

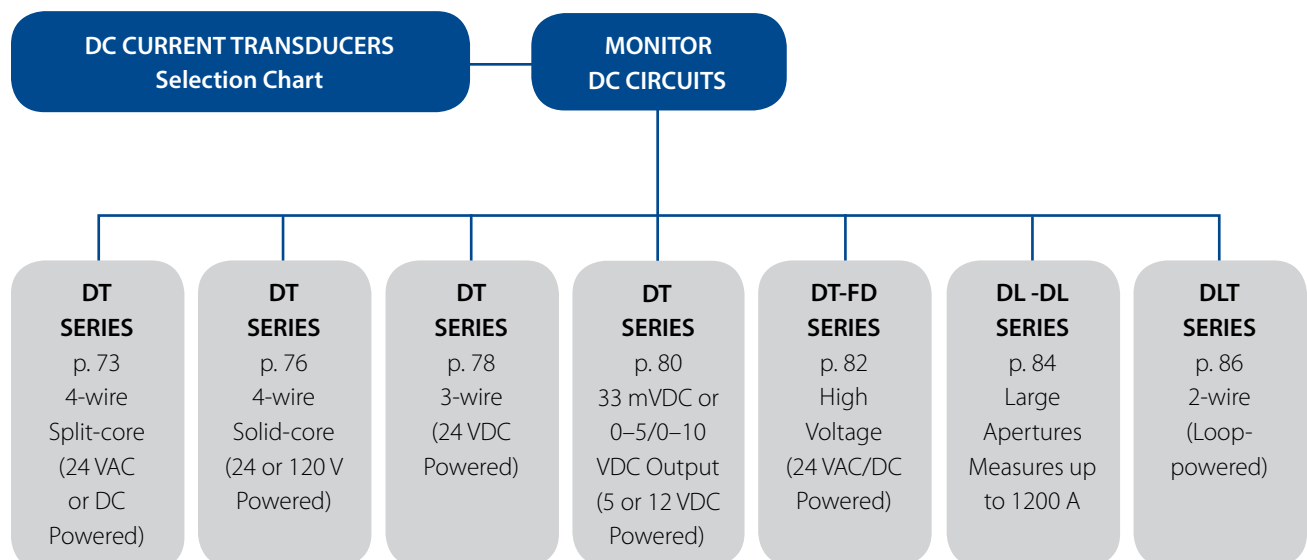
# DC Current Transducers

Current Transducers are designed to provide an analog current reading for monitoring, data logging and panel meter applications. NK Technologies' current transducers offer a choice of 0–5 VDC, 0–10 VDC or 4–20 mA outputs common to PLC and energy management system controllers for monitoring of DC motor conditions, solar panel installations, welding processes and transportation applications.

## Features:

- Jumper-selectable ranges
- Solid-core, split-core and large aperture models

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# 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.

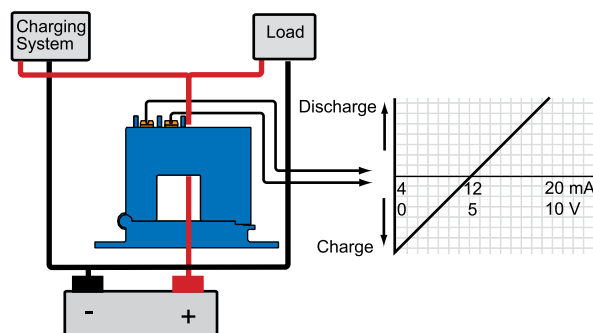
#### Split-core Design/Built-in Mounting Brackets

- Makes installation a snap.

