

# SPLIT-CORE CURRENT TRANSFORMER

miniature current sensor

**LOREME**

type : Tio



- **Compact current transformer**

Low level output. Voltage or current

- **Fast opening/closing without tool**

Installation on an existing circuit without interruption.

No secondary open-circuit problem.

- **Available for currents from 1A to 500A**

Passage hole diameter: 8, 12, 17, 24 and 36mm

- **0.5% calibrated output voltage**

alternative (Tio-AC) : 200mV, 333mV, 500mV



The "Tio" split-core current transformer were a low cost solution to monitoring electrical circuits.

The unique hinge and locking hook allows to instrument a circuit without interrupting the primary current. Their design allows for output levels up to 1V AC without amplification.

The excellent linearity permits measurement of currents as low as 10 mA.

**applications:**

- Retrofitting existing site without instrumentation.
- Diagnosis, management and energy optimization
- Monitoring and analysis of electrical networks.
- Can be used with conventional 5 A secondary transformer

**Electrical meters associated:**

CPL165 : [http://www.loreme.fr/fichtech/CPL165\\_eng.pdf](http://www.loreme.fr/fichtech/CPL165_eng.pdf)

CPL105 : [http://www.loreme.fr/fichtech/CPL105\\_eng.pdf](http://www.loreme.fr/fichtech/CPL105_eng.pdf)

**Threshold relay associated:**

single phase, DSL35LCA : [http://www.loreme.fr/fichtech/DSL35LCA\\_eng.pdf](http://www.loreme.fr/fichtech/DSL35LCA_eng.pdf)

Tree-phase, RCL105 : [http://www.loreme.fr/fichtech/RCL105\\_eng.pdf](http://www.loreme.fr/fichtech/RCL105_eng.pdf)

**Features:**

- transformer encapsulated in isolated plastic housing.
- Closing with safety lock to clip.
- Output connection with twisted cable.
- Protection rating (enclosure): IP40

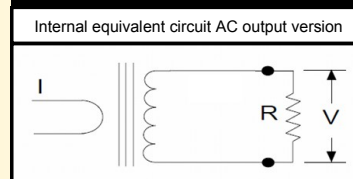
- Available model:

- diameter 8mm (30A maxi)
- diameter 12mm (90A maxi)
- diameter 17mm (160A maxi)
- diameter 24mm (250A maxi)
- diameter 36mm (500A maxi)

**Implementation:**

- During opening operations the air gap must be maintain cleanliness to preserve the metrological characteristics.
- A large number of opening / closing operations can at term affect the accuracy by decreasing the pressure on the air gap. (life duration of around 200 openings / closings)
- The series connection of secondary is possible to easily realize a summation of the primary currents (in phase), allowing the measure of a set of loads at lower cost.

**Block diagram:**



Version and order code :

[Request a quote](#)

**Tio d8-A-mV** : split-core CT, 8mm hole diameter, voltage output (measuring 30A max)

**Tio d12-A-mV** : split-core CT, 12mm hole diameter, voltage output (measuring 90A max)

**Tio d17-A-mV** : split-core CT, 17mm hole diameter, voltage output (measuring 160A max)

**Tio d24-A-mV** : split-core CT, 24mm hole diameter, voltage output (measuring 250A max)

**Tio d36-A-mV** : split-core CT, 36mm hole diameter, voltage output (measuring 500A max)

-A : Current range (from 1A to 500A Ac)

-mV : Voltage output. must be defined (500mV on standard)

**WIRING OPTION:**

/C : Connection over un-pluggable spring terminal (only for Tio with hole diameter of 12mm and 17mm)

/L (meter) : Default output 1 meter twisted cable. Available up to 30 meters.

**Tio d8** : split-core CT, 8mm hole diameter, current output AC transformer ratio: 1/2500 (25A max)

**Metrology**

- Measurable current : 0...1...5.....500Aac (model dependant)
- Power consumption: < 0.1Watt
- Accuracy : +/- 0.5 % (for 500mV nominal output)
- Linearity : +/- 0.15 % (for 500mV nominal output)
- frequency range: 40Hz...1KHz

**OUTPUT (AC version)**

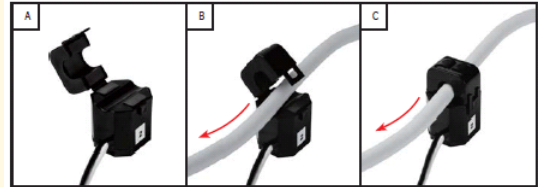
Type	Range	Accuracy
Voltage standard for LOREME devices.	0 ... 500mV	+/- 2.5 mV

Output impedance: 200 ohms to 10Kohms depending of range (0.1% internal shunt)

**ENVIRONMENT**

- Operating temperature -20 to +60 °C
- Storage temperature -20 to +85 °C
- Relative humidity 85 % (no condensed)
- Weight ~ 180 g
- Dielectric strength 3000 Vrms
- insulating resistance > 100 Mohms at 500V

**IMPLEMENTATION**



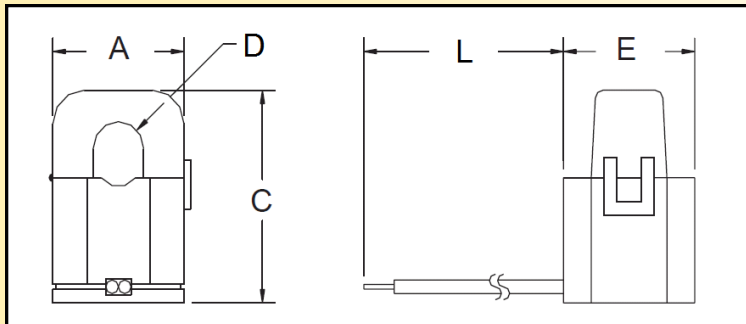
Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011  group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	

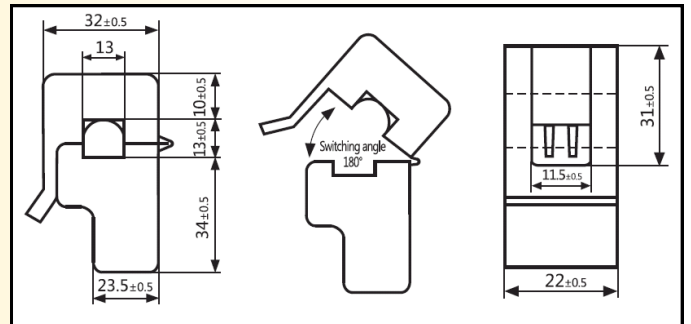


**WIRING AND OUTLINE DIMENSIONS:**

**Tio d17 d24 d36 - AC output**



**Tio d12**



Dimension / Model	A Overall width	C Overall height	D Primary passage hole diameter	L Default cable length
<b>Tio d12</b>			12 mm	1 meter
<b>Tio d17</b>	56 mm	51 mm	17 mm	1 meter
<b>Tio d24</b>	34 mm	64 mm	24 mm	1 meter
<b>Tio d36</b>	38 mm	80 mm	36 mm	1 meter

**Tio d8 Ac**

