



T Series - Field converters



T201DCH50-LP

Contact-less direct and alternating
TRMS current transducer

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 measure.
- High measurement accuracy: 0.5 %.
- Suitable for Seneca modules with power supply sensors at 12V 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 overall dimensions: 41 x 44 x 26 mm.



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Manuals and configuration software are available at website: www.seneca.it/products/t201dch50-lp

Technical support: support@seneca.it Product Informations: sales@seneca.it



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Technical features

INPUT

Measure type	AC / DC TRMS or Bipolar DC
Range	0-50 Arms, 0-25 Arms, -50 – +50 A Bipolar or -25 – +25 A Bipolar, selectable by dip-switch.
Peak factor	1.3
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 3 kV
Over-current	300 A permanent

OUTPUT AND POWER SUPPLY

Type	4 – 20 mA, max. load $R_{LOAD}=600 \Omega$. Screw terminals: and
Terminals	Screw terminal pitch 5.08mm for max 2.5 mm ² cables.
Hole diameter	12.3 mm
Power supply	9 – 28V (between and).
Protections	- Polarity reversal - Over-Voltage.
Fail indication	< 3.8 mA
Max. indication	< 22 mA

ACCURACY

	Range	Precision	Precision
Over the 2% of End of Scale	50 A 25 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	50 A 25 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)		

NORMATIVE



EN61326 (EMC requirements).
EN61010-1 (safety).

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.

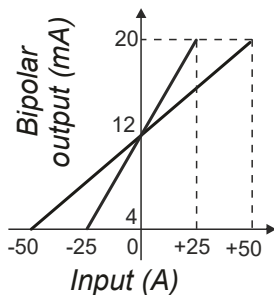
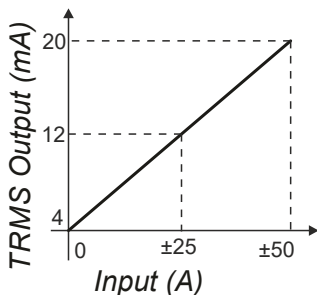
CASE

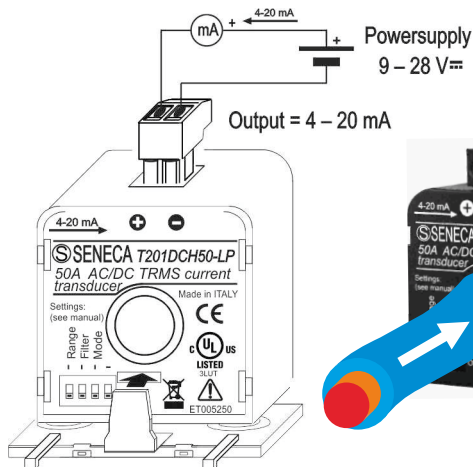
Weight	47 g.
Overall dimensions	41 x 44 x 26 mm (without terminals).
Box material	PA6, black color

DIP-switches

Range		Filter (10% – 90%)		Mode		Not used	
DIP Switch 1		DIP Switch 2		DIP Switch 3		DIP Switch 4	
	0 – 50A		Filter = 500ms		/ TRMS	↓	Must be OFF
↑	0 – 25A	↑	Filter = 1000ms	↑	Bipolar		

In the table the ↑ symbol corresponds to the switch in the ON position;
The instrument is factory delivered with range 50A, 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 it to a DIN rail.
WARNING: High-strength magnetic fields may change the 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, 60° with 6 turns, and so on.