Specifications

Power Supply	24 VDC (12-36 VDC)
Output Signal	4-20 mA
Accuracy	1% FS
Frequency Range	DC
Isolation Voltage	UL tested to 2200 VAC
Linearity	0.75% FS
Response Time	100 mS (to 90% of step change)
Repeatability	1% FS
Sensing Aperture	FF case: 0.54" (13.7 mm) diameter SP case: 0.85" (21.6 mm) square
Case	UL94 V-0 Flammability rated thermoplastic
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

DLT Series DC current transducers are an innovative design hall effect based DC current transducer. With this design, the power needed to operate the sensor is derived from an external DC supply connected in series with the sensor output. This design utilizes two wires rather than four with most other products.

Perfect for photovoltaic panel monitoring, at the panel, string or array level. Small size allows for placement inside combiner boxes, and the extended temperature range means a lower need for cooling of the control system.

Model Number Key

DLTB - 420 - 24L - U - FF

CASE:
FF - Solid-Core, front term
SP- Split-Core, top term

POLARITY:
BP - Bipolar
U - Unipolar

POWER SUPPLY:
24L - 24 VDC 2-wire loop powered

OUTPUT:
420 - 4-20 mA

RANGE
A - 0 - 20 A DC (FF only)
B - 0 - 50 ADC (FF or SP)
C - 0 - 100 ADC (FF or SP)
D - 0 - 200 ADC (SP only)
E - 0 - 300 ADC (SP only)

SENSOR TYPE:
DLT - 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



DLT SERIES Solid or Split Core
4-20 mA 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. If securing the sensor to a back panel, tighten the screws through the mounting tabs to no more than 7 in-lbs torque.
3. Connect output wiring.
   A. Use 22-14 AWG copper conductors only rated 75°C minimum. For models with suffix FF, tighten terminals to 9 in-lbs and for models with suffix SP, tighten terminals to 5-7 in-lbs.
   B. For current output models, ensure output load is no more than 600 Ω at 24 VDC.
4. Connect Power.
   A. Connect the power supply in the standard 2-wire loop powered manner.

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Description

DLT 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. DLT Series sensors are available with 4-20 mA loop-powered outputs.

Installation

Place wire to be monitored through sensor aperture. Care should be taken to ensure the DC current flow is in accordance with any directional arrows on sensor.

DLT 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.

4-20 mA:

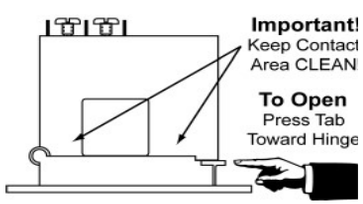
The current loop is powered by an external source. The connection diagram on the right.
Maximum loop impedance is 600 Ω at 24 VDC.

Current Direction:

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

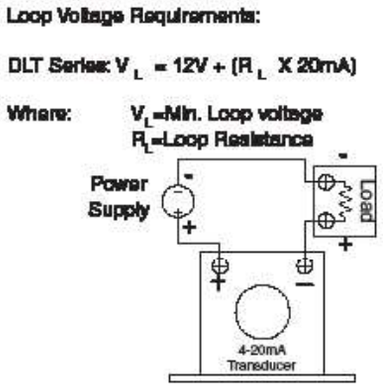
Split-Core Versions (SP Suffix):

Press the tab in the direction as shown to open the sensor. After placing the wire in the opening, press the hinged portion firmly downward until a definite click is heard and the tab pops out fully.



KEEP SPLIT-CORE SENSORS CLEAN:
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

Wiring & Mounting Information



Connect the negative from the power supply to the negative of the load (panel meter, PLC, etc.). Connect the positive from the power supply to the positive terminal of the sensor. Connect the negative terminal of the sensor to the positive or input of the load.

Or, connect the positive of the power supply to the positive input of the load, negative of the supply to the negative of the sensor, and the positive of the sensor to the negative of the load. Either will work.

Range Select

DLT Series transducers feature factory calibrated ranges.

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.

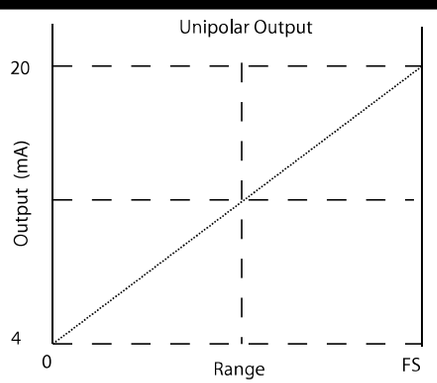
Trouble Shooting

1. Output Signal Too Low
- A. There may be current present, but lower than expected. *Check primary current with a meter.*
- B. Power supply is inadequate. *Check power supply. Make sure it is of sufficient voltage with all loads at maximum. DLT Series consumes less than 1 VA.*
- C. Output load too high. *Check output load, be sure it is no more than 600 Ω at 24 VDC.*

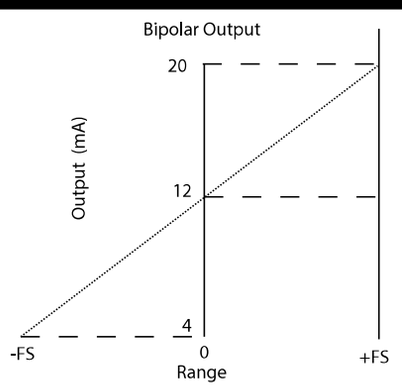
2. Output Signal is always at maximum
- A. There may be current of a higher level than the sensor range. *Replace with a sensor having a higher range.*

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.*

Unipolar versus Bipolar Output



Output with current in the direction of the arrow only.



Output at mid-scale (12 mA) at zero current, 20 mA in primary direction, 4 mA in revese direction.

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