

**ACT20M-RTI-CO-EOLP-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Product image****ACT20M: The slim solution**

- Safe and space-saving (6 mm) isolation and conversion
- Quick installation of the power supply unit using the CH20M mounting rail bus
- Easy configuration via DIP switch or FDT/DTM software
- Extensive approvals such as ATEX, IECEx, GL, DNV
- High interference resistance

**General ordering data**

|            |  |
|------------|--|
| Version    | Passive isolator, Without galvanic isolation, Input : Temperature, PT100, Output : 4-20 mA |
| Order No.  | <a href="#">1435610000</a>   |
| Type       | ACT20M-RTI-CO-EOLP-S   |
| GTIN (EAN) | 4050118240528  |
| Qty.       | 1 pc(s).   |

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

|            |          |                 |            |
|------------|----------|-----------------|------------|
| Depth      | 114.3 mm | Depth (inches)  | 4.5 inch   |
| Height     | 112.5 mm | Height (inches) | 4.429 inch |
| Width      | 6.1 mm   | Width (inches)  | 0.24 inch  |
| Net weight | 80 g     |                 |            |

**Temperatures**

|                     |                |          |  |
|---------------------|----------------|----------|--|
| Storage temperature | -40 °C...85 °C | Humidity | 40 °C / 93 % rel. humidity,<br>no condensation |
|---------------------|----------------|----------|--|

**Probability of failure**

|      |       |
|------|-------|
| MTBF | 227 a |
|------|-------|

**Input**

|  |   |                                      |   |
|--|---|--------------------------------------|---|
| Influence of the sensor cable resistance | <0.002 Ω/Ω  | Line resistance in measuring circuit | 50 Ω@ RTD (Pt100), 10<br>kΩ @ TC (J, K) |
| Number of inputs                         | 1   | Sensor                               | PT100 (2-/3-/4- wire)                   |
| Temperature input range                  | Configurable, PT100:<br>-200...+850 °C, min. mea-<br>surement range 10°C<br>(RTD) |                                      |   |

**Output**

|                        |  |                         |   |
|------------------------|--|-------------------------|---|
| Load impedance current | ≤ 600 Ω                                      | Number of outputs       | 1   |
| Output current         | 4...20 mA, loop-powered                      | Supply voltage (output) | 16,8 V...31,2 V                             |
| Type                   | passive, connected control<br>must be active | Wire break detection    | Yes, Configurable, 3.5<br>mA / 23 mA / none |
| load impedance voltage | ≥ 10 kΩ                                      |                         |   |

**General data**

|                                  |  |                        |  |
|----------------------------------|--|------------------------|--|
| Accuracy                         | absolute accuracy: <±0.1 % of the measurement range, Basic accuracy: <±0.2°C   |                        |  |
| Cold-junction compensation error | ±(2.0 °C + 0.4 °C x Δt) Δt = inside temperature - ambient temperature  |                        |  |
| Configuration                    | DIP switch   |                        |  |
| Delivery state                   | Output: 4...20 mA (loop) // Sensor error detection: enabled // Output error level: downscale // Noise suppression: 50 Hz // Step response time: < 30 ms // Start temperature: -200 °C // End temperature: 0 °C |                        |  |
| Delivery state                   | Setting parameters   | Output                 |  |
|                                  | Configuration  | 4...20 mA (loop)       |  |
|                                  | Setting parameters   | Sensor error detection |  |
|                                  | Configuration  | enabled                |  |
|                                  | Setting parameters   | Output error level     |  |
|                                  | Configuration  | downscale              |  |
|                                  | Setting parameters   | Noise suppression      |  |
|                                  | Configuration  | 50 Hz                  |  |
|                                  | Setting parameters   | Step response time     |  |
|                                  | Configuration  | < 30 ms                |  |
|                                  | Setting parameters   | Start temperature      |  |
|                                  | Configuration  | -200 °C                |  |
| Galvanic isolation               | Without isolation  |                        |  |
|                                  | Power consumption, max.  | 0.8 W                  |  |

