Specifications

Power Supply	120 VAC (+/-10%), 50/60 Hz OVP II 24 VAC/VDC (+/-10%), use Class II power source
Power Consumption	2 VA
Input Range	0-1200 A, 600 VDC max monitored circuit
Output Signal	4-20 mA, 0-5 VDC or 0-10 VDC
Output Limit	4-20 mA: 23 mA 0-5 VDC: 5.75 VDC 0-10 VDC: 11.5 VDC
Output Loading	4-20 mA: 500 Ω max 0-5 VDC: 25 KΩ min 0-10 VDC: 50 KΩ min
Accuracy	2% FS
Linearity	0.75% FS
Repeatability	1% FS
Response Time	100 mS (to 90% of step change)
Frequency Range	DC
Isolation Voltage	UL listed to 1480 VAC, tested to 3 KV
Sensing Aperture	1.76" (44.7 mm) diameter
Enclosure	UL94 V-0 Flammability rated thermoplastic
Environmental	-4 to 122°F (-20 to 50°C) Surrounding temperature 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 DT5-9 series comply with EN 61010-1 CAT III 300 V max measurement category. For 120 VAC power supply fuse at 5 amps maximum. The voltage rating of the measurement category can be improved according to the characteristics given by the cable manufacturer. Use twisted pair for connections.

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 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 (50/60 Hz)

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
4-20 mA; 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 to DIN Rail.
3. Connect output wiring.
   A. Use 22-12 AWG copper wires, insulated to 60/75°C. Tighten terminals to 6 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 25 KΩ (5 V) or 50 KΩ (10 V).
4. Connect Power.
   A. Connect the appropriate power supply.

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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 4-20 mA, 0-5 VDC or 0-10 VDC 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.

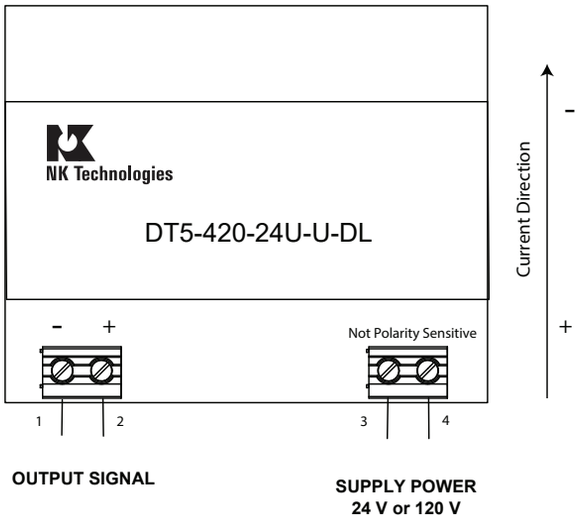
4-20 mA:
The current signal is powered by the DT Transducer. Maximum output load impedance is 500 Ω.

0-5 VDC & 0-10 VDC:
Signal is powered by the DT Transducer. Minimum output load (impedance) is 25 KΩ for 0-5 VDC and 50 KΩ for 0-10 VDC.

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

Wiring & Mounting Information

1. Sensor is designed to snap onto any DIN rail, mount in any position.
2. Wire size 22-12 AWG.
3. Tighten to 6 in-lbs of torque.
4. Use proper power supply voltage.
5. Use 60/75°C copper conductors only for power and signal connections.
6. Use Class II 24 V power source.



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.

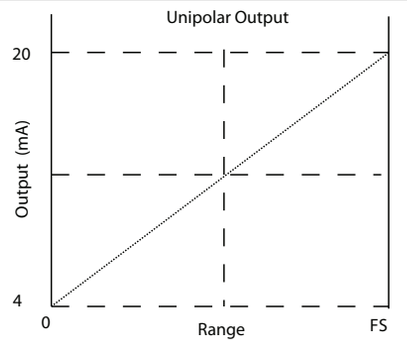
Trouble Shooting

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* Ω (4–20 mA model).

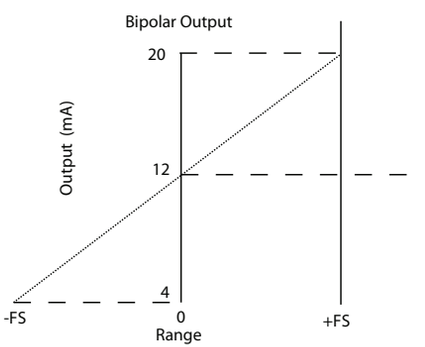
2. Output Signal is always at maximum.
- A. The range may be too low for current being monitored. *Select a sensor with a higher range.*

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



Sensor output with current in one direction only.



Sensor output with current in either direction.

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