

# DT SERIES, 4-WIRE SPLIT-CORE

## DC Current Transducers

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.

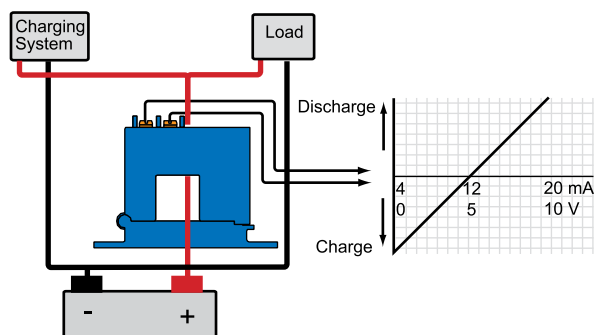
#### Split-core Design/Built-in Mounting Brackets

- Makes installation a snap.

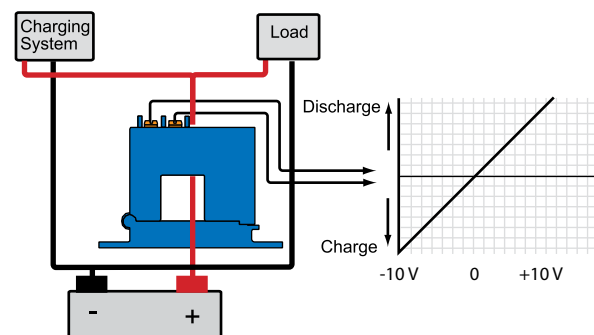
#### UL/cUL and CE Approved

- 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 & Evaluation Units for OEMs

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

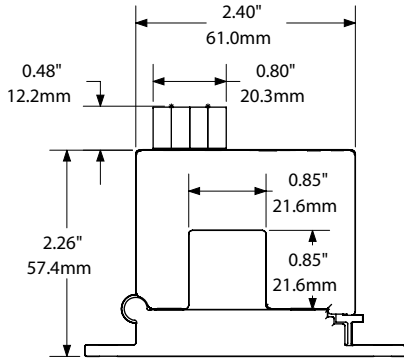
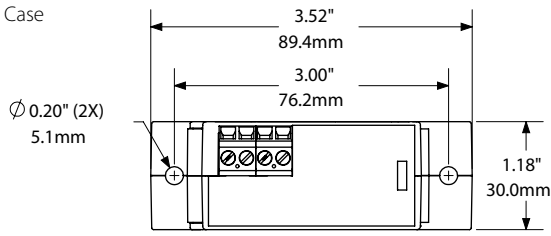


# DT SERIES, 4-WIRE

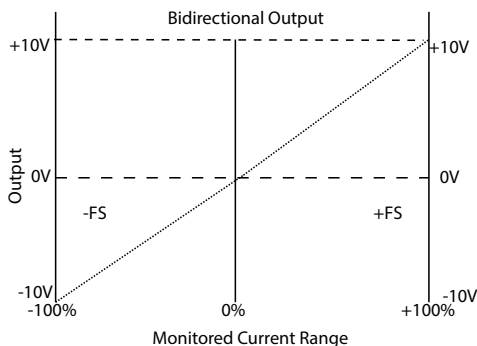
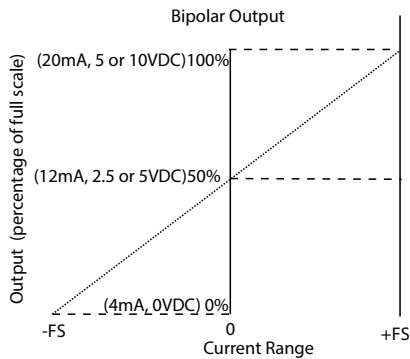
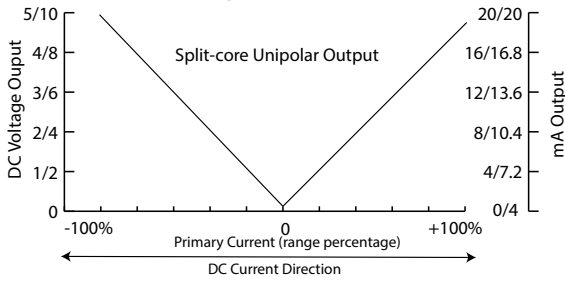
292000206 Rev 2