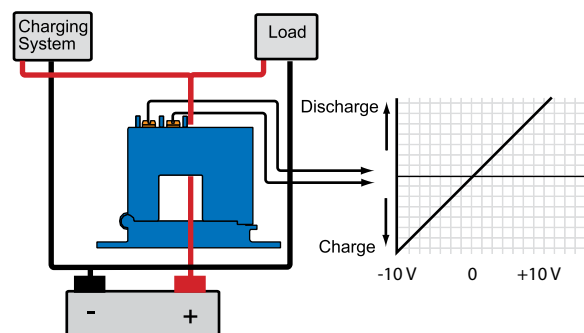
#### UL/cUL and CE Approved

- 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

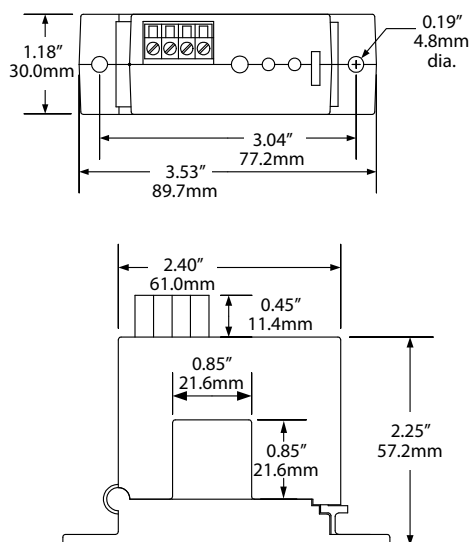
Test & Evaluation Units for OEMs

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

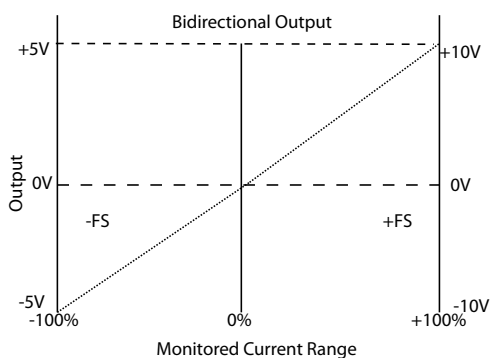
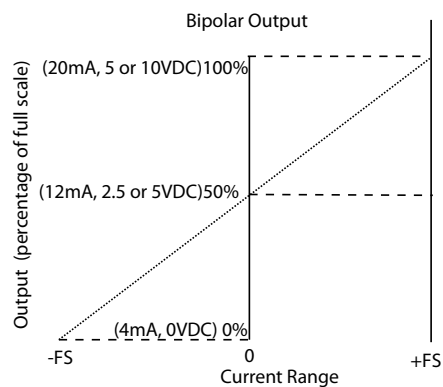
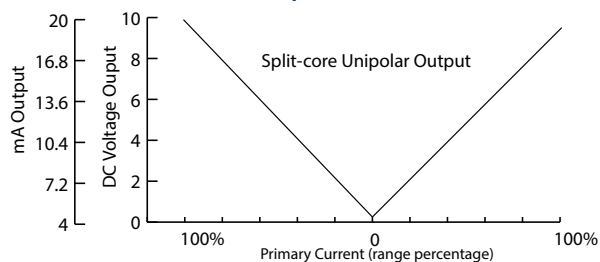


## DC Current Transducer Dimensions

SP Case



## DC Current Transducer Output



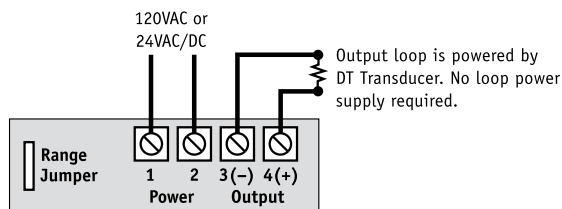
## DC Current Transducer Specifications



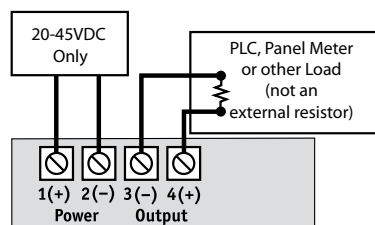
<b>Power Supply</b>	• 24 VAC/DC (20–45 VDC, 22–38 VAC)
<b>Power Consumption</b>	2 VA
<b>Output Signal</b>	• 0–20 mA, 4–20 mA, 0–5 VDC, 0–10 VDC • $\pm 10$ VDC (Bidirectional models only)
<b>Output Limit</b>	• 0–20 mA, 4–20 mA: 23 mA • 0–5 VDC: 5.75 VDC • 0–10 VDC: 11.5 VDC
<b>Output Impedance</b>	• 0–20 mA, 4–20 mA: 500 max. • 0–5 VDC: 25 k $\Omega$ min. • 0–10 VDC: 50 k $\Omega$ 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)

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	10 VDC

#### (3) Power Supply

24U	+24 VAC/DC
-----	------------

#### (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)

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
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#### (5) Case Style

SP	Split-core
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# DT SERIES, 4-WIRE

## DC Current Transducers

### Solid-core Models

DT Solid-core Series DC Current Transducers combine a Hall effect sensor and signal conditioner into a single package for use in DC current applications up to 200 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. Solid-core models are offered with ranges as low as 0–5 amps, and up to 0–200 amps.

#### DC Current Transducer Applications

##### Battery Banks

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

##### Transportation

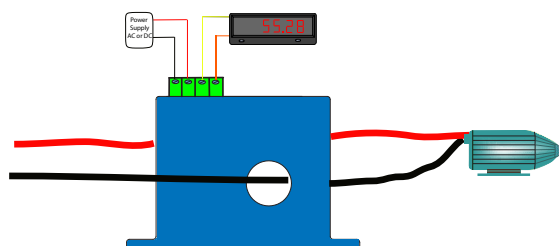
- Measure traction power or auxiliary loads.

##### 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.



Use a DT sensor over one lead to a DC motor to measure the current used. Over normal readings mean a jam or a bearing failure, and under normal current means a belt or coupling may have broken. The output can also be used to measure time of use to help with maintenance scheduling.



#### 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.

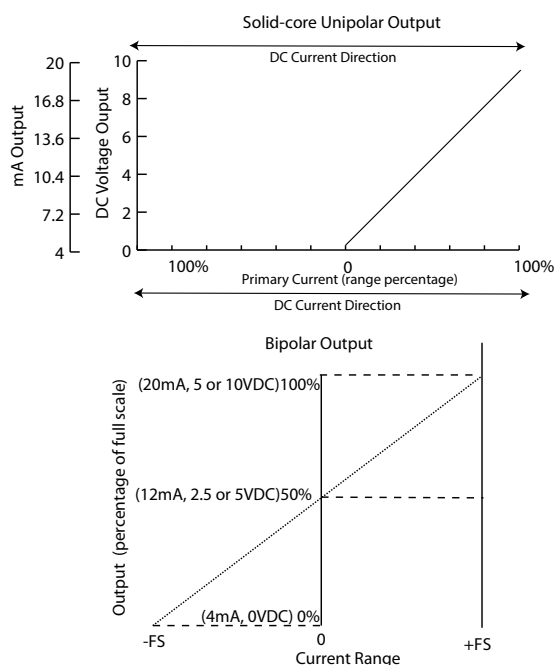
##### Split-core Design/Built-in Mounting Brackets

- Makes installation a snap.

##### UL/cUL and CE Approved

- Accepted worldwide.

