

# DT SERIES, 4-WIRE

## DC Current Transducers

### Split-core Models

DT Series DC Current Transducers combine a Hall effect sensor and signal conditioner into a single package for use in DC current applications up to 400 A. The DT Series DC Current Transducers unipolar and bipolar models have jumper-selectable current input ranges and industry standard 0–20 mA, 4–20 mA, 0–5 VDC or 0–10 VDC outputs. Bidirectional output models provide a single range. These transducers are available in a split-core case.



#### DC Current Transducer Applications

##### Battery Banks

- Monitor load current.
- Monitor charging current.
- Verify operation.

##### Transportation

- Measure traction power or auxiliary loads.

##### Welding Processes

- Measure the current used while welding.
- Log processing time and number of operations.

##### Photovoltaic Panels

- Monitor panel or string current output.
- Monitor combiner box output.

#### DC Current Transducer Features

##### Single Range or Three Jumper-selectable Ranges

- Reduces set-up time.
- Reduces inventory.
- Eliminates zero and span pots.

##### Isolation

- Output is magnetically isolated from the input for safety.
- Eliminates insertion loss (voltage drop).

##### Internal Power Regulation

- Works well, even with unregulated power.
- Cuts installation cost.

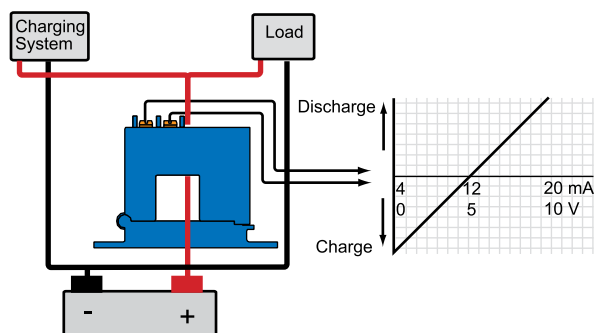
##### Split-core Design/Built-in Mounting Brackets

- Makes installation a snap.

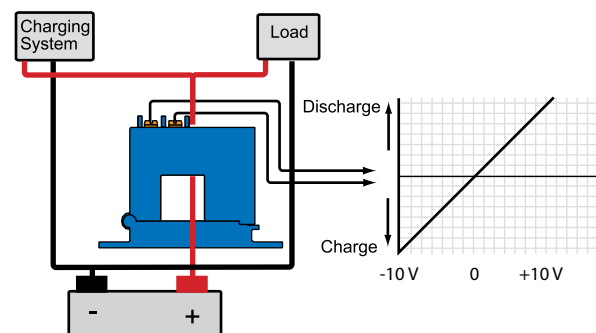
##### UL/cUL and CE Approved

- Accepted worldwide.

Battery Charging System - Bipolar Output



Battery Charging System - Bidirectional Output



- For additional Application Examples, go to [www.nktechnologies.com/applications](http://www.nktechnologies.com/applications)

