

# Monitoring Relays True RMS AC Current Transformer Types A 82-10, A 82-20, A 82-30

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- 5 types of input:
  - 0 - 25 AAC
  - 0 - 50 AAC
  - 0 - 100 AAC
  - 0 - 250 AAC
  - 0 - 500 AAC
- Output:
  - A 82-10: 0 - 20 mADC (source)
  - A 82-20: 4 - 20 mADC (sink)
  - A 82-30: 0 - 10 VDC
- Easy interface to PLC or setpoint relays

## Product Description

True RMS AC current metering transformer for 25, 50, 100, 250 or 500 AAC. Output current in accordance with IEC 60381-1 (A 82-10, A 82-20) or output voltage in accordance with IEC 60381-2 (A 82-30). A 82-10 and A 82-20 can be used with relays DIB01, PIB01, DIC01 or PIC01.

A 82-30 can be used with DUB01, PUB01, DUB71, DUC01 or PUC01. All units can be directly connected to a PLC. Power supply ON is indicated by a green LED on the side of the housing.

## Ordering Key

**A 82-10 50**

Type \_\_\_\_\_  
Output \_\_\_\_\_  
Input current \_\_\_\_\_

## Type Selection

| Input current | Output    | Type no.           |
|---------------|-----------|--------------------|
| 25 AAC        | 0 - 20 mA | <b>A 82-10 25</b>  |
| 50 AAC        | 0 - 20 mA | <b>A 82-10 50</b>  |
| 100 AAC       | 0 - 20 mA | <b>A 82-10 100</b> |
| 250 AAC       | 0 - 20 mA | <b>A 82-10 250</b> |
| 500 AAC       | 0 - 20 mA | <b>A 82-10 500</b> |
| 25 AAC        | 4 - 20 mA | <b>A 82-20 25</b>  |
| 50 AAC        | 4 - 20 mA | <b>A 82-20 50</b>  |
| 100 AAC       | 4 - 20 mA | <b>A 82-20 100</b> |
| 250 AAC       | 4 - 20 mA | <b>A 82-20 250</b> |
| 500 AAC       | 4 - 20 mA | <b>A 82-20 500</b> |
| 25 AAC        | 0 - 10 V  | <b>A 82-30 25</b>  |
| 50 AAC        | 0 - 10 V  | <b>A 82-30 50</b>  |
| 100 AAC       | 0 - 10 V  | <b>A 82-30 100</b> |
| 250 AAC       | 0 - 10 V  | <b>A 82-30 250</b> |
| 500 AAC       | 0 - 10 V  | <b>A 82-30 500</b> |

## Input Specifications

|                                                                                   | A 82-10/20/30 25                              | A 82-10/20/30 50                              | A 82-10/20/30 100                             | A 82-10/20/30 250                             | A 82-10/20/30 500                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| <b>Current range</b>                                                              | 0 - 25 AAC                                    | 0 - 50 AAC                                    | 0 - 100 AAC                                   | 0 - 250 AAC                                   | 0 - 500 AAC                                   |
| <b>Max. current</b> (continuously)                                                | 600 AAC                                       | 600 AAC                                       | 600 AAC                                       | 600 AAC                                       | 600 AAC                                       |
| <b>Max. overload current</b> (t = 30 s)                                           | 3000 AAC                                      | 3000 AAC                                      | 3000 AAC                                      | 3000 AAC                                      | 3000 AAC                                      |
| <b>Rated insulation voltage</b><br>Input - output                                 | 1000 VAC <sub>rms</sub>                       | 1000 VAC <sub>rms</sub>                       | 1000 VAC <sub>rms</sub>                       | 1000 VAC <sub>rms</sub>                       | 1000 VAC <sub>rms</sub>                       |
| <b>Overvoltage category</b>                                                       | IV (IEC 60664)                                | IV (IEC 60664)                                | IV (IEC 60664)                                | IV (IEC 60664)                                | IV (IEC 60664)                                |
| <b>Dielectric strength</b><br>Dielectric voltage<br>Rated impulse withstand volt. | 6 kVAC <sub>rms</sub><br>12 kV<br>(1.2/50 µs) | 6 kVAC <sub>rms</sub><br>12 kV<br>(1.2/50 µs) | 6 kVAC <sub>rms</sub><br>12 kV<br>(1.2/50 µs) | 6 kVAC <sub>rms</sub><br>12 kV<br>(1.2/50 µs) | 6 kVAC <sub>rms</sub><br>12 kV<br>(1.2/50 µs) |



