



AUTOMATION UNDER CONTROL

EN

## CT-LP40

Loop-powered alternating current transducer

### General characteristics

- The product is a 4 - 20 mA loop-powered current transducer (loop-powered 2-wire technology).
- High precision.
- Extremely small footprint.
- Wide configuration range: eight pre-calibrated dip-switch selected scales.
- Extremely low consumption.
- Low output ripple and fast response to variations.
- Auxiliary filter (dip-switch activated) to reduce response speed (start-up damping, unstable loads, etc.).



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## Technical Specifications

### INPUT

|                     |                                                                                                                                                         |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of measurement | Average rectified AC                                                                                                                                    |
| Capacity            | 5 A, 10 A, 15 A, 20 A, 25 A, 30 A, 35 A, 40 A<br>(DIP-switch selected).                                                                                 |
| Crest factor        | 2                                                                                                                                                       |
| Pass-band           | 20 - 1000 Hz                                                                                                                                            |
| Insulation          | When using a sheathed conductor, the sheath of the conductor determines the insulation voltage. An insulation of 3 kV~ is guaranteed on bare conductors |
| Overload            | 800 A continuous                                                                                                                                        |

### OUTPUT E POWER

|                    |                                                                                                                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type               | 4 - 20 mA, maximum load R = 600 Ω. Terminals  and                                                           |
| Connections        | Removable terminal with 5.08 mm pitch for cables up to 2.5 mm <sup>2</sup>                                                                                                                                                                                                    |
| Hole diameter      | 12.3 millimeters                                                                                                                                                                                                                                                              |
| Power supply       | 5 - 28 V  (between  and  ) |
| Protections        | - Polarity reversal.<br>- Overvoltage protection.                                                                                                                                                                                                                             |
| Maximum indication | < 28 mA                                                                                                                                                                                                                                                                       |

### PRECISION (1)

|                    |                                                               |                         |
|--------------------|---------------------------------------------------------------|-------------------------|
|                    | Frequency: 40 – 400 Hz                                        | Frequency: 20 – 1000 Hz |
| Capacity < 5 A     | 0.1% o.m. + 0.1% o.s.                                         | 0.1% o.m. + 0.3% o.s.   |
| Capacity > 5 A     | 0.2% o.m. + 0.1% o.s.                                         | 0.2% o.m. + 0.3% o.s.   |
| Resolution         | Infinite.                                                     |                         |
| Temperature coeff. | < 150 ppm/°C                                                  |                         |
| EMI error          | < 40 µA                                                       |                         |
| Response speed     | - «fast» filter: 100ms<br>- «slow» filter: 2500ms             |                         |
| Residual Ripple    | < 10 µA rms @ 20 mA e 50 Hz                                   |                         |
| Self-consumption   | < 50 mW                                                       |                         |
| Note (1)           | These acronyms apply: o.m. = of measurement, o.s. = of scale. |                         |

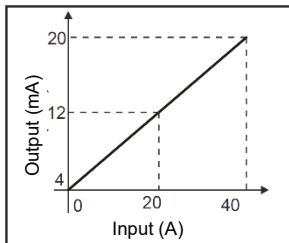
### STANDARDS

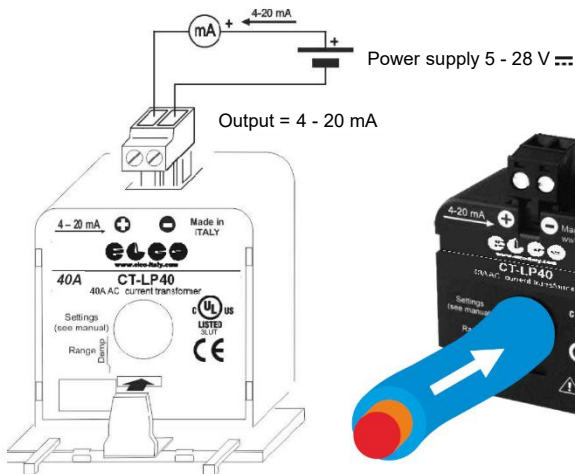
|  |                                                                                                                                                                                                      |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>EN60688+A1+A2</b><br><b>EN61000-6-4</b> (electromagnetic emission, industrial environment)<br><b>EN61000-6-2</b> (electromagnetic immunity, industrial environment).<br><b>EN61010-1</b> (safety) |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| OVERVOLTAGE CATEGORY     |                                     |
|--------------------------|-------------------------------------|
| Bare conductor           | CAT. III 300 V                      |
| Insulated conductor      | CAT. III 600 V                      |
| ENVIRONMENTAL CONDITIONS |                                     |
| Protection rating        | IP20.                               |
| Operating temperature    | -20– +70°C.                         |
| Storage temperature      | -40– +85°C.                         |
| Humidity                 | 10 – 90% non - condensing           |
| Altitude                 | Up to 2000 m above sea level        |
| CASE                     |                                     |
| Weight                   | 47 g                                |
| Dimensions               | 41 x 44 x 26 mm (terminal excluded) |
| Case                     | PA6, black                          |

| DIP-switches   |   |   |   |          |      |            |   |   |          |      |         |
|----------------|---|---|---|----------|------|------------|---|---|----------|------|---------|
| Input capacity |   |   |   |          |      | Filter (*) |   |   |          |      |         |
| SW 1           | 1 | 2 | 3 | Capacity | SW 1 | 1          | 2 | 3 | Capacity | SW 1 | 4       |
|                |   |   |   | 5 A      |      | ↑          |   |   | 25 A     |      | ↑       |
|                |   |   | ↑ | 10 A     |      | ↑          |   | ↑ | 30 A     |      | Present |
|                |   | ↑ |   | 15 A     |      | ↑          | ↑ |   | 35 A     |      | Absent  |
|                |   | ↑ | ↑ | 20 A     |      | ↑          | ↑ | ↑ | 40 A     |      |         |

In the table, the  symbol corresponds to the switch in the ON position. The instrument is supplied configured: for 5 A capacity, with 100 ms filter. (\*) The filter slows down the response time to about 2.5 s and stabilises the measurement.





### Assembly

The device can be mounted in any position, in compliance with the expected environmental conditions. In case of installation on DIN rail, use the accessory supplied.

**ATTENTION:** high-strength magnetic fields can alter the measurement: avoid proximity to permanent magnetic fields, electromagnets or iron bulks that can induce strong alterations of the magnetic field; if the zero error is greater than the declared error, try a different arrangement or orientation.

### Increased sensitivity with multi-turn primary winding

It is possible to increase the sensitivity of the device by simply passing through the hole several times with the measuring current, creating turns with a multiplicative effect: for example, 5 passes, corresponding to 4 turns, with a capacity of 40 A, result in an equivalent sensitivity of 8 A full-scale. With this solution, the turns should be arranged symmetrically in order to preserve instrument accuracy: with 2 turns, make sure to arrange them diametrically opposite to each other, with 4 turns ensure a cross arrangement, with 6 turns 60° spacing etc.



Electrical and electronic waste disposal (applicable in the European Union and other countries operating a separate waste collection policy). The symbol on the product or the packaging indicates that the product cannot be disposed of as household waste. It should be taken to an authorised recycling centre for electrical and electronic waste. By ensuring that the product is disposed of correctly, you will help prevent potential negative impacts on the environment and human health that could result from inappropriate product disposal. Material recycling will contribute to the preservation of natural resources. For more detailed information. Please contact your appropriate local office, the waste disposal service or the supplier from which you purchased the product.