AC Current Switches, Transducers and Indicators

Overview

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

AcuAMP current sensors are available with a broad selection of input sensing ranges for maximum flexibility across many current ratings. The current transducer output choices include 4-20 mA, 24VDC loop-powered, and 0 to 10 volt self-powered analog outputs. The Current Switch outputs include isolated solid state switches available in Normally Open and Normally Closed configurations or SPDT relays.

Models with output time delay are also offered in the Current Switch series. The ACL1 Current Indicator senses AC current ranging from 0.5 to 100A and requires no power for the indicating LED.

These current sensors can be mounted in a panel or attached to the monitored conductor with a wire tie. Use the Selection Guide below to find the best sensor for your requirements.

AcuAMP AC Current Transducer Selection Guide

Specifications	Single-Phase Transducer	Single-Phase Transducer (True RMS)	3-Phase Transducer	3-Phase Transducer (True RMS)
Series	**ACT**	**ACTR**	**3ACT**	**3ACTR**
Sensing Range	Selectable: ACT005: 0 to 2A 0 to 5A ACT050: 0 to 10A 0 to 20A 0 to 50A ACT200: 0 to 100A 0 to 150A 0 to 200A ACT750: 0 to 375A 0 to 500A 0 to 750A ACT2000: 0 to 1000A 0 to 1333A 0 to 2000A Fixed range: ACT400 0 to 400A ACT600 0 to 600A ACT800 0 to 800A ACT1200 0 to 1200A	Selectable: ACTR005: 0 to 2A 0 to 5A ACTR050: 0 to 10A 0 to 20A 0 to 50A ACTR200: 0 to 100A 0 to 150A 0 to 200A ACTR750: 0 to 375A 0 to 500A 0 to 750A ACTR2000: 0 to 1000A 0 to 1333A 0 to 2000A Fixed range: ACTR400: 0 to 400A ACTR500: 0 to 500A ACTR600: 0 to 600A ACTR800: 0 to 800A ACTR1000: 0 to 1000A ACTR1200: 0 to 1200A ACTR2000: 0 to 2000A	Selectable: 3ACT030: 0 to 10A 0 to 15A 0 to 30A 3ACT100: 0 to 30A 0 to 50A 0 to 100A 3ACT200: 0 to 100A 0 to 150A 0 to 200A	Selectable: 3ACTR030: 0 to 10A 0 to 15A 0 to 30A 3ACTR100: 0 to 30A 0 to 50A 0 to 100A 3ACTR200: 0 to 100A 0 to 150A 0 to 200A
Output	-10 models: 0–10 VDC, self-powered -42L models: 4–20 mA, loop-powered	4–20 mA, loop-powered True RMS	4 -20 mA, loop-powered	4–20 mA, loop-powered True RMS
Frequency Range	-10 models: 50 to 60 Hz -42L models up to 200A: 20 to 100 Hz -42L models 400, 600, 800, 1200A: 50 to 60 Hz sinusoidal waveforms only	20 to 400 Hz; (40 to 400 Hz flexible split core models) sinusoidal and non-sinusoidal waveforms	50 to 60 Hz sinusoidal waveforms only	30 to 100 Hz sinusoidal and non-sinusoidal waveforms
Sensing Aperture	ACT005, ACT050, ACT200: Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.6 mm] sq. ACT750, ACT2000: Fixed core: 3.0 in [76.2 mm] dia. ACT400, ACT600, ACT800: Split core: 2.22 X 1.19 in [56.3 X 30.2 mm] ACT1200 Split core: 3.44 X 2.31 in [87.3 X 58.8 mm]	ACTR005, ACTR050, ACTR200: Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.6 mm] sq. ACTR750, ACTR2000: Fixed core: 3.0 in [76.2 mm] dia. ACTR500, ACTR1000, ACTR2000: Flexible split core: 4.5 in [114.3 mm] dia. ACTR400, ACTR600, ACTR800: Split core: 2.22 X 1.19 in [56.3 X 30.2 mm] ACTR1200 Split core: 3.44 X 2.31 in [87.3 X 58.8 mm]	3x - Fixed core: 0.86 in [21.8 mm] dia.	3x - Fixed core: 0.86 in [21.8 mm] dia.

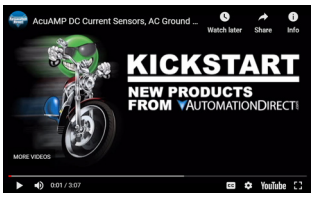
AC Current Switches, Transducers and Indicators

AcuAMP AC Current Switch Selection Guide

Specifications	AC Current Switches							
Series	**ACSN100**	**ACSN250**	**ACS150**	**ACSL**	**ACS200**	**ACS050/ACS200**	**ACS035/ACS400**	**ACSX**
Sensing Range	0 to 100A	0 to 250A	Fixed core: 1 to 150A Split core: 1.75 to 150A	0 to 50A	Jumper Selectable: Fixed core: 1 to 6A 6 to 40A 40 to 175A Split core: 1.75 to 6A 6 to 40A 40 to 200A	1 to 200A	2 to 400A	Jumper Selectable: Fixed core: 1.5 to 12A 12 to 55A 55 to 175A Split core: 2 to 12A 12 to 55A 55 to 200A
Setpoint (Trip Point)	Non-adjustable: 0.5 A	Non-adjustable: Fixed core: 0.75A Split core: 1.25A	Adjustable: Fixed core: 1-150 A (15-turn potentiometer) Split core: 1.75-150 A (4-turn potentiometer) Monitored load current required to adjust setpoint	Adjustable (3/4-turn potentiometer): ACSL010: 1-10A ACSL020: 2-20A ACSL050: 10-50A Monitored load current not required to adjust setpoint	Adjustable: (4-turn or 15-turn potentiometer) Fixed core: 1-175A Split core: 1.75-200A Monitored load current required to adjust setpoint	Adjustable: (Single turn potentiometer): ACS050: 1-50A ACS200: 4-200A	Adjustable: (3/4-turn potentiometer): ACS035: 2-35A ACS400: 25-400A	Adjustable: Fixed core: 1.5-175A (15-turn potentiometer) Split core: 2-200A (4-turn potentiometer) Monitored load current required to adjust setpoint
Output	Isolated solid state: Normally Open 0.15 A @ 120VAC or VDC	Isolated solid state: Normally Open 0.15 A @ 240VAC or VDC	Isolated solid state: Normally Open 0.15 A @ 240VAC or VDC Normally Closed 0.2 A @ 135VAC or VDC	Isolated solid state: Normally Open AC: 0.15 A @ 240VAC	Isolated solid state: Normally Open or Normally Closed AC model: 1A @ 240VAC Normally Open AC model: 3A @ 120VAC Normally Open or Normally Closed DC model: 0.15 A @ 30VDC	Isolated solid state: Normally Open 1A @ 240VAC	Two Independent Single Pole, Double Throw electro-mechanical relays AC: 1A @ 120VAC DC: 2A @ 30VDC	Isolated solid state: Normally Open or Normally Closed AC model: 1A @ 240VAC Normally Open AC/DC model: 0.15 A @ 240 VAC/VDC Normally Closed AC/DC model: 0.2 A @ 135 VAC/VDC
Frequency Range	50 to 400 Hz	6 to 100 Hz	6 to 100 Hz	10 to 100 Hz	6 to 100 Hz	40 to 100 Hz	40 to 65 Hz	50 to 100 Hz
Response Time	N/A	120ms	120ms	100ms & 2s inrush delay	40 to 250 ms	0.50 sec. 5% over set point 0.20 sec. 50% over set point 0.15 sec. 100% over set point	40 - 120ms	Field adjustable time delay: 0.12 to 15 seconds
Sensing Aperture	0.30 in [8.13 mm] dia.	Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.7 mm] sq.	Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.7 mm] sq.	Fixed core: 0.55 in [13.97 mm] dia. Split core: 0.85 in [21.7 mm] sq.	Fixed core: 0.55 in [13.97 mm] dia. Split core: 0.85 in [21.7 mm] sq.	0.75 in [19mm] dia.	1.31 in [33.3 mm] dia.	Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.7 mm] sq.

AC Current Switches, Transducers and Indicators

AcuAMP AC Current Transducer/Switch and Indicator Selection Guide			
Specifications	***AC Current Transducer***	***AC Current Transducer/Switch***	***Indicator***
Series	***ACTH***	***ACTS***	***ACL1***
Sensing Range	0 to 50A	1 to 200A	0 to 100A
Setpoint (Trip Point)	Not Applicable	Adjustable: (Single turn potentiometer): ACTS050: 1-50A ACTS200: 4-200A	Non-adjustable: 0.5 A
Output	4 -20 mA, loop-powered adaptive True RMS	4-20mA analog output and isolated solid state: Normally Open 1A @ 240VAC	LED Only (flashing, red)
Frequency Range	40 to 400 Hz	40 to 400 Hz	50 to 400 Hz
Response Time	400ms at 100% duty cycle, or duty cycle period plus 40ms	Switch: 0.50 sec. 5% over set point 0.20 sec. 50% over set point 0.15 sec. 100% over set point Analog: < 0.30 sec. 90% step change < 0.40 sec. 100% step change	N/A
Sensing Aperture	0.86 in [21.9 mm] sq.	0.75 in [19mm] dia.	0.30 in [7.6 mm] dia.



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

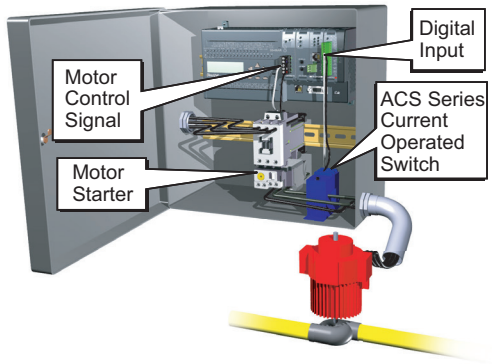
AC Current Sensors, Switches and Transducers Application Guide

Application Guide

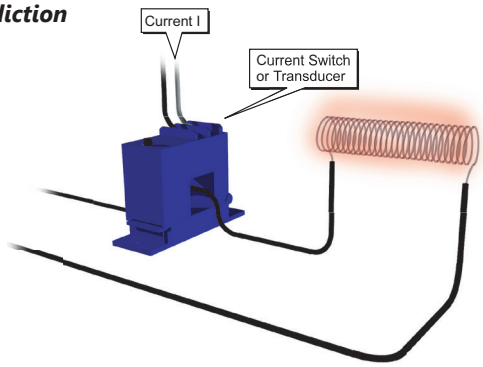
AcuAMP current sensors are a great fit for many applications including material handling, fan and pump applications, and heating systems. With current transducers, current switches and current indicators, this sensor family gives you valuable data for processes ranging from monitoring loads to preventive maintenance. Models with the ability to read True RMS non-sinusoidal waveforms make it easy to monitor applications using variable frequency drives.

Use the application examples to help choose the best sensor model for your application.

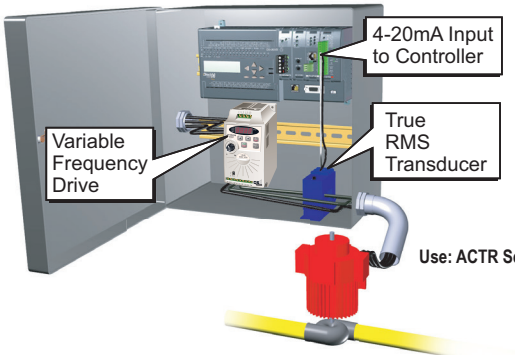
Pump Jam & Suction Loss Protection



Heater Life Prediction



Pump Load Monitoring

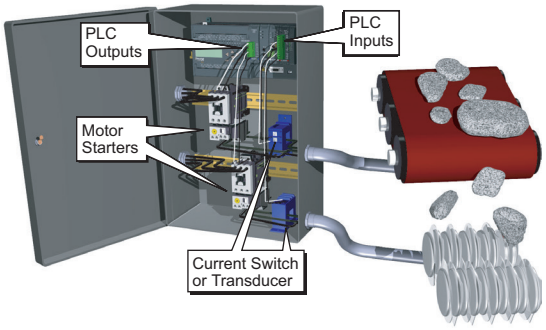


Use: ACTR Series - True RMS Current

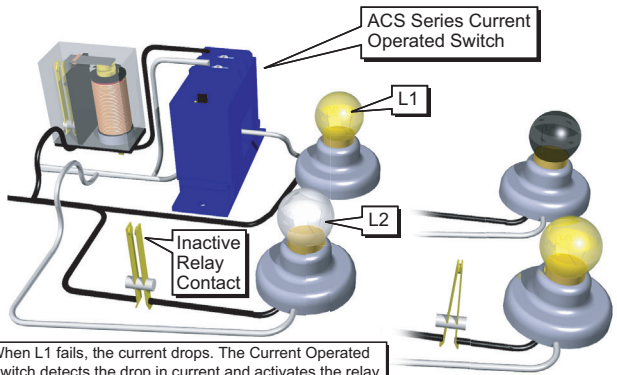
Crusher/Grinder/Shredder Motor Interlocks

The performance of size reduction equipment like crushers or grinders can be optimized by controlling the in-feed in order to:

- Help prevent jamming
- Improve the uniformity of the resultant product
- Enhance overall production efficiency

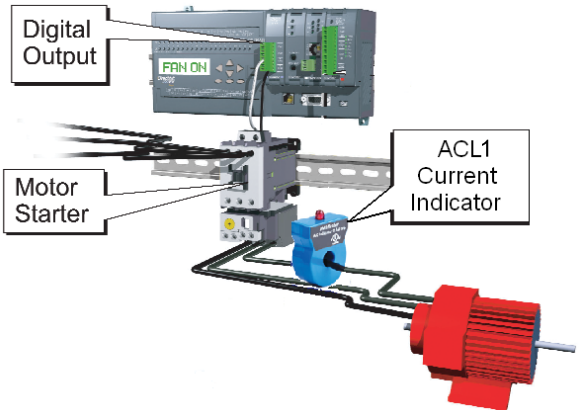


Lamp Failure Detection



When L1 fails, the current drops. The Current Operated Switch detects the drop in current and activates the relay which turns on the back-up lamp L2. The system may be configured fail-safe by using a Normally Open Current switch together with Normally Closed relay contacts

Electric Motor Load Status



ACT Series AC Current Transducers

ACT current transducers combine a current transformer and signal conditioner into a single package. The ACT series is available with sensed current ranges from 2A to 2000A with some models offering selectable sensing ranges and industry standard 4-20 mA or 0-10 VDC outputs. The ACT series is designed for application on 'linear' or sinusoidal AC loads and is compatible with most PLCs, data loggers and SCADA systems. This series is available in split-core or fixed core models.

