

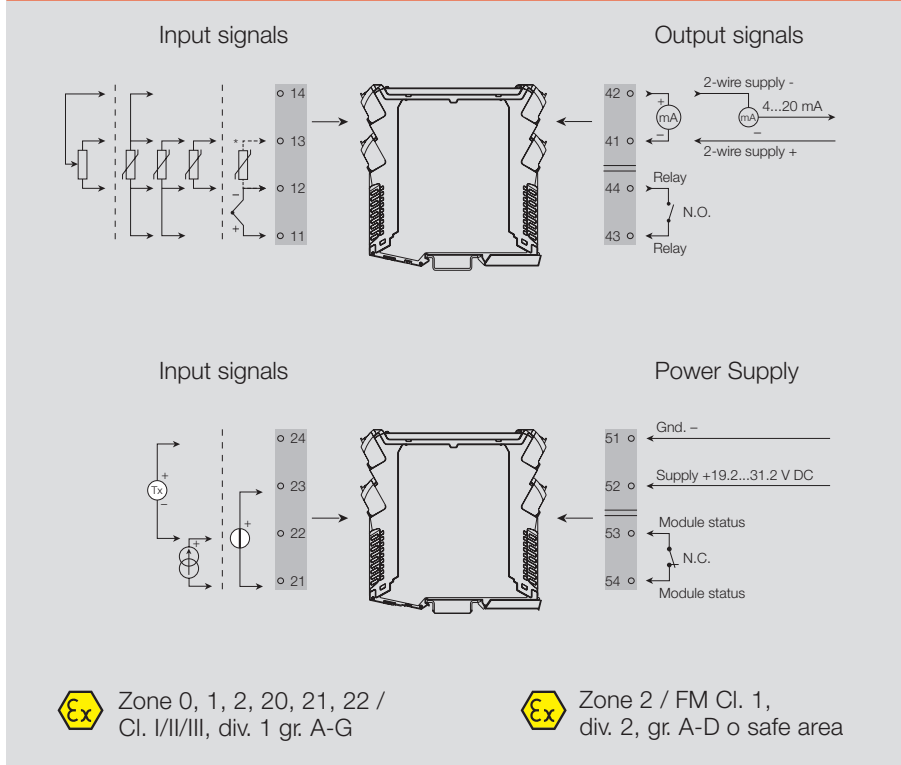
ACT20X

Universal signal converter

The ACT20X-HUI-SAO universal signal converter is a configurable temperature and signal converter. This component processes temperature signals from PT100 sensors and thermocouples as well as DC voltage and current signals (mA) from the Ex zone. On the output side, analogue signals are provided for the safe zone. This component also has a relay output that can be used for configuring the switching threshold.

B

Connection diagram: the ACT20X-HUI-SAO universal measurement and signal isolating converter

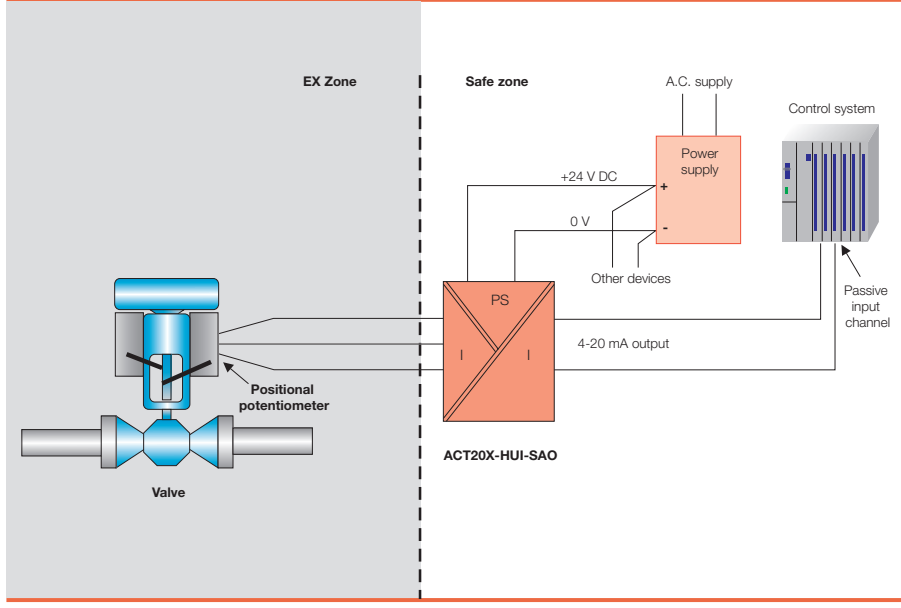


Ex label

ATEX
II 3 G Ex nA nC IIC T4
II (1) G [Ex ia] IIC/IIA
II (1) D [Ex iaD]
IEEx
Ex nA nC IIC T4 Gc
[Ex ia Ga] IIC/IIA
[Ex ia Da] IIIC
FM
Installation in CL I DIV2 GP A-D T4
Protects Ex circuits, in compliance with
Cl. I-III ABT 1/2 GP A-G or
Cl. I Zn2 AEx/Ex nA nC [ia] IIC T4.

