



<b>Supply</b>	
Connection	Power Rail or terminals 14+, 15-
Rated voltage	20 ... 30 V DC
Power consumption	≤ 1.9 W at 45 mA output current
<b>Input</b>	
Connection	terminals 7, 8
Input current	approx. 3 mA
Signal level	1-signal: 16 ... 30 V DC 0-signal: 0 ... 5 V DC
<b>Output</b>	
Output I	
Connection	intrinsically safe: terminals 1+, 2- or 3-
Internal resistor	270 Ω
Limit	current I <sub>E</sub> : 45 mA voltage U <sub>E</sub> : 11.2 V
Open loop voltage	≥ 23.5 V
Output rated operating current	45 mA
Output signal	these values are valid for rated operational voltages from 20 ... 30 V DC
Energized/de-energized delay	≤ 20 ms / ≤ 20 ms
Output II	
Connection	non-intrinsically safe: terminals 10, 11, 12
Contact loading	terminals 10, 11, 12 , 253 V AC/2 A /cos φ > 0.7; 40 V DC/2 A resistive load;
Mechanical life	2 x 10 <sup>7</sup> switching cycles
Energized/de-energized delay	approx. 20 ms / approx. 20 ms
Lead monitoring	relay ; signal at short-circuit R <sub>B</sub> < 50 Ω, lead breakage R <sub>B</sub> > 10 kΩ
<b>Electrical isolation</b>	
Input/power supply	functional insulation acc. to EN 50178, rated insulation voltage 50 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2
Low voltage	
Directive 73/23/EEC	EN 50178
<b>Conformity</b>	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	approx. 150 g
Dimensions	20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in)
<b>Data for application in conjunction with hazardous areas</b>	
EC-Type Examination Certificate	ZELM 99 ATEX 0015 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Output I	EEx ia IIC
Voltage U <sub>o</sub>	28 V
Current I <sub>o</sub>	110 mA
Power P <sub>o</sub>	770 mW (linear characteristic)
<b>Supply</b>	
Safety maximum voltage U <sub>m</sub>	40 V (Attention! The rated voltage can be lower.)
<b>Input</b>	
Safety maximum voltage U <sub>m</sub>	60 V (Attention! The rated voltage can be lower.)
<b>Output II</b>	
Contact loading	230 V AC + 10 % / 2 A / cos φ ≥ 0.7; 40 V DC / 2 A resistive load
<b>Collective error indication</b>	
Safety maximum voltage U <sub>m</sub>	40 V (Attention! The rated voltage can be lower.)
<b>Statement of conformity</b>	
Group, category, type of protection, temperature classification	⊕ II 3G EEx nAC IIC T4 X
<b>Output II</b>	
Contact loading	50 V AC/2 A/cos φ > 0.7; 40 V DC/1 A resistive load
<b>Electrical isolation</b>	
Output I/other circuits	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
<b>Directive conformity</b>	

Release date 2008-12-01 10:04 Date of issue 2008-12-01 050210\_ENG.xml

Directive 94/9 EC

EN 50014, EN 50020, EN 50021

**General information**

Supplementary information

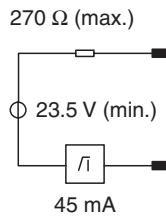
EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed where applicable. For information see [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

**Notes**

**Lead monitoring**

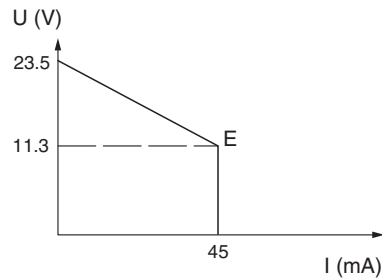
A fault signal is activated across the Power Rail (UPR-03) in the case of an error (lead breakage or lead short circuit) and at the same time the relay for the fault signal output (terminals 10, 11, 12) is de-energised. Lead breakage is indicated, for ohmic load > 10 k $\Omega$ , lead short circuit is indicated for load < 50  $\Omega$ .

**Output circuit diagram**



**Output characteristic for input voltage 20 V ... 30 V**

E: Curve angle point ( $U_E, I_E$ )



**Accessories**

**Power Rail UPR-03**

**Power feed module KFD2-EB2...**

Using Power Rail UPR-03 the devices are supplied with 24 V DC by means of the power feed modules. If no Power Rails are used, power supply of the individual devices is possible directly via their device terminals.

Each power feed module is used for fusing and monitoring groups with up to 100 individual devices. The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

**The Power Rail must not be fed via the device terminals of the individual devices!**