Applications

Automation Systems
- Analog current reading for remote monitoring and software alarms

Data Loggers
- Self-powered 0-10VDC output transducer helps conserve data logger batteries
- Split-core enclosures make using portable data loggers easy

Panel Meters
- Simple connection displays power consumption or other motor status

Features

- 4-20 mA or 0-10 VDC outputs
- Factory matched and calibrated single piece transducer is more accurate than traditional two-piece field installed products.
- Average responding algorithm gives an RMS output on pure sine waves; perfect for constant speed (linear) loads or ON/OFF loads.
- Models with selectable sensing ranges.
- Output is magnetically isolated from the input for safety and to eliminate voltage drop.
- Built-in mounting feet with optional DRA-2B 35mm DIN rail adapter available.
- Five-year warranty

ACT Series AC Current Transducers

Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACT050-10-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-10, 0-20, or 0-50A selectable sensing range, 0-10 VDC output.	1	0.29	$122.00
ACT050-10-S	AcuAMP AC current transducer, 1-phase, split core, 0-10, 0-20, or 0-50A selectable sensing range, 0-10 VDC output.	1	0.35	$136.00
ACT200-10-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, 0-10 VDC output.	1	0.29	$129.00
ACT200-10-S	AcuAMP AC current transducer, 1-phase, split core, 0-100, 0-150, or 0-200A selectable sensing range, 0-10 VDC output.	1	0.36	$141.00
ACT005-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-2 or 0-5A selectable sensing range, 4-20mA output.	1	0.29	$105.00
ACT005-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-2 or 0-5A selectable sensing range, 4-20mA output.	1	0.35	$140.00
ACT050-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-10, 0-20, or 0-50A selectable sensing range, 4-20mA output.	1	0.29	$108.00
ACT050-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-10, 0-20, or 0-50A selectable sensing range, 4-20mA output.	1	0.35	$150.00
ACT200-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, 4-20mA output.	1	0.29	$153.00
ACT200-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-100, 0-150, or 0-200A selectable sensing range, 4-20mA output.	1	0.36	$164.00
ACT400-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-400A sensing range, 4-20mA output.	1	1.22	$267.00
ACT600-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-600A sensing range, 4-20mA output.	1	1.36	$267.00
ACT750-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-375, 0-500, or 0-750A selectable sensing range, 4-20mA output.	1	1.51	$255.00
ACT800-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-800A sensing range, 4-20mA output.	1	1.37	$267.00
ACT1200-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-1200A sensing range, 4-20mA output.	1	2.59	$347.00
ACT2000-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-1000, 0-1333, or 0-2000A selectable sensing range, 4-20mA output.	1	1.17	$336.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

Sensed Current Limits

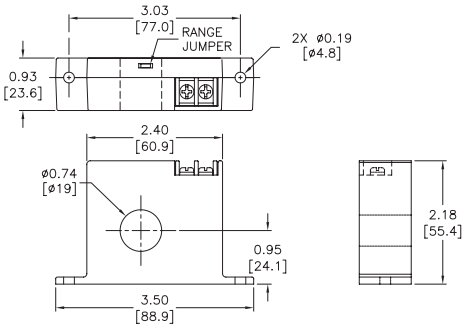
Model	Range	Amps		
		Continuous	6 Sec	1 Sec
ACT005	0 to 2A	80	125	250
	0 to 5A	100	125	250
ACT050	0 to 10A	80	125	250
	0 to 20A	110	150	300
	0 to 50A	175	215	400
ACT200	0 to 100A	200	300	600
	0 to 150A	300	450	800
	0 to 200A	400	500	1000
ACT400	0 to 400A	1600	1920	6400
ACT600	0 to 600A	1600	1920	6400
ACT750	0 to 375A	750	1500	3750
	0 to 500A	750	1500	3750
	0 to 750A	750	1500	3750
ACT800	0 to 800A	1600	1920	6400
ACT1200	0 to 1200A	1600	1920	6400
ACT2000	0 to 1000A	2000	4000	10k
	0 to 1333A	2000	4000	10k
	0 to 2000A	2000	4000	10k

ACT Series AC Current Transducers

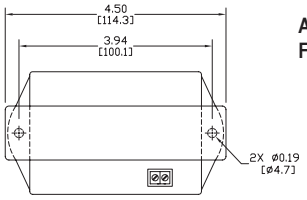
ACT Series Specifications				
Specifications	***-10- Models up to 200A***	***-42L- Models up to 200A***	***-42L- Models 750A and 2000A***	***-42- Models 400 600, 800, 1200A***
Power Supply	Self-powered	24VDC nominal, 5 to 40VDC max	24VDC nominal, 5 to 40VDC max	24VDC nominal, 12 to 32VDC max
Output Signal	0 to 10 VDC	4 - 20 mA, Loop powered	4 - 20 mA, Loop powered	4 - 20 mA, Loop powered
Output Limit	15VDC	32mA	23mA	23mA
Output Impedance	1MΩminimum 100kΩ (add 1.3% to accuracy)	600Ω maximum @ 24VDC	600Ω maximum @ 24VDC	600Ω maximum @ 24VDC
Accuracy	1% full scale			
Response Time (10-90% step change)	100ms	300ms	600ms	600ms
Sensing Range	Selectable from 2 to 200A based on part number		Selectable from 375 to 2000A based on part number	Selectable from 400 to 1200A based on part number
Sensing Aperture	Fixed core: 0.74" [19mm] diameter; Split core: 0.85" [21.6 mm] sq.		3.0" [76.2 mm] diameter	2.22 X 1.19 in [56.3 X 30.2 mm] ACT1200: 3.44 x 2.31 in [87.3 x 58.8 mm]
Isolation Voltage	UL listed to 1,270VAC. Tested to 5,000VAC (1 minute max)		600VAC	UL tested to 2200VAC
Frequency Range (for sinusoidal waveforms)	50 to 60 Hz	20 to 100 Hz	50 to 60 Hz	50 to 60 Hz
Case	UL 94V-0 flammability rated thermoplastic			
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			
Certifications	cULus listed (E222847), CE			

Dimensions

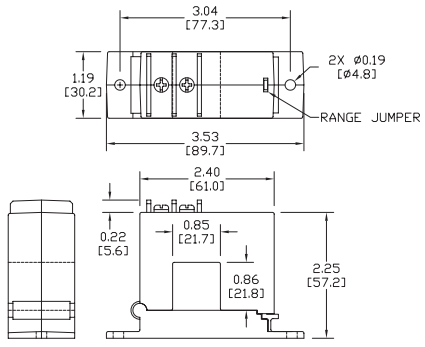
Inches [mm]



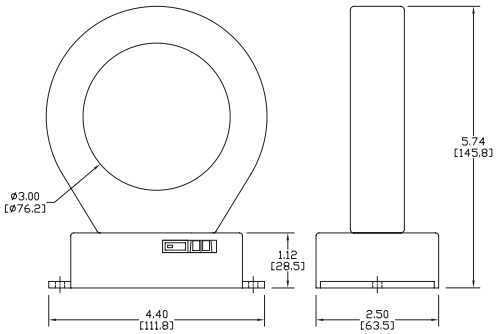
ACT Series, Up to 200 Amp Fixed Core



ACT Series, 750 and 2000 Amp Fixed Core



ACT Series, Up to 200 Amp Split Core

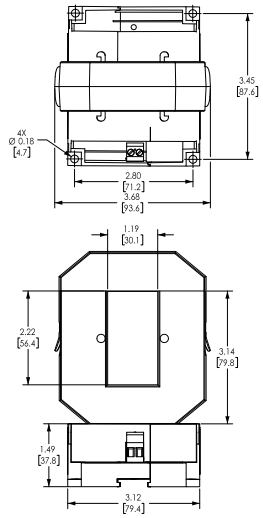


See our website www.AutomationDirect.com for complete Engineering drawings.

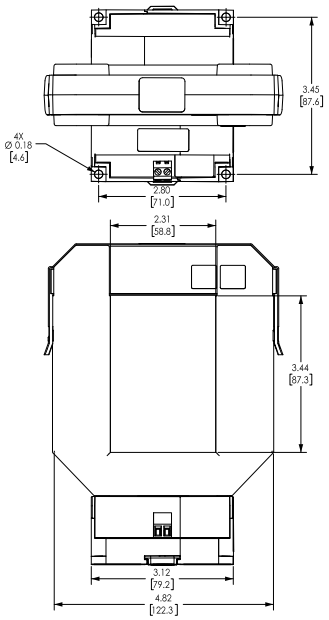
ACT Series AC Current Transducers

Dimensions

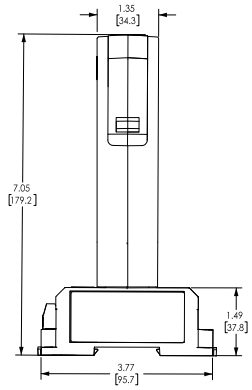
Inches [mm]



ACT Series 400, 600, 800 Amp Split Core



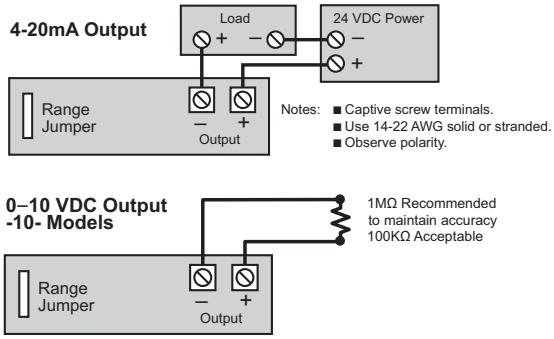
ACT Series, 1200 Amp Split Core Large Aperture



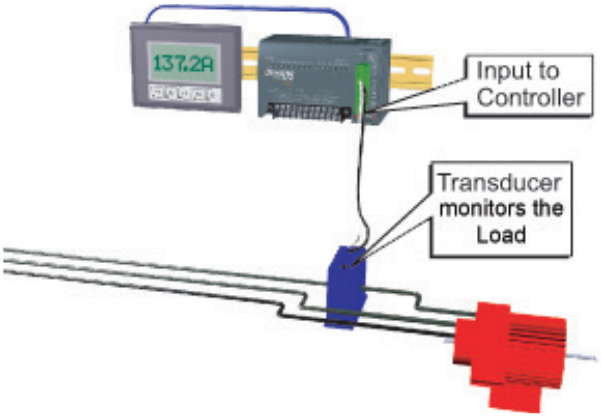
See our website www.AutomationDirect.com for complete Engineering drawings.

Wiring

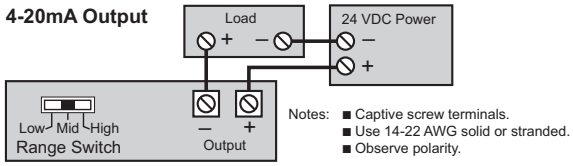
ACT Series, Up to 200 Amp



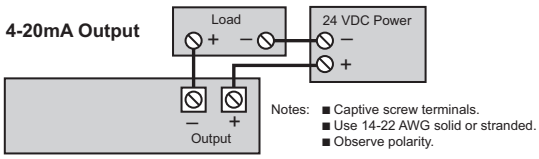
Terminals are #6 screws.



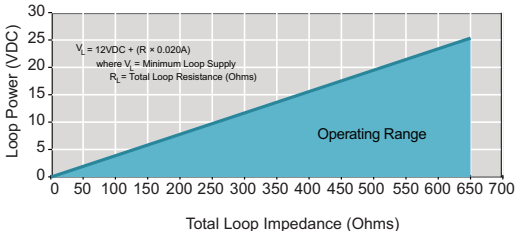
ACT Series, 750 and 2000 Amp



ACT Series, 400, 600, 800, 1200 Amp



Output Loop Impedance (4-20mA output only)



3ACT/3ACTR Series 3-Phase AC Current Transducers

The 3ACT/3ACTR Series AC 3-Phase Current Transducers are designed for monitoring three-phase loads, motors, machines or buildings. The large triple-aperture fixed core design allows for a quick and easy installation. The transducer outputs are powered from an excitation voltage of 24 VAC or DC, isolated from the monitored circuit. Average responding and True RMS models are available with three outputs that are proportional to the AC current in each phase and a fourth output represents the average of the three. The transducer can be mounted on a back panel or a DIN rail using the integral mounting clips and is designed to accommodate wire sizes for loads up to 200 amps.

Applications

Monitor Large Machines
- Detect over or undercurrent conditions before they cause break downs or interlock one process with another.

Water Delivery and Treatment
- Detect open discharge lines.
- Sense clogged filters or blocked intake to pumps.
- Measure increased current to show failing bearings or pump impeller cavitation.

Generators
- Shed noncritical loads when demand reaches a set level.

Load Imbalance
- Monitor motor current draw which should be nearly equal in all three phases.

Features

- Average responding and True RMS models with analog 4-20mA output signals proportional to AC current
- Compatible with most automation and control systems.
- Three separate outputs represent the current in each phase. A fourth output produces a signal proportional to the average of the current in all three phases.
- Fixed core Case
- Current sensing ranges up to 200A
- Sensing windows provide ample space for single or multiple conductors per phase.
- Snap onto DIN rail using integral mounting clips or attach with screws to a panel for secure mounting.
- Five-year warranty

3ACT/3ACTR Series 3-Phase AC Current Transducers

Part Number	Description	Pcs/ Pkg	Wt (lb)	Price
3ACT030-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-10, 0-15, or 0-30A selectable sensing range, 4-20mA output.	1	1.0	$396.00
3ACT100-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-30, 0-50, or 0-100A selectable sensing range, 4-20mA output.	1	1.0	$396.00
3ACT200-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, 4-20mA output.	1	1.0	$396.00
3ACTR030-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-10, 0-15, or 0-30A selectable sensing range, True RMS, 4-20mA output.	1	1.0	$429.00
3ACTR100-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-30, 0-50, or 0-100A selectable sensing range, True RMS, 4-20mA output.	1	1.0	$429.00
3ACTR200-42-24-F	AcuAMP AC current transducer, 3-phase, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, True RMS, 4-20mA output.	1	1.0	$429.00

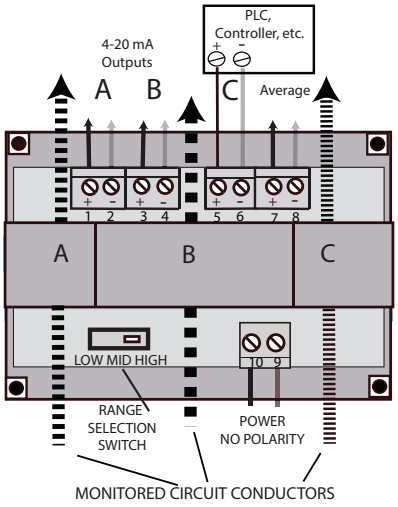
Specifications

Power Supply	24 VAC/DC (+/- 10%), Intended for use with a Class 2 source with the secondary fused to limit power to a maximum of 100 VA Note: Power Supply and output signal ARE NOT isolated. Do not connect the negative terminals to a common point.
Power Consumption	< 6.0 VA
Output Signals	4-20mA Four outputs, three proportional to the current in that phase, one an average of all three.
Output Limit	20.8 mA
Output Impedance	500Ω maximum
Accuracy	1.0% FS
Response Time	220ms (90% step change)
Frequency Range	3ACT: 50/60Hz, Average Responding 3ACTR: 30-100Hz, True RMS
Sensed Current Limit	1.1x range continuous 3x range for 6 seconds 6x range for 1 second
Isolation Voltage	UL tested to 1240VAC
Sensing Apertures	0.86 in (21.8 mm) dia.
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Certifications	cULus listed E197592 CE

3ACT Series AC Current Transducers

Wiring

3ACT/3ACTR Series

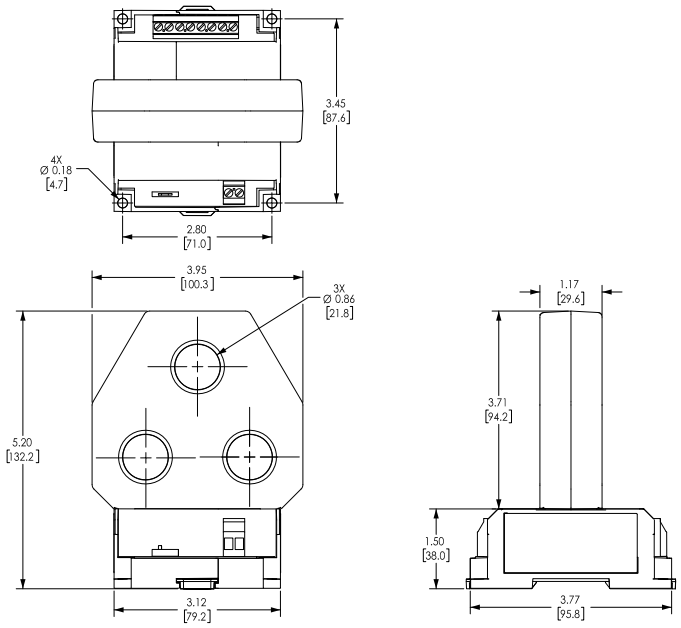


Top View

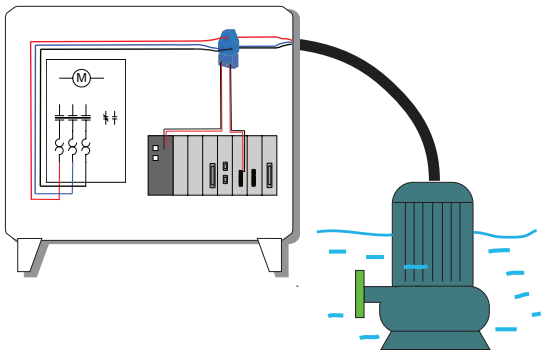
Note: Power supply and output signal ARE NOT isolated. Do not connect the negative terminals to a common point.

Dimensions

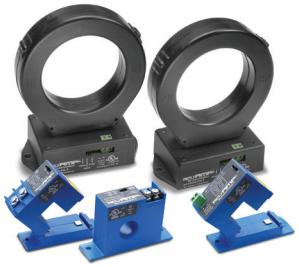
Inches [mm]

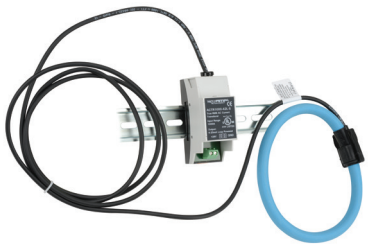


Submersible Pump Application



ACTR Series AC Current Transducers





Why use ACTR transducers?