#### DC Current Transducer Output



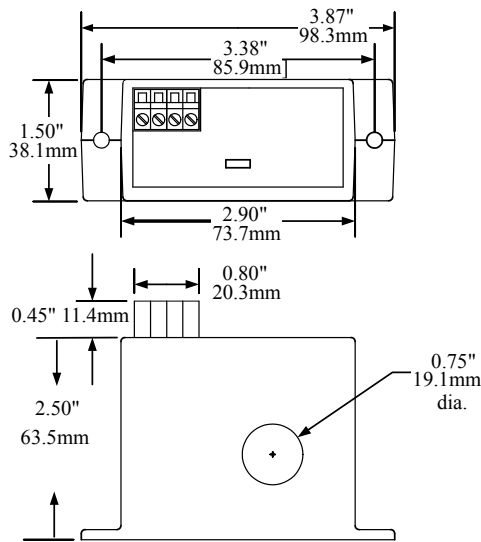
OEMs

#### Test & Evaluation Units for OEMs

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

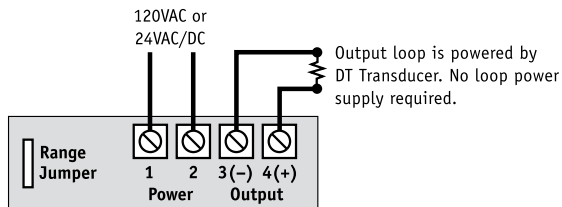
## DC Current Transducer Dimensions

FL Case



## DC Current Transducer Connections

DT Series Unipolar and Bipolar Output Models



Notes:

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

## DC Current Transducer Specifications



<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• 120 VAC (108–132 V) solid-core only</li> <li>• 24 VAC/DC (22–26 V) solid-core 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>• <math>\pm 10</math> 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 Impedance</b>	<ul style="list-style-type: none"> <li>• 0–20 mA, 4–20 mA: 500 max.</li> <li>• 0–5 VDC: 25 K<math>\Omega</math> min.</li> <li>• 0–10 VDC: 50 K<math>\Omega</math> min.</li> </ul>
<b>Accuracy</b>	1.0% FS
<b>Repeatability</b>	1.0% FS
<b>Response Time</b>	100 ms average
<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
<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 Ordering Information

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

DT (1) – (2) – (3) – (4) – (5) F L

### (1) Full Scale Range

0	5, 10, 20 A
1	50, 75, 100 A
2	100, 150, 200 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
120	120 VAC

### (4) Output Polarity

U	Unipolar (output with current in one direction only)
BP	Bipolar

### (5) Case Style

FL	Solid-core
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# DT SERIES, 3-WIRE

## DC Current Transducers

DT Series DC Current Transducers provide a low cost way of measuring DC current in a small and easy-to-install case. The series is stable at a wide range of temperatures. The single range design and the use of a common for the power supply and output signal provide a price competitive option in an international market. Similar in concept to the DLT current output sensors, this design produces a choice of 0–5 or 0–10 VDC to interface with controllers or data acquisition systems lacking the current signal capacity.



### DC Current Transducer Applications

#### Photovoltaic Panel Monitoring

- Accurate and reliable indication of how much power is produced by a single panel or a string of panels.

#### Hoists

- Detect overloads and jams.
- Detect undercurrent conditions from coupling slip or breakage.

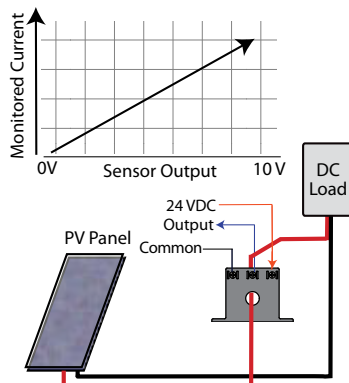
#### DC Motor Protection

- Detect imminent bearing failures.

#### Wind Driven Generators

- Measure and monitor power production from alternative sources.

Monitoring a Photovoltaic Panel Power Output



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

### DC Current Transducer Features

#### Industry Standard Outputs

- 0–5 or 0–10 VDC proportional to the DC current.
- Compatible with most automation systems.

#### 24 VDC Powered

- Power supply and output share common.

#### No Span or Zero Adjustments Needed

- Reduces field calibration errors.
- Factory calibrated without potentiometers.

#### Solid-core Case

- Compact size requiring very little panel space.

#### Built-in Mounting Feet

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

#### Designed for UL/cUL and CE Approval

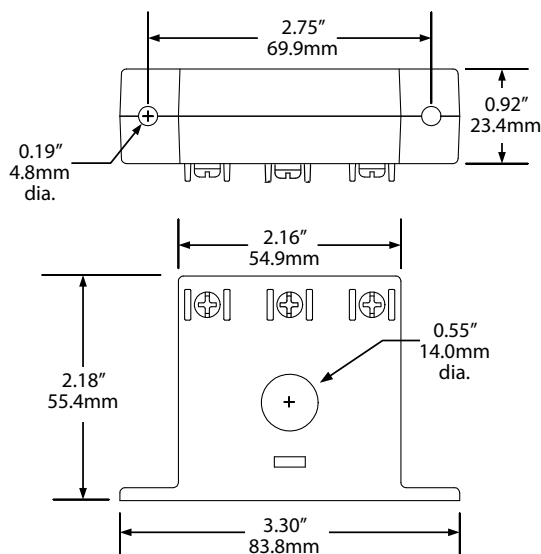
- Accepted worldwide.

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

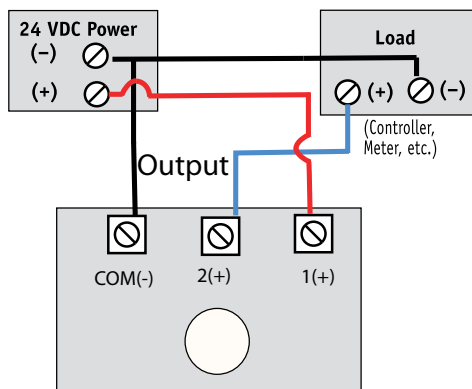
**OEMs** Test & Evaluation Units for OEMs  
Free program expedites evaluation process. See page 3 for details.

