

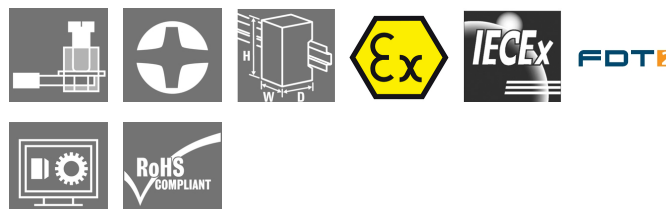
ACT20X-HUI-SAO-LP-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image**Do not use product for new developments**

The ACT 20X HUI-SAO-S/ SAO-LP universal measurement and signal isolating converters can be configured individually.

Temperature signals from PT100 sensors and thermocouples as well as analogue DC current and voltage signals can be recorded from Ex zone 0. On the output side, optional current/voltage (SAO-S) or 4...20 mA current loop signals (SAO-LP / SAO-S) are provided for the safe zone.

The ACT20X-HUI-SAO-S also has a relay output for configuring its switching threshold.

An integrated alarm contact is available on this device for issuing an alert in the event of a malfunction. This makes troubleshooting easier and also increases system availability.

The power supply of the signal isolating converter is either done using the integrated power supply (SAO-S) or alternatively over the output-side current loop (SAO-LP).

The rail mountable devices are designed with one channel, and are optionally available in widths of 12.5 mm (SAO-LP) or 22.5 mm (SAO-S).

General ordering data

Version	ACT20X, EX signal isolating converter, 1-channel version, Output-loop powered
Order No.	1318220000
Type	ACT20X-HUI-SAO-LP-S
GTIN (EAN)	4050118323955
Qty.	1 pc(s).

ACT20X-HUI-SAO-LP-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data**Dimensions and weights**

Depth	113.6 mm	Depth (inches)	4.472 inch
Height	117.2 mm	Height (inches)	4.614 inch
Net weight	180 g	Width	12.5 mm
Width (inches)	0.492 inch		

Temperatures

Storage temperature	-20 °C...70 °C	Operating temperature	0 °C...60 °C
Humidity	10...90 %, no condensation		

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
------------	----------------

Input EX

Input current	configurable, ± 25 mA, 0...20 mA, 4...20mA	Input resistance	0...12 k Ω
Input resistance, current	70 Ω	Input resistance, voltage	> 10 M Ω @ 600 mV, 2 M Ω @ 28 V
Input voltage	configurable, ± 12 V DC (min. measurement range 1 V), ± 28 V DC (min. measurement range 2 V), ± 600 mV DC (min. measurement range 50 mV), ± 150 mV DC (min. measurement range 15 mV)	Line resistance in measuring circuit	≤ 50 Ω
Potentiometer		Sensor	2-/3-/4-wire, RTD: PT10, PT20, PT50, PT100, PT250, PT300, PT400, PT500, PT1000, Ni50, Ni100, Ni120, Ni1000, Thermocouples: B, E, J, K, N, R, S, T ; in compliance with IEC 60584-1 and L, U in compliance with DIN43710, Potentiometer, Resistance: 0 - 12 k Ω
Sensor supply	1.2...500 k Ω 28...16.5 V DC / 0...20 mA	Temperature input range	Adjustable from -200...+800°C
Type	intrinsically safe circuit		

Output

Cut-off frequency (-3 dB)	100 Hz	Influence of load resistance	$\leq 0.01\%$ of span / 100 Ω
Load impedance current	≤ 700 Ω	Output current	4...20 mA (max. 23 mA)
Output signal limit	3.8...20.5 mA / 0...20.5 mA (dependent on range)	Residual ripple (current loop)	≤ 10 mV _{ss}
Type	Output-loop powered		

ACT20X-HUI-SAO-LP-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data**General specifications**

Accuracy	< 0.1 % of end value	Configuration	With FDT/DTM software
Humidity	10...90 %, no condensation	Power consumption	≤ 3.5 W
Protection degree	IP20	Step response time	250 ms (10...90%)
Temperature coefficient	< 0.02 °C of measuring range / °C	Type of connection	Screw connection
Voltage supply	via output current loop, 11...28 V DC (loop powered)		

