



# SENECA T201DCH100-LP TRMS Direct and Alternate Current Transducer User Manual

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**T Series – Field converters**  
**T201DCH100-LP – T201DCH300-LP**  
**Contact-less direct and alternating TRMS current transducer**  
**MI004500-E**

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## General Specifications

- Direct and alternating current transducer galvanically insulated from the measuring circuit
- Measurement principle: Hall Effect
- Possibility to measure the direct and alternating component of TRMS current
- No shunt, no wasted power of primary current Circuit and no dissipation.
- Unipolar or bipolar measurement.

- High measurement accuracy: 0.5%  $\pm$  1%.
- Suitable for Seneca modules with power supply sensors at 12V  $\pm$  and input 4 – 20 mA.
- Two DIP-Switches selectable ranges.
- Damping filter availability to improve stable reading.
- Suitable for batteries, battery chargers, solar panels, power units and generic dc loads.
- Compact dimensions: 96,5 x 68 x 26 mm.



<http://www.seneca.it/prodotti/t201dch300-lp>

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 Contents of the present documentation refers to products and technologies described in it.  
 All technical data contained in the document may be modified without prior notice.  
 Content of this documentation is subject to periodical revision.

## Technical features

INPUT			
Measure type	AC / DC TRMS or Bipolar DC.		
Range 7201DCH100- LP Range 1201 DCH300-	0— 50Aor 0 — 100A TRMS; -50 — +50A or -100 — +103A Bipolar 0 — 300Aor 0— 150A TRMS; -150— +150Aor -300 — +300A Bipolar (selectable by dip-switch.).		
Peak factor	1.		
Bandwidth	1 kHz		
Insulation	When a sheathed wire is used, the insulation voltage is set by sheath properties . On a bare wire, it's stated to 3 kV iv.		
Over-current	2000 A impulsive, 500 A permanent.		
OUTPUT AND POWER SUPPLY			
Type	4 — 20 mA, max. load R <sub>L</sub> =600 Ω. Screw terminals: 0 and 0.		
Terminals	Screw terminal pitch 5.08mm for max 2.5 mm' cables.		
Hole diameter	20.8 mm		
Power supply	9 — 28 V= (between 0 and 0)		
Protections	– Polarity reversal – Over-Voltage		
Fail indication	< 3.8 mA		
Max. indication	< 22 mA		
PRECISION			
	Range	Precision N	Precision
Over the 2% of End of Scale	100 A or 300 A 50 A or 150 A	0.5% of end scale. 1% of end scale.	1% of end scale. 2% of end scale.
Under the 2% of End of Scale	100 A or 300 A 50 A or 150 A	1% of end scale. 2% of end scale.	2% of end scale. 4% of end scale.
Resolution	Output: 10 bit (1000 points) Input: 12 bit (4000 points).		
Temperature coefficient	< 200 ppm/°C.		
Error due to EMI	<1%		
Response time	– Fast filter 500 ms. – Slow filter 1000 ms.		
Measure hysteresis	0.3% of the end scale (typical)		
OVERVOLTAGE CATEGORY			
Bare conductor	CAT. III 300V		
Insulated conductor	CAT. III 600V		



## OPERATING CONDITION

Protection degree	IP20.
Operating temperature	-20 – +70 °C.
Storage Temperature	-40 – +85 °C.
Humidity	10 – 90 % non-condensing.
Altitude	Up to 2000 m a.s.l.






## CASE


Weight	47 g.
Overall dimensions	96,5 x 68 x 26 mm (without terminals)
Box material	PA6, black color