## DC Current Transducer Dimensions

FF Case



## DC Current Transducer Connections



## DC Current Transducer Specifications

<b>Power Supply</b>	24 VDC (19–30 V)
<b>Power Consumption</b>	<2 VA
<b>Output Signal</b>	0–5 or 0–10 VDC
<b>Output Impedance</b>	10 K $\Omega$ min.
<b>Response Time</b>	500 ms
<b>Range</b>	• 0–50 A • 0–100 A
<b>Frequency Range</b>	DC
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 5 KV
<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>	Designed for UL/cUL and CE approval

## DC Current Transducer Ordering Information

Sample Model Number: DTB-010-24D-U-FF

DC current transducer, 0–50 A, 0–10 VDC output, 24 VDC powered, unipolar, solid-core case. (DIN rail adapters are included)

DT (1) – (2) – (3) – (4) – (5)  
DT  –  – 2 4 D – U – F F

### (1) Range

B	0–50 ADC
C	0–100 ADC

### (2) Output Type

005	0–5 VDC
010	0–10 VDC

### (3) Power Supply

24D	24 VDC
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### (4) Output Design

U	Unipolar (output with current in one direction)
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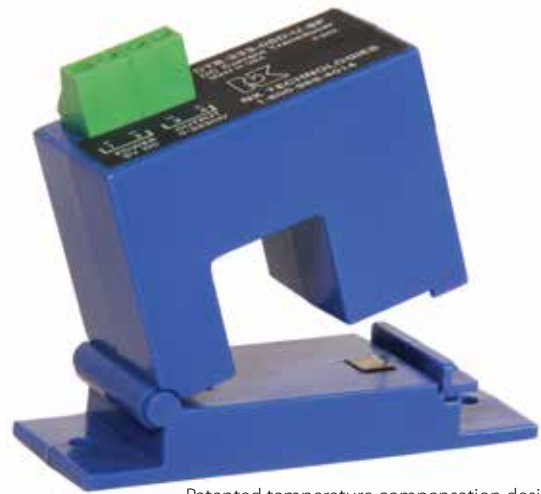
### (5) Case Style

FF	Solid-core, front terminals
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# 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.

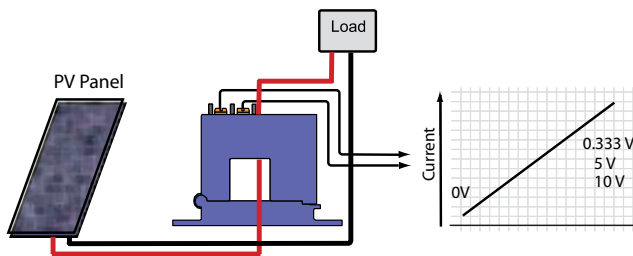
### DC Motors

- 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](http://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.

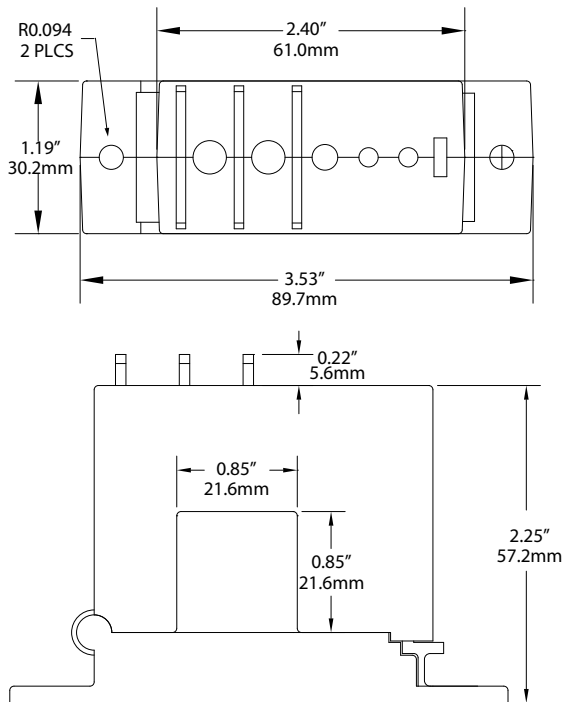
\*For information on the DIN rail accessories kit, see page 140.

