

Specifications	
Output Signal	4-20 mA sourcing
Output Limit	23mA
Accuracy	1% FS (full scale)
Repeatability	1% FS
Response Time	100mS (to 90% of step change)
Frequency Range	DC
Power Supply	24VAC/DC use Class 2 power supply
Power Consumption	2VA maximum
Output Loading	500Ω maximum
Isolation Voltage	3kV (monitored circuit to output)
Linearity	1% FS
Monitored Circuit	600VDC max (Ranges 0-500A, 0-750A, 0-1000A, 0-1200A)
Sensing Aperture	1.77" (45mm) ID
Case	UL94V-0 Flammability Rating
Environmental	Operating temperature: -4 to 122°F (-20 to 50°C)
	Relative humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude to 2000 meters
Agency Approvals	UL/cUL (E197592), CE

For products intended for the EU market, the following is applicable to the CE compliance of the product:

The DCT series comply with EN61010-1 CAT III 300V max measurement category. If insulated cable is used for the primary circuit, the voltage rating of the measurement category can be improved according to the characteristics given by the cable manufacturer.

**24 Volt AC or DC
Power Supply**

Fuse at 5 amps maximum

Overvoltage Category I



WARNING! RISK OF DANGER:

SAFE OPERATION CAN ONLY BE GUARANTEED IF THE SENSOR IS USED FOR THE PURPOSE FOR WHICH IT WAS DESIGNED 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 ELECTRICAL SHOCK:

WHEN OPERATING THE SENSOR CERTAIN PARTS MAY CARRY HAZARDOUS LIVE VOLTAGE (E.G. PRIMARY CONDUCTOR, POWER SUPPLY). THE SENSOR SHOULD NOT BE PUT INTO OPERATION IF THE INSTALLATION IS NOT COMPLETE.

Part Number Key

DCT 500 - 42 - 24 - F

CASE STYLE:

F - Fixed Core

POWER SUPPLY:

24 - 24 VAC/VDC

OUTPUT:

42- 4-20 mA

RANGE

500 - 0 to 500A

750 - 0 to 750A

1000 - 0 to 1000A

1200 - 0 to 1200A

TRANSDUCER TYPE:

DCT - DC current transducer with analog output.

Maximum Amps		
Type	Maximum Input Amps	
	Continuous	5 Sec.
DCT500	1000	1100
DCT750	1500	1600
DCT1000	2000	2100
DCT1200	2400	2500

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DCT - Inst - Rev 1 0914 P-N 291004111

ACUAMP®

DCT SERIES INSTALLATION INSTRUCTIONS



Quick Start 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 24AWG (0.2mm²) up to 14 AWG (2.5 mm²) copper wires, insulated to 60/75°C. Tighten terminals to 5-7 in lbs (0.6-0.8 Nm) torque.

B. Ensure output load is no more than 500Ω.

4. Connect Power.

A. Connect the appropriate power supply.

Description

DCT Series sensors 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. DCT Series have a 4-20mA output.

Installation

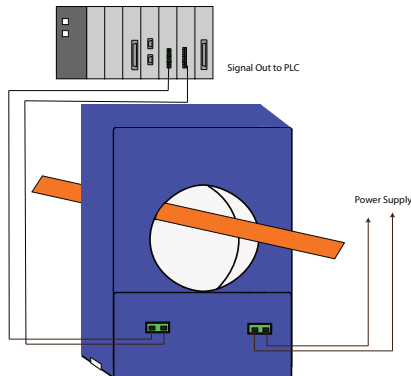
Place wire to be monitored through sensor aperture. Care should be taken to ensure current flow is in accordance with any directional arrows on sensor and as noted in the figure shown under Wiring & Mounting.

DCT Series sensors 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.

4-20mA:

The current signal is powered by the DCT Transducer. Maximum output load impedance is 500Ω.

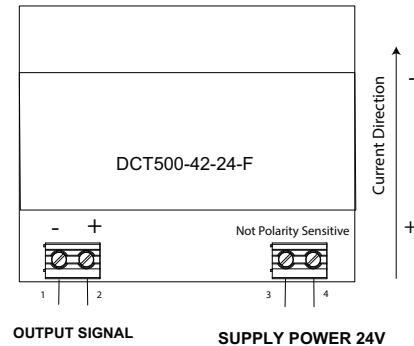
Typical Installation



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 the arrow.

Wiring & Mounting



1. Sensor is designed to snap onto any 35mm DIN rail, mount in any position
2. Wire size 24AWG (0.2mm²) up to 14 AWG (2.5mm²)
3. Tighten to 5-7 in lbs of torque (0.6-0.8 Nm)
4. Use proper power supply voltage
5. Use 60/75°C copper conductors only for power and signal connections.
6. Use Class 2, 24 volt source.

Range/Model Selection

The DCT Series sensors 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.

Troubleshooting

1. Output Signal too low
 - A. Range may be too high for the 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. DCT Series consumes <2.0 VA.
 - C. Output load too high.
Check output load, be sure it is no more than 500Ω.
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
Reverse the sensor so current flows through the sensor in the other direction.

