

ACT20P-UI-AO-DO-LP**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Product image**

Universal, Output Loop Powered Signal Converter

General ordering data

Version	Limit value monitoring, Input : universal U, I, R, 9, Output : 4-20 mA, (loop powered), Transistor (Alarm)
Order No.	1453210000
Type	ACT20P-UI-AO-DO-LP
GTIN (EAN)	4050118259605
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Depth	113.6 mm	Depth (inches)	4.472 inch
Height	119.2 mm	Height (inches)	4.693 inch
Width	12.5 mm	Width (inches)	0.492 inch
Net weight	180 g		

Temperatures

Storage temperature	-20 °C...70 °C	Operating temperature	-20 °C...60 °C
Humidity at operating temperature	0...95 % (no condensation)	Humidity	10...90 %, no condensation

Probability of failure

SIL in compliance with IEC 61508	None
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Input

Cable-length compensation	$\leq \pm 0.002 \Omega$ per cable resistance Ω	Influence of the sensor cable resistance	5 Ω @ RTD- Kabel
Input current	configurable, ± 5 A DC (min. measurement range 0.5 A)	Input resistance, current	40 Ω
Input resistance, voltage		Input voltage	configurable, ± 150 mV DC (min. measurement range 15 mV), ± 600 mV DC (min. measurement range 50 mV), ± 12 V DC (min. measurement range 1 V), ± 28 V DC (min. measurement range 2 V), ± 300 V DC (min. measurement range 100 V), 0...300 V AC
Number of inputs	1	Potentiometer	1.2...500 k Ω
Resistance		Sensor	PT100 (2-/3- wire), PT1000 (2-/3- wire), PT200, N120, Cu 10, Thermocouples: B, E, J, K, L, N, R, S, T, U
Sensor supply	0...750 Ω , 0...1.5 k Ω , 0...12 k Ω	Temperature input range	CU10: -100...+260 °C, Ni120: -80 °C...+320 °C, PT100 / 200 / 1000: -200 °C...+850 °C, B: +100...+1820 °C, E: -270...+1000 °C, J: -270...+1200 °C, K: -270...+1372 °C, L: +100...+900 °C, N: -180...+1300 °C, R: -50...+1768 °C, S: -50...+1768 °C, T: -270...+400 °C, U: -200...+600 °C
Type	Universal signal isolator / signal amplifier, thermocouple, RTD		

Output

Load impedance current	$\leq 600 \Omega$	Type	passive, connected control must be active
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Creation date November 26, 2024 12:21:31 PM CET

Catalogue status 26.11.2024 / We reserve the right to make technical changes.

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Output (digital)

Alarm function	configurable, Top and bottom limit values, window range, Alarm delay: 0...99 s	Hysteresis	≥ 0.1 % of FS
Max. switching voltage, AC	30 V	Number of digital outputs	1
Rated switching current	20 mA	Rated switching voltage	≤ 30 V DC
Type	Transistor, open collector		

Output (analogue)

Load resistance current	typ. 700 Ω @ 24 V DC	Number of analogue outputs	1
Output current	4...20 mA (current loop)	Signal output	direct or inverted

General data

Accuracy	<0.1 % of measuring range	Cold-junction compensation error	±1.0°C @ -20°C - 65°C
Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB	Galvanic isolation	2-way isolator, between input/output
Protection degree	IP20	Rail	TS 35
Step response time	450 ms	Temperature coefficient	<0.02 °C of measuring range / °C
Voltage supply	Output loop powered, (10...45 V)		

Insulation coordination

EMC standards	EN 61326-1	Galvanic isolation	2-way isolator, between input/output
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}
Surge voltage category	III		

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.	0.5 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
ETIM 8.0	EC002653	ETIM 9.0	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
ECLASS 12.0	27-21-01-20	ECLASS 13.0	27-21-01-20
ECLASS 14.0	27-21-01-20		

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Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Important note

Product information	The ACT20P-UI-AO-DO-LP-X converts and isolates current, voltage, potentiometer and temperature sensor signals (mA, A, mV, V, potentiometer, RTD and TC). The transmit function between the input and output can be set via the configuration program either to predefined functions (x0.5, x, x2) or via a freely definable function table. The device is powered via the output current loop. Features • Configuration and monitoring are performed via FDT/DTM-Software „WI-Manager“. • The active or passive signal inputs for RTD, TC, potentiometer, mV, V, mA and A are completely electrically isolated. • The TC signal input has internal cold-junction compensation. • Alarm output (for example, for limit monitoring, sensor error detection and more) • 3-way galvanic isolation between input, output/supply and alarm output.
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Approvals

