine functions are stopped as soon as the safety guard is no longer in the closed position
- dangerous machine functions are not started when the movable safety guard is closed.

When the EUCHNER safety door bolts are opened intentionally, the actuator mounted on the handle is pulled out of the operating distance of the safety switch or read head.

Bolts for safety guards offer important advantages:

- Bolts provide mechanical guard locking, i.e. the monitoring circuit cannot be opened unintentionally by moving the hinged door.
- Accidental stoppage of the machine is prevented
- If the safety doors are shaken, the force is transmitted to the mechanically strong bolt and not to the safety switch.
  - Safety switches and actuators are thus protected against damage
- By using bolts, persons who must enter hazardous areas, e.g. for servicing and setup work, can protect themselves. By attaching one or more simple padlocks to the bolt in the open position, the movable safety guards cannot be closed and thus the dangerous states cannot be triggered.
  - The operator is protected
- Standard aluminum profiles are frequently used for safety guards. The bolts are particularly easy to fit here.
  - Optimal adaptation of the bolts to the market standard
- Bolts are available for all EUCHNER safety systems
  - Extensive product range
  - Products refined in every detail

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Bolts for CES Systems

Bolt CET-A-C

- In combination with CET
- For doors hinged on the right or left

Special features
- Easy assembly
- Uniquely coded actuator (one-off)
- Maximum protection against tampering

Features
- Easily fitted to standard aluminum profiles and machine covers by screw connection
- Distinctive yellow color for easy recognition
- Symmetrical design for doors hinged on the right or left
- No additional door handle necessary

Notes
- Order read head, actuator and evaluation unit separately
- Other bolt types (e.g. with mechanical detent mechanism in closed bolt position) on request
- The installation position of the safety switch/read head affects the safety category (see pages 63, 148 and 194)

Ordering table

<table>
<thead>
<tr>
<th>Designation</th>
<th>Detent mechanism</th>
<th>Version</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt CET-A-C</td>
<td>Without</td>
<td>For doors hinged on the right or left</td>
<td>104309</td>
</tr>
<tr>
<td>Bolt CET-A-C/F</td>
<td>Closed position: none</td>
<td>For doors hinged on the right or left, for CET with escape release</td>
<td>106172</td>
</tr>
<tr>
<td></td>
<td>Open position: detent knob</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actuator CET</td>
<td>-</td>
<td>Locking force 5,000 N</td>
<td>096327 CETABWK-50X</td>
</tr>
</tbody>
</table>

Dimension drawing

Subject to technical modifications; no responsibility is accepted for the accuracy of this information.
Bolts for CES Systems

Bolt CET-A-C-C2308

- In combination with CET
- Specially suited for swing doors
- For doors hinged on the right or left

Special features
- Allows door to be opened outward and inward, making it particularly suitable for swing doors
- Easy assembly
- Uniquely coded actuator (one-off)
  - maximum protection against tampering

Features
- Easily fitted to standard aluminum profiles and machine covers by screw connection
- Distinctive yellow color for easy recognition
- Symmetrical design for doors hinged on the right or left
- No additional door handle necessary

Notes
- Order read head, actuator and evaluation unit separately
- Other bolt types (e.g., with mechanical detent mechanism in closed bolt position) on request
- The installation position of the safety switch/read head affects the safety category (see pages 63, 148 and 194)

Ordering table

<table>
<thead>
<tr>
<th>Designation</th>
<th>Detent mechanism</th>
<th>Version</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt CET-A-C-C2308</td>
<td>Without</td>
<td>For doors hinged on the right or left. Bolt can be opened outward and inward (no stop).</td>
<td>109672</td>
</tr>
<tr>
<td>Actuator CET</td>
<td>-</td>
<td>Locking force 5,000 N</td>
<td>096327</td>
</tr>
</tbody>
</table>

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