### TEUFINE DCT Series DC Current Transducers



series current transducers combine a Hall effect sensor and signal conditioner into a single package for use in DC current applications up to 750A. The DCT series offers jumperselectable or fixed current input ranges and industry standard 4-20 mA or +/-10 VDC outputs. The DCT series is designed to be compatible with most PLCs, data loggers and SCADA systems. Full-scale input ranges are jumper selectable to 400A (depending on model). This series is available in split-core or fixed-core

### **Applications**

### **Battery Banks**

- Monitor load current
- Monitor charging current
- Verifies operation

#### Transportation

· Measures traction power or auxiliary loads

#### Wind and Solar Generated Power

- Measure the current produced or
- Detect mechanical problems before failure occurs.

### **Electric Heating Elements**

- Monitors heater loads
- Faster response than temperature sensors

### **Monitor DC Powered Motors**

• Monitor current of cranes, saws, sorters and positioning equipment.

### **Features**

- 4-20 mA or +/-10 VDC outputs
- Built-in mounting feet with optional 35mm DIN rail adapter available
- Factory matched and calibrated single piece transducer is more accurate than traditional two-piece field installed
- Selectable input ranges allow end users to tailor sensing ranges, improve the odds of having the right range for the job and reduces setup time.
- Output is magnetically isolated from the input for safety and to eliminate voltage
- Reduced installation costs
- Split core models make installation a snap.
- · Five-year warranty







Click on the thumbnail or go to https://www.automationdirect.com/VID-CT-0001 for a short introductory video on the AcuAmp Current Switches, Transducers and Indicators



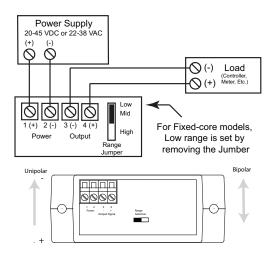
DCT Series DC Current Transducers							
Part Number	Description	Pcs/Pkg	Wt (lb)	Price			
DCT100-42-24-F	AcuAMP DC current transducer, fixed core, 0-50, 0-75, or 0-100A selectable sensing range, 4-20mA output.	1	0.35	\$166.00			
DCT200-42-24-F	AcuAMP DC current transducer, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, 4-20mA output.	1	0.35	\$166.00			
DCT100-42-24-S	AcuAMP DC current transducer, split core, 0-50, 0-75, or 0-100A selectable sensing range, 4-20mA output.	1	0.45	\$220.00			
DCT200-42-24-S	AcuAMP DC current transducer, split core, 0-100, 0-150, or 0-200A selectable sensing range, 4-20mA output.	1	0.45	\$220.00			
DCT400-42-24-S	AcuAMP DC current transducer, split core, 0-200, 0-300, or 0-400A selectable sensing range, 4-20mA output.	1	0.45	\$220.00			
DCT500-42-24-F	AcuAMP DC current transducer, large aperture fixed core, 0-500A sensing range, 4-20mA output.	1	0.75	\$292.00			
DCT750-42-24-F	AcuAMP DC current transducer, large aperture fixed core, 0-750A sensing range, 4-20mA output.	1	0.75	\$301.00			
DCT100-10B-24-S	AcuAMP DC current transducer, split core, bi-directional 0-100A sensing range, bi-polar +/- 0-10 VDC output.	1	0.45	\$251.00			
DCT200-10B-24-S	AcuAMP DC current transducer, split core, bi-directional 0-200A sensing range, bi-polar +/- 0-10 VDC output.	1	0.45	\$251.00			
DCT300-10B-24-S	AcuAMP DC current transducer, split core, bi-directional 0-300A sensing range, bi-polar +/- 0-10 VDC output.	1	0.45	\$251.00			
Accessories Accessories							
<u>DRA-2B</u>	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	\$6.00			