## Output Specifications

|                                                                |              |
|----------------------------------------------------------------|--------------|
| <b>Rated insulation voltage (cable)</b> 250 VAC <sub>rms</sub> |              |
| <b>Output</b>                                                  |              |
| A 82-10                                                        | 0 - 20 mADC  |
| A 82-20                                                        | 4 - 20 mADC  |
| A 82-30                                                        | 0 - 10 VDC   |
| <b>Power supply (loop voltage)</b>                             |              |
| A 82-10, A 82-20                                               | 10 - 40 VDC  |
| A 82-30                                                        | 18 - 40 VDC  |
| <b>Tolerance of output current @ 50 Hz</b>                     |              |
| A 82-10                                                        | ±2%          |
| A 82-20                                                        | ± 2%         |
| <b>Tolerance of output voltage @ 50 Hz</b>                     |              |
| A 82-30                                                        | ±2%          |
| <b>Temperature variation</b>                                   | ±400 ppm/°C  |
| <b>Frequency range</b>                                         | 40 Hz -1 kHz |
| <b>Frequency variation</b>                                     | 10 ppm/Hz    |
| <b>Maximum output current</b>                                  |              |
| A 82-10, A 82-20                                               | 30 mADC      |
| <b>Maximum output voltage</b>                                  |              |
| A 82-30                                                        | 15 VDC       |
| <b>Minimum output load</b>                                     |              |
| A 82-30                                                        | 10 kΩ        |

## General Specifications

|                                       |                                                                                                                                                                           |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power ON delay</b>                 | < 2 s                                                                                                                                                                     |
| <b>Reaction time</b>                  | T < 200 ms                                                                                                                                                                |
| <b>Indication for Power supply ON</b> | LED, green                                                                                                                                                                |
| <b>Environment</b>                    |                                                                                                                                                                           |
| Degree of protection                  | IP 40                                                                                                                                                                     |
| Pollution degree                      | 3 (IEC 60664)                                                                                                                                                             |
| Operating temperature                 | -20° to 50°C (-4° to +122 °F)                                                                                                                                             |
| <b>Housing</b>                        |                                                                                                                                                                           |
| Dimensions                            | 95 x 67.5 x 20 mm                                                                                                                                                         |
| Material                              | ABS                                                                                                                                                                       |
| <b>Weight</b>                         |                                                                                                                                                                           |
| A 82-10, A 82-30                      | 300 g                                                                                                                                                                     |
| A 82-20                               | 270 g                                                                                                                                                                     |
| <b>Connection cable</b>               |                                                                                                                                                                           |
| A 82-10, A 82-30                      | 2 m, 3 x 0.25 mm <sup>2</sup>                                                                                                                                             |
| A 82-20                               | 2 m, 2 x 0.25 mm <sup>2</sup>                                                                                                                                             |
| <b>Approval</b>                       | cURus                                                                                                                                                                     |
| <b>CE marking</b>                     | Yes                                                                                                                                                                       |
| <b>EMC</b>                            |                                                                                                                                                                           |
| Immunity                              | Electromagnetic Compatibility According to EN 61000-6-1 (tolerance of output current/voltage: ± 2%) According to EN 61000-6-2 (tolerance of output current/voltage: ± 5%) |
| Emission                              | According to EN 61000-6-3                                                                                                                                                 |