The current waveform of a typical linear load is a pure sine wave. However, in VFD and SCR applications the output waveforms are rough approximations of a sine wave and are non-sinusoidal. Each cycle will contain numerous spikes and dips.

The ACTR transducers use a mathematical algorithm called "True RMS," which integrates the actual waveform over time. The output is the amperage component of the true power (heating value) of the AC current waveform. True RMS is the only way to accurately measure distorted AC waveforms. Select ACTR transducers for non-linear loads or in "noisy" power environments.

Applications

VFD Controlled Loads

- VFD output indicates how the motor and attached load are operating.

SCR Controlled Loads

- Accurate measurement of phase angle fired SCRs. Current measurement gives faster response than temperature measurement.

Switching Power Supplies and Electronic Ballasts

- True RMS sensing is the most accurate way to measure power supply or ballast input power.

Features

- 4-20 mA output
- True RMS technology is accurate on distorted waveforms such as VFD or SCR outputs.
- Models with selectable sensing ranges
- Output is magnetically isolated from the input for safety and eliminates voltage drop.
- Built-in mounting feet with optional or integral 35mm DIN rail adapter depending on part number.
- Five-year warranty

ACTR Series AC Current Transducers

Part Number	Description	Pcs/ Pkg	Wt (lb)	Price
ACTR005-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-2 or 0-5A selectable sensing range, True RMS, 4-20mA output.	1	0.30	$193.00
ACTR005-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-2 or 0-5A selectable sensing range, True RMS, 4-20mA output.	1	0.36	$221.00
ACTR050-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-10, 0-20, or 0-50A selectable sensing range, True RMS, 4-20mA output.	1	0.30	$178.00
ACTR050-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-10, 0-20, or 0-50A selectable sensing range, True RMS, 4-20mA output.	1	0.36	$223.00
ACTR200-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-100, 0-150, or 0-200A selectable sensing range, True RMS, 4-20mA output.	1	0.30	$180.00
ACTR200-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-100, 0-150, or 0-200A selectable sensing range, True RMS, 4-20mA output.	1	0.36	$227.00
ACTR400-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-400A sensing range, True RMS, 4-20mA output.	1	1.22	$308.00
ACTR500-42L-S	AcuAMP AC current transducer, flexible split core, 0-500A sensing range, True RMS, 4-20mA output.	1	0.60	$417.00
ACTR600-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-600A sensing range, True RMS, 4-20mA output.	1	1.37	$308.00
ACTR750-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-375, 0-500, or 0-750A selectable sensing range, True RMS, 4-20mA output.	1	2.00	$292.00
ACTR800-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-800A sensing range, True RMS, 4-20mA output.	1	1.38	$308.00
ACTR1000-42L-S	AcuAMP AC current transducer, flexible split core, 0-1000A sensing range, True RMS, 4-20mA output.	1	0.60	$454.00
ACTR1200-42L-S	AcuAMP AC current transducer, 1-phase, split core, 0-1200A sensing range, True RMS, 4-20mA output.	1	2.61	$382.00
ACTR2000-42L-F	AcuAMP AC current transducer, 1-phase, fixed core, 0-1000, 0-1333, or 0-2000A selectable sensing range, True RMS, 4-20mA output.	1	2.00	$380.00
ACTR2000-42L-S	AcuAMP AC current transducer, flexible split core, 0-2000A sensing range, True RMS, 4-20mA output.	1	0.60	$454.00
Accessories				
DRA-2B	35m DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

Sensed Current Limits

Model	Range	Amps		
		Continuous	6 Sec	1 Sec
ACTR005	0 to 2A	80	125	250
	0 to 5A	100	125	250
ACTR050	0 to 10A	80	125	250
	0 to 20A	110	150	300
	0 to 50A	175	215	400
ACTR200	0 to 100A	200	300	600
	0 to 150A	300	450	800
	0 to 200A	400	500	1000
ACTR400	0 to 400A	1600	1920	6400
ACTR500	0 to 500A	4000	4400	5000
ACTR600	0 to 600A	1600	1920	6400
ACTR750	0 to 375A	750	1500	3750
	0 to 500A	750		
	0 to 750A	750		
ACTR800	0 to 800A	1600	1920	6400
ACTR1000	0 to 1000A	4000	4400	5000
ACTR1200	0 to 1200A	1600	1920	6400
ACTR2000 Fixed core	0 to 1000A	2000	4000	10 k
	0 to 1333A	2000		
	0 to 2000A	2000		
ACTR2000 Split core	0 to 2000A	4000	4400	5000

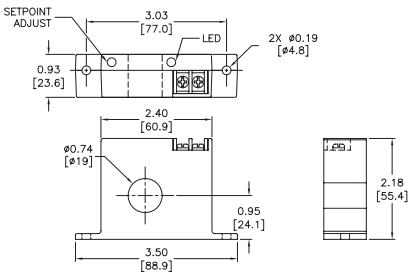
ACTR Series AC Current Transducers

ACTR Series Specifications

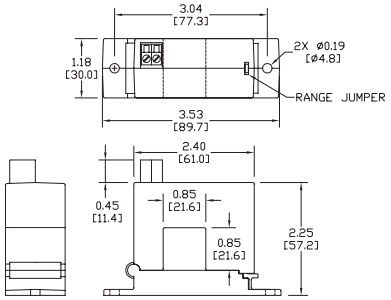
Specifications	-42L- Models up to 200 Amp	-42L-F Models 750 & 2000 Amp	-42L-S Models 500, 1000, 2000 Amp	-42L- Models 400, 600, 800, 1200A
Power Supply	24VDC nominal, (12 to 40 VDC max) loop powered	24VDC nominal, (12 to 40 VDC max) loop powered	24VDC Nominal, 22-36 Volts Use Class 2 power supply or limitied power supply only	24VDC nominal, 12 to 32VDC max
Output Signal	4 -20 mA, loop powered, True RMS			
Output Limit	112% of standard output range maximum			
Output Impedance	600Ω @ 24VDC		500Ω maximum	600Ω @ 24VDC
Accuracy	1.0% FS (10-100% of range)			
Response Time	600ms			
Sensing Range	Selectable from 2 to 200A based on part number	Selectable from 375 to 2000A based on part number	500, 1000 or 2000A based on part number	400, 600, 800 or 1200A based on part number
Sensing Aperture	Fixed core: 0.74" [19mm] dia. Split core: 0.85" [21.6 mm] sq.	Fixed core: 3.0" [76.2 mm] dia.	4.5 in [114.3 mm] dia.	2.22 X 1.19 in [56.3 X 30.2 mm] ACT1200: 3.44 x 2.31 in [87.3 x 58.8 mm]
Isolation Voltage	UL listed to 1,270VAC, Tested to 5,000VAC (1 min. max)	UL listed to 600V	UL listed to 3,500VAC	UL tested to 2200VAC
Frequency Range	10 to 400 Hz		40 to 400 Hz	20 to 400 Hz
Case	UL 94 V-0 flammability rated thermoplastic			
Mounting	Built-in mounting feet or optional DRA-2B 35mm DIN rail adapter		Built-in 35mm DIN rail adapter	Built-in mounting feet or 35mm DIN rail adapter
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			
Certifications	cULus listed (E222847), CE		cULus listed (E197592), CE	

Dimensions

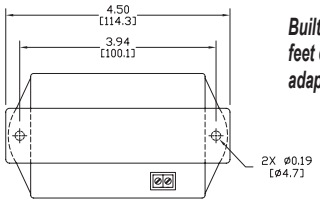
Inches [mm]



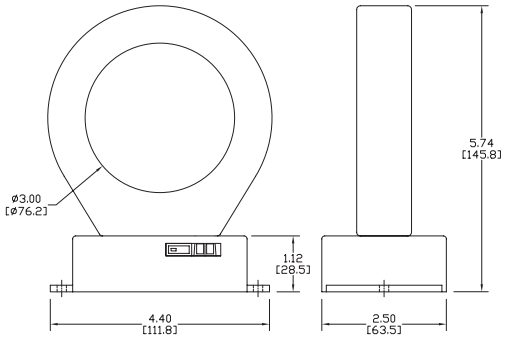
ACTR Series, Up to 200 Amp Fixed Core



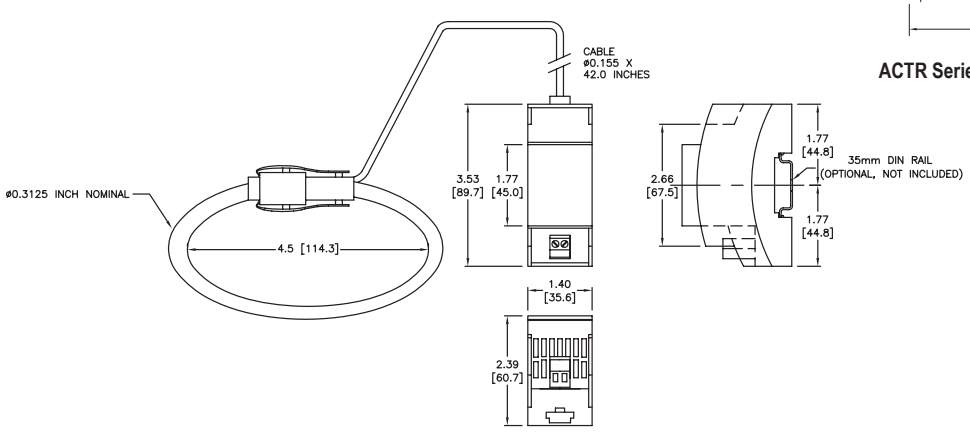
ACTR Series, Up to 200 Amp Split Core



Built-in mounting feet or 35mm DIN rail adapter



ACTR Series, 750 & 2000 Amp Fixed Core Large Aperture



ACTR Series 500, 1000 & 2000 Amp Base & Flexible Split Core Loops

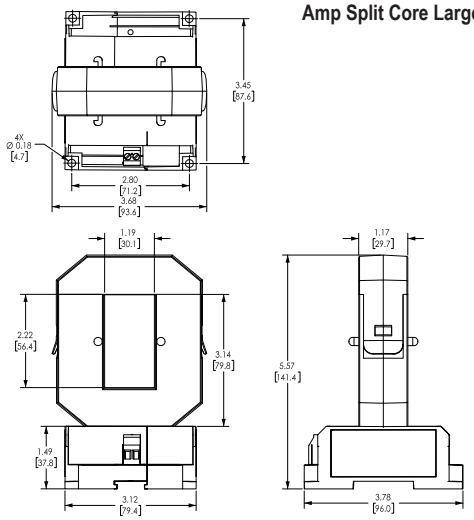
See our website www.AutomationDirect.com for complete Engineering drawings.

ACTR Series AC Current Transducers

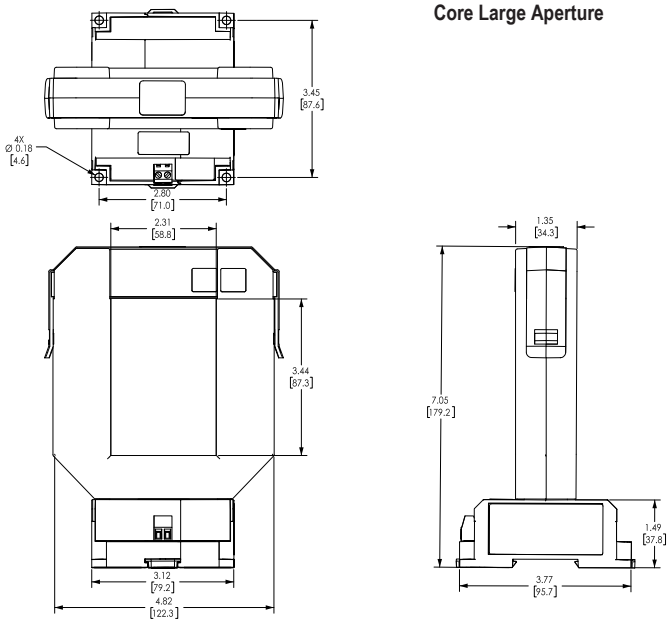
Dimensions

Inches [mm]

ACTR Series, 400, 600, 800 Amp Split Core Large Aperture

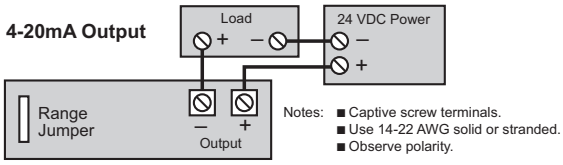


ACTR Series, 1200 Amp Split Core Large Aperture

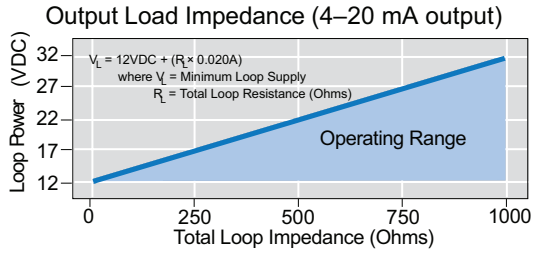


Wiring

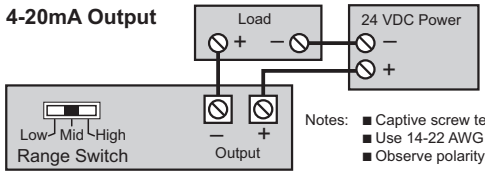
ACTR Series, Up to 200 Amp



Notes:
- Captive screw terminals.
- Use 14-22 AWG solid or stranded.
- Observe polarity.

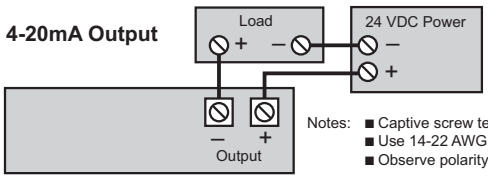


ACTR Series, 750 & 2000 Amp



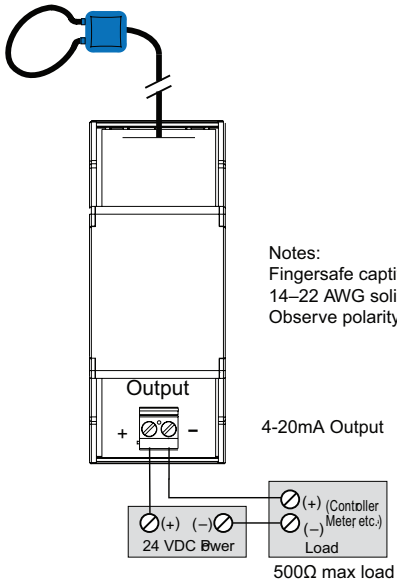
Notes:
- Captive screw terminals.
- Use 14-22 AWG solid or stranded.
- Observe polarity.

ACTR Series, 400, 600, 800, 1200 Amp



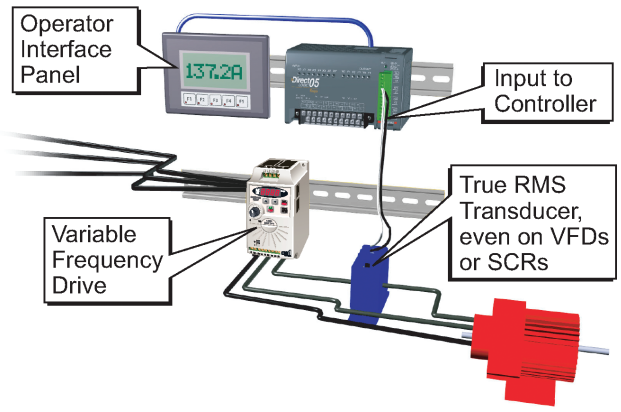
Notes:
- Captive screw terminals.
- Use 14-22 AWG solid or stranded.
- Observe polarity.

ACTR Series, Flexible Split Core 500, 1000 & 2000 Amp

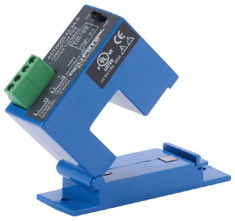


Notes:
Fingersafe captive screw terminals.
14–22 AWG solid or stranded.
Observe polarity.

Application Example



AcuAMP® ACTH Series AC Current Transducers



Applications

Electrical Heaters

- Zero-crossing burst fired SCR controllers
- Faster response than temperature sensors.
- Simplest method to monitor pulsed waveforms.