# **PEUFINIP** DCT Series DC Current Transducers

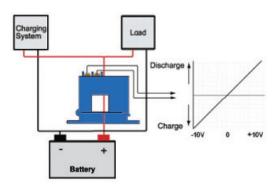
DCT Series Specifications						
Models Available	10B	42				
Power Supply	20-45 VDC	20-45 VDC, 22-38 VAC; Units 500A and over 24 VAC/DC - use Class 2 power supply, Power and signal are isolated.				
Power Consumption	2VA					
Output Signal	+/-10VDC	4-20 mA sourcing				
Output Load	50kΩ minimum	500Ω maximum				
Output Limit	11.5 VDC	23mA				
Accuracy	Split-core: 2% FS	Fixed-core: 1% FS; Units 500A and over 2% FS Split-core: 2% FS				
Response Time	Split-core: 100ms	Fixed-core: 20ms; Units 500A and over 100ms Split-core: 100ms				
Repeatability	1.0% FS	1.0% FS				
Input Ranges	Fixed 0-100A, 0-200A & 0-300A	Jumper selectable from 0 to 400A; Fixed ranges on units 500A and over				
Sensing Aperture	Split-core: 0.85" [21.6 mm] sq.	Fixed-core: 0.75" [19.1 mm] dia.; Units 500A and over 1.77" [45mm] dia. Split-core: 0.85" [21.6 mm] sq.				
Isolation Voltage		3kV (monitored line to output)				
Frequency Range	DC					
Case	UL 94V-0 Flammability Rated					
	Operating Temperature: -4 to 122°F [-20 to 50°C]					
Environmental	Relative Humidity: 0-95% RH, non-condensing					
Environmental	Pollution Degree 2					
	Altitude to 2000 meters					
Certifications	cULus listed (E197592), CE					

### Wiring

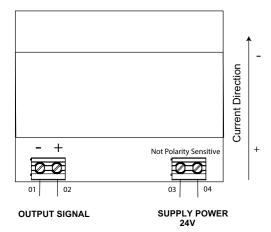
### Connection for units up to 400A

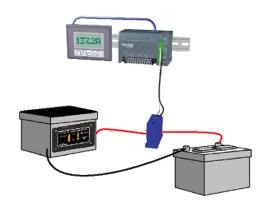


Our Bi-Directional DC Current Sensors provide an excellent means to monitor battery charging circuits by providing feedback during charging and during battery operation.



#### Connection for units 500A and over

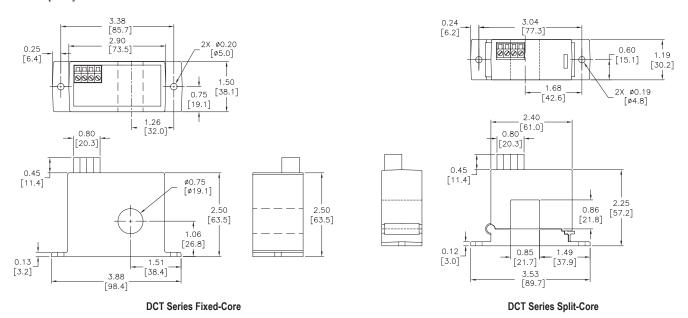


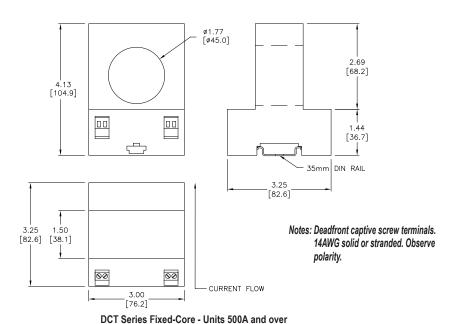


# **PEUFINIP** DCT Series DC Current Transducers

### **Dimensions**

Inches [mm]





See our website  $\underline{www.AutomationDirect.com}$  for complete Engineering drawings.

## **DC Current Switches and Transducers**

### **Overview**

The AcuAMP series of DC current sensors is a family of high-performance sensors offering outstanding features, flexibility, and durability at an incredible Price. Choose from a wide selection of current transducers and current switches, all designed in a rugged industry standard feed-through package.

DCT and DCS100 series have multiple input ranges (set by movable jumpers) for maximum flexibility across many current ratings. DCT series include output choices of 4 to 20 mA or +/-10 VDC bidirectional models.

DCS series outputs are available in isolated solid state Normally Open and in Single Pole Double Throw (SPDT) relay configurations.

DCT series current transducers combine a Hall Effect sensor and signal conditioner into a single package for use in DC current applications up to 400A. DCT series are available in split-core or fixed-core enclosures.

DCS100 series combine a Hall effect sensor, signal conditioner and a limit alarm into a single package. DCS100 series models are available in a fixed core case with the choice of a relay or universal solid-state output.

All models are panel-mountable; convenient DIN-rail adapter accessories are available. Use the Selection Guide below to find the best sensor for your requirements.