OEMs

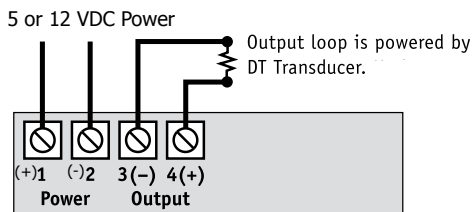
### Test & Evaluation Units for OEMs

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

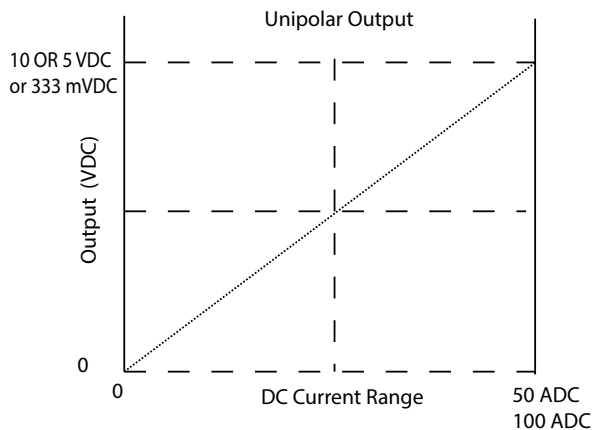
## DC Current Transducer Dimensions



## 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

<b>Power Supply</b>	5 VDC (5.1–5.9 V)	12 VDC (11.5–13.2 V)
<b>Power Consumption</b>	<8.5 mA (no load) (333 mVDC output)	<2 VA
<b>Output Signal</b>	0–333 mVDC	0–5 VDC or 0–10 VDC
<b>Output Impedance</b>	50 Ω minimum, 20 mA maximum (333 mVDC)	10 KΩ minimum (0–5 or 0–10 VDC output)
<b>Accuracy</b>	1.0% full scale across temperature range	
<b>Response Time</b>	400 ms (90% step change)	
<b>Frequency Range</b>	DC	
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 5 KV	
<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>	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)

DT <sup>(1)</sup> - <sup>(2)</sup> - <sup>(3)</sup> - <sup>(4)</sup> - <sup>(5)</sup>  
DT  -  -  -  -

## (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)
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## (5) Case Style

SP	Split-core
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# DT-FD SERIES, HIGH VOLTAGE

## HV DC Current Transducer

DT-FD series DC Current Transducers provide a large sensing window and the ability to monitor circuits with voltages up to 1500 VDC. The sensor can be mounted on a DIN rail or be attached to a back panel with screws. Easily accessible power supply and output-signal, finger-safe terminals are located on the top of the sensor to allow for a clean and trouble-free installation. The one-piece design combines the current sensing elements and the signal conditioning to provide an output compatible with most control systems, increasing the safety and accuracy of the installation.



### DC Current Transducer Applications

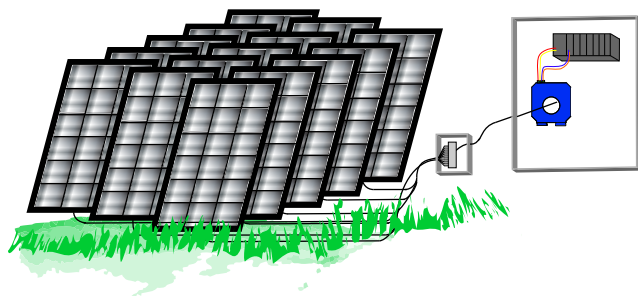
#### Monitor Large Solar Panel Installations

- Large utility connected photovoltaic generation systems will often produce DC power at higher voltages as the wire can be smaller for the same amount of power produced.

#### Monitor DC Motors

- Traction and drilling equipment use higher voltage DC motors to produce high torque output at low speeds.

Solar Array Application



Commercial and industrial ground mounted solar arrays are connected in series to combiner boxes, developing higher voltage and lower current to deliver the same power as with a lower voltage system.

### DC Current Transducer Features

#### Industry Standard Analog Output

- Interfaces with PLC's, panel meters and data acquisition systems quickly, with simple programming by the installer.
- Compatible with most automation and control systems.

#### Externally Powered

- 24 VAC or DC (output not isolated from the power supply).

#### No Need For Span or Range Adjustment

- Factory set calibration reduces setup time.
- Warranted to produce accurate signals for five years. (Our decades of experience designing and producing DC current transducers shows that the calibration stays accurate for many years beyond the warranty period.)

#### Large Solid-core Case

- Sensing window provides ample space for single or multiple conductors.

#### DIN Rail or Panel Mount

- Simply snap onto DIN rail or attach with screws to a panel.\*

#### UL/cUL Approved, CE Pending

- Accepted worldwide.

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

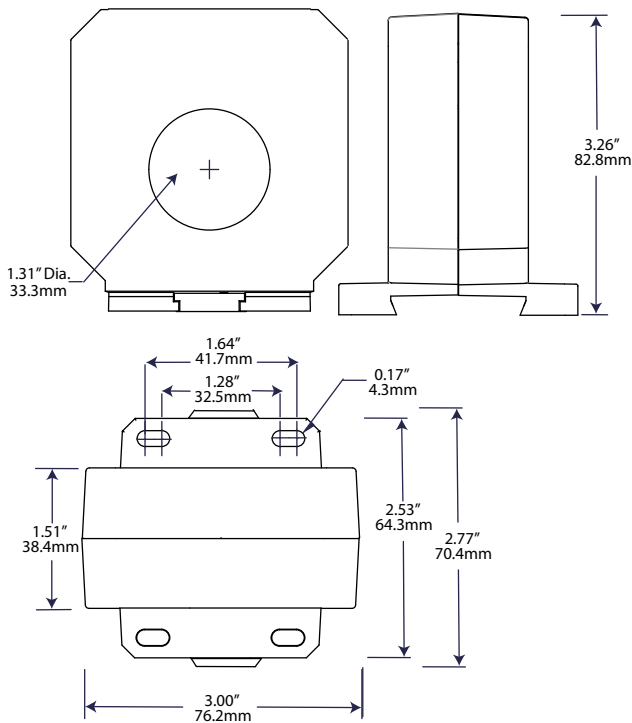
OEMs

Test & Evaluation Units for OEMs

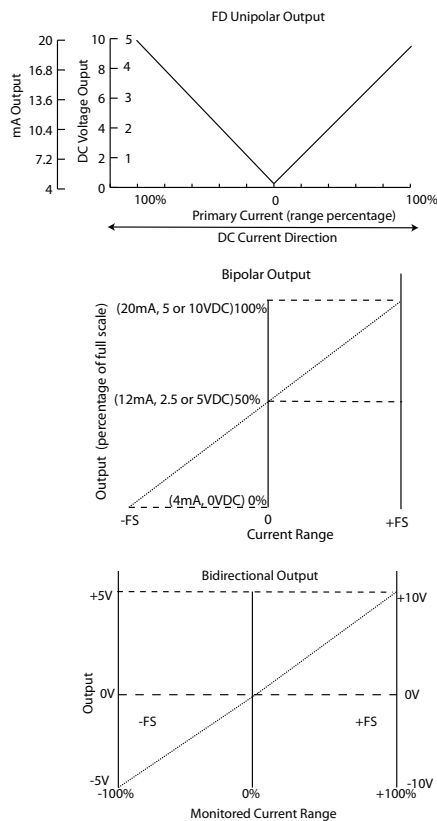
Free program expedites evaluation process. See page 3 for details.



