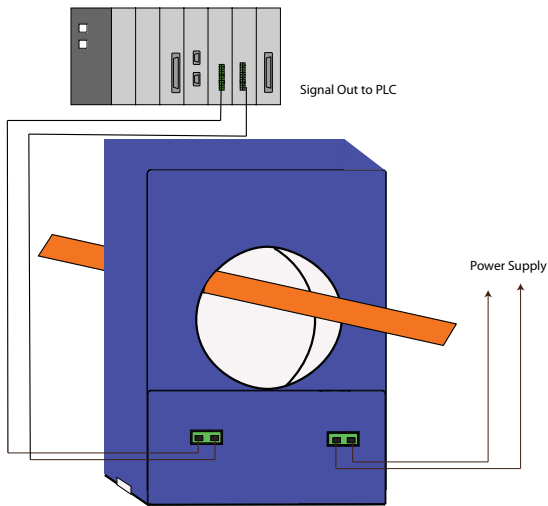


## Specifications

Output Signal	4-20mA, 0-5VDC or 0-10VDC
Accuracy	2% FS
Frequency Range	DC
Isolation Voltage	3kV (Monitored line to output)
Linearity	1% FS
Response Time	100 mS (to 90% of step change)
Repeatability	1% FS
Power Supply	Power input and output signal are isolated.
Power Consumption	2 VA
Enclosure	UL 94V-0 Flammability rated thermoplastic
Environmental	-20 to 50 degree C (-4 to +122 F)



Typical installation. Primary conductor through the sensing aperture, power supply connected, and the output signal connected to the controller.

## Model Number Key

**DT 6 - 420 - 24U - U - DL**

**CASE Style:**  
DL- DIN rail, large

**POLARITY:**  
BP- Bipolar  
U- Unipolar (One direction)

**POWER SUPPLY:**  
24U- 24 VAC or VDC (Universal)  
120- 120 VAC

**OUTPUT:**  
005- 0-5 VDC  
010- 0-10 VDC  
420- 4-20 mA

**RANGE**  
5- 0 to 300 ADC  
6- 0 to 500 ADC  
7- 0 to 750 ADC  
8- 0 to 1000 ADC  
9- 0 to 1200 ADC

### 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)



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# INSTRUCTIONS



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

## Quick "How To" Guide

- Place wire to be monitored through aperture. Ensure monitored current flow matches arrow on sensor or as noted on figure on reverse side.
- Mount the sensor to DIN Rail.
- Connect output wiring.
  - Use up to 2.5 mm<sup>2</sup> (14 AWG) copper wires. Tighten terminals to .6 Nm (5 in-lbs) torque.
  - For current output models, ensure output load is no more than 500 Ω.
  - For voltage output models, ensure output load is at least 10KΩ.
- Connect Power.
  - 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 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 are designed to fit the common DIN rail spacings, but can be mounted in any position. For optimal performance, ensure unit has been energized for a period of 20 minutes prior to sensing operation.

### 4-20mA:

The current signal is powered by the DT Transducer. Maximum output load 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

1. Sensor is designed to snap onto any DIN rail, mount in any position
2. Wire size up to 14 AWG (2.5mm<sup>2</sup>)
3. Tighten to 5 inch lbs of torque (0.6Nm)
4. Use proper power supply voltage

## Range/Model Selection

The DT5-9 Series transducers are factory calibrated, with no field adjustment needed.

1. Determine the normal operating amperage of monitored circuit.
2. Select the model with a range that is equal to or slightly higher than the normal operating amperage.
3. Compare the sensor output to the primary DC current to confirm proper operation.

## Trouble Shooting

### 1. Output Signal Too Low

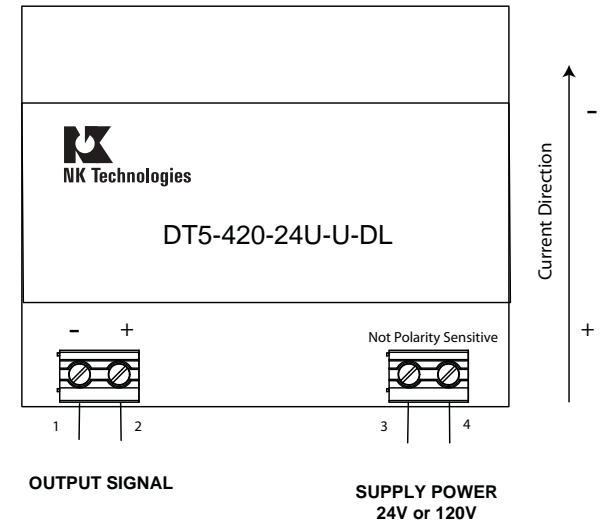
- A. The range is too high for current being monitored. *Select a sensor with a lower range.*
- B. Power supply is inadequate. *Check power supply. Make sure it is of sufficient voltage with all loads at maximum. DT Series consumes <2.0 VA.*
- C. Output load too high. *Check output load, be sure it is no more than 500  $\Omega$ .*

### 2. Output Signal is always at maximum

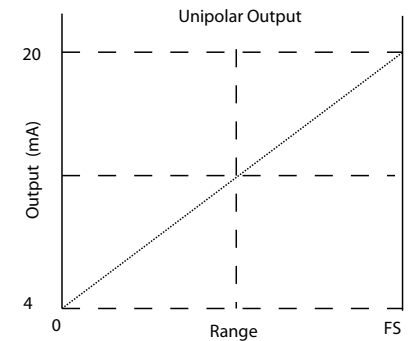
- A. The range may be too low for current being monitored. *Select a sensor with a higher range.*

### 3. Sensor has no output

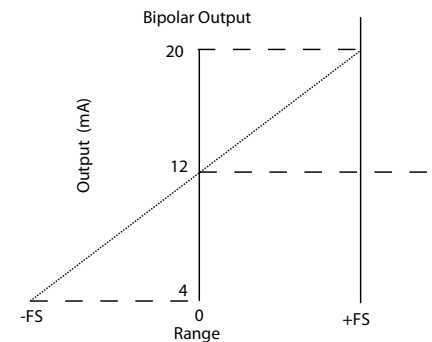
- A. Polarity is not properly matched. *Check and correct wiring polarity.*
- B. Monitored load is not DC or is not on. *Check that the monitored load is DC and that it is actually on.*
- C. Current is flowing through the sensor in the wrong direction (unipolar output) *Reverse the sensor so current flows through the sensor in the other direction.*



## Unipolar versus Bipolar Output



Solid core: Sensor output with current in one direction only



All DT series: Sensor output with current in either direction