

DT SERIES

Current Transducers

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

DT Bidirectional Output models produce a +10 VDC signal with current through the aperture in one direction, and -10 VDC with current passing in the reverse direction. Split-core enclosures only.



Applications

Battery Banks

- Monitors load current.
- Monitors charging current.
- Verifies operation.

Transportation

- Measures traction power or auxiliary loads.

Electric Heating Elements

- Monitors heater loads.
- Faster response than temperature sensors.

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).

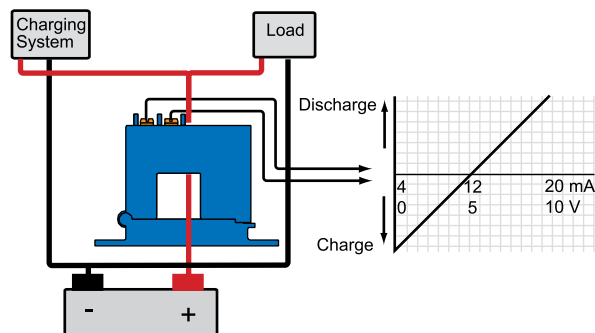
Internal Power Regulation

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

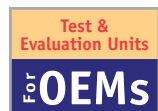
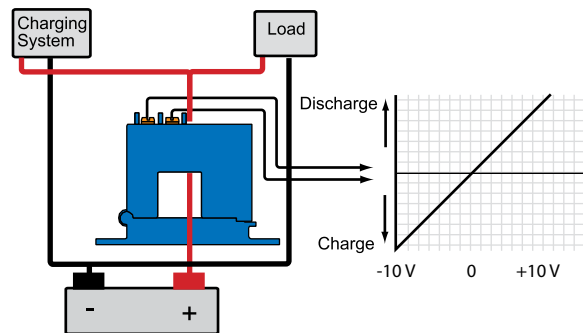
Split-core Design/Built-in Mounting Brackets

- Makes installation a snap.

Battery Charging System - Bipolar Output



Battery Charging System - Bidirectional Output

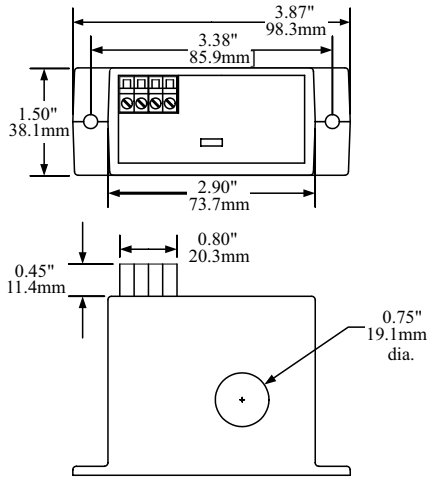


Free program expedites evaluation process. See page 1 for details.

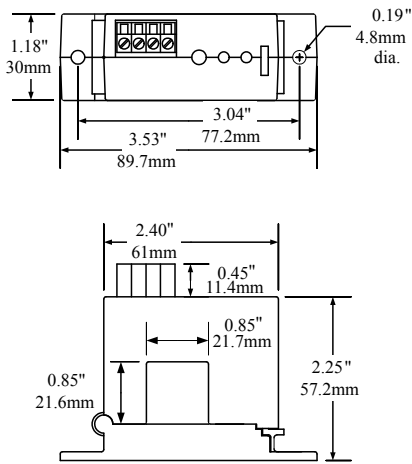
For additional Sample Output/Power Supply or Application Illustrations, see Supplemental Illustrations on page A80.