## DC Current Transducer Dimensions



## DC Current Transducer Output



## DC Current Transducer Specifications

<b>Power Supply</b>	24 VAC/DC (22–26 V) (Not isolated from output signal.)						
<b>Power Consumption</b>	<3 VA						
<b>Output</b>	<ul style="list-style-type: none"> <li>• Unipolar (output with DC current in both directions)</li> <li>• Bipolar (Output 4–12–20 mA, 0–2.5–5 V or 0–5–10 V)</li> <li>• Bidirectional (output +/-5 or +/-10 VDC)</li> </ul>						
<b>Output Limits</b>	20.8 mA, 5.25 or 10.5 VDC (model dependent)						
<b>Accuracy</b>	1.0% FS						
<b>Response Time</b>	150 ms maximum						
<b>Ranges</b>	<table border="1"> <tr> <td>2</td><td>0–200 ADC</td></tr> <tr> <td>3</td><td>0–300 ADC</td></tr> <tr> <td>4</td><td>0–400 ADC</td></tr> </table>	2	0–200 ADC	3	0–300 ADC	4	0–400 ADC
2	0–200 ADC						
3	0–300 ADC						
4	0–400 ADC						
<b>Working Voltage</b>	1500 V DC (Tested to 5375 V AC)						
<b>Frequency Range</b>	DC						
<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 approved, CE pending						

## DC Current Transducer Ordering Information

Sample Model Number: DT2-420-24U-BP-FD  
 DC Current transducer, 0–200 A range, 4–20 mA output, 24 VAC/DC powered, bipolar, large solid-core, DIN rail or panel mount case.

(1) (2) (3) (4) (5)  
 DT  -  -    -    -   -

### (1) Range

2	0–200 ADC
3	0–300 ADC
4	0–400 ADC

### (2) Output Signal

420	4–20 mA (U and BP only)
005	0–5 VDC
010	0–10 VDC

### (3) Power Supply

24U	24 VAC/DC
-----	-----------

### (4) Output Type

U	Unipolar (output with current flowing in both directions)
BP	Bipolar (output indicates current flow direction)
BD	Bidirectional (output is positive with current in one direction, negative with current in the opposite direction)

### (5) Case

FD	Large, solid-core, DIN rail or panel mount
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# DT-DL SERIES, LARGE APERTURE DC Current Transducers

DT Series Large Aperture DC Current Transducers combine a Hall effect sensor and signal conditioner into a single package for use in DC current applications up to 1200 A. The DT Series Large Aperture Transducers have factory set and calibrated ranges, industry standard 4–20 mA, 0–5 VDC or 0–10 VDC outputs, and are available in solid-core DIN rail mount case.

## DC Current Transducer Applications

### Battery Banks

- Monitor load and charging currents.
- Verify operation.

### Transportation

- Measure traction power or auxiliary loads.

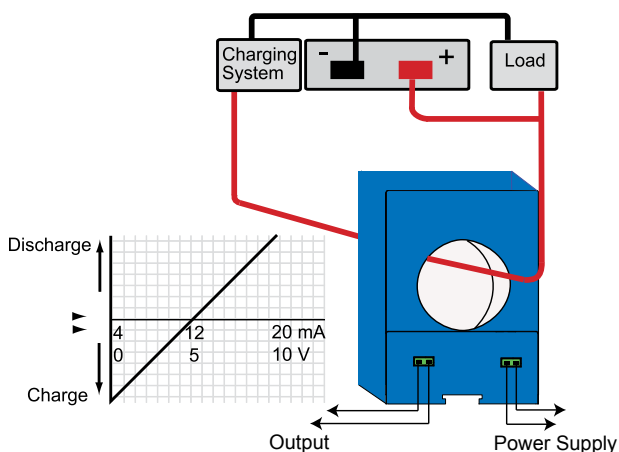
### Wind and Solar Generated Power

- Measure the current produced or consumed.
- Detect mechanical problems before failure occurs.

### Monitor DC Powered Motors

- Monitor current of cranes, saws, sorters and positioning equipment.

Battery Charging System



- 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.



## DC Current Transducer Features

### Factory Set and Calibrated Ranges

- No need for field calibration.
- Eliminates zero and span pots.

### Isolation

- Output is magnetically isolated from the input for safety.
- Eliminates insertion losses, no added burden.