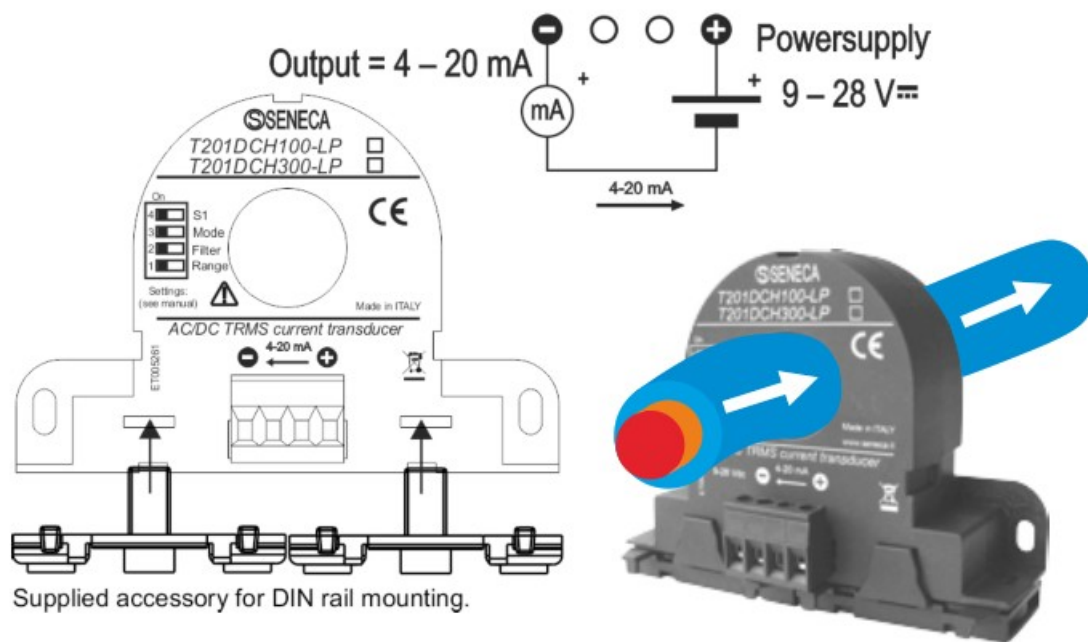
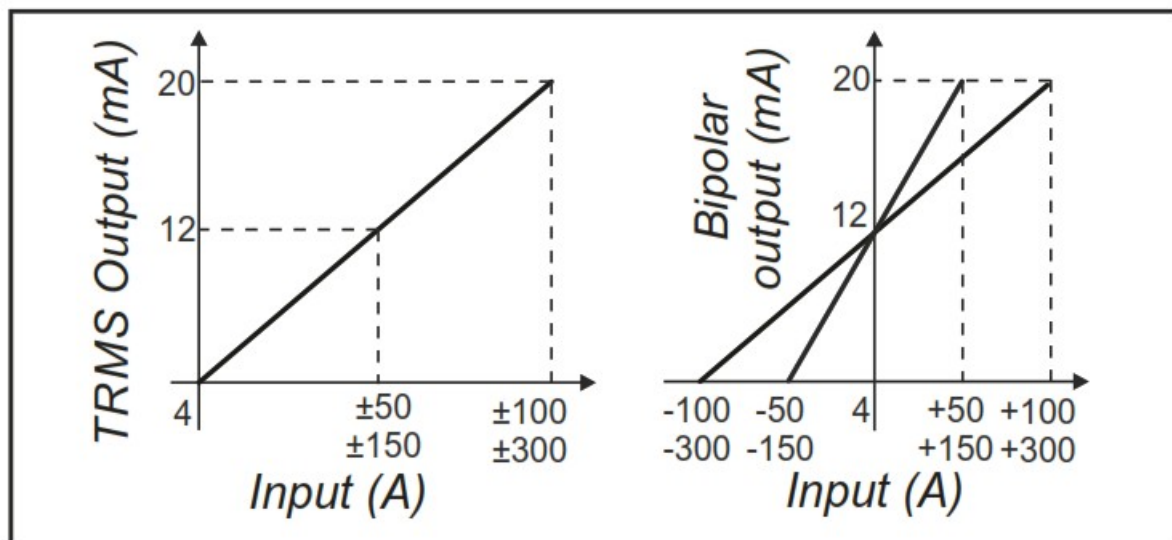
## STANDARDS

 	EN61326 (EMC requirements) EN61010-1 (safety)
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## DIP-switches

Range			Filter (10% — 90%)		Mode		Not Used	
1	DCH100	DCH300	2	DCH100 – 300	3	DCH100 – 300	4	DCH100 – 300
	0 — 100A	0 — 300A		Filter = 800ms		TRMS ti / 		Must be OFF
	0 — 50A	0 — 150A		Filter = 2000ms		Bipolar		

In the table the  symbol corresponds to the switch in the ON position.  
The instrument is factory delivered with range:  
100A (T201DCH100-LP) or 300A (T201DCH300-LP), 800ms filter and RMS mode.



## Mounting

The device can be located in any position and place, in accordance with the operating conditions above stated. Use the included holder bracket when fixing to a DIN rail.

**WARNING:** High-strength magnetic fields may change the measured output value: Let avoid closeness to permanent magnets, electromagnets or iron bulks that cause such a modification of the surrounding magnetic field; try a different arrangement or orientation if zero error was greater than expected.

## Multi-turn primary winding to improve sensibility

You can increase the sensibility of the device simply passing several times in the hole with the measuring current, realizing turns with multiplicative effect:

For example, passing 5 times in the hole, as to see 4 turns, choosing a 50 A range, you get an equivalent sensibility of 10 A full-scale. When you make this, let dispose the turns with symmetry in order to preserve accuracy: use diametric contraposition with 2

turns, cross disposition with 4 turns, with 6 turns at 60° and so on.



Disposal of electrical & electronic equipment (applicable throughout the EU and other countries with separate collection programs). This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it

should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of it. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city office, waste disposal service or the retail store where you purchased this product.

[www.logicbus.com](http://www.logicbus.com)  
[sales@logicbus.com](mailto:sales@logicbus.com)

+1 619 616 7350



SENECA s.r.l.

Via Austria, 26 – 35127 – PADOVA – ITALY

Tel. +39.049.8705355 – 8705359 – Fax +39.049.8706287

Manuals and configuration software are available at

website: [www.seneca.it/products/t201dch100-lp](http://www.seneca.it/products/t201dch100-lp) and [www.seneca.it/products/t201dch300-lp](http://www.seneca.it/products/t201dch300-lp)

Technical support: [support@seneca.it](mailto:support@seneca.it)

Product Informations: [sales@seneca](mailto:sales@seneca).

## Documents / Resources

The image shows the front of a SENECA T201DCH100-LP transducer. It is a small, rectangular device with a black plastic housing. The top of the device has the SENECA and Logicbus logos. Below the logos, there is a technical specification table. The table lists various parameters such as 'T Series - Field converter', 'T201DCH100-LP - TRMS Direct and Alternate Current Transducer', 'Input voltage', 'Output voltage', 'Accuracy', 'Frequency range', 'Temperature range', 'Weight', and 'Dimensions'. The bottom of the image shows the SENECA logo and the text 'MOD4500-0 ENGLISH - 1/4'.	<p><a href="#">SENECA T201DCH100-LP TRMS Direct and Alternate Current Transducer</a> [pdf] User Manual</p> <p>T201DCH100-LP TRMS Direct and Alternate Current Transducer, T201DCH100-LP, TRMS Direct and Alternate Current Transducer, Alternate Current Transducer, Current Transducer, Transducer</p>
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## References

- [S T201DCH300-LP | Current Transducers - T201 Line | SENECA](#)