Monitoring the current controlled by silicon-controlled rectifiers (SCRs) can be a challenge, especially the current used by heaters. Zero-crossing burst fired controls allow current to flow to the circuit for as short of a time period as one cycle, and off for several cycles. Most current sensors will not work well when there is no current present.

When used to monitor zero-crossing burst fired SCRs, the ACTH series uses an innovative time integration adaptive True RMS measurement method that will provide an output signal directly proportional to the RMS amperage even when the SCR controller is providing power in one cycle increments.

Features

- 4–20 mA output
- Compatible with most automation systems.
- Split core models powered with 24 VAC or DC
- Factory Calibrated, no need for zero and span adjustment potentiometers.
- RMS Output accurate measurement of sinusoidal or pulsed current wave shapes.
- Built-in mounting feet with optional DRA-2B 35mm DIN rail adapter available.
- Five-year warranty

ACTH Series AC Current Transducers				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACTH005-42-24-S	AcuAMP AC current transducer, 1-phase, split core, 0-2, 0-5A selectable, with time integration sensing range, True RMS, 4-20mA output.	1	0.35	$227.00
ACTH050-42-24-S	AcuAMP AC current transducer, 1-phase, split core, 0-10, 0-20, 0-50A selectable, with time integration sensing range, True RMS, 4-20mA output.	1	0.35	$227.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

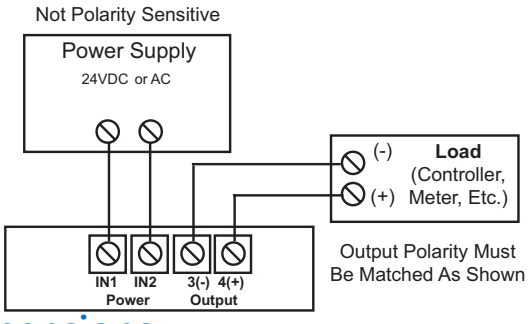
Specifications	
Power Supply	24 VAC/DC (+/-10%) Intended for use with a Class 2 source with the secondary fused to limit power to a maximum of 100 VA
Power Consumption	< 2VA
Output Signal	4-20 mA
Output Limit	100% of standard output range maximum value
Frequency Range	40-400 Hz, Adaptive True RMS
Response Time	400ms at 100% duty cycle, or duty cycle period plus 40ms
Accuracy	1.0% Full Scale
Output Impedance	500Ω maximum
Isolation Voltage	UL tested to 1240VAC
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Certifications	cULus listed E197592 CE

Sensed Current Limit			
Model	***Range***	***Max. 6 Seconds***	***Max.1 Second***
ACTH005	0 - 2A	125	250
	0 - 5A	125	250
ACTH050	0 - 10A	125	250
	0 - 20A	150	300
	0 - 50A	215	400

ACTH Series AC Current Transducers

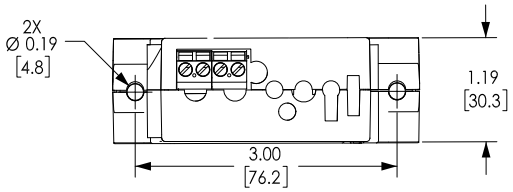
Wiring

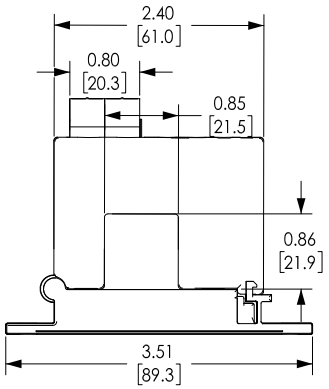
ACTH Series

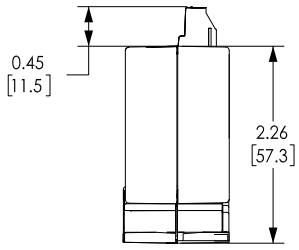


Dimensions

Inches [mm]

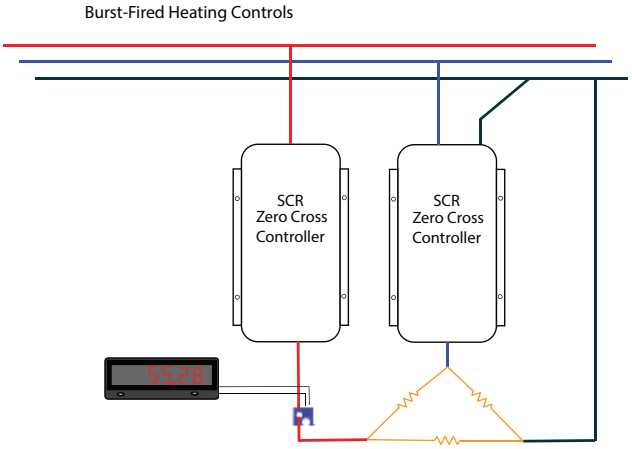


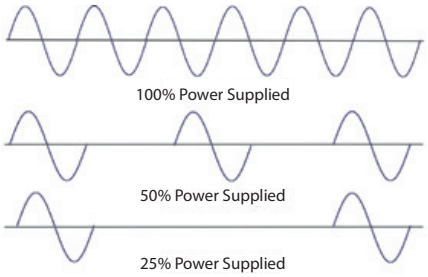




See our website www.AutomationDirect.com for complete Engineering drawings.

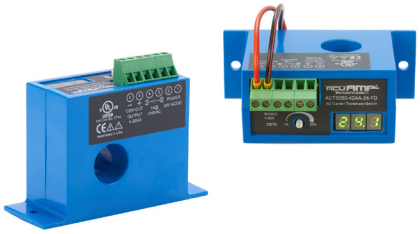
Application Example





ACTH Series AC current transducers will produce a signal proportional to the current used even when the controller is supplying power in one cycle increments.

ACTS Series AC Current Transducer/ Switch



The ACTS Series AC Current Sensors combine a current operated switch and transducer into a single package. In addition to an analog output over the sensed current range, the sensor also provides a solid-state switched output which will change state when the current exceeds an adjustable setpoint or falls below the normal running current. The ACTS features a digital display that gives visual indication of the switch setpoint allowing for a much easier and precise adjustment. The display flashes on and off when current has exceeded the setpoint. This combination switch and transducer unit results in reduced installation time, plus the option to have local control of a starter coil while also sending the analog signal back to a controller housed in a separate cabinet.

Applications

Electronic Proof of Operation
- Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electromechanical pressure or flow switches.

Conveyors
- Detect jams and overloads.
- Interlock multiple conveyor sections.

Pump Control
- Provides signal to measure current and shuts down the pump if the current rises over the setpoint.

Cooling Towers
- Analog monitors time of use and contact opens if a filter clogs.

Features

- N.O. solid-state switch for control circuits up to 240 VAC.
- 4-20mA Analog Output
- Compatible with most automation systems.
- Easily Adjustable and Precise Setpoint using digital display
- Display flashes on and off when current has exceeded the setpoint.
- Built-in mounting feet with optional DRA-2B 35mm DIN rail adapter available.
- Five-year warranty

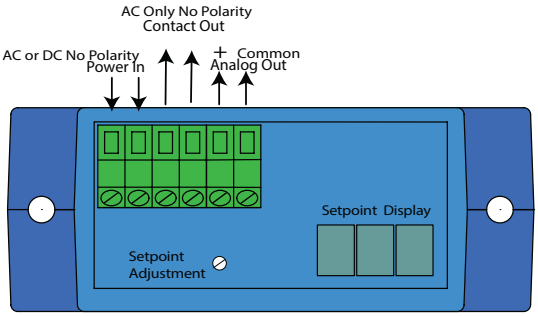
ACTS Series AC Current Transducer/Switch				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACTS050-42AA-24-FD	AcuAMP AC current transducer/switch, 1-phase, fixed core, 0-50A sensing range, 1-50A adjustable trip point, single-turn potentiometer with trip point display, 4-20 mA or solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.39	$165.00
ACTS200-42AA-24-FD	AcuAMP AC current transducer/switch, 1-phase, fixed core, 0-200A sensing range, 4-200A adjustable trip point, single-turn potentiometer with trip point display, 4-20 mA or solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.39	$165.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

ACTS Series Specifications	
Power Required	24 VAC/DC (+/-10%)
Power Consumption	< 2VA
Outputs	Solid state switch, N.O. and analog output
Switch Rating	1A @ 240VAC maximum
Offstate Leakage	< 10µA
Switch Response Time	0.50 sec. 5% over set point, 0.20 sec. 50% over set point, 0.15 sec. 100% over set point
Switch Hystersis	5% of setpoint
Switch Setpoint Range	1-50 Amps (ACTS050), 4-200 Amps (ACTS200)
Switch Setpoint Adjust	Single turn potentiometer, Setpoint displayed on sensor
Sensed Current Limit	1.1x range continuous, 3x range for 6 seconds, 5x range for 1 second
Analog Output Signal	4-20mA
Analog Output Impedance	500Ω max
Analog Output Response	< 0.30 sec. 90% step change, < 0.40 sec. 100% step change
Accuracy	1% Full Scale
Isolation Voltage	UL508, UL tested to 1480VAC
Frequency Range	40-400 Hz, Average Responding
Sensing Aperture	0.75 in (19mm) dia.
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Case	UL 94V-0 Flammability rated thermoplastic
Certifications	cULus listed E222847 CE

ACTS Series AC Current Transducers

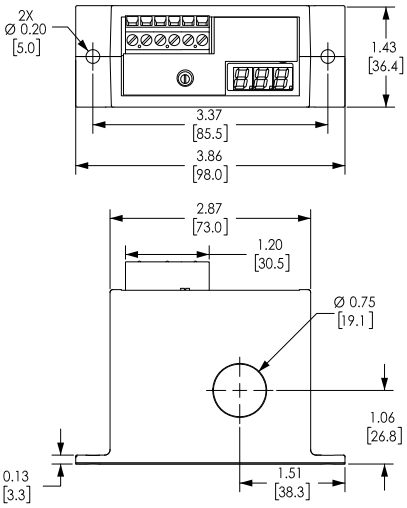
Wiring

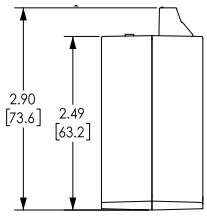
ACTS Series



Dimensions

Inches [mm]

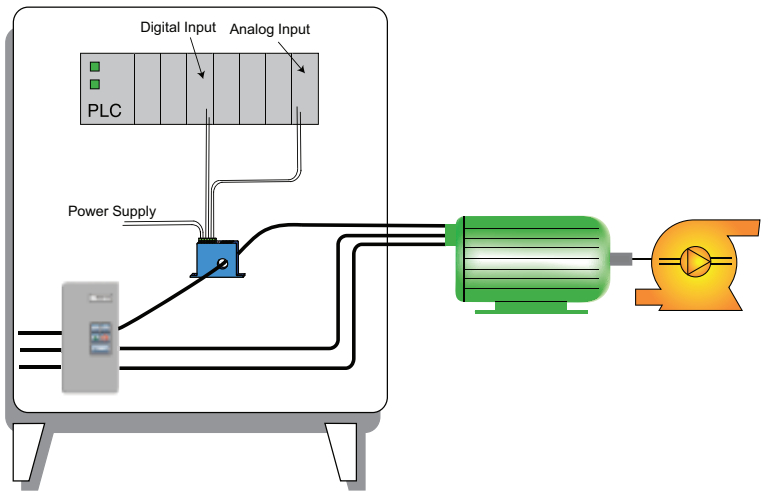




See our website www.AutomationDirect.com for complete Engineering drawings.

Application Example

Pump Jam & Suction Loss Protection



ACSN100 Series AC Current Switch

ACSN100 series compact case current sensing switch is a compact, inexpensive, easy-to-use ring which slips onto a conductor to give a solid-state contact for indication of current flow. Ideal for use in control panels or wherever confirmation of current flow is desired, the ACSN100 current sensing switch is a cost-effective way to detect live conductors and see current flow to fans, heaters, pumps, lighting or other AC powered devices.

Applications

Electronic proof of flow
- Current sensing switches eliminate the need for multiple pipe or duct penetrations and is more reliable than electromechanical pressure or flow switches.

Electric Motors
- Quick reporting of load status.

Electrical Heaters
- Faster response than temperature sensors.

Lighting Circuits
- Easier to install and more accurate than photocells.

Features

- N.O. solid-state switch for control circuits up to 120 VAC/VDC.
- No adjustment needed for "Go/No Go" status indication.
- Detects currents as low as 0.5 A with a single conductor pass, eliminates the need to wrap conductors multiple times to increase sensitivity.
- No moving parts provide a nearly unlimited number of operations, and powered from the monitored circuit.
- Normally open connection. Connect the 24 inch leads to a local controller or to a terminal block for remote operation.
- Five-year warranty

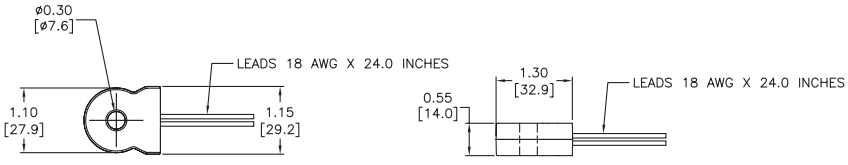
ACSN100 AC Current Switch				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACSN100-AE-F	AcuAMP AC current switch, fixed core, 0-100A sensing range, 0.5A non-adjustable trip point, solid state switch, N.O. output, 0.15A @ 120 VAC/VDC output rating.	1	0.07	$42.00

ACSN100 Series Specifications	
Monitored Circuit	0-100A, 600VAC line-to-line max
Frequency Range	50-400 Hz
Output Switch	Solid-state, normally open, 150mA, 120 VAC/DC (not polarity sensitive)
Off State Leakage	<10µA
Setpoint (Trip Point)	Non-adjustable, 0.5 A (reset point ~0.475 A)
Sensing Aperture	0.30" ID
Case	UL94V-0 Flammability Rating
Mounting	Slides directly onto monitored conductor
Isolation Voltage	3kV (monitored line to output)
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
Certifications	cULus listed (E222847), CE

Sensed Current Limits		
Continuous	6 Sec.	1 Sec.
100	400	1000

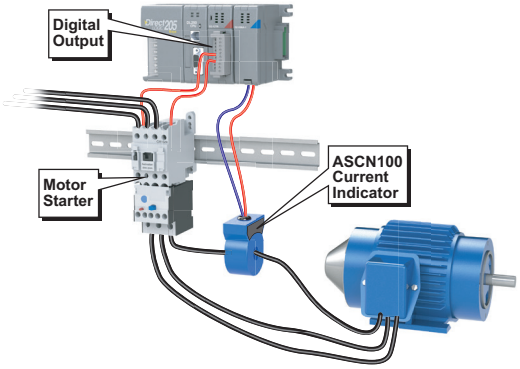
Dimensions

Inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.

Application Example



ACSN250 Series AC Current Switches

The ACSN250 series current switches combine a current transformer, signal conditioner and limit alarm into a single package for use in status monitoring or proof of operation applications. Offering universal, solid-state outputs, the self-powered non-adjustable setpoint ACSN250 series can provide digital indication across a broad range of applications. Models are available in a fixed-core or split-core case to maximize ease of installation.

Applications

Electronic proof of flow
- Current sensing switches eliminate the need for multiple pipe or duct penetrations and is more reliable than electromechanical pressure or flow switches.

Conveyors
- Detects jams and overloads.
- Interlocks multiple conveyor sections.

Lighting Circuits
- Easier to install and more accurate than photocells.

Electrical Heaters
- Faster response than temperature sensors.