### Internal Power Regulation

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

### DIN Rail Mounted Case\*

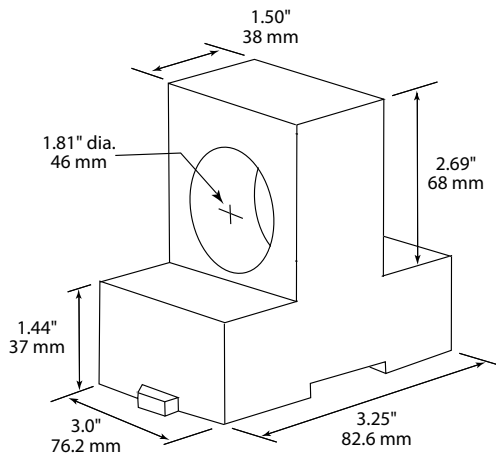
- Makes installation a snap.
- No drilling or screws to lose.
- Optional DIN rail kit available for chassis mounting.\*

### UL/cUL and CE Approved

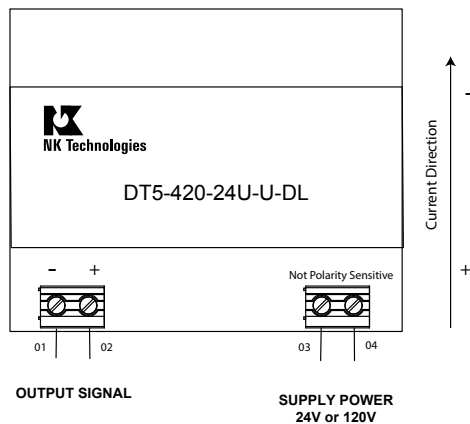
- Accepted worldwide.

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

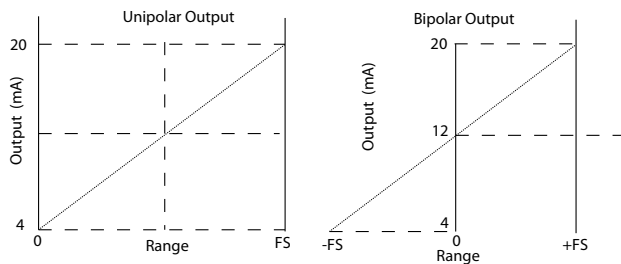
## DC Current Transducer Dimensions



## DC Current Transducer Connections



## DC Current Transducer Output



## Notes:

Deadfront captive screw terminals.

12–22 AWG solid or stranded.

Observe polarity.

Unipolar Output: Signal With Current flowing in one direction only.

## DC Current Transducer Specifications



<b>Power Supply</b>	• 120 VAC (108–132 V) • 24 VAC/DC (22–26 V)
<b>Power Consumption</b>	2 VA
<b>Output Signal</b>	4–20 mA, 0–5 VDC, 0–10 VDC
<b>Output Limit</b>	• 4–20 mA: 23 mA • 0–5 VDC: 5.75 VDC • 0–10 VDC: 11.5 VDC
<b>Output Impedance</b>	• 4–20 mA: 650 $\Omega$ max. • 0–5 VDC: 25 K $\Omega$ min. • 0–10 VDC: 50 K $\Omega$ min.
<b>Accuracy</b>	2.0% FS
<b>Repeatability</b>	1.0% FS
<b>Response Time</b>	100 ms (to 90% of step change)
<b>Range</b>	0–1200 A DC
<b>Frequency Range</b>	DC
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 3 kV (monitored line to output)
<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 Ordering Information

Sample Model Number: DT6-420-24U-U-DL

Solid-core DC current transducer, 0–500 A range, 4–20 mA, 24 VAC/DC powered, unipolar output.

DT    -    -    -    -    -      

## (1) Full Scale Range

5	300 A
6	500 A
7	750 A
8	1000 A
9	1200 A

## (2) Output Signal

420	4–20 mA
005	0–5 VDC
010	0–10 VDC

## (3) Power Supply

24U	+24 VAC/DC
120	120 VAC

## (4) Output Polarity

U	Unipolar
BP	Bipolar

## (5) Case Style

DL	Solid-core, DIN rail mounting
----	-------------------------------

# DLT SERIES

## DC Current Transducers

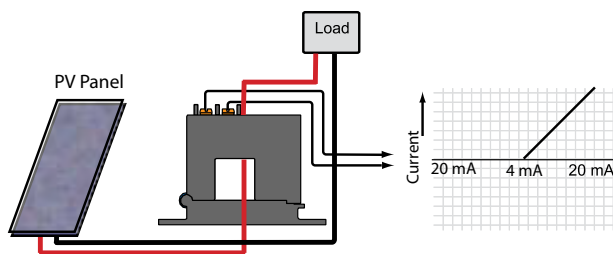
DLT Series DC Current Transducers combine a Hall effect sensor and a signal conditioner into a single package. The DLT Series DC Current Transducers are designed to produce an analog 4–20 mA signal proportional to the DC current in the primary conductor. These transducers are available in a solid-core or split-core case design. Lower current ranges make this sensor ideal for use in photovoltaic panel combiner boxes.

### DC Current Transducer Applications

#### DC Current Monitoring

- PV Array combiner boxes.
- Wind generators.
- DC heating applications.
- UPS system monitoring.

Photovoltaic Arrays



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

#### Monitoring PV Arrays:

The current produced by a photovoltaic module or array can be easily monitored by using the DLT series current sensors over the conductor exiting the collectors. Using a simple two-wire connection powered by 24 VDC nominal in series with the sensor output, the sensor will produce a signal in real time that is directly proportional to the current being produced by the PV module.

If a single cell fails, or a module quits operating properly, the current output will drop, and the current sensor will reflect the change.

Safer and more stable than shunts, non-contact current sensors are a simple answer to measuring DC current at any point in the PV system.



### DC Current Transducer Features

#### 4–20 mA Loop-powered Output

- Industry standard connections, positive indication of correct field wiring.

#### Single Range

- No chance of field range selection errors.
- Eliminates zero and span pots.

