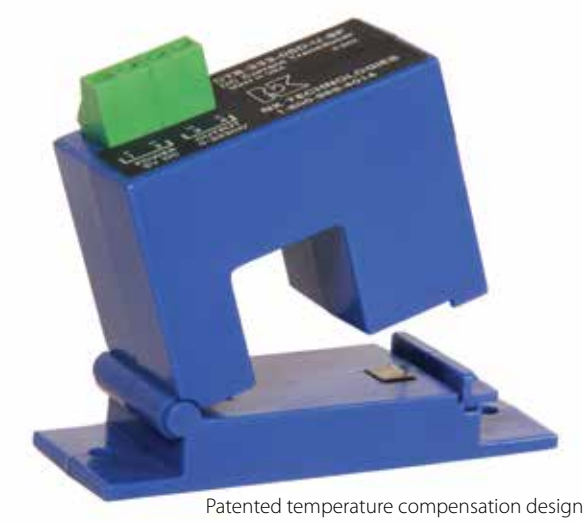
DT SERIES, 5 & 12 VDC POWERED

DC Current Transducers

The DT Series of Temperature Compensated DC Current Transducers is ideal for energy management system inputs where the controller is designed to accept 333 mV signals, commonly found in power monitoring applications. Other output options available are a 0–5 VDC signal used in building energy management systems or a 0–10 VDC signal seen more often in industrial controllers. Additionally, this series features a patented method that improves the sensor accuracy as the ambient temperature changes. The sensor output is automatically adjusted as the temperature increases or decreases, eliminating one of the biggest issues with Hall effect based products.



Patented temperature compensation design
US Patent 9618541

DC Current Transducer Applications

Photovoltaic Panel Output Measurement

- The sensor output rises and falls as the panel produces more or less power.

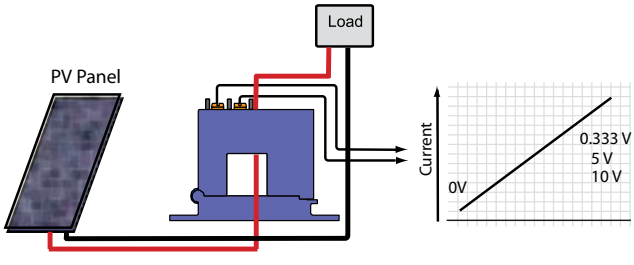
DC Motors

- Detect jams and overloads.
- Provide early notification of impending bearing failure.

Electrical Heaters

- Detect open or shorted elements quickly.

Photovoltaic Panel Output Measurement



The DT sensor will produce a signal directly proportional to the current produced by the panel or string of panels, with an output to match the controller being used.

For additional Application Examples, go to www.nktechnologies.com/applications

DC Current Transducer Features

Voltage Output

- 333 mVDC, 5 or 10 VDC proportional to DC current.
- Compatible with many monitoring systems.

5 VDC Powered

- Use with data collection systems.
- Available with 333 mVDC output.

12 VDC Powered

- Available with 0.333, 5 or 10 VDC output.

Ranges to Suit Your Needs

- 0–50 A DC.
- 0–100 A DC.

Temperature Compensated

- Remains accurate with rise or fall of ambient temperature.

Built-in Mounting Feet

- Simple, two-screw panel mounting or attach with DIN rail brackets (included).*

Split-core Case

- Open to snap the sensor over existing conductor; no need to disconnect the load to install.

Designed for UL/cUL Approval

- Accepted worldwide.