## DC Current Transducer Dimensions

SP Case



## DC Current Transducer Output



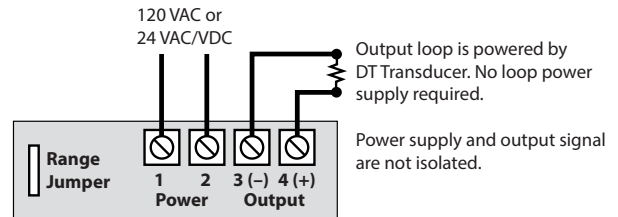
## DC Current Transducer Specifications



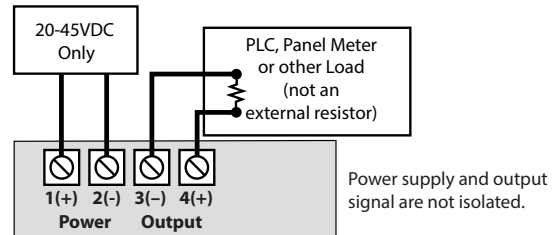
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• 24 VAC/VDC (20–45 VDC, 22–38 VAC)</li> <li>• 24 VDC (20-45 VDC Bidirectional models only)</li> </ul>
<b>Power Consumption</b>	2 VA
<b>Output Signal</b>	<ul style="list-style-type: none"> <li>• 0–20 mA, 4–20 mA, 0–5 VDC, 0–10 VDC</li> <li>• ±10 VDC (Bidirectional models only)</li> </ul>
<b>Output Limit</b>	<ul style="list-style-type: none"> <li>• 0–20 mA, 4–20 mA: 23 mA</li> <li>• 0–5 VDC: 5.75 VDC</li> <li>• 0–10 VDC: 11.5 VDC</li> </ul>
<b>Output Loading</b>	<ul style="list-style-type: none"> <li>• 0–20 mA, 4–20 mA: 500 Ω max.</li> <li>• 0–5 VDC: 25 KΩ min.</li> <li>• 0–10 VDC: 50 KΩ min.</li> </ul>
<b>Accuracy</b>	2.0% FS
<b>Repeatability</b>	1.0% FS
<b>Response Time</b>	<ul style="list-style-type: none"> <li>• 60 ms (90% step change)</li> <li>• 100 ms (Bidirectional models only)</li> </ul>
<b>Frequency Range</b>	DC
<b>Isolation Voltage</b>	Tested to 3 KV
<b>Input Range</b>	0–50 A min., 0–400 A max.
<b>Case</b>	UL94 V-0 Flammability Rated
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• -4 to 122°F (-20 to 50°C)</li> <li>• 0–95% RH, non-condensing</li> </ul>
<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.  
 30-12 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)

DT <sup>(1)</sup> [ ] - <sup>(2)</sup> [ ][ ] - <sup>(3)</sup> 2 4 U - <sup>(4)</sup> [ ][ ] - <sup>(5)</sup> S P

#### (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	0–10 VDC

#### (3) Power Supply

24U	24 VAC/VDC
-----	------------

#### (4) Output Polarity

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

#### (5) Case Style

SP	Split-core
----	------------

### 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)

DT <sup>(1)</sup> [ ] - <sup>(2)</sup> 0 1 0 - <sup>(3)</sup> 2 4 D - <sup>(4)</sup> B D - <sup>(5)</sup> S P

#### (1) Full Scale Range

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

#### (2) Output Signal

010	±10 VDC
-----	---------

#### (3) Power Supply

24D	24 VDC
-----	--------

#### (4) Output Polarity

BD	Bidirectional
----	---------------

#### (5) Case Style

SP	Split-core
----	------------