Creation date April 29, 2024 4:36:35 PM CEST

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**Technical data**

|                         |   |
|-------------------------|---|
| Power consumption, typ. | 0.48 W  |
| Rail                    | TS 35   |
| Step response time      | Configurable, $\leq 30$ ms, $< 300$ ms                              |
| Temperature coefficient | RTD (PT100) $\leq 0.01$ % of the measurement range/°C or 0.02 °C/°C |
| Voltage supply          | Output loop powered, 6...35 V                                       |

**Insulation coordination**

|                    |                    |                    |                   |
|--------------------|--------------------|--------------------|-------------------|
| EMC standards      | IEC 61326-1, NE 21 | Galvanic isolation | Without isolation |
| Pollution severity | 2                  |                    |                   |

**Data for Ex applications (ATEX)**

|                       |                                       |         |                        |
|-----------------------|---------------------------------------|---------|------------------------|
| Installation location | Device installed in safe area, zone 2 | Marking | II 3 G Ex nA IIC T4 Gc |
|-----------------------|---------------------------------------|---------|------------------------|

**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 <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 30              | Wire connection cross section AWG, max. | AWG 14              |

**EMC conformity and approvals**

|               |                    |           |             |
|---------------|--------------------|-----------|-------------|
| EMC standards | IEC 61326-1, NE 21 | Standards | IEC 61010-1 |
|---------------|--------------------|-----------|-------------|

**Classifications**

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002919    | ETIM 7.0    | EC002919    |
| ETIM 8.0    | EC002919    | ETIM 9.0    | EC002919    |
| ECLASS 9.0  | 27-21-01-29 | ECLASS 9.1  | 27-21-01-29 |
| ECLASS 10.0 | 27-21-01-29 | ECLASS 11.0 | 27-21-01-29 |
| ECLASS 12.0 | 27-21-01-29 | ECLASS 13.0 | 27-21-01-29 |

**Environmental Product Compliance**

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

**Important note**

|                     |   |
|---------------------|---|
| Product information | <p>The ACT20M-RTCI-CO-OLP-S passive configurable temperature transducer isolates and converts analogue signals. An analogue RTD (Type Pt100) or TC (Type J, K) input signal is linearly converted into an analogue output signal and galvanically isolated. Power is supplied through the output measurement circuit (output-loop powered).</p> <p>The ACT20M-RTI-CO-EOLP-S passive configurable temperature transducer does not have any galvanic isolation and has no TC input.</p> |
|---------------------|---|

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## Technical data

## Approvals

Approvals



|                         |            |
|-------------------------|------------|
| ROHS                    | Conform    |
| UL File Number Search   | UL Website |
| Certificate no. (cULus) | E337701    |

## Downloads

|   |  |
|---|--|
| Approval/Certificate/Document of Conformity | <a href="#">DNV-GL certificate</a><br><a href="#">FM certificate</a><br><a href="#">IECEX certificate</a><br><a href="#">ATEX certificate</a><br><a href="#">Declaration of Conformity</a> |
| Engineering Data                            | <a href="#">CAD data – STEP</a>  |
| Software                                    | <a href="#">DIP switch configuration tool</a>  |
| User Documentation                          | <a href="#">instruction sheet</a>  |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>   |
| Brochures                                   |  |

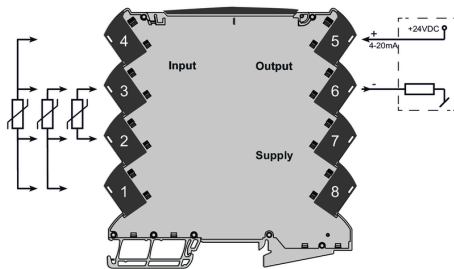
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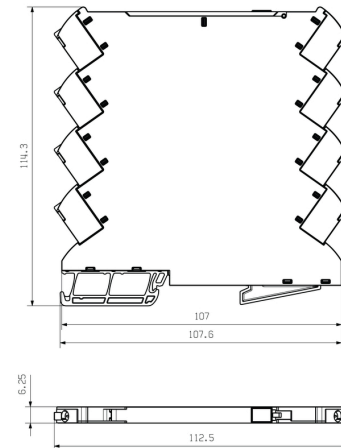
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## Drawings