Dimensions

FL Case

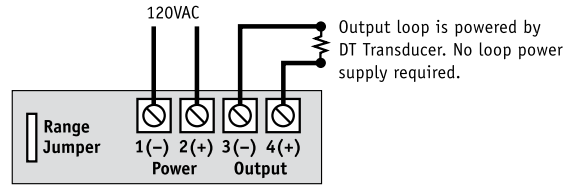


SP Case



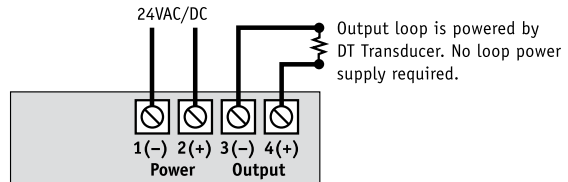
Connections

DT Series Unipolar and Bipolar Output Models



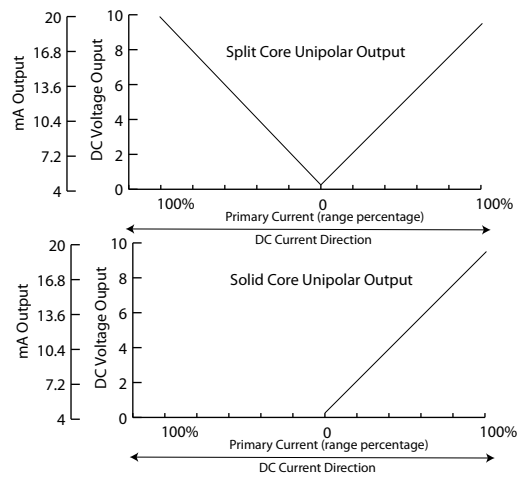
Notes:
Deadfront captive screw terminals.
12-22 AWG solid or stranded.
Observe polarity.

DT Series Bidirectional Output Models



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

Unipolar Output



Specifications

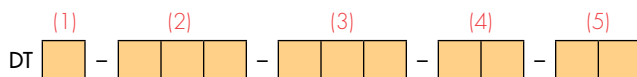


| | |
|-------------------|---|
| Output Signal | <ul style="list-style-type: none"> 0–20mA, 4–20mA, 0–5VDC, 0–10VDC ±10VDC (Bidirectional models only) |
| Output Limit | <ul style="list-style-type: none"> 0–20mA, 4–20mA: 23mA 0–5VDC: 5.75VDC 0–10VDC: 11.5VDC |
| Accuracy | <ul style="list-style-type: none"> Solid-core: 1% FS Split-core: 2% FS |
| Repeatability | 1.0% FS |
| Response Time | <ul style="list-style-type: none"> Solid-core: 20ms (to 90% of step change) Split-core: 100ms (to 90% of step change) |
| Frequency Range | DC |
| Power Supply | <ul style="list-style-type: none"> 120VAC 24VAC/DC, 2VA max. |
| Power Consumption | 2VA |
| Loading | <ul style="list-style-type: none"> 0-20mA, 4-20mA: 500 max 0–5VDC: 25kΩ min. 0–10VDC: 50kΩ min. |
| Isolation Voltage | 3KV (monitored line to output) |
| Linearity | 0.75% FS |
| Current Ranges | <ul style="list-style-type: none"> Field Selectable Ranges from 0–400A Factory Set Ranges from 0-400A (Bidirectional Models only) |
| Sensing Aperture | <ul style="list-style-type: none"> FL Case: 0.75" (19.1mm) dia. SP Case: 0.85" (21.6mm) sq. |
| Case | UL94 V0 Flammability Rated |
| Environmental | -4 to 122°F (-20 to 50°C), 0–95% RH, non-condensing |
| Listings | UL 508 Industrial Control Equipment (USA & Canada), CE |

Ordering Information

DT Series Unipolar and Bipolar Output Models

Sample Model Number: DT2-420-24U-U-SP
 Split-core DC current transducer, 0–100/150/200A range, 24VAC/DC powered, 4–20mA unipolar output.



(1) Full Scale Range

| | |
|---|----------------|
| 0 | 5, 10, 20A* |
| 1 | 50, 75, 100A |
| 2 | 100, 150, 200A |
| 3 | 150, 225, 300A |
| 4 | 200, 300, 400A |
| C | Custom Range |

(2) Output Signal

| | |
|-----|--------|
| 020 | 0–20mA |
| 420 | 4–20mA |
| 003 | 0–3VDC |
| 005 | 0–5VDC |
| 010 | 10VDC |

(3) Power Supply

| | |
|-----|-----------|
| 24U | +24VAC/DC |
| 120 | 120VAC** |

(4) Output Polarity

| | |
|----|----------|
| U | Unipolar |
| BP | Bipolar |

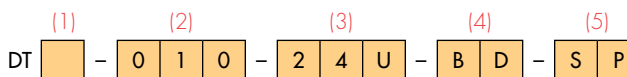
(5) Case Style

| | |
|----|------------|
| FL | Solid-core |
| SP | Split-core |

*DT0 Models FL case only.
 ** 120VAC power supply FL case only.

DT Series Bidirectional Output Models

Sample Model Number: DT2-010-24U-BD-SP
 Split-core DC current transducer, 0–100/150/200A range, 24VAC/DC powered, ±10 VDC bidirectional output.



(1) Full Scale Range

| | |
|---|--------------|
| 1 | 100A |
| 2 | 200A |
| 3 | 300A |
| 4 | 400A |
| C | Custom Range |

(2) Output Signal

| | |
|-----|-------|
| 010 | 10VDC |
|-----|-------|

(3) Power Supply

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

(4) Output Polarity

| | |
|----|---------------|
| BD | Bidirectional |
|----|---------------|

(5) Case Style

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