### **Selection Guide**

AcuAMP DC Current Sensors Specifications by Model Type							
Specifications	Transducer		Switch				
Model	DCT	DCT 500 to 750A Large Aperture	DCS100				
Power Supply	20-45 VDC*, 22-38 VAC	24 VAC/DC, Use Class 2 power supply	20-28 VAC/VDC				
Power Consumption	2VA						
Setpoint (Trip point)	N/A	N/A	11-Turn Potentiometer				
Output Signal	4-20 mA Sourcing +/- 10VDC (Bidirectional models only)	4-20 mA Sourcing	N/A				
Output Limit	4-20 mA: 23mA 0-10 VDC: 11.5 VDC	23mA	N/A				
Output Loading	4-20 mA: 500Ω max 0-10 VDC: 50kΩ min.	500Ω max	N/A				
Output Switch	N/A		AE models: Normally Open Solid State 1C models: Single Pole Double Throw (SPDT) Relay				
Switch Rating	N/A		AE models: Solid State N.O. (0.15 A @ 240 VAC/VDC)  1C models: SPDT (Form C) Relay 5A General Purpose @ 240VAC 3A Inductive @ 240VAC 3A @ 30VDC  1/8 HP @ 240VAC				
Off State Leakage	N/A		AE: <10μA; 1C: None				
Accuracy	Fixed core: 1% FS, Split core: 2% FS	2% FS	N/A				
Current Ranges	Jumper Selectable: DCT100-42: 0-50A, 0-75A, 0-100A DCT200-42: 0-100A, 0-150A, 0-200A DCT400-42: 0-200A, 0-300A, 0-400A DCT500-42: 0-500A Fixed: DCT100-10B: 0-100A Bidirectional DCT200-10B: 0-200A Bidirectional DCT300-10B: 0-300A Bidirectional	Fixed: DCT500-42: 0-500A DCT750-42: 0-750A	5-15, 10-50 and 20-100 A, Jumper Selectable				
Repeatability	1% FS	1% FS	0.5% FS				
Response Time	Fixed core: 20ms (to 90% of step change) Split core: 100ms (to 90% of step change)	100ms (to 90% of step change)	100ms (10% above setpoint), 20ms (100% abive setpoint)				
Hysteresis Approx	N/A 5% of setpoint						
Isolation Voltage		3KV					
Frequency Range		DC					
Case	UL 94V-0 Flammability Rated						
Environmental	Operating Temperature: -4 to 122°F [-20 to 50°C]		Operating Temperature: AE = -40 to 140°F [-40 to 60°C]; 1C = -4 to 122°F [-20 to 50°C]				
	Relative Humidity: 0-95% RH, Non-condensing						
	Pollution Degree 2						
	Altitude to 2000 meters						
Sensing Aperture	Fixed core: 0.75" [19.1 mm] dia. Split core: 0.85" [21.6 mm] sq	1.77" [45mm] dia.	0.75" [19.1 mm] dia.				

<sup>\*</sup> DC only for -10B Bidirectional models

# \*ACUAMP\*

# DC Current Switches and Transducers Applications

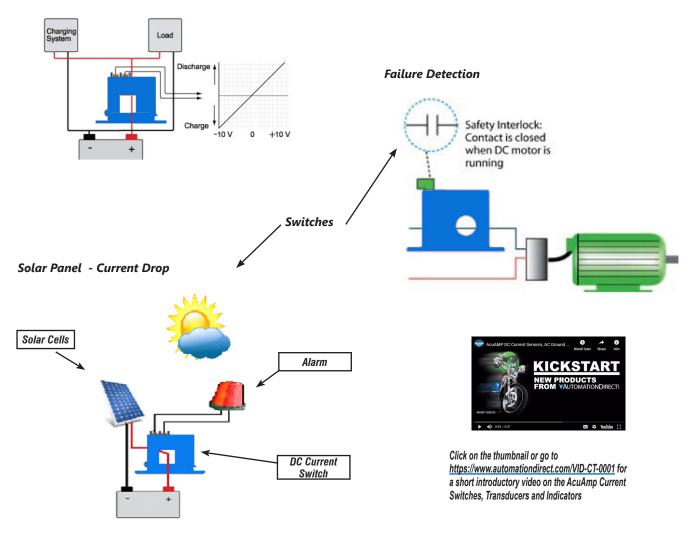
### **Application Guide**

AcuAMP DC current sensors are a great fit for many applications, including battery charge systems, solar panels, and Uninterruptible Power Systems. With both current transducers and current switches, this sensor family gives you valuable data for processes ranging from monitoring loads to preventive maintenance.

The bi-directional models allow the monitoring of batteries while they are being charged or consumed and can be used to trigger a warning if critical low levels are reached. They can also monitor the output of a photovoltaic array to make sure there is enough energy being generated to keep the process running.

#### **Transducer**

### **Battery Charging System - Bidirectional Output**



When the sun is blocked, the current drops. The Current Operated Switch detects the drop in current and activates the relay which turns on the alarm light.

www.automationdirect.com