Insulation coordination

Impulse withstand voltage	4 kV (1.2/50 µs)	Insulation voltage	3.51 kV between input and output
Pollution severity	2	Rated voltage	300 V _{eff}
Standards	DIN EN 61326-1, IEC 61010-1, IEC 61010-2-030, IEC 60079-0, IEC 60079-11, IEC 60079-15, IEC 60079-26	Surge voltage category	III

Data for Ex applications (ATEX)

Current I ₀	88.2 mA	Installation location	Device installed in safe area, zone 2
Marking	II 3 G Ex nA IIC T4 Gc, I (M1) [Ex ia Ma] I, II (1) D [Ex ia Da] IIIC	Power P ₀	129 mW
Voltage U ₀	5.88 V DC		

Connection data

Type of connection	Screw connection	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm ²
Clamping range, min.	0.25 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ECLASS 9.0	27-21-01-20	ECLASS 9.1	27-21-01-20
ECLASS 10.0	27-21-01-20	ECLASS 11.0	27-21-01-20

ACT20X-HUI-SAO-LP-S

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Tender specification sheets

Long specification

Short specification

Ex universal measurement isolating transformer for RTD-/TC temperature and DC-current-/ voltage signals, output-loop powered 1-channel 4...20 mA output-loop powered measurement isolating transformer in 12.5 mm width for recording, isolating and transmitting RTD- / TC sensors, resistors, potentiometers and DC current signals and voltages from Ex zones 0,1,2 to the safe zone.

The component can be configured using standard FDT/DTM software.

Add-on housing for TS35 rail mounting

Dimensions: L/W/H
119.2/ 12.5/ 113.6

Screw connection/ Nominal cross-section
2.5 mm²

Protection degree: IP
20

Input RTD:
PT200, PT1000, Ni120, Cu100

Resistance 0...15 kOhm / Potentiometer
1.2...500 kOhm

TC-
Type: B, E, J, K, L, N, R, S, T, U

+/-
25 mA configurable

+/- 28 V configurable

Output
4...20 mA current loop

Load <
700 Ohm

Accuracy <
0,1 % v.E

Auxiliary power
11...28 VDC / current loop

Power loss approx. 1.5 W

Ambient temperature range 0 °C...+60 °C

Secure isolation
EN 50178, 2-way

Isolation voltage
400 V AC, 4 kV

Working voltage
300 V AC, 4 kV

overvoltage category II

Ex universal measurement isolating transformer for RTD-/TC temperature and DC-current-/ voltage signals, output-loop powered 1-channel 4...20 mA- loop-powered measurement isolating

ACT20X-HUI-SAO-LP-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Technical data****Important note**

Product information	Weidmüller provides an extended guarantee period of 36 months for this device.
---------------------	--

Approvals

Approvals



Approvals	CULUS; EAC; IECEXKEM; ATEX
-----------	----------------------------

ROHS	Conform
------	---------

Downloads

Approval/Certificate/Document of Conformity	Certification ATEX Certification IECEX UL Certification Declaration of Conformity
Engineering Data	STEP
Engineering Data	EPLAN, WSCAD
Software	WI-Manager, DTM-Library for online installation V.1.2.2
User Documentation	Instruction sheet

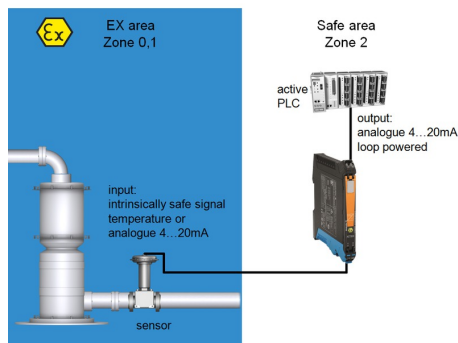
ACT20X-HUI-SAO-LP-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