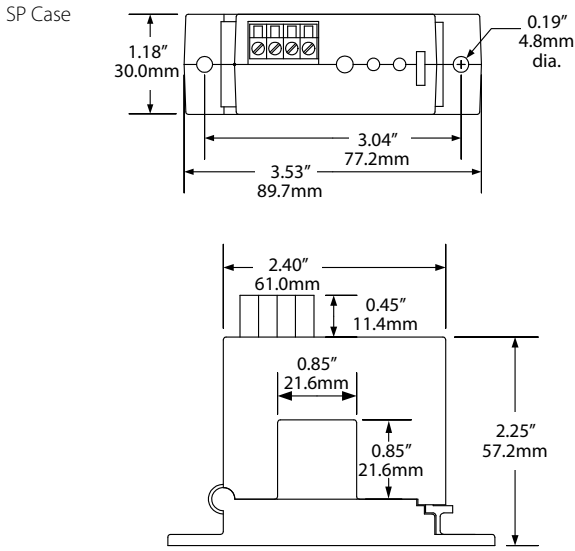
OEMs

Test &amp; Evaluation Units for OEMs

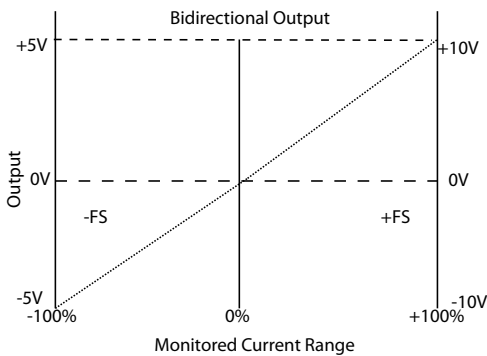
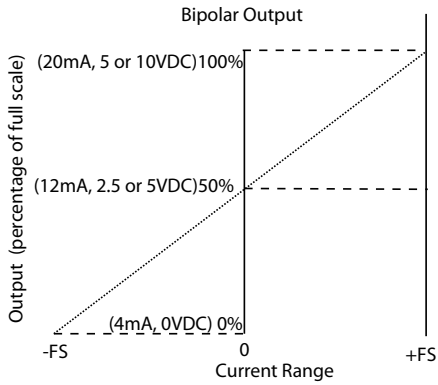
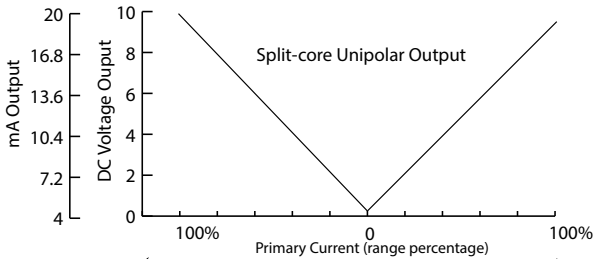
Free program expedites evaluation process. See page 3 for details.



DC Current Transducer Dimensions



DC Current Transducer Output



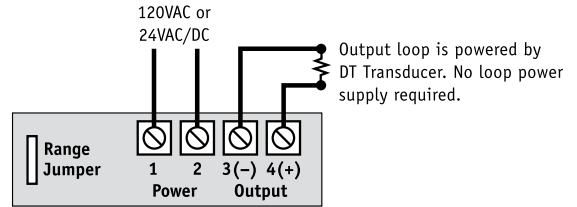
DC Current Transducer Specifications



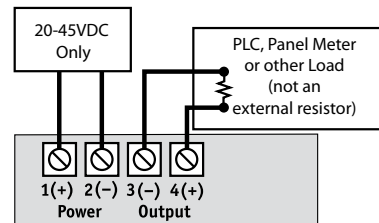
<b>Power Supply</b>	• 24 VAC/DC (20–45 VDC, 22–38 VAC)
<b>Power Consumption</b>	2 VA
<b>Output Signal</b>	• 0–20 mA, 4–20 mA, 0–5 VDC, 0–10 VDC • ±10 VDC (Bidirectional models only)
<b>Output Limit</b>	• 0–20 mA, 4–20 mA: 23 mA • 0–5 VDC: 5.75 VDC • 0–10 VDC: 11.5 VDC
<b>Output Impedance</b>	• 0–20 mA, 4–20 mA: 500 max. • 0–5 VDC: 25 KΩ min. • 0–10 VDC: 50 KΩ min.
<b>Accuracy</b>	• 2.0% FS
<b>Repeatability</b>	1.0% FS
<b>Response Time (90% step change)</b>	• 100 ms average (solid-core or split-core)
<b>Frequency Range</b>	DC
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 3 KV
<b>Input Range</b>	• 0–200 A max. (solid-core) • 0–50 A min., 0–400 A max. (split-core)
<b>Case</b>	UL94 V-0 Flammability Rated
<b>Environmental</b>	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
<b>Listings</b>	UL/cUL, CE

DC Current Transducer Connections

DT Series Unipolar and Bipolar Output Models



DT Series Bidirectional Output Models



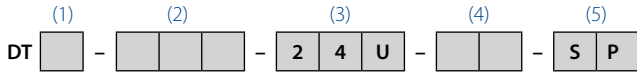
Notes:  
 Deadfront captive screw terminals.  
 12–22 AWG solid or stranded.  
 Observe polarity.



**DC Current Transducer Ordering Information**

**DT Series Unipolar and Bipolar Output Models**

Sample Model Number: DT2-420-24U-U-SP  
 DC current transducer, 0–100/150/200 A range, 4–20 mA output, 24 VAC/DC powered, unipolar polarity, split-core case. (DIN rail adapters are included)



(1) Full Scale Range

1	50, 75, 100 A
2	100, 150, 200 A
3	150, 225, 300 A
4	200, 300, 400 A

(2) Output Signal

020	0–20 mA
420	4–20 mA
005	0–5 VDC
010	10 VDC

(3) Power Supply

24U	+24 VAC/DC
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(4) Output Polarity

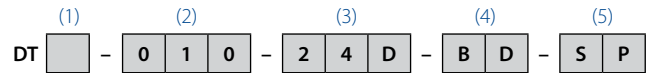
U	Unipolar (output with current in either direction)
BP	Bipolar

(5) Case Style

SP	Split-core
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**DT Series Bidirectional Output Models**

Sample Model Number: DT2-010-24D-BD-SP  
 DC current transducer, 0–200 A range, ±10 VDC output signal, 24 VDC powered, split-core case. (DIN rail adapters are included)



(1) Full Scale Range

1	100 A
2	200 A
3	300 A
4	400 A

(2) Output Signal

010	±10 VDC
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(3) Power Supply

24D	24 VDC
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(4) Output Polarity

BD	Bidirectional
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(5) Case Style

SP	Split-core
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