## Mode of Operation

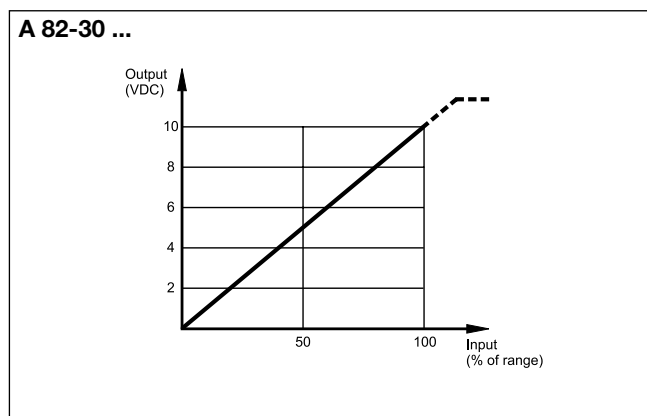
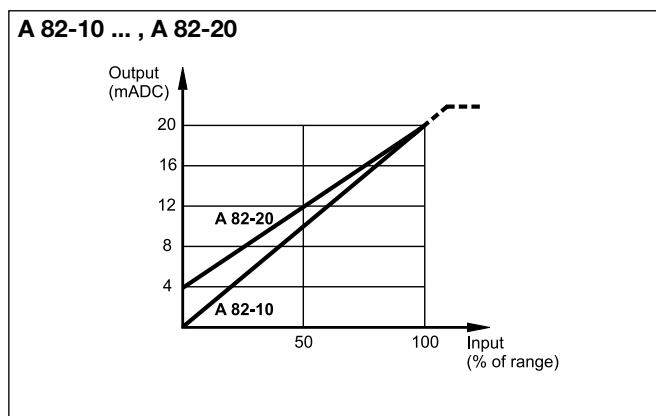
A 82-10 and A 82-20 are true RMS current metering transformers with standard source/sink output 0-20 mA / 4-20 mA, whereas A 82-30 is a metering transformer with 0-10 VDC output voltage. This makes them very useful as an AC current inter-

face to a PLC with mADC or VDC input. Used with relays DIB01, PIB01, DIC01, PIC01 (A 82-10, A 82-20) or DUB01, PUB01, DUB71, DUC01, PUC01 (A 82-30), one or more setpoints can monitor the current and signal alarm.

The metered conductor is drawn through the central hole of the current metering transformer. It is possible to meter currents below the nominal range by drawing the conductor through the hole several times. If the conductor is drawn through

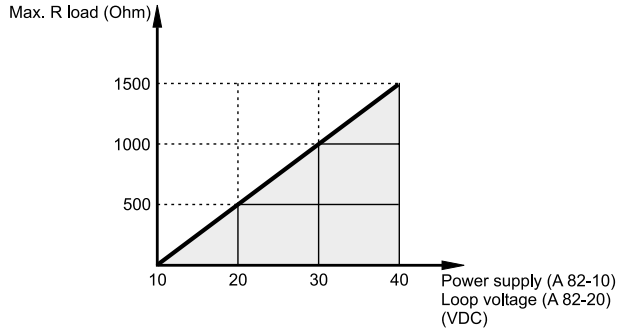
the central hole e.g. 5 times, the transformer will register 50 A when the current in the conductor is 10 A.

## Input/Output Curve



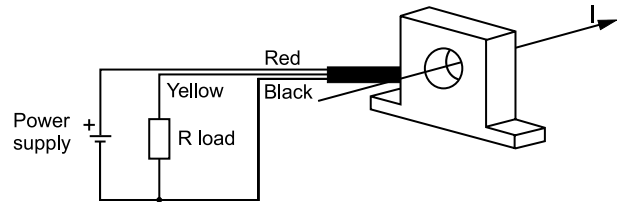
## Resistance/Voltage Curve

**A 82-10 ... , A 82-20**  
 (max. load resistance vs Power supply - Loop voltage)



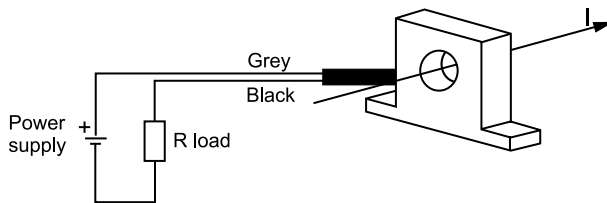
## Wiring Diagrams

**A 82-10 ... (source)**

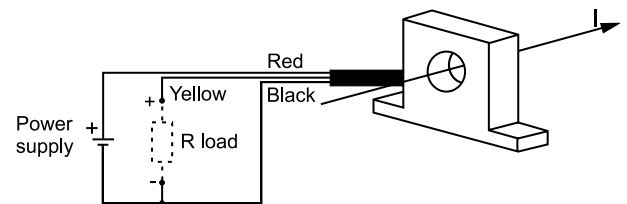


## Wiring Diagrams (cont.)

**A 82-20 ... (sink)**



**A 82-30 ...**



## Dimensions