Features

- N.O. solid-state switch for control circuits up to 240 VAC/VDC.
- No adjustment needed for "Go/No Go" status indication.
- Self-powered operation cuts installation time and operating costs.
- Choose fixed core or split core enclosure style. Split core allows easy installation on existing systems; fixed core offers a more compact package for OEM or new installations.
- Built-in mounting feet with optional DRA-2B 35mm DIN rail adapter available.
- Five-year warranty

ACSN250 AC Current Operated Switches				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACSN250-AE-F	AcuAMP AC current switch, fixed core, 0-250A sensing range, 0.75A non-adjustable trip point, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1	0.25	$64.00
ACSN250-AE-S	AcuAMP AC current switch, split core, 0-250A sensing range, 1.25A non-adjustable trip point, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1	0.30	$78.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

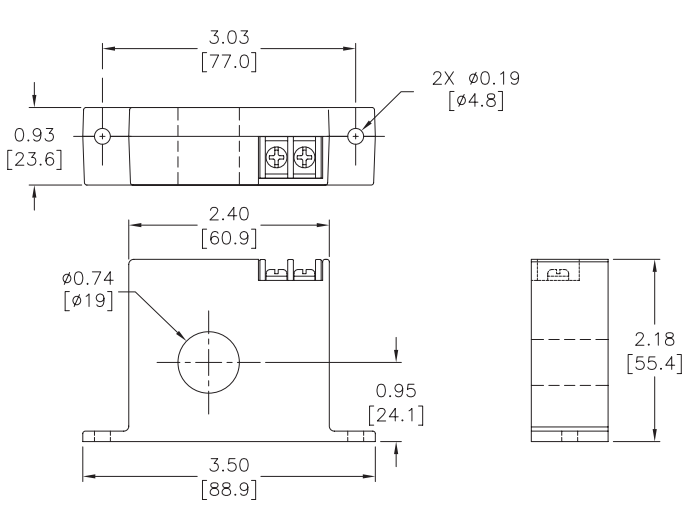
Sensed Current Limits				
Type	***Range***	***Amps***		
		Continuous	***6 Sec.***	***1 Sec.***
Fixed Core	0-250A	250	400	1000
Split Core	0-250A	250	400	1000

ACSN250 Series Specifications	
Power Required	None - self powered
Output Switch	Isolated solid-state switch, normally open
Switch Rating	0.15 A, 240 VAC/VDC
Off State Leakage	<10µA
Response Time	120ms
Hysteresis	Approximately 5% of setpoint
Setpoint (Trip Point)	Fixed core: 0.75 A max
	Split core: 1.25 A max
Setpoint Adjust	Non-adjustable
Isolation Voltage	UL Listed to 1,270VAC
Monitored Circuit	600VAC line-to-line, 0-250A
Frequency Range	6-100 Hz
Aperture	Fixed core: 0.75" [19mm] ID
	Split core: 0.85" [21.7 mm] ID
Case	UL94V-0 Flammability Rating
Environmental	Operating temperature: -4 to122°F [-20 to 50°C]
	Relative humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude to 2000 meters
Certifications	cULus listed (E222847), CE

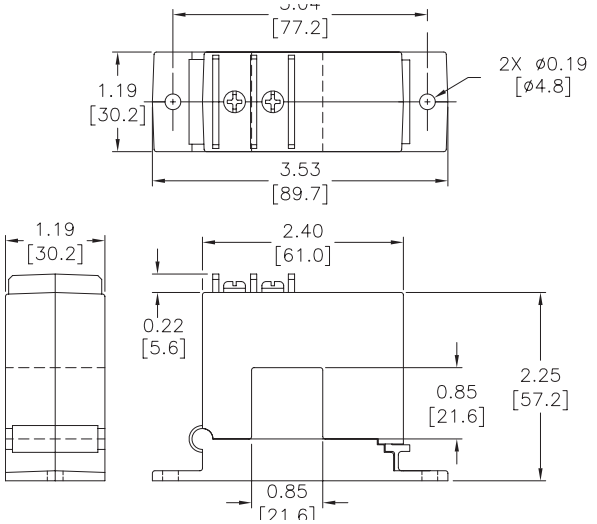
ACSN250 Series AC Current Switches

Dimensions

Inches [mm]



ACSN250 Fixed Core

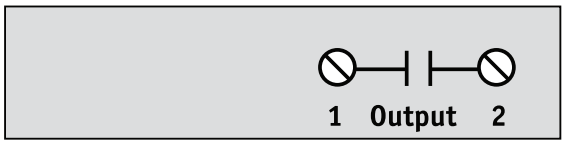


ACSN250 Split Core

See our website www.AutomationDirect.com for complete Engineering drawings.

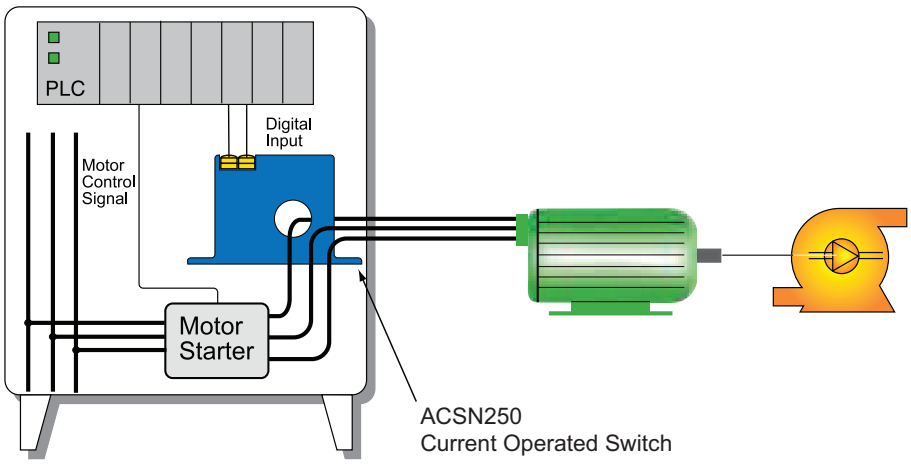
Wiring

ACSN250 Series



Terminals are #6 screws
Use up to 14 AWG copper wire

Application Example



ACS050/ACS200 Series AC Current Switches

The ACS050/ACS200 Series Current Sensing Switches monitor AC current and provide a switched output when the monitored current reaches a setpoint. The series features a digital display that gives visual indication of the switch setpoint allowing for an easy and precise adjustment using the single turn potentiometer. The setpoint can be set before the sensor is installed or the monitored circuit is energized. The display flashes on and off when current has exceeded the setpoint.

Applications

Electronic Proof of Operation
- Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electromechanical pressure or flow switches.

Conveyors
- Detects jams and overloads.
- Interlocks multiple conveyor sections.

Pump Control
- Output contact is adjusted so it is closed during normal operation, opening if the pump runs dry or there is a loss of head pressure for any reason.

Cooling Towers
- Monitor for overcurrent conditions caused by open duct access doors or undercurrent from a broken drive belt or coupling.

Features

- N.O. solid-state switch for control circuits up to 240 VAC.
- Compatible with most automation systems.
- Easily Adjustable and Precise Setpoint
- Improves the safety by allowing the trip point adjustment with no power through the sensing window.
- LED Display provides quick visual indication of where the contact changes. When current exceeds the setpoint, the display flashes on and off.
- Built-in mounting feet with optional DRA-2B 35mm DIN rail adapter available.
- Five-year warranty

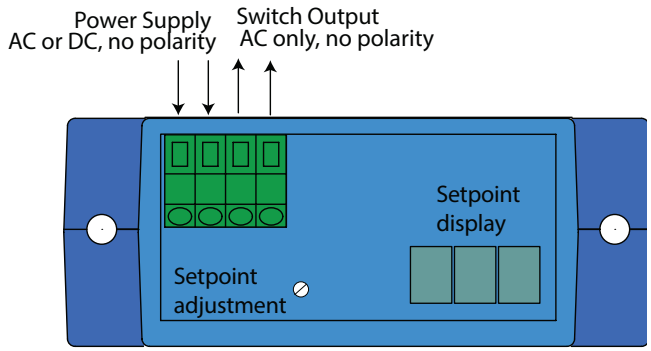
ACS050/ACS200 Series AC Current Switches				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACS050-AA-24-FD	AcuAMP AC current switch, fixed core, 1-50A sensing range, 1-50A adjustable trip point, single-turn potentiometer with trip point display, solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.38	$124.00
ACS200-AA-24-FD	AcuAMP AC current switch, fixed core, 4-200A sensing range, 4-200A adjustable trip point, single-turn potentiometer with trip point display, solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.38	$124.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

Specifications	
Power Supply	24VAC/DC (+/- 10%)
Power Consumption	< 2VA
Output	Solid-state switch, normally open
Switch Rating	1A @ 240VAC maximum
Response Time	0.50 sec. 5% over set point 0.20 sec. 50% over set point 0.15 sec. 100% over set point
Offstate leakage	<10µA
Hysteresis	5% of setpoint
Setpoint Ranges	1-50 Amps (ACS050) 4-200 Amps (ACS200)
Setpoint Adjust	Single-turn potentiometer Setpoint displayed on sensor
Sensed Current Limit	1.1x range continuous 3x range for 6 seconds 5x range for 1 second
Accuracy	+/-1%
Isolation Voltage	UL508, UL tested to 1480VAC
Frequency Range	40 to 100 Hz
Sensing Aperture	0.75 in (19.1 mm) dia.
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Case	UL 94V-0 Flammability rated thermoplastic
Certifications	cULus listed E222847 CE

ACS050/ACS200 Series AC Current Switches

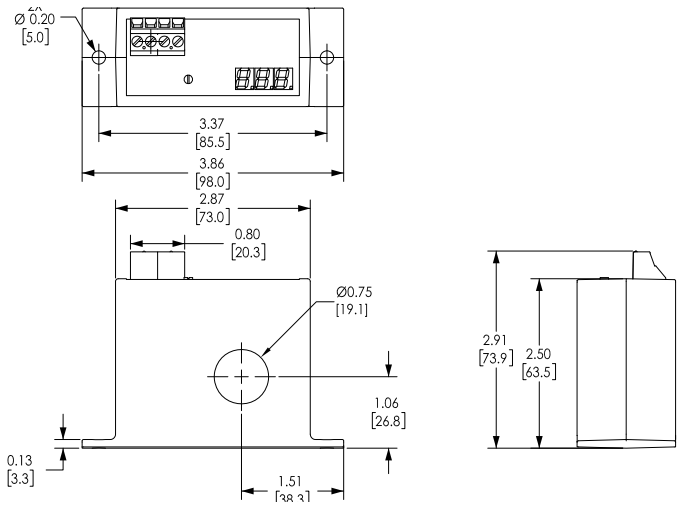
Wiring

ACS050/ACS200 Series



Dimensions

Inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.

ACS035/ACS400 Series AC Current Switches

The ACS035/ACS400 Series Current Sensing Switches allow two separate trip points to detect overcurrent and undercurrent conditions. The sensor outputs are dual, single-pole, double-throw relays, so they can control either AC or DC circuits and provide an alarm if the monitored circuit draws too little or too much current. One sensor means less installation time and less panel space required. The Status LEDs indicate if the monitored circuit current is under or over each of the trip points.

Applications

Electronic Proof of Operation
- Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electromechanical pressure or flow switches.

Conveyors
- Detect jams and overloads.
- Interlocks with safety equipment.

Pump Control
- Output contact is adjusted so it is closed during normal operation, opening if the pump runs dry or there is a loss of head pressure for any reason.

Cooling Towers
- Monitor for overcurrent conditions caused by open duct access doors or undercurrent from a broken drive belt or coupling.

Features

- Two Electromechanical Relay Outputs
- Access to both the N.O. and N.C. contacts at independent setpoints.
- Because relay outputs are floating they can be wired in parallel or in series for a two-wire over/under switch.
- Easily Adjustable and Precise Setpoint
- Single turn potentiometer: point the arrow at the current value where you need the output to change
- Improves the safety by allowing the trip point adjustment with no setpoint power through the sensing window.
- Fixed core Case
- Sensing window provides ample space for bus bar, single or multiple conductors.
- Snap onto DIN rail using integral mounting clips or attach with screws to a panel for secure mounting.
- Five-year warranty

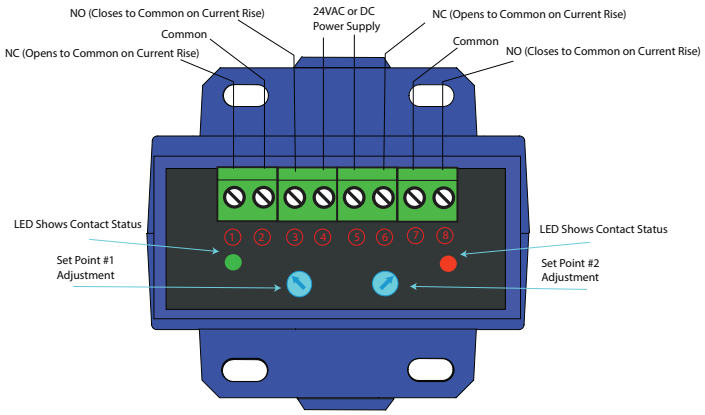
ACS035/ACS400 Series AC Current Switches				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACS035-2C-24-F	AcuAMP AC current switch, fixed core, 2-35A sensing range, (2) 2-35A adjustable trip point, (2) single-turn potentiometers, (2) SPDT relays output, 1A @ 120 VAC, 2A @ 30 VDC output rating.	1	0.8	$237.00
ACS400-2C-24-F	AcuAMP AC current switch, fixed core, 25-400A sensing range, (2) 25-400A adjustable trip point, (2) single-turn potentiometers, (2) SPDT relays output, 1A @ 120 VAC, 2A @ 30 VDC output rating.	1	0.8	$237.00

Specifications	
Power Supply	24VAC/DC (+/- 8.3%)
Power Consumption	< 2VA
Output	(2) Independent Single Pole, Double Throw mechanical Relays
Contact Rating	1A @ 120VAC, 2A 30VDC
Response Time	40 - 120ms
Hysteresis	4% of setpoint
Setpoint Ranges	2-35 Amps (ACS035) 25-400 Amps (ACS400)
Setpoint Adjust	Two 3/4-turn potentiometers
Sensed Current Limit	1.1x range continuous 3x range for 6 seconds 5x range for 1 second
Isolation Voltage	UL508, UL tested to 1240VAC
Frequency Range	40-65 Hz
Sensing Aperture	1.31 in (33.3 mm) dia.
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Case	UL 94V-0 Flammability rated thermoplastic
Certifications	cULus listed E222847 CE

ACS035/ACS400 Series AC Current Switches

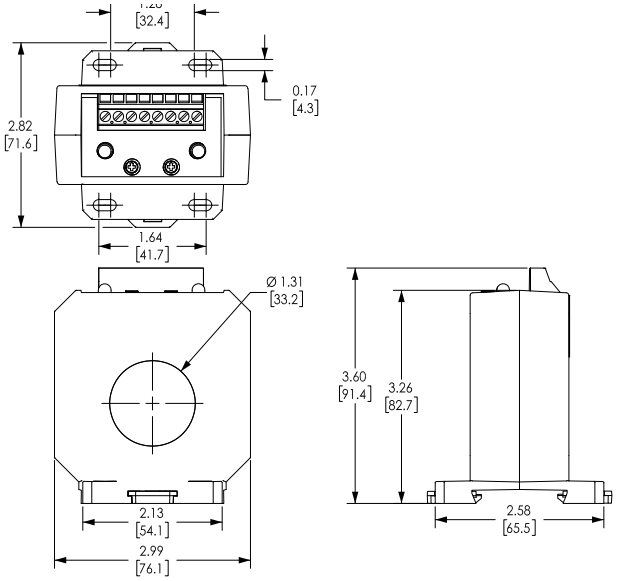
Wiring

ACS035/ACS400 Series



Dimensions

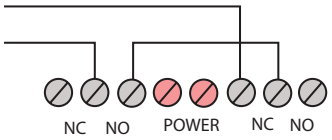
Inches [mm]



See our website www.AutomationDirect.com for complete Engineering drawings.

Application Examples

Series Over/Under Current Window (AND wiring) Example

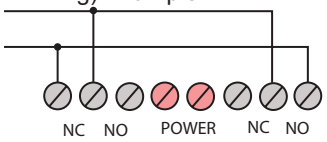


Closed at Normal
Open at Low Current

Closed at Normal
Open at High Current

Control circuit is open at either over or under normal current conditions.

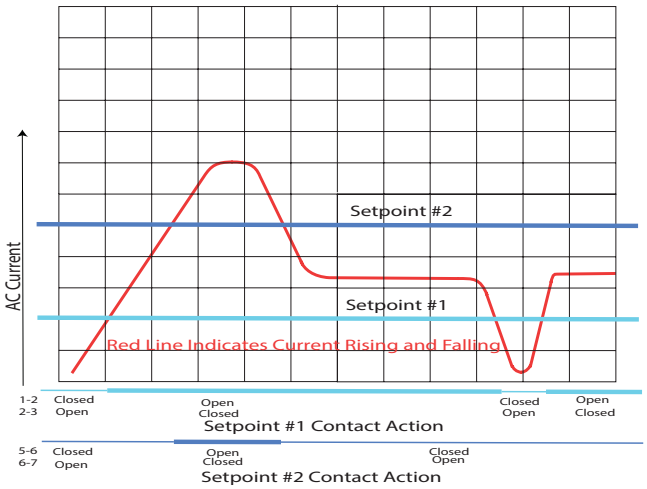
Parallel Connection Current Alarm (OR wiring) Example



Open at Normal
Closed at Low Current

Open at Normal
Closed at High Current

Control circuit is closed at either over or under current conditions.



