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.

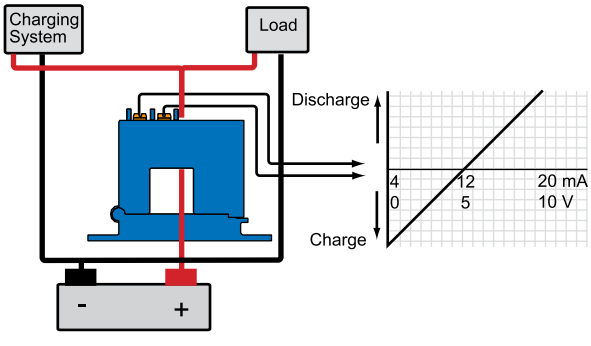
Isolation
- Output is magnetically isolated from the input for safety.
- Eliminates insertion loss (voltage drop).

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

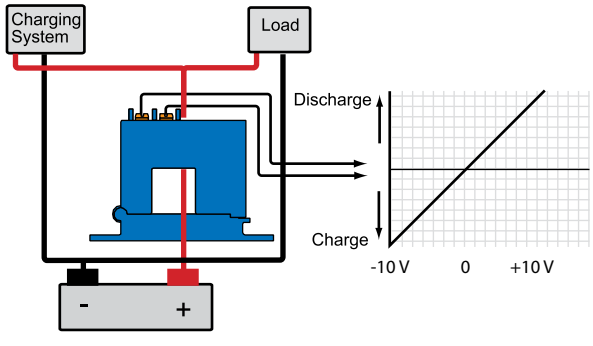
Split-core Design/Built-in Mounting Brackets
- Makes installation a snap.

UL/cUL and CE Approved
- Accepted worldwide.

Battery Charging System - Bipolar Output



Battery Charging System - Bidirectional Output



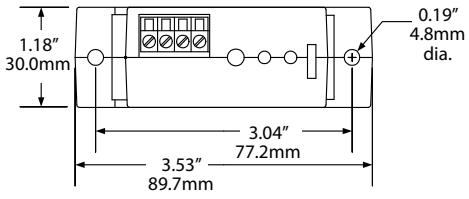
For additional Application Examples, go to www.nktechnologies.com/applications

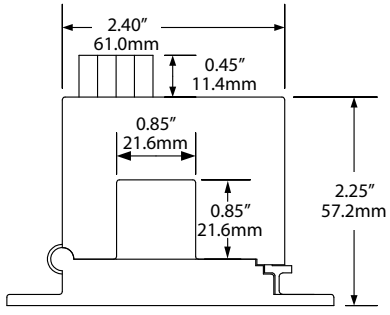
OEMs Test & Evaluation Units for OEMs
Free program expedites evaluation process. See page 3 for details.

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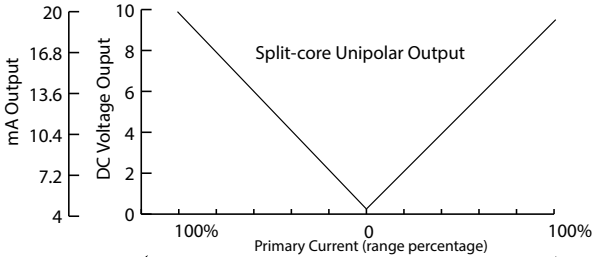
DC Current Transducer Dimensions

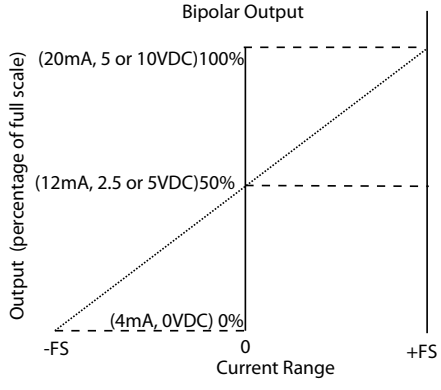
SP Case

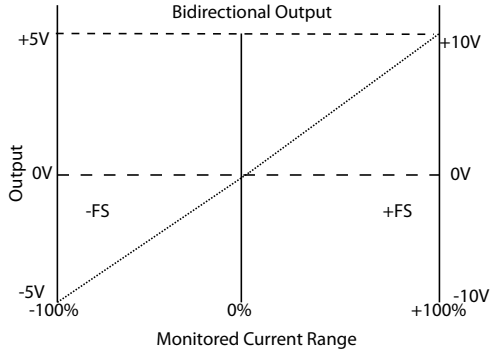




DC Current Transducer Output





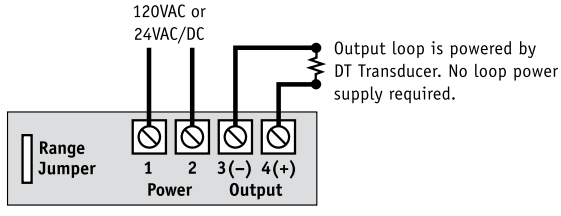


DC Current Transducer Specifications

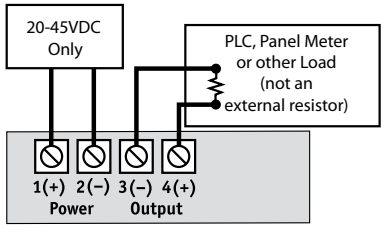
Power Supply	• 24 VAC/DC (20–45 VDC, 22–38 VAC)
Power Consumption	2 VA
Output Signal	• 0–20 mA, 4–20 mA, 0–5 VDC, 0–10 VDC • ±10 VDC (Bidirectional models only)
Output Limit	• 0–20 mA, 4–20 mA: 23 mA • 0–5 VDC: 5.75 VDC • 0–10 VDC: 11.5 VDC
Output Impedence	• 0–20 mA, 4–20 mA: 500 max. • 0– 5 VDC: 25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

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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)		(2)			(3)			(4)		(5)	
DT		–			–	2	4	U	–		–	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

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)		(2)			(3)			(4)		(5)	
DT		–	0	1	0	–	2	4	D	–	B	D	–	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

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