

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

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Similar to illustration****FDT** 2**ACT20P: The flexible solution**

- Precise and highly functional signal converters
- Release levers simplify handling

**General ordering data**

Version	Signal converter/insulator, Limit value monitoring, Input : universal U, I, R, 9, Output : 4-20 mA, (loop powered), Transistor (Alarm)
Order No.	<a href="#">2456850000</a>
Type	ACT20P-UI-AO-DO-LP-P
GTIN (EAN)	4050118471786
Qty.	1 pc(s).

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**Technical data****Dimensions and weights**

Depth	113.7 mm	Depth (inches)	4.476 inch
Height	127.1 mm	Height (inches)	5.004 inch
Width	12.5 mm	Width (inches)	0.492 inch
Net weight	191 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 $\Omega$	Influence of the sensor cable resistance	5 $\Omega$ @ RTD- Kabel
Input current	configurable, $\pm 5$ A DC (min. measurement range 0.5 A)	Input resistance, current	40 $\Omega$
Input resistance, voltage		Input voltage	configurable, $\pm 12$ V DC (min. measurement range 1 V), $\pm 28$ V DC (min. measurement range 2 V), $\pm 300$ V DC (min. measurement range 100 V)
	> 10 M $\Omega$ @ 600 mV, 2 M $\Omega$	Potentiometer	1.2...500 k $\Omega$
Number of inputs	1	Sensor	PT100 (2-/3- wire), PT1000 (2-/3- wire), PT200, N120, Cu 10, Thermocouples: B, E, J, K, L, N, R, S, T, U
Resistance	0...750 $\Omega$ , 0...1.5 k $\Omega$ , 0...12 k $\Omega$	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
Sensor supply	0.1 mA / 0.05 mA (depending on measuring range) @ RTD cable		
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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## Technical data

### Output (digital)

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

### Output (analogue)

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 <sub>eff</sub>
Surge voltage category	III		

### Connection data

Type of connection	PUSH IN	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm <sup>2</sup>
Clamping range, min.	0.5 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 14
Wire cross-section, solid, min.	0.2 mm <sup>2</sup>	Wire cross-section, solid, max.	2.5 mm <sup>2</sup>
Wire connection cross section, finely stranded, min.	0.5 mm <sup>2</sup>	Wire connection cross section, finely stranded, max.	2.5 mm <sup>2</sup>
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm <sup>2</sup>	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm <sup>2</sup>

### 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

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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

**Important note**

Product information	<p>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.</p> <p>Features</p> <ul style="list-style-type: none"><li>• Configuration and monitoring are performed via FDT/DTM-Software „WI-Manager“.</li><li>• The active or passive signal inputs for RTD, TC, potentiometer, mV, V, mA and A are completely electrically isolated.</li><li>• The TC signal input has internal cold-junction compensation.</li><li>• Alarm output (for example, for limit monitoring, sensor error detection and more)</li><li>• 3-way galvanic isolation between input, output/supply and alarm output.</li></ul>
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**Approvals**

Approvals



ROHS	Conform
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**Downloads**

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

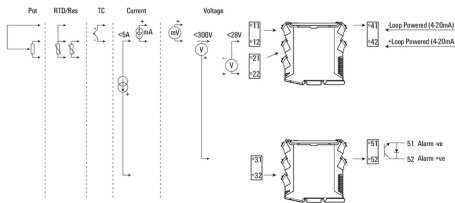
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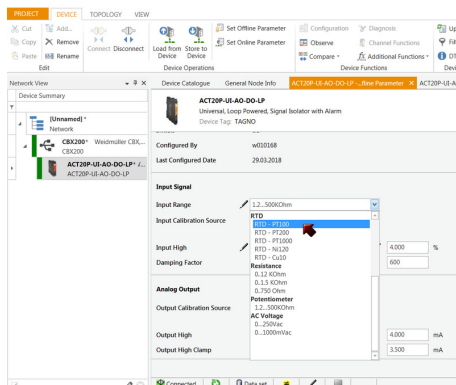
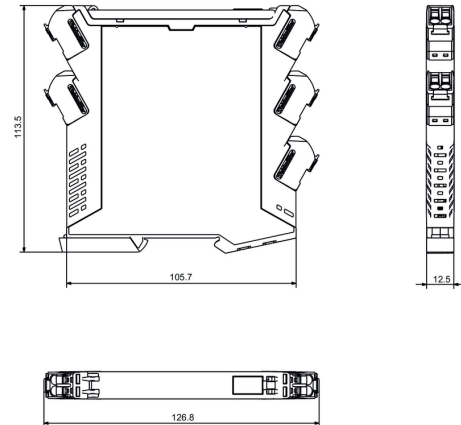
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## Drawings

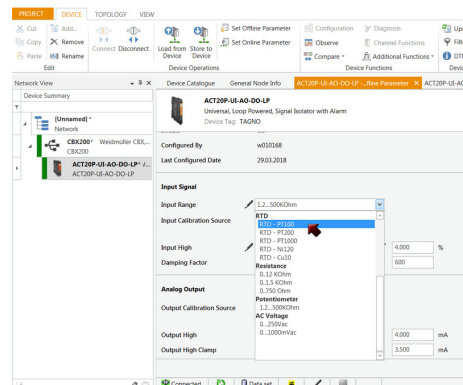
### Connection diagram



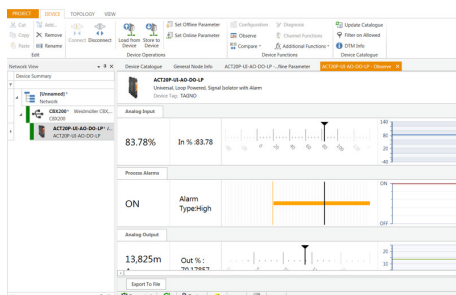
### Dimensioned drawing



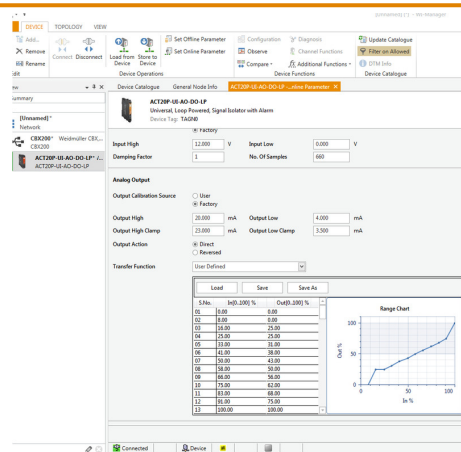
screenshot of configuration with FDT2 / DTM software



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