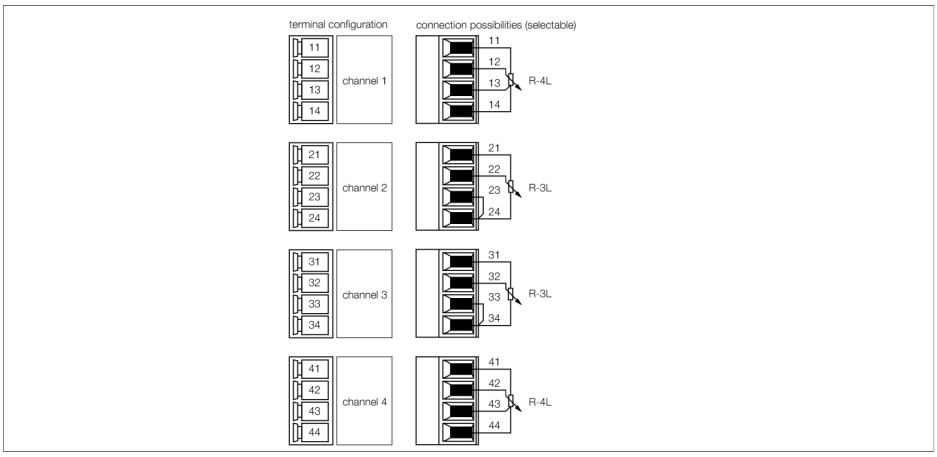
Remote I/O system *excom*® potentiometer module, 4-channel AI43EX



The analog input module AI43Ex is designed for the connection of potentiometers in 3 or 4-wire technology. If 3-wire potentiometers are used, the terminals at the module rack have to be bridged. Resistance measurements, i.e. the analysis of potentiometers with 2-wire connection, are not possible.

The module has 4 field circuits to control 3 or 4-wire potentiometers. The field circuits are galvanically separated from the power supply, from the internal bus and from each other. The module features protection class Ex ib IIC and can be mounted in zone 1 in combination with the *excom*® system. The inputs feature protection class Ex ia IIC.

Each potentiometer input is monitored for wire-break and short circuit. The interruption of a single connection line as well as any combination of interruptions of the four connection lines related to one input are securely detected. No short-circuit monitoring. In case of a line error the adjusted substitute value is immediately output and the 'invalid-bit' of the output value is set. This state is maintained until valid measured values are provided again.

The resolution is 14 bit. For clear reading, 0…100% is spread to the digitized value 0 … 10000 (independent of the parametrized measuring range) and transmitted to the host system.

- **Input module for the connection of potentiometers**
- **Complete galvanic separation**

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Remote I/O system *excom*® potentiometer module, 4-channel AI43EX

Industrial Automation

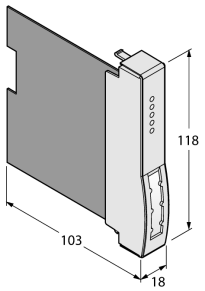
Type code	AI43EX
Ident no.	6884137
Supply voltage	via the backplanes, central power supply
Power consumption	≤ 1.5 W
Galvanic separation	all-round galvanic separation acc. to EN 60079-11
Number of channels	4-channel
Input circuits	intrinsically safe acc. to EN 60079-11
	potentiometer
Nominal resistance	400 Ω …12 kΩ kΩ
Resolution	14 Bit
max. Messabweichung	≤ **max. Messabweichung %** — **max. Messabweichung**
	0.1
Linearitätsabweichung	≤ 0.1% of full scale vom Endwert
Temperature drift	≤ 0.005 % / K
Rise time/fall time	≤ 50 ms (10 … 90 %)
Ex approval acc. to conformity certificate	PTB 06 ATEX 2026
Device designation	Ⓔx II 2 (1GD) G Ex ib [ia] IIC T4
Max. values:	terminal connection 1-4
Max.output voltage U_o	≤ 6.6 V
Max. output current I_o	≤ 25 mA
Max. output power P_o	≤ 42 mW
Characteristic	linear
Internal inductance/capacitance L_i/C_i	L_i negligibly small
	C_i ≤ 150 nF

External inductance/capacitance L_o/C_o

	IIC	IIB
L_o [mH]	C_o [µF]	C_o [µF]
5.0	1.6	8.5
1.0	2.2	12

Indication	
Operational readiness	1 x green / red
State/ Fault	4 x red
Housing material	Plastic
Connection mode	module, plugged on rack
Protection class	IP20
Ambient temperature	-20…+60 °C
Relative humidity	≤ 95% at 55 °C acc. to EN 60068-2
Vibration test	acc. to IEC 60068-2-6
Shock test	acc. to IEC 60068-2-27
EMC	acc. to EN 61326-1 (2006)
	acc. to Namur NE21 (2007)
MTTF	71 years acc. to SN 29500 (Ed. 99) 40 °C
Dimensions	18x 118x 103 mm
Weight	126 g

Dimensions



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