

## Specifications

Output Signal	0-20mA, 4-20mA, 0-5VDC or 0-10VDC
Accuracy	1% FS
Frequency Range	DC
Isolation Voltage	3kV (Monitored line to output)
Linearity	0.75% FS
Response Time	160 mS (to 90% of step change)
Repeatability	1% FS
<b>Power Supply</b>	
24VAC/DC Option:	Power input and output signal are not isolated. Fuse DC supply at 5 amps, AC supply at 2.75 amps.
120VAC Option:	Power input and output signal are isolated.
Power Consumption	2 VA
Enclosure	UL 94V-0 Flammability rated thermoplastic
Environmental	-4 to +122 F (-20 to 50 degree C) 0-95% RH non-condensing Pollution Degree 2 Altitude to 2000 meters
Approvals	UL, cUL, CE (Note: Not all models are CE compliant. See product label for CE mark)

### For products intended for the EU market, the following is applicable to the CE compliance of the product:

The DT series comply with EN 61010-1 CAT III 600V max measurement category. Use 24 V input power and fuse at 5 amps. Power source overvoltage category I as defined per EN 61010-1.

#### Caution! 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.



#### Caution! Risk of electrical 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 0 - 420 - 24U - U - FL**

### POLARITY:

BP- Bipolar  
U- Unipolar

### POWER SUPPLY:

24U- 24 VAC or VDC (Universal)  
120- 120 VAC

### OUTPUT:

005- 0-5 VDC  
010- 0-10 VDC  
020- 0-20 mA  
420- 4-20 mA

### RANGE

0- 0 to 5, 10 or 20 Amps DC  
1- 0 to 50, 75 or 100 Amps DC  
2- 0 to 100, 150 or 200 Amps DC

### SENSOR TYPE:

DT - DC current sensor with analog output.

## Know Your Power



### Other NK Technologies Products Include:

DC Current Switches, Ground Fault Sensors  
AC & DC Current Switches, Power Transducers  
Current & Potential Transformers (CTs&PTs)



# NK Technologies

3511 Charter Park Drive, San Jose, CA 95136  
800-959-4014 or +1-408-871-7510 Phone  
+1-408-871-7515 FAX  
sales@nktechnologies.com, www.nktechnologies.com



# INSTRUCTIONS



**DT SERIES Solid Core**  
0-20 or 4-20mA; 0-5 or 0-10 VDC Outputs

## Quick "How To" Guide

1. Place wire to be monitored through aperture. Ensure monitored current flow matches arrow on sensor or as noted on figure on reverse side.
2. Mount the sensor.
3. Connect power and output wiring.
  - A. Use 22-14 AWG copper wires rated 75°C minimum. Tighten terminals to 5 in-lbs (.6 Nm) torque.
  - B. For current output models, ensure output load is no more than 500 Ω.
  - C. For voltage output models, ensure output load is at least 10KΩ.
4. Connect Power.
  - A. Connect the appropriate power supply.

## 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 Series are available with 0-20 mA, 4-20mA, 0-5VDC or 0-10VDC outputs.

## Installation

Place wire to be monitored through sensor aperture. Care should be taken to ensure current flow is in accordance with any directional arrows on sensor and as noted in the figure, above right.

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. For optimal performance, ensure unit has been energized for a period of 20 minutes prior to sensing operation.

### 0-20mA & 4-20mA:

The current loop is powered by the DT Transducer. Maximum loop impedance is 500  $\Omega$ .

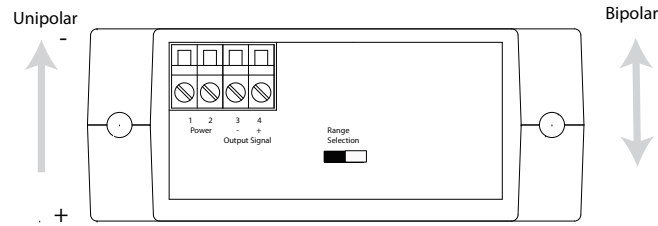
### 0-5VDC & 0-10 VDC:

Signal is powered by the DT Transducer. Minimum output load (impedance) is 10K  $\Omega$ .

### Current Direction:

Ensure the direction of monitored current is the same as the direction shown on the diagram. The unit will not operate properly if the current is opposite the direction of the arrow.

## Wiring & Mounting Information



**Note:** Unipolar transducers produce an output signal with current flowing in one direction only. Bipolar transducers produce an output with current flowing in both directions through the sensor.

## Range Select

DT Series transducers feature factory calibrated, field selectable ranges.

1. Determine the normal operating amperage of monitored circuit

2. Select the range that is equal to or slightly higher than the normal operating amperage.
3. Place the range jumper in the appropriate position.

## Trouble Shooting

### 1. Output Signal Too Low

- A. The jumper may be set in a range that is too high for current being monitored. *Move jumper to the correct range.*
- B. Power supply is inadequate. *Check power supply. Make sure it is of sufficient voltage with all loads at maximum. DT Series consumes 2.0 VA.*
- C. Output load too high. *Check output load, be sure it is no more than 500  $\Omega$  for mA output, more than 10K  $\Omega$  for VDC output.*

### 2. Output Signal is always at maximum

- A. The jumper may be set in a range that is too low for current being monitored. *Move jumper to the correct range.*

### 3. Sensor has no output

- A. Polarity is not properly matched. *Check and correct 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.*

## Unipolar versus Bipolar Output

