Specifications

Power Supply	24 V nominal (22-26 VAC or VDC) *Power supply is not isolated from the output.*
Input Range	0-200, 0-300 and 0-400 A (See Model Number Key)
Power Consumption	<3 VA
Output Signal	4-20 mA, 0-5, 0-10 VDC
Output Limit	20.8 mA, 5.25 or 10.5 V model dependant *Note: bipolar output models will not produce signals below 4 mA or zero voltage*
Output Loading	4-20 mA: 500 Ω maximum 0-5/10 VDC: 2 KΩ minimum
Accuracy	1.0% FS
Frequency Range	DC
Working Voltage	1500 VDC
Isolation Voltage	Tested to 5375 VAC
Response Time	150 ms max (10-90% of step change)
Sensing Aperature	1.30" (33.0 mm) diameter
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 and CE

Power Supply

Use Class 2 power limited supply or protect power supply circuit with 8 amp, 30 VAC/VDC secondary fuses.

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The DT-FD 2, 3 & 4 Series may comply with EN 61010-1 CAT III 600 V max line-to-neutral measurement category.

Warning! Risk of danger

Safe operation can only be guaranteed if the transducer is used for the purpose it was designed for and within 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 sensor certain parts may carry hazardous live voltage (e.g. primary conductors, power supply). The transducer should not be put into operation if the installation is not complete.

Model Number Key

DT 3 - 420 - 24U - U - FD

CASE STYLE:
FD - Solid-Core, DIN or Panel

OUTPUT TYPE:
U - Unipolar, output with current in either direction
BP - Bipolar, direction indication

POWER SUPPLY:
24U- 24 VAC or VDC

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

RANGE:
2 - 200 A
3 - 300 A
4 - 400 A

SENSOR TYPE:
DT - DC current sensor, externally powered output

Know Your Power





Other NK Technologies Products Include:
AC & DC Current Transducers
AC & DC Current Operated Switches
1ϕ & 3ϕ Power Transducers
Current & Potential Transformers (CTs & PTs)

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INSTRUCTIONS



DT-FD 2, 3 & 4 SERIES

DC Current Transducers
4-20 mA, 0-5 and 0-10 VDC Output
Designed For Use to 1500 VDC

Quick "How To" Guide

1. Run the wire you are monitoring through aperture.
2. Mount the sensor to a DIN rail or panel, or suspend from wire with cable ties.
3. Connect output and power supply wiring.
   A. Use 24-12 AWG rated minimum 60°C copper wires only. Tighten to 5-7 inch-pounds.
   B. Make sure output load impedance does not exceed product specifications.
   C. Connect matching power supply, sensor and load (PLC, panel meter, etc.) in series.
4. Energize monitored circuit.
   A. Read output signal proportional the current used by the measured load.

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Description

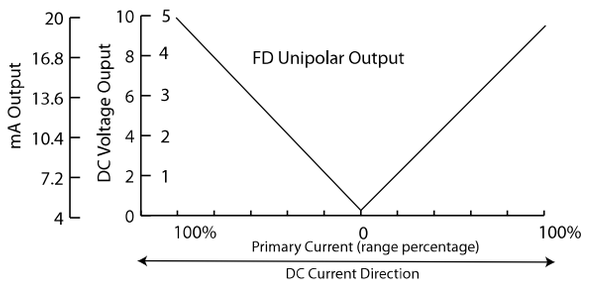
DT-FD Series transducers combine a current sensing method and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and save valuable panel space. DT-FD Series are available in solid core with industry standard outputs.

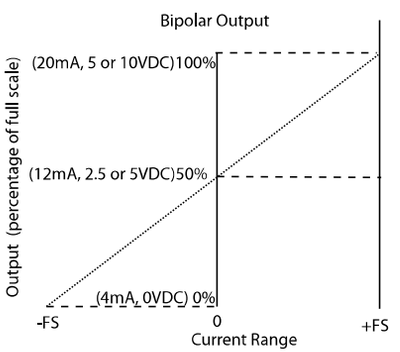
Installation

Run wire(s) to be monitored through the sensing aperture. The **unipolar** output produces an output signal with DC current flowing in either direction. The **bipolar** output models produce the output signal which uses half of the full scale output with zero monitored current, rising to full scale (20 mA, 5 V or 10 V) with current flowing in one direction, and falling to minimum output (4 mA, ~0 V) when current flows in the opposite direction. This is used to indicate the current flow direction.

DT-FD 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.

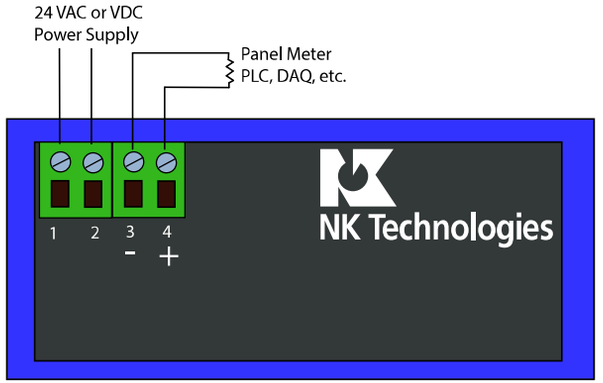
The housing is designed to fit onto a DIN rail or attached to a back panel with screws through the holes in the mounting tabs.





Output Wiring

Connect control or monitoring wires to the sensor. Use 24-12 AWG copper wires rated for 60°C minimum, and tighten terminals to 5-7 inch-pounds torque.



Connection Notes:

- Fingersafe terminals
- 24-12 AWG solid or stranded, copper only
- Observe Polarity of Output, power supply is not polarity sensitive
- Power supply is not isolated from the output
- See label for model range

Range Select

DT-FD Series transducers feature a small, compact housing with ranges to 400 A. 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 that is equal to or slightly higher than the normal operating amperage.

Trouble Shooting

1. Transducer has no output

A. Power supply is not properly sized. *Check power supply voltage at sensor and output rating.*

B. Polarity is reversed. *Check and correct wiring polarity.*

C. Output connections are not secure. *Check tightness of all terminations.*

2. Output Signal Too Low

A. The model selected may have a range that is too high for current being monitored. *Replace with the correct sensor range.*

B. Monitored current current is well below the sensor range. *Loop the monitored wire several times through the aperture until the "sensed" current rises sufficiently. Sensed Amps = (Actual Amps) x (Number of Loops). Count loops on the inside of the aperture.*

3. Transducer is always at minimum:

A. Monitored current is not DC or is not on. *Check that the monitored current is DC and that it is actually on.*

4. Output Signal is always at maximum:

A. The range is too low for current being monitored. *Select a sensor with a range higher than the current used.*

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