

## ACT20M-BAI-AO-S

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

www.weidmueller.com

### Product image, Similar to illustration



#### 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    | Signal converter/insulator, Configurable, Input : I / U/bidirectional I, Output : I / U |
| Order No.  | <a href="#">1375450000</a>  |
| Type       | ACT20M-BAI-AO-S   |
| GTIN (EAN) | 4050118236736   |
| Qty.       | 1 Stück   |

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## Technische Daten

### 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                                 | Operating temperature       | -25 °C...70 °C |
| Operating temperature, min. | -25 °C   | Operating temperature, max. | 70 °C          |
| Humidity                    | 40 °C / 93 % rel. humidity,<br>no condensation |                             |                |

### Probability of failure

|      |           |
|------|-----------|
| MTBF | 181 Years |
|------|-----------|

### Input

|               |   |                             |              |
|---------------|---|-----------------------------|--------------|
| Input current | configurable, -10 mA...0...<br>+10 mA, -20 mA...0...+20<br>mA | Input resistance, voltage   | ≥ 1 MΩ       |
| Input voltage | configurable, -5 V...0...+5<br>V, -10 V...0...+10 V           | Number of inputs            | 1            |
| Sensor        | Voltage source, Current<br>source                             | Voltage drop, current input | 1 V at 20 mA |

### Output

|                           |  |                        |  |
|---------------------------|--|------------------------|--|
| Cut-off frequency (-3 dB) | ≥ 100 Hz, 10 Hz                          | Load impedance current | ≤ 600 Ω                                      |
| Number of outputs         | 1  | Output current         | configurable, 0...20 mA,<br>4...20 mA        |
| Output voltage, note      | configurable, 0(2)...10 V,<br>0(1)...5 V | Type                   | active, connected control<br>must be passive |
| load impedance voltage    | ≥ 10 kΩ                                  |                        |  |

### General data

|                         |   |            |
|-------------------------|---|------------|
| Accuracy                | < 0.05 % of measuring range                                 |            |
| Configuration           | DIP switch  |            |
| Delivery state          | Bandwidth: 100 Hz // Input: -10...10 V // Output: 0...20 mA |            |
| Delivery state          | Setting parameters  | Bandwidth  |
|                         | Configuration   | 100 Hz     |
|                         | Setting parameters  | Input      |
|                         | Configuration   | -10...10 V |
|                         | Setting parameters  | Output     |
| Configuration           | 0...20 mA   |            |
| Galvanic isolation      | 4-way isolator;   |            |
| Power consumption, max. | 0.8 W   |            |
| Power consumption, typ. | 0.45 W  |            |
| Rail                    | TS 35   |            |
| Step response time      | ≤ 7 ms  |            |
| Temperature coefficient | <0.01% of span/°C (TU)                                      |            |
| Voltage supply          | 24 V DC ± 30 %  |            |

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### Insulation coordination

|                    |                                |                        |                 |
|--------------------|--------------------------------|------------------------|-----------------|
| EMC standards      | IEC 61326-1, NE 21             | Galvanic isolation     | 4-way isolator; |
| Insulation voltage | 2.5 kV <sub>eff</sub> / 1 min. | Pollution severity     | 2               |
| Rated voltage      | 300 V <sub>eff</sub>           | Surge voltage category | II              |

### 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    | EC002653    | ETIM 7.0    | EC002653    |
| ETIM 8.0    | 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 |

### Tender specification sheets

|                     |  |
|---------------------|--|
| Short specification | Bipolar standard signal converter 1-channel signal converter, 6.1 mm wide, with external voltage supply, for transmission and isolation of analogue DC current signals +/- 10 mA or +/- 20 mA and voltage signals +/- 5 V or +/- 10 V. Input and output signals can be configured with DIP switches. |
|---------------------|--|

### Environmental Product Compliance

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

### Important note

|                     |  |
|---------------------|--|
| Product information | The configurable DC-Converter ACT20M-BAI-AO-S separates and converts standard analogue signals. An analogue input signal is converted linear and galvanic isolated into an analogue output signal. The power supply is galvanically isolated from input and output and happens via a direct wiring or the Weidmüller DIN Rail Bus (3-way isolation). |
|---------------------|--|

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## Technische Daten

### 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>  |
| Engineering Data                            | <a href="#">WSCAD, Zuken E3.S, EPLAN</a>   |
| Software                                    | <a href="#">Runtime Software – DIP switch configuration tool</a>   |
| User Documentation                          | <a href="#">Instruction sheet</a>  |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>   |
| Brochures                                   |  |

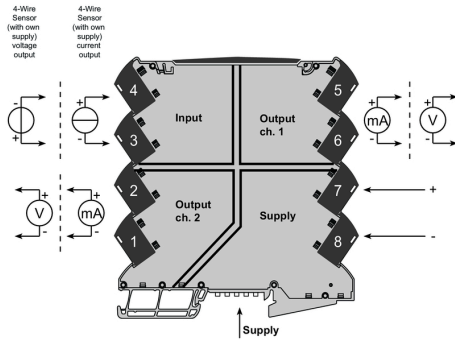
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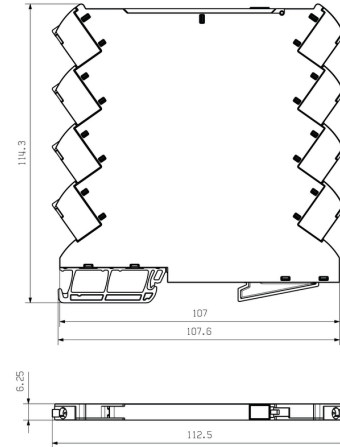
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**Zeichnungen**

**Connection diagram**



**Dimensional drawing**



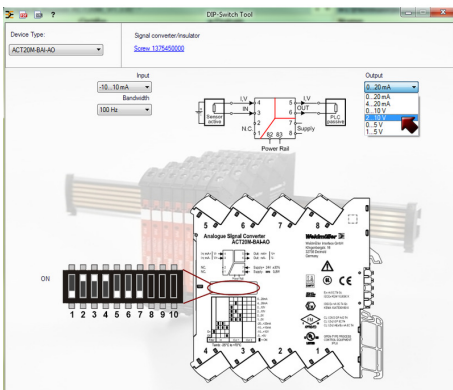
Power supply via the rail bus

**DIP switch setting**

| Input Setup |   | Input range  |   |   |  |
|-------------|---|--------------|---|---|--|
| Bandwidth   | 1 | 2            | 3 | 4 |  |
| 10 Hz       | ■ | -10...+10 mA | ■ | ■ |  |
| 100 Hz      |   | -20...+20 mA | ■ | ■ |  |
|             |   | -5...+5 V    |   | ■ |  |
|             |   | -10...+10 V  |   |   |  |

■ = ON

| Output setup |           | Output range |   |   |
|--------------|-----------|--------------|---|---|
|              |           | 5            | 6 | 7 |
|              | 0...20 mA |              |   |   |
|              | 4...20 mA |              | ■ |   |
|              | 0...10 V  | ■            |   |   |
|              | 2...10 V  | ■            | ■ |   |
|              | 0...5 V   | ■            |   | ■ |
|              | 1...5 V   | ■            | ■ | ■ |



example for DIP switch setting (with ACT20M-Tool software)