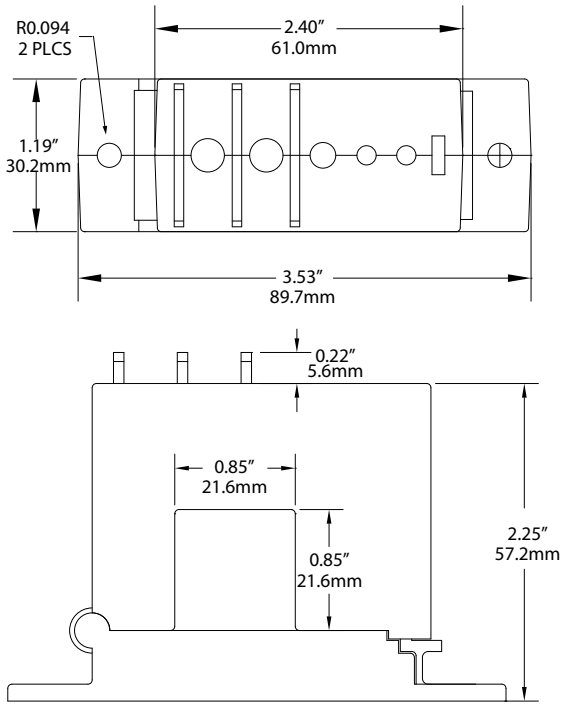
*For information on the DIN rail accessories kit, see page 140.

OEMs **Test & Evaluation Units for OEMs**
Free program expedites evaluation process. See page 3 for details.

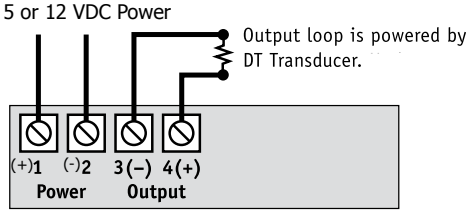
NK Technologies
3511 Charter Park Drive • San Jose, CA 95136
800.959.4014 • www.nktechnologies.com • sales@nktechnologies.com

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

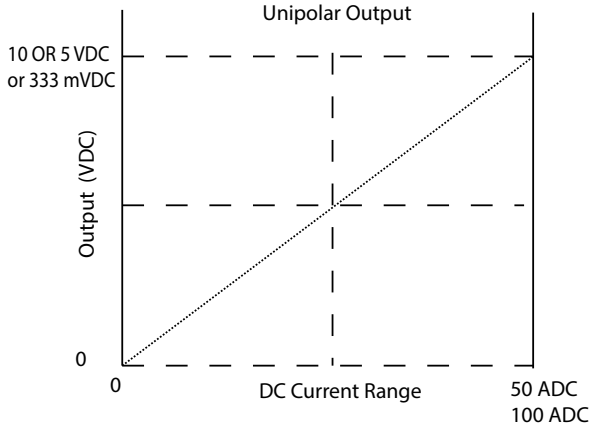
DC Current Transducer Dimensions



DC Current Transducer Connections



DC Current Transducer Output



Output remains accurate even as the temperature rises and falls from -20°C to +50°C (-4 to +122 °F) with our patent pending design.

DC Current Transducer Specifications

Power Supply	5 VDC (5.1–5.9 V)	12 VDC (11.5–13.2 V)
Power Consumption	<8.5 mA (no load) (333 mVDC output)	<2 VA
Output Signal	0–333 mVDC	0–5 VDC or 0–10 VDC
Output Impedence	50 Ω minimum, 20 mA maximum (333 mVDC)	10 KΩ minimum (0–5 or 0–10 VDC output)
Accuracy	1.0% full scale across temperature range	
Response Time	400 ms (90% step change)	
Frequency Range	DC	
Isolation Voltage	UL listed to 1270 VAC, tested to 5 KV	
Case	UL94 V-0 Flammability Rated	
Environmental	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing	
Listings	Designed for UL/cUL approval	

DC Current Transducer Ordering Information

Sample Model Number: DTB-333-05D-U-SP

Split-core DC current transducer, 0–50 A range, 0–333 mVDC, 5 VDC powered, unipolar output. (DIN rail adapters are included)

(1)	(2)	(3)	(4)	(5)
DT [ ] –	[ ][ ][ ] –	[ ][ ][ ] –	[U] –	[S][P]

(1) Range

B	0–50 A
C	0–100 A

(2) Output Signal

333	333 mVDC
005	5 VDC
010	10 VDC

(3) Power Supply

05D	5 VDC (0–0.333 VDC output only)
12D	12 VDC (0–0.333, 0–5 or 0–10 VDC output only)

(4) Signal Response Type

U	Unipolar (output with current in one direction only)

(5) Case Style

SP	Split-core

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000