ACS150 Series AC Current Switches

ACS150 Series current operated switches combine a current transformer, signal conditioner and limit alarm into a single package for use in monitoring or proof of operation applications. Offering an adjustable setpoint range of 1 to 150 amps and universal, solid-state outputs, the self-powered ACS150 can be tailored to provide accurate and dependable digital indication of over-current conditions across a broad range of applications. The ACS150 is available in fixed-core and split-core models.

Applications

Electronic Proof of Flow
- Current operated switch eliminates the need for multiple pipe or duct penetrations.
- More reliable than electromechanical pressure or flow switches.

Conveyors
- Detect jams and overloads; useful when interlocking multiple conveyor sections

Heating Circuits
- Detect ON/OFF status; faster response times than with temperature sensors.

Loss of Load Detective
- Detect belt or coupling breaks with fast response times

Lighting Circuits
- Easier and faster than photocells

Features

- Choose from:
  N.O. 0.15 A @ 240VAC or VDC or
  N.C. 0.20 A @ 135VAC or VDC output options.
- Status LED provides visual indication of setpoint trip and contact action.
- Self-powered operation cuts installation time and operating costs.
- Potentiometer-adjustable trip points speed start-up and allow for tailored operation.
- Choose either split core or fixed core enclosure style. Split core packages allow easy installation on existing systems ; fixed core enclosures offer more compact package for OEM or new installations.
- Built-in mounting feet with optional 35mm DIN rail adapter available.
- Five-year warranty

ACS150 AC Current Operated Switches

Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACS150-AE-F	AcuAMP AC current switch, fixed core, 1-150A sensing range, 1-150A adjustable trip point, 15-turn potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1	0.30	$86.00
ACS150-AE-S	AcuAMP AC current switch, split core, 1.75-150A sensing range, 1.75-150A adjustable trip point, 4-turn potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1	0.35	$106.00
ACS150-CE-F	AcuAMP AC current switch, fixed core, 1-150A sensing range, 1-150A adjustable trip point, 15-turn potentiometer, solid state switch, N.C. output, 0.2A @ 135 VAC/VDC output rating.	1	0.30	$86.00
ACS150-CE-S	AcuAMP AC current switch, split core, 1.75-150A sensing range, 1.75-150A adjustable trip point, 4-turn potentiometer, solid state switch, N.C. output, 0.2A @ 135 VAC/VDC output rating.	1	0.35	$106.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

ACS150 Sensed Current Limits

Type	Input Range	Amps		
		Continuous	6 Sec. max	1 Sec. max
Fixed Core	1 to 150A	150	400	1000
Split Core	1.75 to 150A	150	400	1000

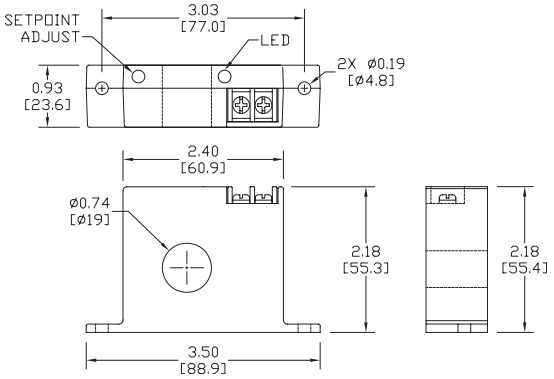
ACS150 Series Specifications

Power Supply	None - Self-powered
Output	Isolated solid-state switch
Output Rating	N.O. 0.15 A @ 240VAC or VDC N.C. 0.20 A @ 135VAC or VDC
Response Time	120ms
Off State Leakage	<10µA
Setpoint (Trip Point)	Fixed core: 1 to 150A. Split core: 1.75 to 150A
Hysteresis	5% of Setpoint
Setpoint (Trip Point) Adjust	Fixed core: 15-turn potentiometer.; Split core: 4-turn potentiometer
Isolation Voltage	UL listed to 1,270VAC. Tested to 5,000VAC (1 minute max)
Frequency Range	6 to 100 Hz
Case	UL 94V-0 flammability rated
Environmental	Operating Temperature: -58 to 149°F [-50 to 65°C]
	Relative Humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude to 2000 meters
Certifications	cULus listed (E222847), CE

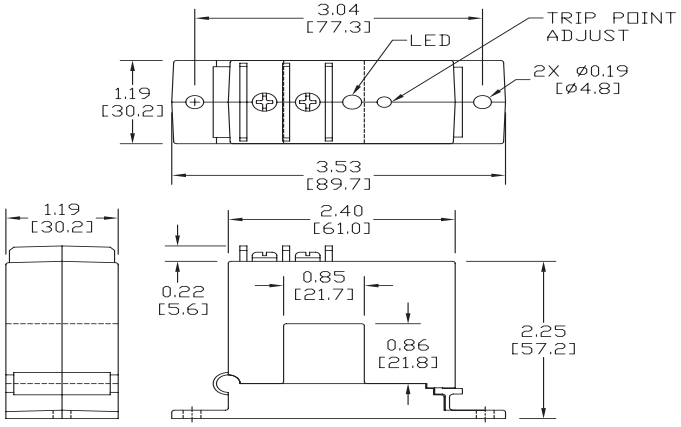
ACS150 Series AC Current Switches

Dimensions

Inches [mm]



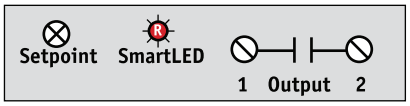
ACS150 Series Fixed Core



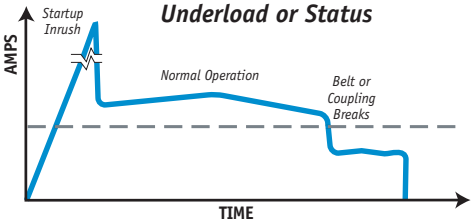
ACS150 Series Split Core

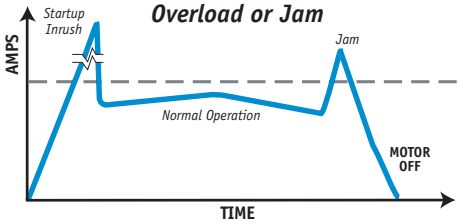
See our website www.AutomationDirect.com for complete Engineering drawings.

Wiring

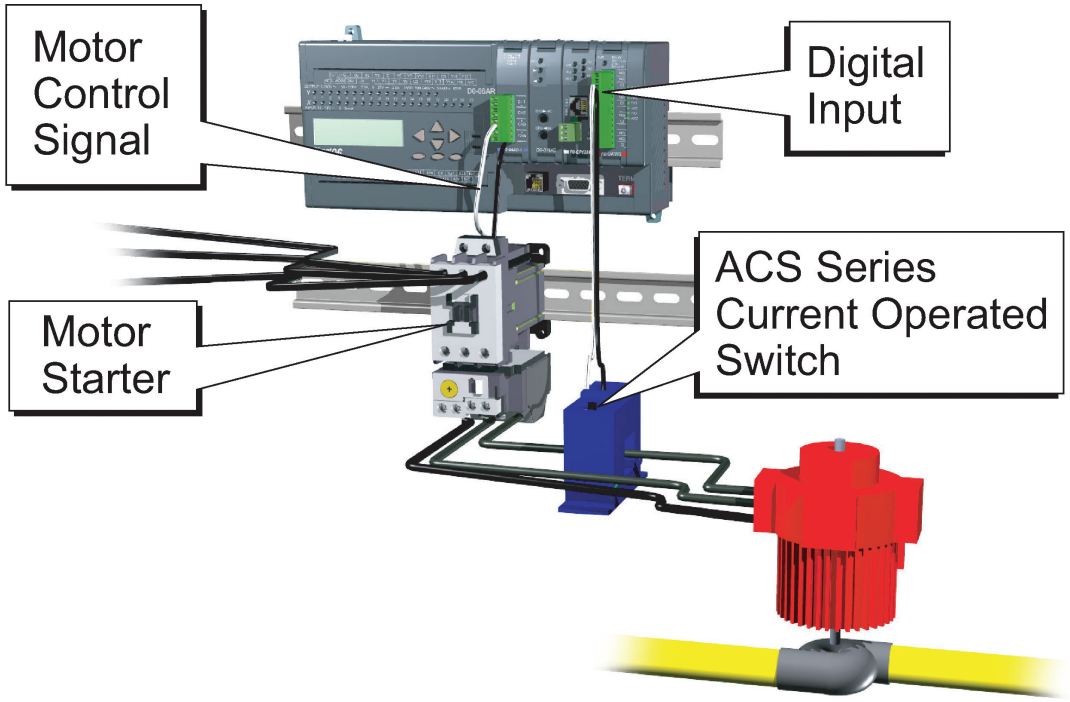


Terminals are #6 screws
Use up to 14 AWG copper wire





Application Example



ACSL Series AC Current Switches

The ACSL series current sensing switches provide a current operated solid-state contact powered from the monitored circuit. The trip point adjustment uses a single turn potentiometer, allowing the installer to set the trip point without the monitored load present. The sensor installs over the conductor.

Applications

AC motor loads
- Set the contact to close at normal running current level and it will open if the drive belt breaks or comes off the sheaves.
- Monitor up to 150A loads.

Critical lighting loads
- Monitor security lighting and water navigational indicators.

Heating loads
- Receive independent verification that an element is working properly.
- Monitor drying and curing processes remotely.

Features

- Single-turn potentiometer setpoint selection with trip point indicated on the labeling
- Setpoint can be set without monitored load present
- Two second delay before contact action on initial energization allowing the output to ignore motor inrush current.
- Status LED provides visual indication of setpoint trip and contact action.
- Self-powered operation cuts installation time and operating costs.
- Output is magnetically isolated from the input for safety.
- Choose either split-core or fixed core enclosure style. Split core packages allow easy installation on existing systems; fixed core enclosures offer a more compact package for OEM or new installations.
- Built-in feet with optional 35mm DIN rail adapter available.
- Five-year warranty

ACSL AC Current Operated Switches

Part Number	Description	Trip Range Adjustment	Pcs/Pkg	Wt (lb)	Price
ACSL010-AE-F	AcuAMP AC current switch, fixed core, 0-150A sensing range, 1-10A adjustable trip point, single-turn scaled potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1-10A	1	0.25	$94.00
ACSL020-AE-S	AcuAMP AC current switch, split core, 0-150A sensing range, 2-20A adjustable trip point, single-turn scaled potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	2-20A	1	0.30	$109.00
ACSL050-AE-F	AcuAMP AC current switch, fixed core, 0-150A sensing range, 10-50A adjustable trip point, single-turn scaled potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	10-50A	1	0.25	$94.00
ACSL050-AE-S	AcuAMP AC current switch, split core, 0-150A sensing range, 20-50A adjustable trip point, single-turn scaled potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	20-50A	1	0.30	$109.00
Accessories					
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]		2	0.40	$6.00

ACSL Series Specifications

Power Supply	None - self powered
Output Switch	Solid state, normally open
Switch Rating	0.15 A @ 240 VAC/VDC
Off State Leakage	<10µA
Response Time	100ms
Inrush Delay	2 second delay before output changes state upon first energization
Hysteresis	Minimum 3% of setpoint
Setpoint (Trip Point) Ranges	Ranges from 1-50A
Setpoint (Trip Point) Adjust	3/4-turn potentiometer
Isolation Voltage	UL Tested to 3,000VAC
Monitored Circuit	600VAC line-to-line max. 0-150A
Frequency Range	50-60 Hz
Sensing Aperture	0.55" (14mm) fixed core, 0.85" [21.6 mm] split core
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
Certifications	cULus listed (E222847), CE

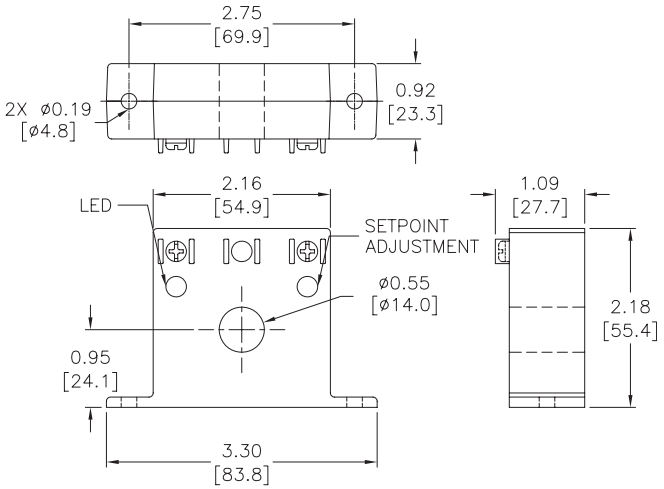
Sensed Current Limits

Type	Setpoint (Trip Point) Ranges	Amps		
		Continuous	6 Sec.	1 Sec.
Fixed Core	1-10A	150	400	1000
	10-50A	150	400	1000
Split Core	2-20A	150	400	1000
	20-50A	150	400	1000

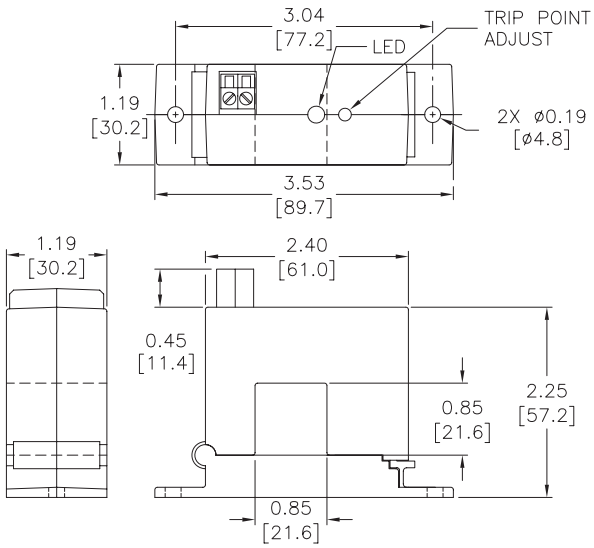
ACSL Series AC Current Switches

Dimensions

Inches [mm]



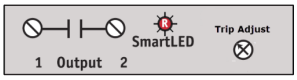
ACSL Series Fixed Core

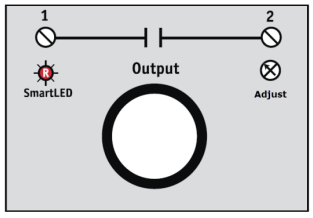


ACSL Series Split Core

See our website www.AutomationDirect.com for complete Engineering drawings.

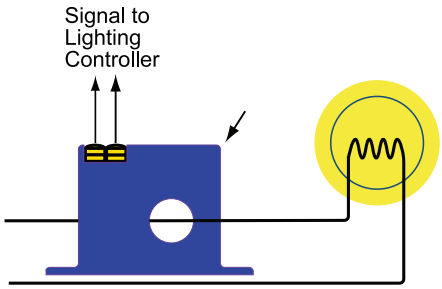
Wiring

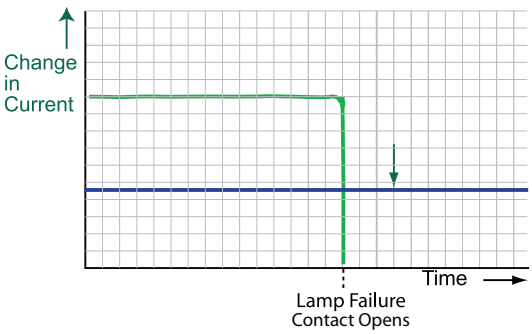




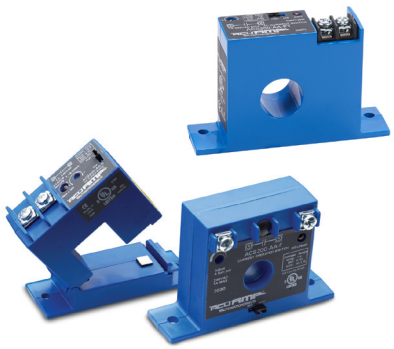
Terminals are #6 screws
Use 14-22 AWG solid or stranded wire

Application Example





ACS200 Series AC Current Switches



ACS200 series current operated switches provide the same dependable status indication as the ACS150 series, but with added resolution. A choice of three jumper-selectable input ranges allows the ACS200 to be tailored to an application and provides more precision in setpoint adjustment. Self-powered, isolated solid-state relay outputs and multiple input ranges are standard features.