Note

Application example: position measurement of an actuator



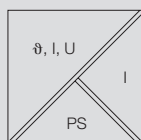
Accuracy / temperature coefficients
ACT20X-HUI-SAO

Input	Accuracy	Temperature coefficient
Input mA	≤ ±4 μA	≤ ±4 μA / °C
Input Volt	≤ ±20 μV	≤ ±2 μV / °C
Input RTD		
Pt100	≤ ±0.2 °C	≤ ±0.02 °C / °C
Ni100	≤ ±0.3 °C	≤ ±0.03 °C / °C
Input TC		
Type B	≤ ±4.5 °C	≤ ±0.45 °C / °C
Type E, J, K, L, N, T, U	≤ ±1 °C	≤ ±0.1 °C / °C
Type R, S, W3, W5, LR	≤ ±2 °C	≤ ±0.2 °C / °C
Note		

Universal signal converter

- Universal isolator for intrinsically safe RTD, thermocouple, resistor, potentiometer and DC signals (mA, V)
- PC configuration with FDT/DTM software, download at www.weidmueller.com
- Digital relay output adjustable as threshold switch
- Relay output for error alarm

ACT20X-HUI-SAO-S



Technical data

Input	
Type	RTD, TC, DC (mA, V)
Sensor supply	28...16.5 V DC/0...20 mA
Temperature input range	Configurable
Line resistance in measuring circuit	≤ 50 Ω
Input current	0(4)...20 mA
Input voltage	0...12 V DC, configurable: 0..1 / 0.2...1 / 0...5 / 0...10 and 2...10 V DC
Input resistance, voltage/current	>10 MΩ / 20 Ω + PTC 50 Ω
Output analogue	
Output current	0...23 mA, configurable: 0...20 / 4...20 / 20...0 / 20...4 mA
Output signal limit load impedance current	3.8...20.5 mA / 0...20.5 mA (dependent on range)
Influence of load resistance	≤ 600 Ω
Influence of load resistance	≤ 0.01% of span / 100 Ω
Current loop output	
Output current	4...20 mA
Load resistance	(U ₀ - 3.5) / 0.023 A
Influence of load resistance	≤ 0.01% of span / 100 Ω
2-wire supply	≤ 26 V DC
Output digital	
Type	Relay, 1 NO
Function	Configurable switching thresholds
Nominal switching voltage	≤ 250 V AC / 30 V DC (safe area)
	≤ 32 V AC / 32 V DC (Zone 2)
Continuous current	≤ 2 A AC/DC (safe area, Zone 2 area)
Power rating	≤ 500 VA / 60 W (safe area)
	≤ 16 VA / 32 W (Zone 2)
Alarm output	
Type	Relay, 1 NO (voltage-free)
Nominal switching voltage	≤ 125 V AC / 110 V DC (safe area)
	≤ 32 V AC / 32 V DC (Zone 2)
Continuous current	≤ 0.5 A AC / 1 A DC (safe area, Zone 2)
Power rating	≤ 62.5 V AC / 32 W (safe area)
	≤ 16 VA / 32 W (Zone 2)
General data	
Supply voltage	19...31.2 V DC
Power consumption	≤ 3.5 W
Tightening torque, min. / Tightening torque, max.	0.4 Nm / 0.6 Nm
Ambient temperature / Storage temperature	-20 °C...+60 °C / -20 °C...+85 °C
Approvals	
Approvals	cULus; CE; ATEX; IECEX; FM
Insulation coordination	
Insulation voltage	2.6 kV (input / output)
Rated voltage	300 V
EMC standards	DIN EN 61326
Data for Ex applications (ATEX)	
Voltage U ₀	8.7 V DC
Current I ₀	18.4 mA
Power P ₀	40 mW
Dimensions	
Clamping range (nominal / min. / max.)	mm ² 2.5 / 0.5 / 2.5
Length x width x height	mm 119.2 / 22.5 / 113.6
Note	

Type	Temperature-range	Accuracy
Metal PTC		
Pt100	-200...850 °C	± (0.15 + 0.02 x T) Class A ± (0.30 °C + 0.005 x T) Class B
Pt500	-200...850 °C	
Pt1000	-200...850 °C	
Ni50		± (0.4 + 0.007 x T) ± (0.4 + 0.028 x T)
Ni100	-60...0 °C	
Ni120	0...180 °C	
Ni1000		
TC-Type according to IEC60584-1		
B	50...250 °C	± 25 K
	250...500 °C	± 10 K
	500...1820 °C	± 6 K
E	-200...-150 °C	± 4 K
	-150...1000 °C	± 3 K
J	-200...-150 °C	± 4 K
	-150...1200 °C	± 3 K
K	-200...-150 °C	± 5 K
	-150...1200 °C	± 3 K
N	1200...1372 °C	± 4 K
	-200...-150 °C	± 6 K
R	-150...1300 °C	± 3 K
	-50...200 °C	± 10 K
S	200...1780 °C	± 6 K
	-50...200 °C	± 10 K
T	200...1780 °C	± 6 K
	-200...-150 °C	± 5 K
	-150...400 °C	± 3 K
	according to DIN43710	
U	0...600 °C	± 3 °C
L	0...900 °C	± 3 °C

Ordering data

Type	Qty.	Order No.
1-channel version		
ACT20X-HUI-SAO-S	1	8965490000

CBX200 USB configuration interface - 8978580000