

## 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	+/- 0-5 VDC +/- 0-10VDC	
Accuracy	1% FS	
Output Polarity	<b>Birectional:</b> Full output with DC current in either 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

<b>DT</b>	<b>1</b>	<b>010</b>	<b>24U</b>	<b>BD</b>	<b>BB</b>
					<b>CASE STYLE</b> BB- Split Core Bus Bar
					<b>OUTPUT POLARITY</b> BD- Bidirectional
					<b>POWER SUPPLY:</b> 24U- 24 VAC or DC
					<b>OUTPUT:</b> 005 - +/-0-5 VDC 010 - +/-0-10 VDC
					<b>RANGE</b>
					<u>1</u> 100 A
					<u>2</u> 200 A
					<u>3</u> 300 A
					<u>4</u> 400 A
					<u>Note on Range Selection</u>
					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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# INSTRUCTIONS



## DT-BB SERIES Bidirectional Outputs

+/-0-5 and +/-0-10 VDC

### Quick "How To" Guide

- 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.
- 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.
- Connect output wiring.
  - Use 22-14 AWG copper wires rated 75/90°C. Tighten terminals to 5-7 inch-pounds torque.
  - Be sure output load is at least 25KΩ for 5VDC output models, 50KΩ for 10VDC models.
- 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.
- Energize the monitored load and sensor power.

## 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 on bus bar, or cable, and can be mounted on the conductor or secured to a back panel or to a DIN rail with 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 not to damage any insulation over the conductor.

### KEEP SPLIT-CORE SENSORS CLEAN.

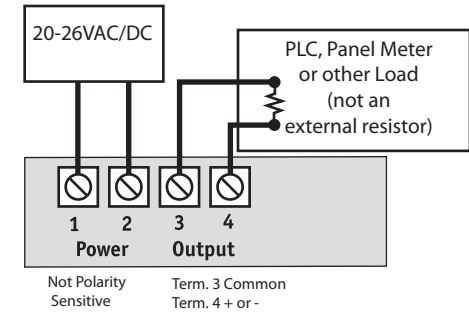
Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

## 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

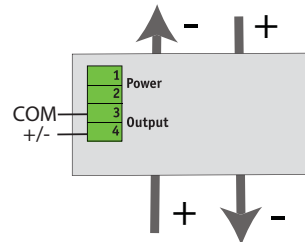
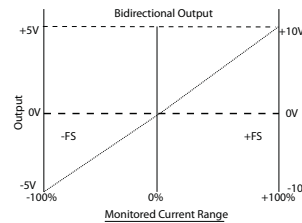
Connect control or monitoring wires to the sensor. Use up to 22-14 AWG copper wire rated 75/90°C and tighten terminals to 5-7 inch-pounds torque.



Power and Output are Not Isolated

## Output Signal Polarity Indication

### Bidirectional Output



	Current Direction #1		Current Direction #2	
	0-5V	0-10V	0-5V	0-10V
FS	+5V	+10V	-5V	-10V
1/2 FS	+2.5V	+5V	-2.5V	-5V
Zero	+0	+0V	-0V	-0V

Output is positive with current flowing in one direction, and negative with current flowing in the opposite direction. .

## Trouble Shooting

### 1. Output Signal Too Low

- The sensor may have a range that is too high for current being monitored. *Select a sensor with the lower range.*
- 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.*
- Output load too low. *Check output load, be sure it is at least 25K  $\Omega$  for 5VDC, 50K  $\Omega$  for 10 VDC, and less than 500  $\Omega$  for 4-20mA models.*

### 2. Output Signal is always at maximum

- 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

- Polarity is not properly matched. *Check and correct wiring polarity*
- Monitored load is not DC or is not on. *Check that the monitored load is DC and that it is actually on.*
- Split Core fitting: The core contact area may be dirty. *Open the sensor and clean the contact area.*