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Overview

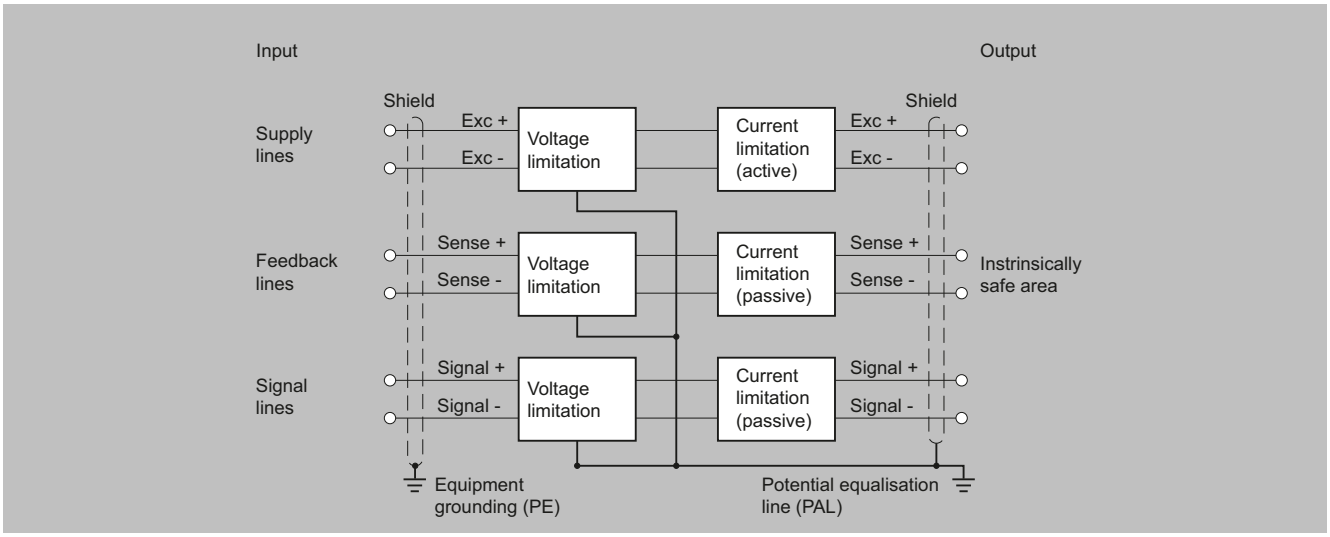
SIWAREX IS New Generation

The Ex interface SIWAREX IS can be used for SIWAREX weighing modules. It comprises six safety barriers and has been granted the approvals stated in the technical data. The Ex interface must be installed outside the potentially explosive area. It is installed inside the control cabinet, preferably under the electronic weighing system, and fixed using a 35 mm mounting rail.
The SIWAREX IS only interferes with the load cell signal to a very small extent and is therefore approved for scales requiring official calibration.
The connection is made at the front using two clamp-type plugs. A separate screw terminal is available for connection of the equipotential bonding conductor (EBC).

Function

Operating principle

The safety barriers limit current and voltage in the supply, sensor and measured signal cables of load cells that are installed in hazardous areas.



Function diagram

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Selection and ordering data

	Article No.
Ex interface SIWAREX IS	
For intrinsically-safe connection of load cells. Suitable for SIWAREX electronic weighing systems. The compatibility of the load cells must be checked.	
• With short-circuit current < 199 mA DC	**7MH4710-5BA**
• With short-circuit current < 137 mA DC	**7MH4710-5CA**
Cable (optional)	
Cable Li2Y 1 × 2 × 0.75 ST + 2 × (2 × 0.34 ST) – CY	
For connecting SIWAREX electronic to junction box (JB), extension box (EB), digital junction box (DB), Ex interface (IS) or between two extension boxes. For permanent installation. Occasional bending is possible. External diameter: approx. 10.8 mm (0.43 inch) Permissible ambient temperature -40 ... +80 °C (-40 ... +176 °F) Sold by the meter.	
• Sheath color: orange	**7MH4702-8AG**
• Sheath color (for hazardous atmospheres): blue	**7MH4702-8AF**

Technical specifications

Ex interface, type SIWAREX IS	Standard	Low-current version
Non-intrinsically-safe circuits		
Load cell powering		
Rated voltage U_{n1}	10 V DC	10 V DC
Permissible error voltage	250 V AC	250 V AC
Internal resistance of load cells depending on input voltage	≥ 8.7 Ω/V	≥ 18 Ω/V
Total	< 4 010 Ω	< 4 010 Ω
Sensor line		
Rated voltage U_{n2}	10 V DC	10 V DC
Permissible error voltage	250 V AC	250 V AC
Measuring signal line		
Rated voltage U_{n3}	10 ... 40 mV DC	10 ... 40 mV DC
Permissible error voltage	250 V AC	250 V AC
Intrinsically safe circuits		
Load cell powering		
No-load voltage U_{01}	≤ 13.1 V DC	≤ 13.1 V DC
Voltage against equipotential bonding cond.	≤ 6.6 V DC	≤ 6.6 V DC
Short-circuit current I_{K1}	≤ 120 mA	≤ 58 mA
Sensor line		
No-load voltage U_{02}	≤ 14.4 V DC	≤ 14.4 V DC
Voltage against equipotential bonding cond.	≤ 7.2 V DC	≤ 7.2 V DC
Short-circuit current I_{K2}	≤ 25 mA	≤ 25 mA
Measuring signal line		
No-load voltage U_{03}	≤ 12.8 V DC	≤ 12.8 V DC
Voltage against equipotential bonding cond.	≤ 6.4 V DC	≤ 6.4 V DC
Short-circuit current I_{K3}	≤ 54 mA	≤ 54 mA