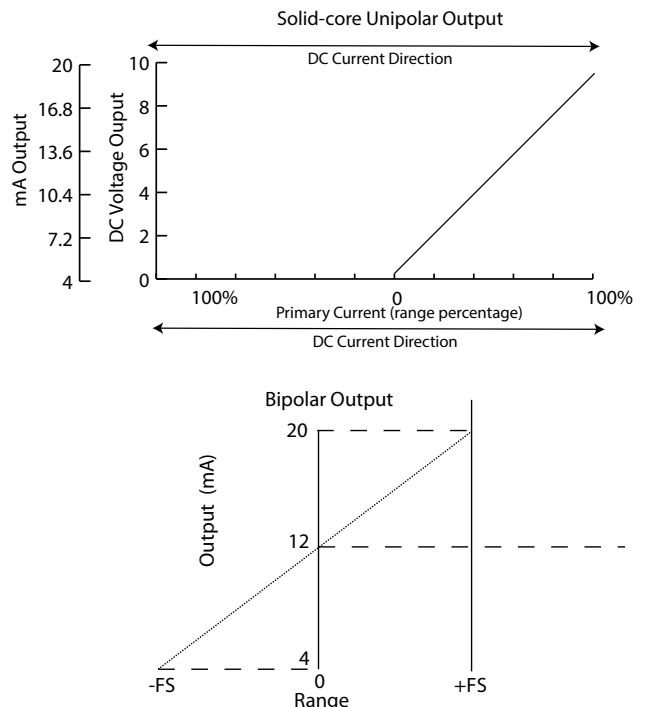
#### Isolation

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

#### UL/cUL and CE Approved

- Accepted worldwide.

### DC Current Transducer Output



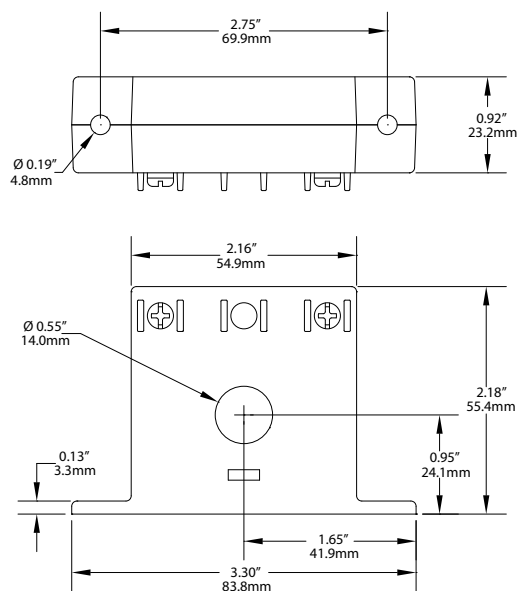
OEMs

Test & Evaluation Units for OEMs

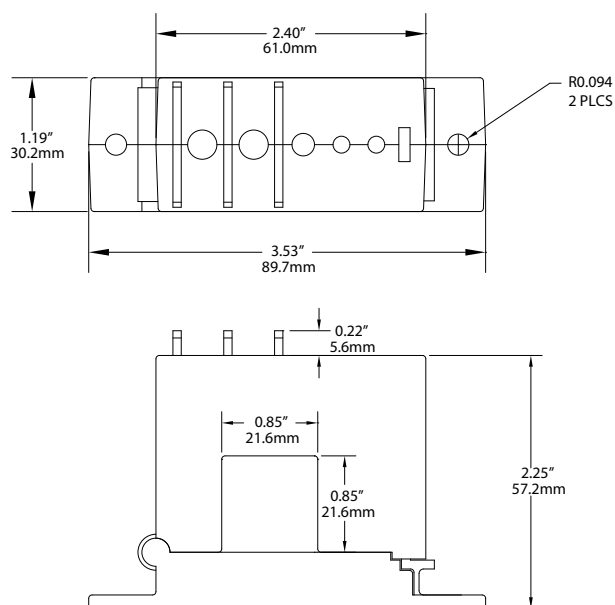
Free program expedites evaluation process. See page 3 for details.

## DC Current Transducer Dimensions

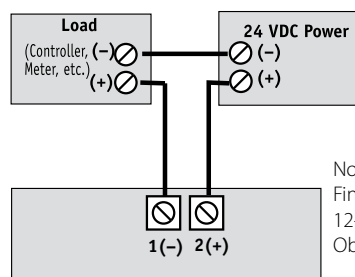
FF Case



SP Case



## DC Current Transducer Connections



4-20 mA Output

Notes:  
Fingersafe captive screw terminals.  
12-22 AWG solid or stranded.  
Observe polarity.

## DC Current Transducer Specifications



<b>Power Supply</b>	24 VDC (12-40 V)
<b>Output Signal</b>	4-20 mA, loop-powered
<b>Output Limit</b>	23 mA
<b>Accuracy</b>	1.0% FS
<b>Response Time</b>	100 ms (to 90% step change)
<b>Range</b>	0-20 to 0-400 DC, see ordering information
<b>Frequency Range</b>	DC
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 5 kV
<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 Ordering Information\*

Sample Model Number: DLTB-420-24L-BP-FF  
DC current transducer, 50 A range, 4-20 mA output, 24 VDC loop-powered in a solid-core case. (DIN rail adapters are included)

(1) (2) (3) (4) (5)  
DLT  -     -     -   -

## (1) Full Scale Range

A	0-20 A
B	0-50 A
C	0-100 A
D	0-200 A
E	0-300 A
F	0-400 A

## (2) Output Signal

420	4-20 mA
-----	---------

## (3) Power Supply

24L	24 VDC loop-powered
-----	---------------------

## (4) Output Polarity

U	Unipolar
BP	Bipolar

## (5) Case Style (black only)

FF	Solid-core, front terminals (max. range 0-100 A)
SP	Split-core (min. range 0-50 A)

\*Bulk packaging only.