Approvals



Approvals	CULUS;
ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULusEX)	E338066

Downloads

Approval/Certificate/Document of Conformity	UL Certification Declaration of Conformity
Engineering Data	CAD data – STEP
Software	WI-Manager, DTM-Library for online installation Release notes for Weidmueller FDT-DTM Software version
User Documentation	Instruction sheet 20210120 Security Advisory - WI-Manager affected by MundM Software fdtCONTAINER vulnerability
Catalogues	Catalogues in PDF-format
Brochures	

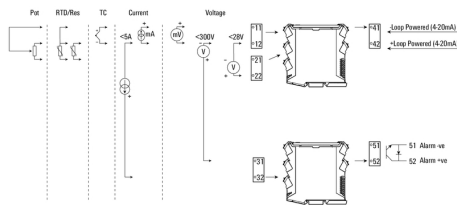
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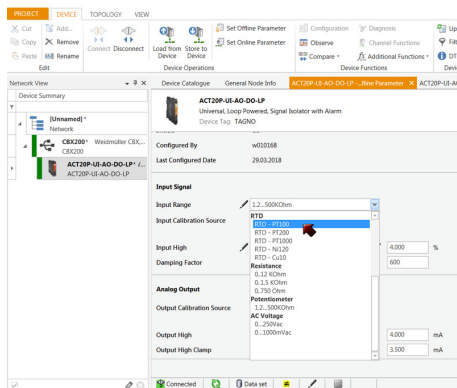
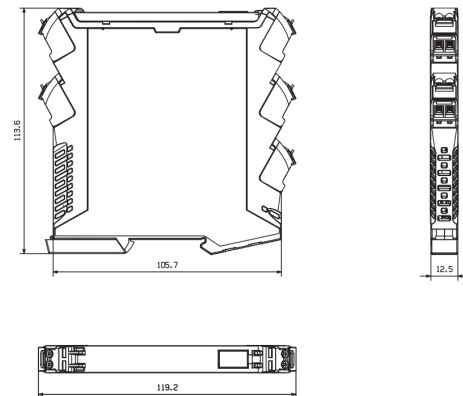
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Drawings

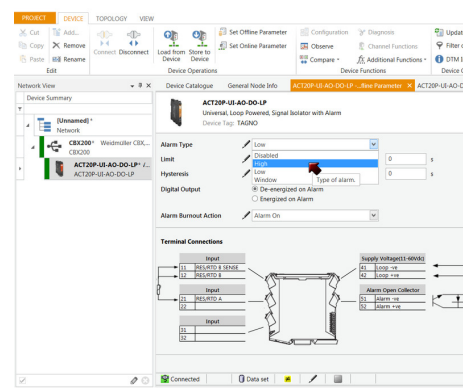
Connection diagram



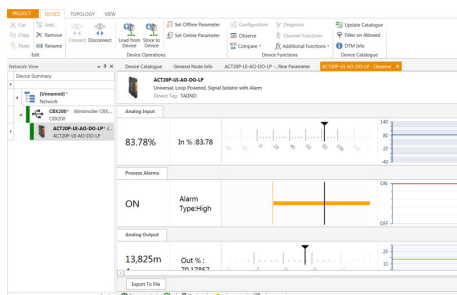
Dimensioned drawing



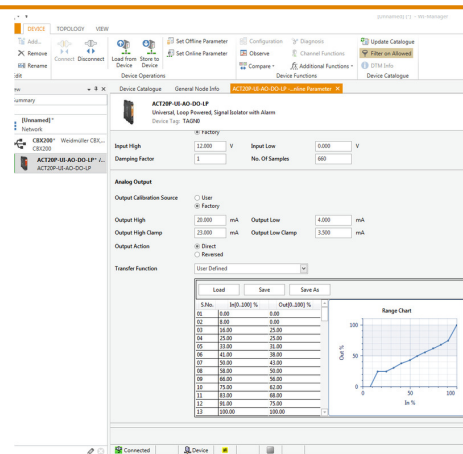
screenshot of configuration with FDT2 / DTM software



screenshot of configuration with FDT2 / DTM software



screenshot of "observe" with FDT2 / DTM software"



example of user defined transfer function for assigning customized output values