

## 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	100 mS (to 90% of step change)
Repeatability	1% FS
Power Supply	
24VAC/DC Option:	Power input and output signal are not isolated.
120VAC Option:	Power input and output signal are isolated.
Power Consumption	2 VA
Enclosure	UL 94V-0 Flammability rated thermoplastic
Environmental	-20 to 50 deg. C

## Model Number Key

**DT 0 - 420 - 24U - BP - FL - Y54**

### 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 30 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)

500 Division Street; Campbell, CA 95008  
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 output wiring.
  - A. Use up to 2.5 mm<sup>2</sup> (14 AWG) copper wires. Tighten terminals to .6 Nm (5 in-lbs) 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  $\Omega$ .

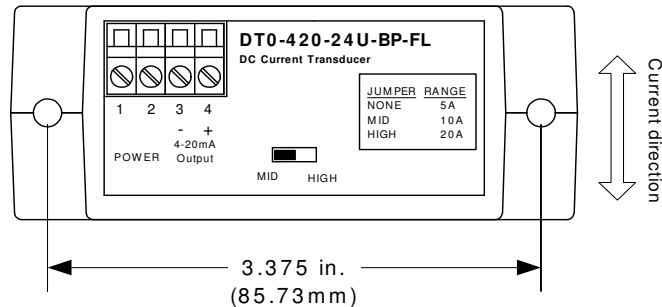
### 0-5VDC & 0-10 VDCmA:

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



### Connection Information:

- Terminals 1 and 2: Power supply control signal.
- Terminals 3 and 4: Output control signal.
- Connection wire capacity: 0.14 - 2.5 mm<sup>2</sup> (26 - 14AWG)
- Screw thread: M 3
- Screw torque: 0.5 - 0.6 Nm (4.4 - 5.3 in-lbs)

## Range Select

Some DT Series transducers may feature factory calibrated, field selectable ranges. If so:

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  $\Omega$ .*

### 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