Applications

Electronic Proof of Flow

- Current operated switch eliminates the need for multiple pipe or duct penetrations, lowering installed costs.
- Solid-state technology more reliable than electromechanical pressure or flow switches

Conveyors

- Detect jams and overloads; useful when interlocking multiple conveyor sections

Lighting, Heating Circuits

- Detect ON/OFF status, easier to install and less expensive than photocell or temperature sensor alternatives

Features

- N.O. or N.C. outputs 1A @ 240VAC or 0.15 A @ 30VDC.
- One model offers N.O. output rated for 3A @ 120VAC
- Status LED provides visual indication of setpoint trip and contact action.
- Self-powered operation cuts installation time and operating costs.
- Potentiometer-adjustable trip points speed start-up and allow for tailored operation.
- Choose fixed core or split core enclosure style. Split core allows easy installation on existing systems; fixed core offers more compact package for OEM or new installations.
- Built-in mounting feet with optional 35mm DIN rail adapter available.
- Five-year warranty

ACS200 AC Current Operated Switches				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACS200-AA-F	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 4-turn potentiometer, solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.3	$93.00
ACS200-AA-FT	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.29	$93.00
ACS200-AA3-FT	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.O. output, 3A @ 120 VAC output rating.	1	0.3	$109.00
ACS200-AA-S	AcuAMP AC current switch, split core, 1.75-6, 6-40, or 40-200A selectable sensing range, 1.75-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.O. output, 1A @ 240 VAC output rating.	1	0.36	$109.00
ACS200-CA-F	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 4-turn potentiometer, solid state switch, N.C. output, 1A @ 240 VAC output rating.	1	0.3	$93.00
ACS200-CA-FT	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.C. output, 1A @ 240 VAC output rating.	1	0.29	$93.00
ACS200-CA-S	AcuAMP AC current switch, split core, 1.75-6, 6-40, or 40-200A selectable sensing range, 1.75-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.C. output, 1A @ 240 VAC output rating.	1	0.35	$109.00
ACS200-AD-F	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 4-turn potentiometer, solid state switch, N.O. output, 0.15A @ 30 VDC output rating.	1	0.31	$93.00
ACS200-AD-S	AcuAMP AC current switch, split core, 1.75-6, 6-40, or 40-200A selectable sensing range, 1.75-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.O. output, 0.15A @ 30 VDC output rating.	1	0.36	$109.00
ACS200-CD-F	AcuAMP AC current switch, fixed core, 1-6, 6-40, or 40-175A selectable sensing range, 1-175A adjustable trip point, 4-turn potentiometer, solid state switch, N.C. output, 0.15A @ 30 VDC output rating.	1	0.3	$93.00
ACS200-CD-S	AcuAMP AC current switch, split core, 1.75-6, 6-40, or 40-200A selectable sensing range, 1.75-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.C. output, 0.15A @ 30 VDC output rating.	1	0.35	$109.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

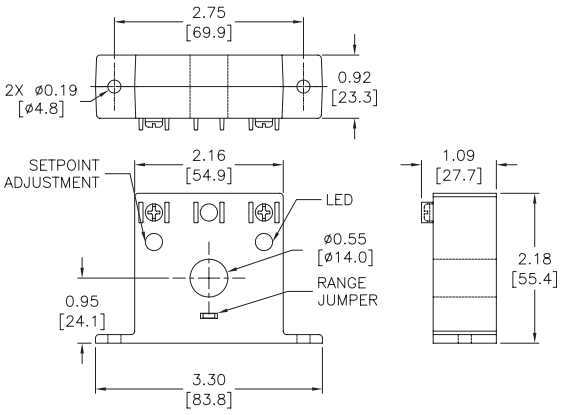
ACS200 Series AC Current Switches

Specifications	
Power Supply	None - self powered
Output	Isolated solid-state switch
Switch Rating	DC Output Type: 0.15A @ 30VDC AC Output Type: 1.0A @ 240VAC. -AA3- model: 3A @ 120VAC
Off State Leakage	<10µA AC or DC N.O., 2.5mA AC N.C., 1.4mA DC N.C.
Response Time	40 to 250 ms
Hysteresis	5%
Input Ranges	Fixed core: 1-6, 6-40 & 40-175 A
	Split core: 1.75-6, 6-40 & 40-200 A
Setpoint Adjust	4 Turn potentiometer, 15 Turn potentiometer -FT Case Style
Isolation Voltage	UL tested to 1480VAC
Frequency Range	6 to 100 Hz
Sensing Aperture	-F Case Style: 0.55 in (14mm) dia. -S Case Style: 0.85 in (21.7 mm) sq. -FT Case Style: 0.75 in (19mm) dia.
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-Temp -4 to 122°F (-20 to 50°C), 104°F (40°C) max for model ending in -03 -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Certifications	cULus listed E222847 CE

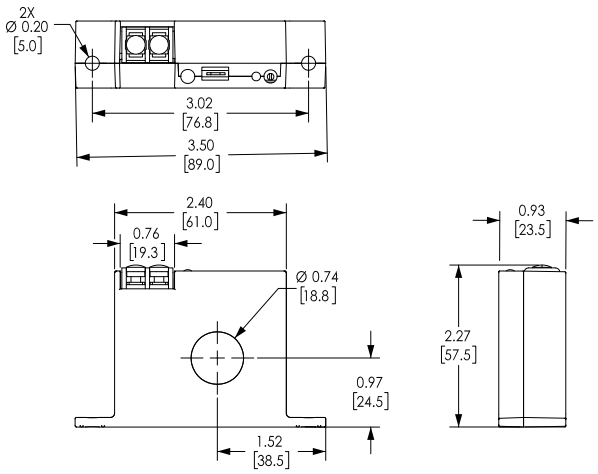
Sensed Current Limit					
Range Jumper	***Range Fixed Core***	***Range Split Core***	***Continuous***	***Max. 6 Seconds***	***Max.1 Second***
None	1 - 6A	1.75 - 6A	200A	400A	600A
Mid	6 - 40A	6 - 40A	200A	500A	800A
High	40 - 175A	40 - 200A	200A	800A	1200A

Dimensions

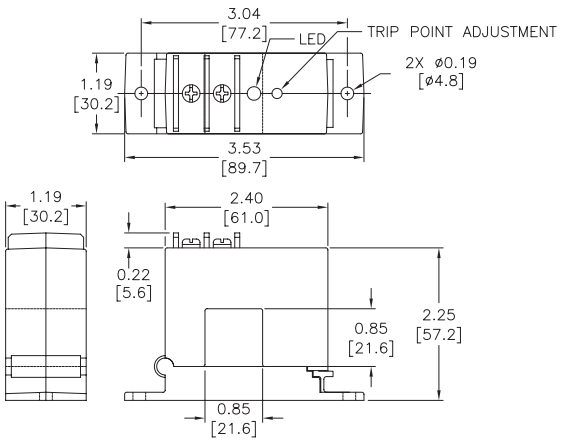
Inches [mm]



ACS200 Series Fixed Core, Side Terminals



ACS200 Series Fixed Core, Top Terminals

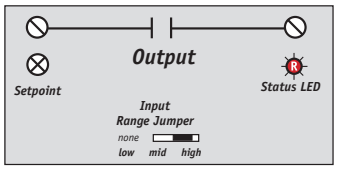


ACS200 Series Split Core

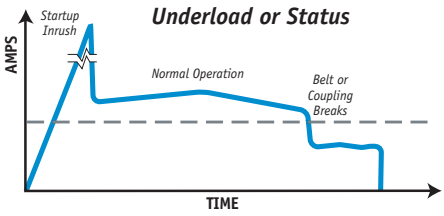
See our website www.AutomationDirect.com for complete Engineering drawings.

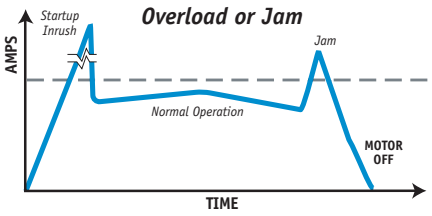
ACS200 Series AC Current Switches

Wiring

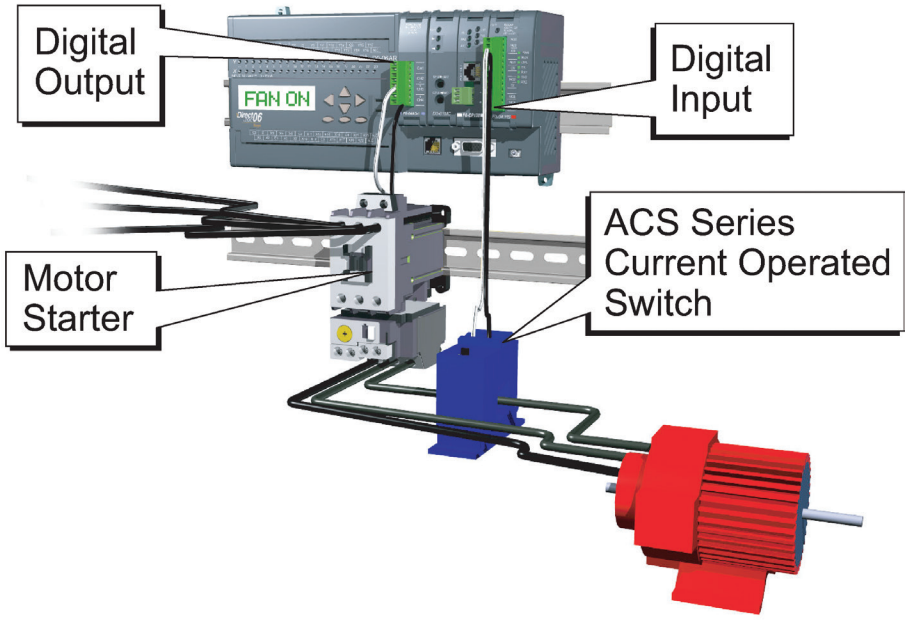


Terminals are #6 screws
Use up to 14 AWG copper wire





Application Example



ACSX Series AC Current Switches

The ACSX series high-performance current-operated switch has a field-adjustable time delay feature that minimizes nuisance trips during start-up and operation. These switches are designed for motor status applications where setpoint accuracy and repeatability are critical and offer a linear setpoint characteristic and constant hysteresis.

Applications

Motor Protection

- Serves as an electronic proof-of-operation; detects current draw changes in motors when they encounter problems such as pumps running dry or impending bearing failure
- Non-intrusive; less expensive to install than differential pressure flow sensors or thermal switches
- Much quicker response time than Class 10 overload relays

High Inrush or Temporary Overload Current

- Adjustable start-up/delay timer allows 0.12-15 second delay to eliminate nuisance trips from high inrush or short overload conditions

Features

Standard features include self-powering, jumper-selectable ranges and a choice of outputs and core styles.

- Potentiometer adjustable start-up/delay timer is field-adjustable from 0.12 to 15 seconds to eliminate nuisance alarms caused by start-up inrush or temporary overcurrent conditions.
- Choice of N.O. or N.C. AC or AC/DC outputs for use with most standard motor control systems.
- Improved ease of installation and use:
  - Adjustable time delay feature eliminates need for separate time delay relay
  - Self-powered, split-core models simplify installation
  - Status LED provides visual indication of setpoint trip and contact action
- Industrial grade performance - constant hysteresis and linear setpoint response for greater accuracy
- Built-in mounting feet with optional 35mm DIN rail adapter available.
- Five-year warranty

ACSX AC Current Operated Switches

Part Number	Description	Pcs/ Pkg	Wt (lb)	Price
ACSX200-AA-S	AcuAMP AC current switch, split core, 2-12, 12-55, or 55-200A selectable sensing range, 2-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.O., adjustable time delay output, 1A @ 240 VAC output rating.	1	0.40	$127.00
ACSX200-AA-F	AcuAMP AC current switch, fixed core, 1.5-12, 12-55, or 50-175A selectable sensing range, 1.5-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.O., adjustable time delay output, 1A @ 240 VAC output rating.	1	0.29	$126.00
ACSX200-CA-S	AcuAMP AC current switch, split core, 2-12, 12-55, or 55-200A selectable sensing range, 2-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.C., adjustable time delay output, 1A @ 240 VAC output rating.	1	0.40	$127.00
ACSX200-AE-F	AcuAMP AC current switch, fixed core, 1.5-12, 12-55, or 55-175A selectable sensing range, 1.5-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.O., adjustable time delay output, 0.15A @ 240 VAC/VDC output rating.	1	0.30	$109.00
ACSX200-AE-S	AcuAMP AC current switch, split core, 2-12, 12-55, or 55-200A selectable sensing range, 2-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.O., adjustable time delay output, 0.15A @ 240 VAC/VDC output rating.	1	0.40	$122.00
ACSX200-CE-F	AcuAMP AC current switch, fixed core, 1.5-12, 12-55, or 55-175A selectable sensing range, 1.5-175A adjustable trip point, 15-turn potentiometer, solid state switch, N.C., adjustable time delay output, 0.2A @ 135 VAC/VDC output rating.	1	0.30	$109.00
ACSX200-CE-S	AcuAMP AC current switch, split core, 2-12, 12-55, or 55-200A selectable sensing range, 2-200A adjustable trip point, 4-turn potentiometer, solid state switch, N.C., adjustable time delay output, 0.2A @ 135 VAC/VDC output rating.	1	0.40	$122.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

ACSX200 Minimum Load

Part Number	Minimum Load Operating Current
ACSX200-AE-F	**
ACSX200-AE-S	**
ACSX200-CE-F	150
ACSX200-CE-S	150
ACSX200-AA-S	20mA
ACSX200-AA-F	20mA
ACSX200-CA-S	20mA

*** The AC/DC switch output has no specified minimum load required to operate the output. There is a maximum resistance of 5 ohms across the output when the switch is "on."*

Sensed Current Limit

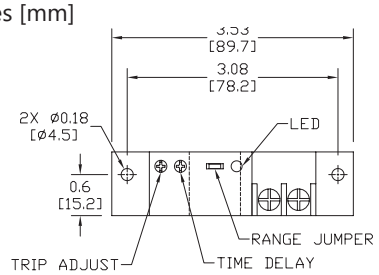
Type	Range	Continuous	6 Seconds	1 Second
Fixed Core	1.5 - 175 A	200A	400A	1000A
Split Core	2 - 200A			

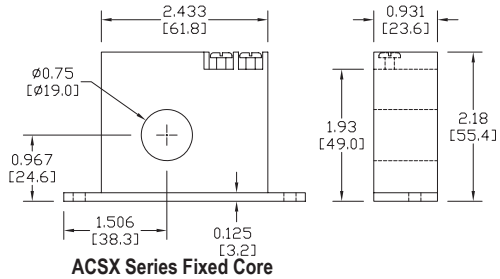
ACSX Series AC Current Switches

Specifications	
Power Supply	None - self powered
Output	Isolated solid-state switch
Switch Rating	N.O. or N.C. AC only: 1.0A @ 240VAC N.O. AC/DC: 0.15A @ 240 VAC/VDC N.C. AC/DC: 0.20A @ 135 VAC/VDC
Off State Leakage	<10µA, 2.5mA, N.C. AC only output
Response Time	0.12 to 15 seconds, adjustable
Hysteresis	5% of setpoint, constant
Input Ranges	Fixed core: 1.5-12, 12-55 and 50-175 A Split core: 2-12, 12-55 and 50-200 A
Setpoint Adjust	Fixed core: 15-Turn potentiometer Split core: 4-Turn potentiometer
Isolation Voltage	UL tested to 1480VAC
Frequency Range	50 to 100 Hz
Sensing Aperture	Fixed core: 0.75 in (19mm) dia. Split core: 0.85 in (21.7 mm) sq.
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Certifications	cULus listed E222847, CE

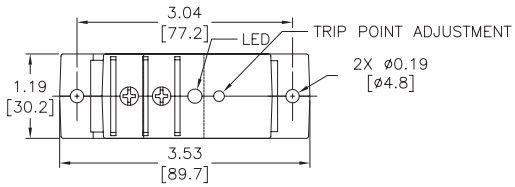
Dimensions

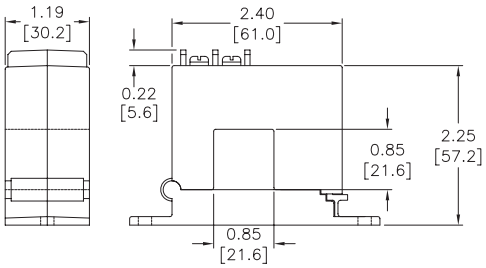
Inches [mm]





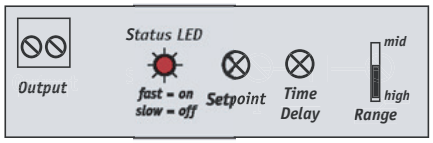
ACSX Series Fixed Core



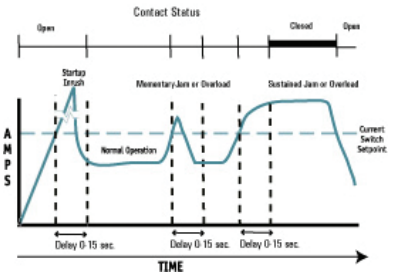


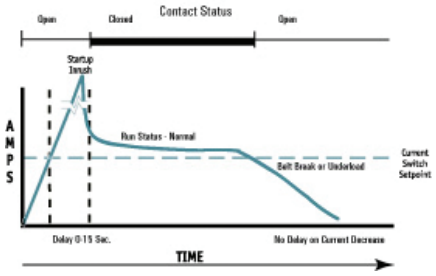
ACSX Series Split Core

Wiring



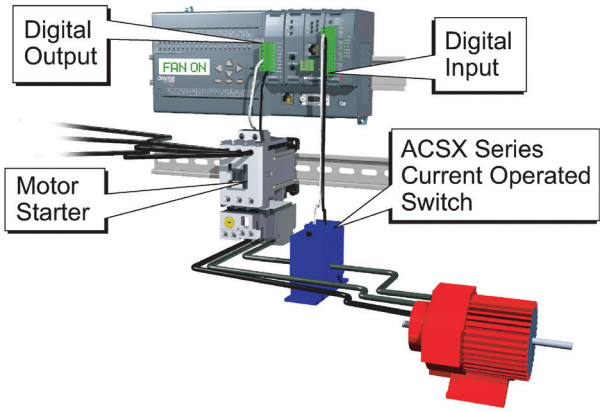
Use up to 14 AWG copper wire





See our website www.AutomationDirect.com for complete Engineering drawings.