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Technical specifications (Continued)

Ex interface, type SIWAREX IS	Standard	Low-current version
Total connection load (when circuits are connected together)		
No-load voltage U_0	≤ 14.4 V DC	≤ 14.4 V DC
Short-circuit current I_K	≤ 199 mA	≤ 137 mA
Power P_O	≤ 1.835 W	≤ 1.025 W
For gas group II C		
Max. permissible external capacitance C_{a3}	500 nF	450 nF
Max. permissible external inductance L_a	0.15 mH	0.5 mH
For gas group II B		
Max. permissible external capacitance C_{a3}	2 000 nF	2 000 nF
Max. permissible external inductance L_a	1 mH	2 mH
General data		
Weight, approx.	500 g	500 g
Permissible ambient temperature		
• During operation	-10 ... +60 °C (14 ... 140 °F) (for vertical mounting)	-10 ... +60 °C (14 ... 140 °F) (for vertical mounting)
• During operation for legal-for-trade weighing machines	-10 ... +40 °C (14 ... 104 °F) (for vertical mounting)	-10 ... +40 °C (14 ... 104 °F) (for vertical mounting)
• During transportation and storage	-40 ... +85 °C (-40 ... +185 °F)	-40 ... +85 °C (-40 ... +185 °F)
Permissible relative humidity	≤ 95%	≤ 95%
Degree of protection	IP20	IP20
Approvals		
EC type test certificates No.	TÜV 01 ATEX 1722 X	TÜV 01 ATEX 1722 X
Type of explosion protection	Intrinsic safety "i" II (2) G [Ex ibGb] IIC or II (2) D [EX ib Db] IIIC	Intrinsic safety "i" II (2) G [Ex ibGb] IIC or II (2) D [EX ib Db] IIIC
IEC certification	IECEx TUN 06.0002 X [Ex ib Gb] IIC or [Ex ib Db] IIIC	IECEx TUN 06.0002 X [Ex ib Gb] IIC or [Ex ib Db] IIIC
Calibration approval (German Testing Laboratory test certificate) according to	EN 45501, OIML R76-1, 90/384/EEC	EN 45501, OIML R76-1, 90/384/EEC

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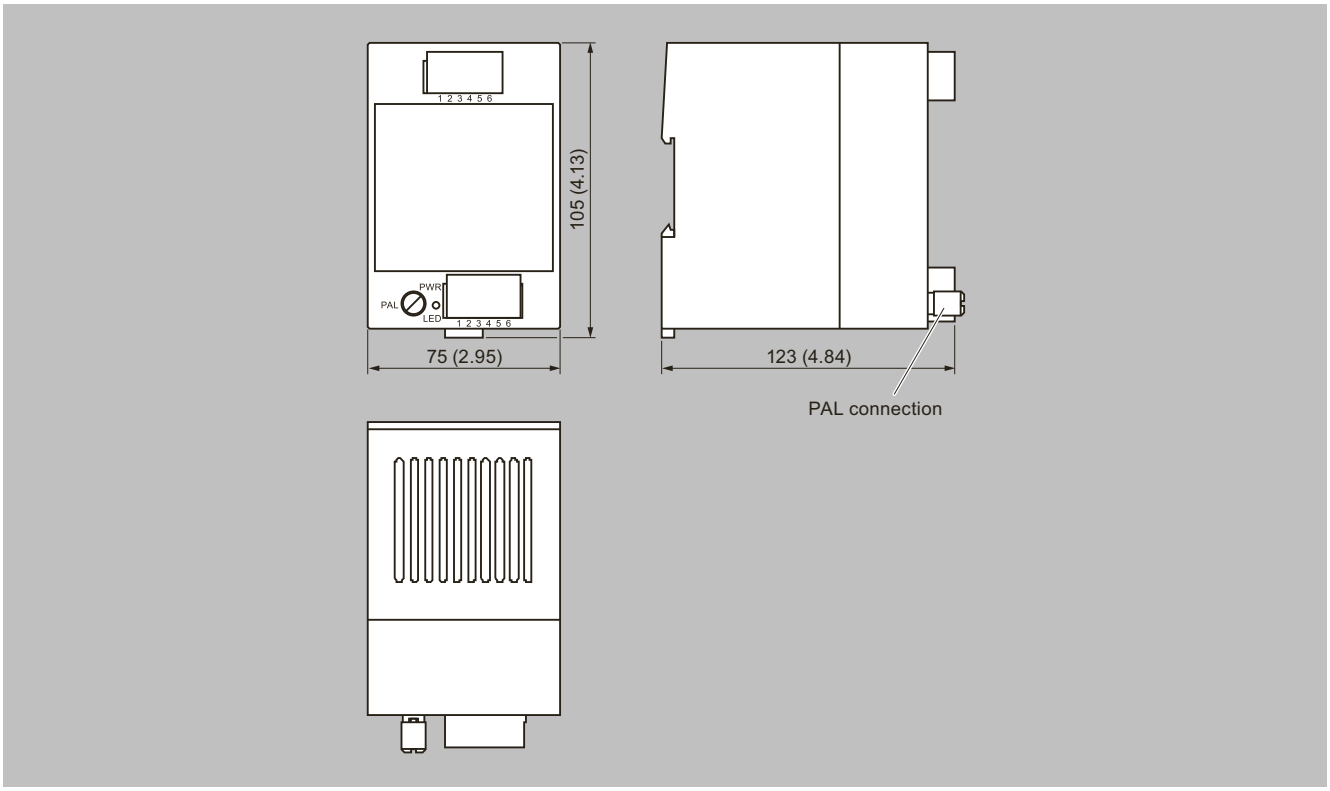
Dimensional drawings



SIWAREX IS Ex interface, dimensions in mm (inch)