

Specifications

Power Supply	24 VDC (20-45 VDC): Power input and output signal are not isolated. 24 VDC input: A fuse rated maximum 5 A shall be placed in series with the main input power terminal.
Power Consumption	2 VA
Input Range	(See Model Number Key)
Output Signal	-10 to +10 VDC: 50 K Ω min
Busbar Input	Copper busbars shall be sized at 1000 amperes per square inch
Output Polarity	Bidirectional: Full scale output in two current direction
Accuracy	2.0% FS
Repeatability	1.0% FS
Linearity	0.75% FS
Frequency Range	DC
Response Time	100 ms (to 90% of step change)
Isolation Voltage	Tested to 3 KV (Monitored line to output)
Sensing Aperture	0.85" (21.6 mm) square
Case	UL94 V-0 Flammability rated thermoplastic
Environmental	-4 to 122°F (-20 to 50°C) 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 6561 ft (2000 meters)
Listings	UL/cUL, CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The 24 V DT series comply with EN 61010-1 CAT III 300 V max measurement category.

Warning! Risk of Danger

Safe operation can only be guaranteed if the transducer is used for the purpose for which it was designed and within the limits of the technical specifications. When this symbol is used, it means you must consult all documentation to understand the nature of potential hazards and the action required to avoid them.



Warning! Risk of Shock

When operating the transducer certain parts may carry hazardous live voltage (e.g. Primary conductor, power supply). The transducer should not be put into operation if the installation is not complete.



Model Number Key

DT	1	- 010	- 24D	- BD	- SP
					CASE STYLE: <u>SP</u> - Split-Core
					OUTPUT POLARITY: <u>BD</u> - Bidirectional
					POWER SUPPLY: <u>24D</u> - 24 VDC
					OUTPUT: <u>010</u> - 0-10 VDC
					RANGE: <u>1</u> - 100 A <u>2</u> - 200 A <u>3</u> - 300 A <u>4</u> - 400 A
					SENSOR TYPE: <u>DT</u> - DC current sensor with analog output

Know Your Power



Other NK Technologies Products Include:

AC & DC Current Transducers and Switches
1 ϕ & 3 ϕ Voltage and Power Transducers
Current Transformers (CTs)
Ground Fault Protection Relays



NK Technologies

3511 Charter Park Drive, San Jose, CA 95136

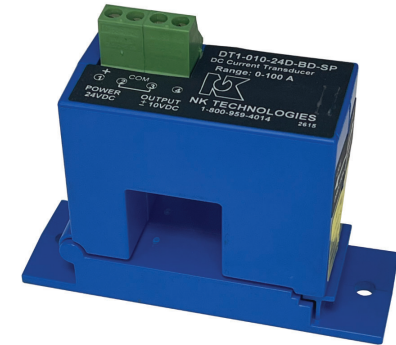
Phone: 800-959-4014 or 408-871-7510

Fax: 1-408-871-7515

sales@nktechnologies.com, www.nktechnologies.com



INSTRUCTIONS



DT SERIES Bidirectional -10 to +10 VDC Output

Quick "How To" Guide

1. Route wire or busbar to be monitored through aperture. Ensure current flow matches any arrow on sensor.
2. Mount the sensor to a surface if needed.
3. Connect output wiring.
 - A. Use 30-12 AWG copper wires rated 75°C minimum. Tighten terminals to 5-7 in-lbs torque.
 - B. Be sure output load is at least 50 K Ω .
4. Connect Power.
 - A. Connect to DC power supply. Polarity Sensitive.

Description

DT Series transducers combine a Hall Effect sensor and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and saves valuable panel space. DT Bidirectional Series are available in split-core with -10/+10 VDC output only.

Installation

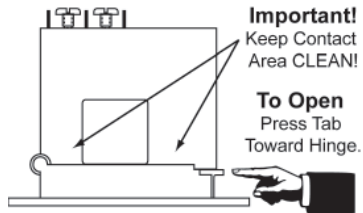
For All Versions

Run wire to be monitored through opening in the sensor. Bidirectional models accept current flow in both directions, with full output of +10 VDC in the primary direction, and -10 VDC in the reverse direction.

DT Series transducers work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch distance between sensor and other magnetic devices.

Split-Core

Press the tab in the direction as shown to open the sensor. After placing the wire in the opening, press the hinged portion firmly downward until a definite click is heard and the tab pops out fully.

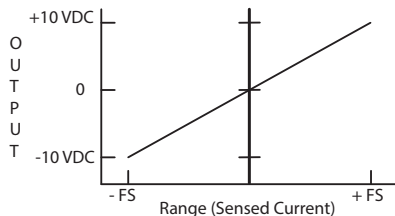


KEEP SPLIT-CORE SENSORS CLEAN.

Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

Output Polarity

Bidirectional



Output Wiring

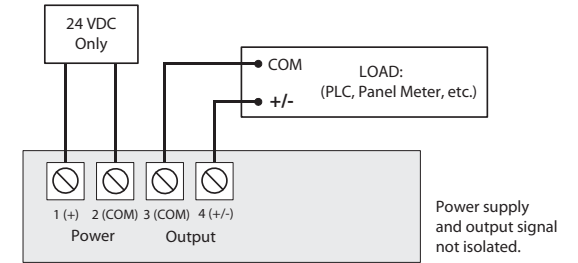
Connect control or monitoring wires to the sensor. Use 30-12 AWG copper wire and tighten terminals to 5-7 inch-pounds torque.

-10 to +10 VDC:

Signal is powered by the DT Transducer. Minimum output load (impedance) is 50 K Ω for the stated accuracy.

Power supply and output signal are not isolated.

DT Series Bidirectional Output Models



Single Range

DT Bidirectional Series transducers feature single ranges. The range is factory calibrated, eliminating time consuming and inaccurate field setting of zero or span.

1. Determine the normal operating amperage of your monitored circuit.
2. Select the model with a range that is equal to or slightly higher than the normal operating amperage.

Trouble Shooting - -10 to +10 VDC Models

1. Output Signal Too Low

- A. The range that is too high for current being monitored. *Select the correct model for the required range.*
- B. Power supply is inadequate. *Check power supply. Make sure it is of sufficient voltage with all loads at maximum. DT Series will draw 2.0 VA.*
- C. Output load too low. *Check output load, be sure it is at least 50 K Ω for 10 VDC.*

2. Output Signal is always at maximum

- A. Make sure you sized the monitored input range correctly. Use model with higher range if needed.

3. Sensor has no output

- A. Polarity is not properly matched. *Check and correct power supply wiring polarity.*
- B. Monitored load is not DC or is not on. *Check that the monitored load is DC and that it is actually on.*
- C. The core contact area may be dirty. *Open the sensor and clean the contact area.*