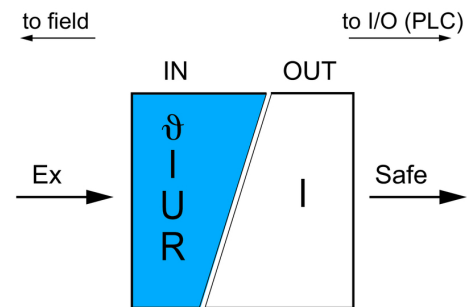
www.weidmueller.com

Drawings

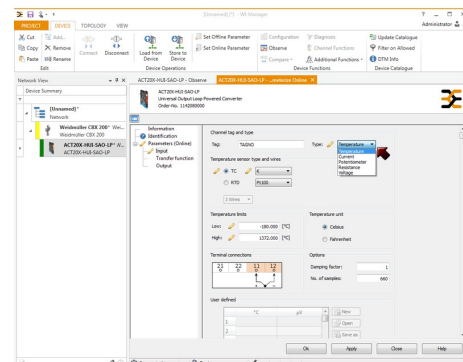
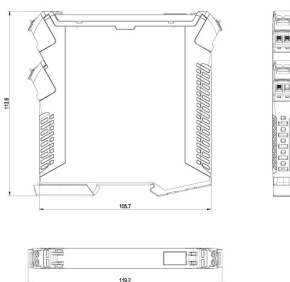
Application



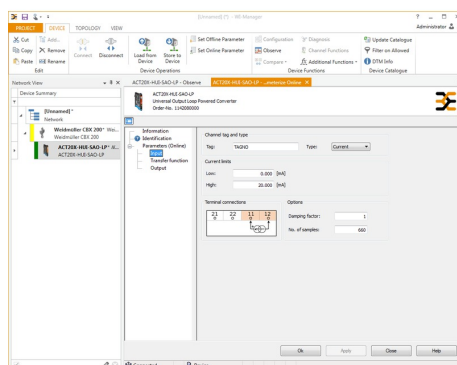
Block diagram



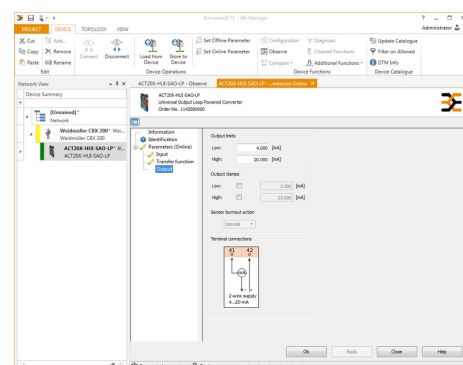
Dimensioned drawing



screenshot of temperature input configuration with FDT2 / DTM software



screenshot of current input configuration with FDT2 / DTM software



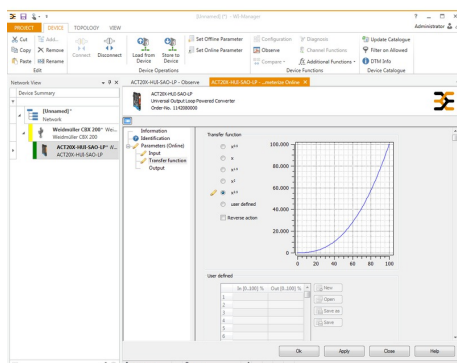
screenshot of output configuration with FDT2 / DTM software

ACT20X-HUI-SAO-LP-S

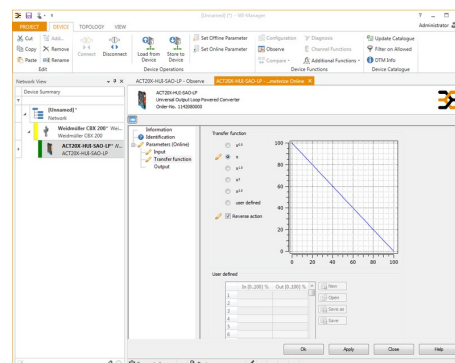
Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

Drawings



screenshot of transfer function
configuration with FDT2 / DTM software



screenshot of transfer function
configuration with FDT2 / DTM software

Connection diagram

