Specifications

Power Supply	20-26 VAC or DC Power and output signal are not isolated.
Power Consumption	<2 VA
Current Ranges	0-100, 200, 300, 400 ADC (See Model Number Key)
Output Signal	4-20 mA 0-5 VDC 0-10VDC
Accuracy	1% FS
Output Polarity	**Unipolar:** Full output with DC current in either direction **Bipolar:** Full output with DC current in one direction, minimum output with DC current at full range in the opposite direction.
Frequency Range	DC
Isolation Voltage	Working voltage 1.5KV
Response Time	40 mS (to 90% of step change)
Repeatability	1% FS
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-4 to 122°F ,(-20 to 50°C) 0-95% RH, non-condensing
Temperature Drift	0.01% / Degree C

For products intended for the EU market, the following is applicable to the CE compliance of the product:
The DT series comply with EN 61010-1 CAT III 600V max measurement category. Use 24 V input power and fuse at 5 amps. Power source overvoltage category I as defined per EN 61010-1.

Caution! 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.

Caution! Risk of electrical 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 1 - 010 - 24U - BP - BB

CASE STYLE
BB- Split Core Bus Bar

OUTPUT POLARITY
U - Unipolar
BP - Bipolar

POWER SUPPLY:
24U- 24 VAC or DC

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

RANGE
1 100 A
2 200 A
3 300 A
4 400 A

Note on Range Selection
1. *Determine the normal operating amperage of your monitored circuit*
2. *Select the model with a range that is equal to or slightly higher than the normal operating amperage.*

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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NK Technologies

INSTRUCTIONS

DT-BB SERIES
Unipolar and Bipolar Outputs
4-20 mA, 0-5, 0-10 VDC

Quick "How To" Guide

1. Route conductor to be monitored through aperture, or open the housing to allow a bus bar or wire to pass through. Ensure current flow matches any arrow on sensor, positive to negative.
2. Mount the sensor to a surface if needed, or secure the sensor to the bar with the two screws. The mounting plate can be removed if desired.
3. Connect output wiring.
   A. Use 22-14 AWG copper wires rated 75/90°C. Tighten terminals to 5-7 inch-pounds torque.
   B. Be sure output load is at least 25KΩ for 5VDC output models, 50KΩ for 10VDC models and less than 500Ω for current output models.
4. Connect AC or DC Power supply to terminals 1-2 (not polarity sensitive) and output to terminals 3-4. Power into 3-4 will damage the sensor.
5. Energize the monitored load and sensor power.

DT-BB Inst. Rev 1 09/18 P/N 292000204

Description

DT-BB 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-BB Series are available in split core housing designed for installation or bus bar, or cable, and can be mounted on the conductor or secured to a back panel using screws, or to a DIN rail using optional adapters..

Installation

For All Versions

Run conductor to be monitored through opening in the sensor, or clamp the sensor over the bus bar.

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 conductor with the securing clamp screws. Just leave at least one inch distance between sensor and other magnetic devices.

Split Core Release: Pry the tab away from the sensor body to open the sensor. After placing the wire or bus bar in the opening, press the hinged portion firmly downward until a definite click is heard and the tab snaps in.

Use the securing screws mounted into extrusions on the top of the sensing aperture to keep the sensor from moving. Be very careful to not damage any insulation over the conductor.

KEEP SPLIT-CORE SENSORS CLEAN.

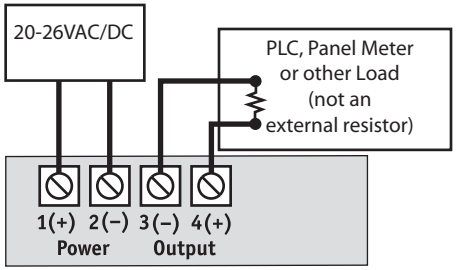
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

Single Range

DT-BB Series transducers feature single ranges. The range is factory calibrated, eliminating time consuming and inaccurate field setting of zero or span.

Output Wiring

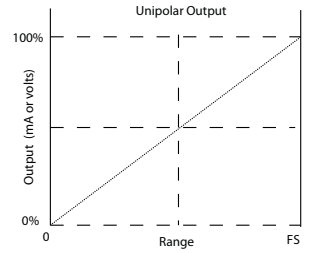
Connect control or monitoring wires to the sensor. Use up to 22-14 AWG copper wire rated 75/90°C and tighten terminals to 5-7 inch-pounds torque.

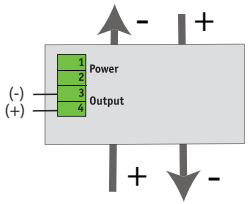


Power and Signal are Not Isolated

Output Signal Polarity Indication

Unipolar Output

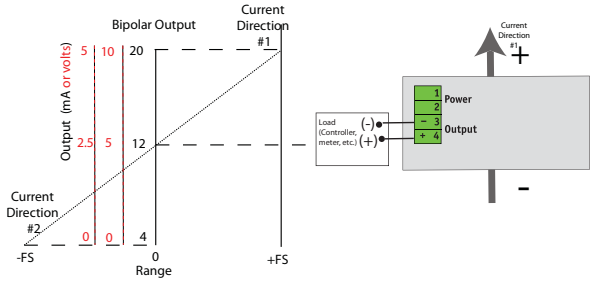




	0-5V	0-10V	4-20mA
FS	+5V	+10V	20mA
1/2FS	+2.5V	+5V	12mA
Zero	0V	0V	4mA

Output the same with current flowing in either direction.

Bipolar Output



Current Direction #1				Current Direction #2			
	0-5V	0-10V	4-20mA		0-5V	0-10V	4-20mA
FS	+5V	+10V	20mA	FS	~Zero	~Zero	4mA
1/2 FS	+3.75V	+7.5V	16mA	1/2 FS	+1.25V	+2.5V	8mA
Zero	+2.5V	+5V	12mA	Zero	+2.5V	+5V	12mA

Output is always positive, half scale output represents zero current.

Trouble Shooting

1. Output Signal Too Low

A. The sensor may have a range that is too high for current being monitored. *Select a sensor with the lower range.*

B. Power supply is inadequate. *Check power supply. Make sure it is of sufficient voltage with all loads at maximum. DT Series draw 2.0 VA.*

C. Output load too low. *Check output load, be sure it is at least 25K Ω for 5VDC, 50K Ω for 10 VDC, and less than 500 Ω for 4-20mA models.*

2. Output Signal is always at maximum

A. The sensor may have a range that is too low for current being monitored. *Select sensor range based on maximum expected current magnitude.*

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. Split Core fitting: The core contact area may be dirty. *Open the sensor and clean the contact area.*