### Connection diagram



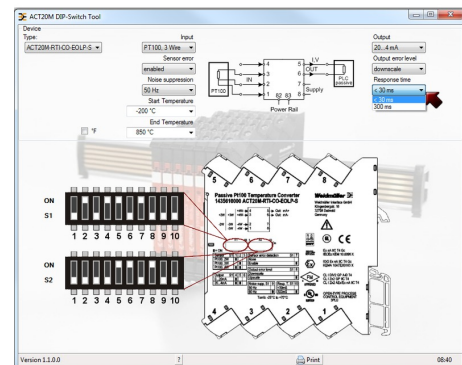
### Dimensional drawing



#### DIP switch setting

|                         |  | Temperature range [°C] |       |    |    |                |       |    |    |                 |       |    |    |
|-------------------------|--|------------------------|-------|----|----|----------------|-------|----|----|-----------------|-------|----|----|
|                         |  | PT100 -200...+500 °C   |       |    |    | TC-0...+200 °C |       |    |    | TC-K...+1372 °C |       |    |    |
|                         |  | Min                    | Max   | S1 | S2 | Min            | Max   | S1 | S2 | Min             | Max   | S1 | S2 |
| RTD & TC sensor type    |  | PT100                  | PT100 | 1  | 2  | PT100          | PT100 | 1  | 2  | PT100           | PT100 | 1  | 2  |
| PT100 2 wire            |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| PT100 3 wire            |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| PT100 4 wire            |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| K (external 4-wire)     |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| K (external 4-wire II)  |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| K (external 4-wire III) |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| K (external 4-wire IV)  |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| K (external 4-wire V)   |  | 100                    | 200   | 1  | 2  | 100            | 200   | 1  | 2  | 100             | 200   | 1  | 2  |
| Output                  |  | 0                      | 40    | 1  | 2  | 0              | 40    | 1  | 2  | 0               | 40    | 1  | 2  |
| Sensor error detection  |  | 0                      | 40    | 1  | 2  | 0              | 40    | 1  | 2  | 0               | 40    | 1  | 2  |
| Output error level      |  | 0                      | 40    | 1  | 2  | 0              | 40    | 1  | 2  | 0               | 40    | 1  | 2  |
| Noise suppression       |  | 0                      | 40    | 1  | 2  | 0              | 40    | 1  | 2  | 0               | 40    | 1  | 2  |
| Response time           |  | 0                      | 40    | 1  | 2  | 0              | 40    | 1  | 2  | 0               | 40    | 1  | 2  |

example for DIP switch setting  
(with ACT20M tool software)



example for DIP switch setting  
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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Blank**

MultiFit is the Weidmüller marker system used for other makes of terminals. Similar to the Weidmüller Dekafix, the markers of the MultiFit family are available ready-for-use with standard printing.

We recommend to carry out a test with sample markers on the terminals used when using MultiFit for the first time.

- One marker, suitable for different makes of terminals.
- Ready-to-use markers with standard printing
- Blank markers for printing with the PrintJet CONNECT or Plotter
- Delivery of individually printed markers according to customer CAE data or specifications
- One marking system for all applications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

|            |                            |  |
|------------|----------------------------|--|
| Type       | MF 5/7.5 MC NE WS          | Version  |
| Order No.  | <a href="#">1877680000</a> | MultiFit, Terminal marker, 5 x 7.5 mm, Pitch in mm (P): 7.50 Adels |
| GTIN (EAN) | 4032248468270              | RKW, Phoenix, white  |
| Qty.       | 320 pc(s).                 |  |