Application Example



ACL1 AC Current Indicator

The ACL1 Current Indicator is a small, inexpensive, simple LED ring which slides over a conductor to give a flashing indication of current flow. This unit is ideal for use in control panels, or wherever you need to substantiate current flow. The ACL1 current indicator is a cost-effective way to detect live conductors and see current flow to fans, heaters, pumps, lighting or other powered devices.

Applications

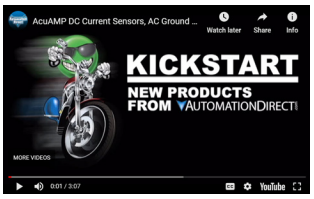
Monitoring Loads
- Provides indication of current draw on monitored loads in a panel

Operation Confirmation
- Provides confirmation of operation for critical lighting equipment

Identifying Open Circuits
- Quickly identify open heater circuit connection

Features

- **Low Sensitivity Turn-On Point:** Detect currents as low as 0.5A with a single conductor pass. Eliminates the need to wrap conductors multiple times to increase sensitivity.
- **High Visibility Flashing LED:** Flashing LEDs perform better in daylight conditions and from multiple angles than constant on LEDs.
- Five-year warranty

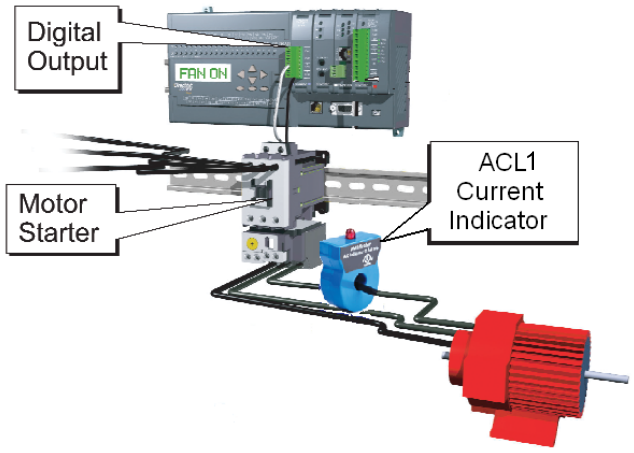


Click on the thumbnail or go to https://www.automationdirect.com/VID-CT-0001 for a short introductory video on the AcuAmp Current Switches, Transducers and Indicators

ACL1 AC Current Indicator				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
ACL1	AcuAMP AC current indicator, fixed core, 0.5-100A sensing range, 0.5A non-adjustable trip point.	1	0.3	$23.00

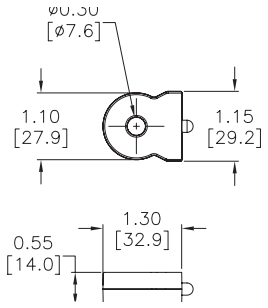
Specifications	
Sensed Current	AC, 50–400 Hz
Output/Indication	LED (flashing, red)
Indicating Range	0.5–100A
LED ON	>500mA (factory set)
Case	UL94-V0 Flammability Rated
Mounting	Slides directly onto monitored conductor (can be attached with the supplied wire-tie)
Isolation Voltage	Max. Primary Circuit Voltage, 300VAC
Environmental	Operating Temperature: -58 to 122°F [-50 to 50°C]
	Relative Humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude 2000 meters
Sensing Aperture	0.30" [7.6 mm] dia.
Certifications	cULus listed (E222847). CE

Application Example



Dimensions

Inches [mm]



AcuAMP® 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.

** DC only for -10B Bidirectional models*

DC Current Switches and Transducers Applications

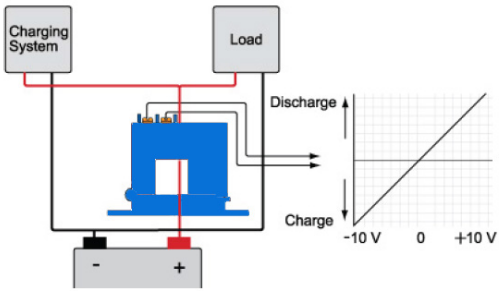
Application Guide

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.

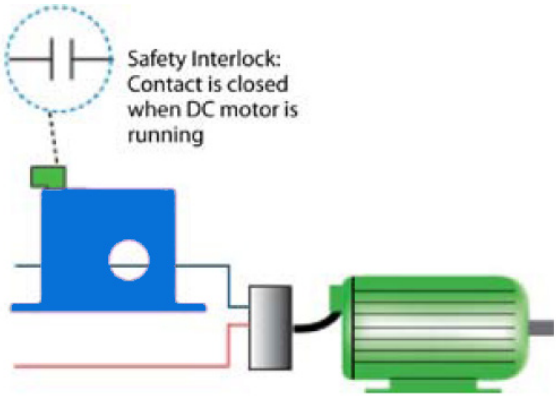
The bi-directional models allow the monitoring of batteries while they are being charged or consumed and can be used to trigger a warning if critical low levels are reached. They can also monitor the output of a photovoltaic array to make sure there is enough energy being generated to keep the process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

Transducer

Battery Charging System - Bidirectional Output

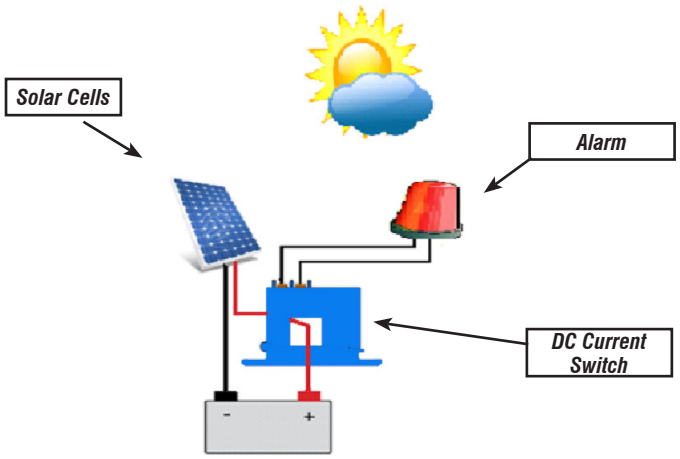


Failure Detection

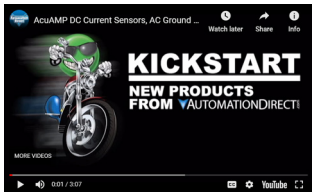


Switches

Solar Panel - Current Drop



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.



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

AcuAMP® DCT Series DC Current Transducers

DCT 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 jumper-selectable 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 models.

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 consumed.
- 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 products.
- 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 drop.
- 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

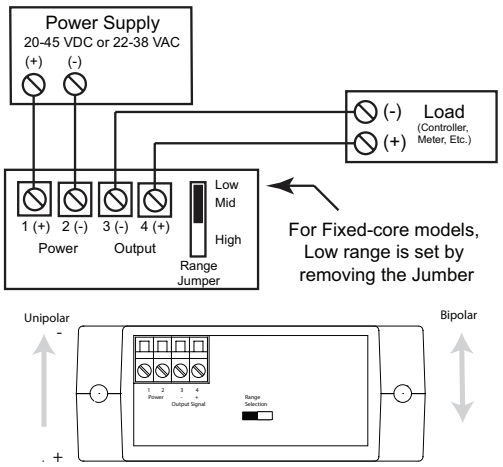
DCT Series DC Current Transducers				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
DCT100-42-24-F	AcuAMP DC current transducer, fixed core, 0-50, 0-75, or 0-100A selectable sensing range, 4-20mA output.	1	0.35	$166.00
DCT200-42-24-F	AcuAMP DC current transducer, fixed core, 0-100, 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				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

ACUAMP® DCT Series DC Current Transducers

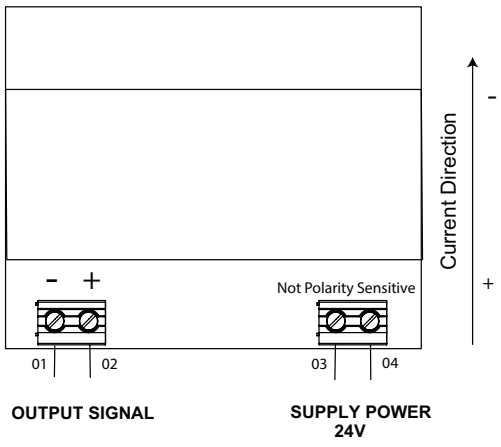
DCT Series Specifications		
Models Available	***10B***	***42***
Power Supply	20-45 VDC	20-45 VDC, 22-38 VAC; Units 500A and over 24 VAC/DC - use Class 2 power supply, Power and signal are isolated.
Power Consumption	2VA	
Output Signal	+/-10VDC	4-20 mA sourcing
Output Load	50kΩ minimum	500Ω maximum
Output Limit	11.5 VDC	23mA
Accuracy	Split-core: 2% FS	Fixed-core: 1% FS; 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	
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	
Certifications	cULus listed (E197592), CE	

Wiring

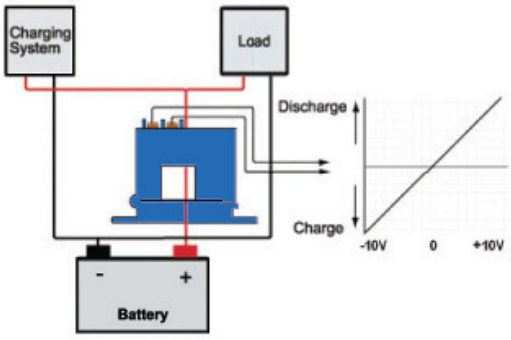
Connection for units up to 400A

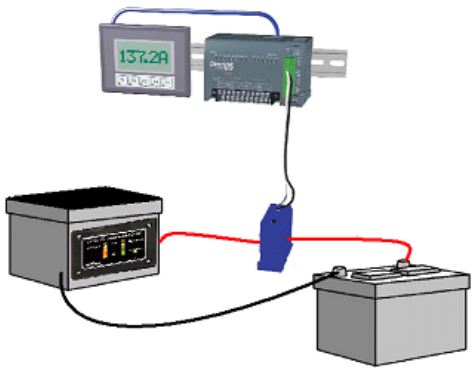


Connection for units 500A and over



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

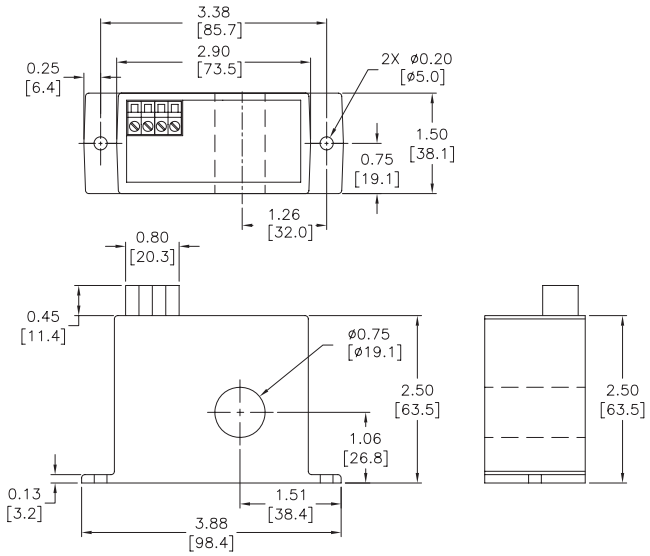




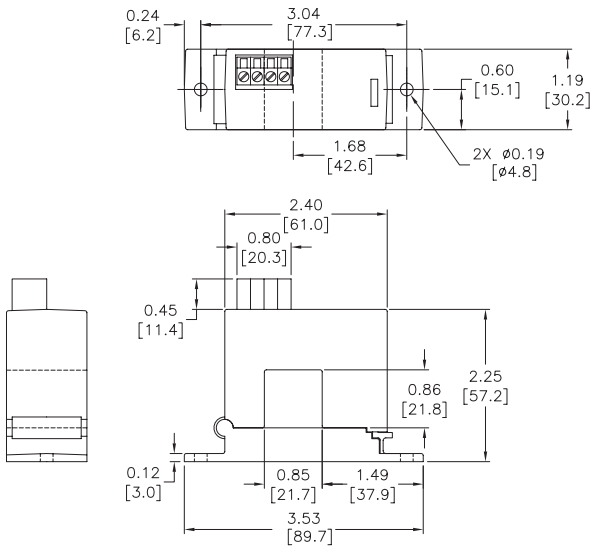
DCT Series DC Current Transducers

Dimensions

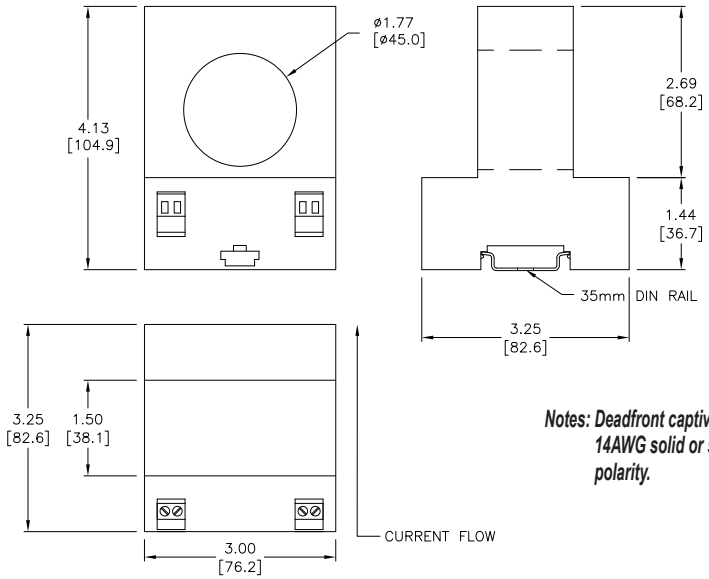
Inches [mm]



DCT Series Fixed-Core



DCT Series Split-Core



Notes: Deadfront captive screw terminals. 14AWG solid or stranded. Observe polarity.

DCT Series Fixed-Core - Units 500A and over

See our website www.AutomationDirect.com for complete Engineering drawings.

AcuAMP® DCS100 Series DC Current Switches

DCS100 series current switches combine a Hall effect sensor, signal conditioner and limit alarm into a single package for use in DC current applications up to 100A. The DCS100 series has jumper-selectable current input ranges and your choice of Normally Open Solid-State or SPDT Relay outputs. This series is available in fixed core models only.

Applications

Welders
- Indication of equipment status

Power Supplies
- Prevent equipment failures due to over-current conditions.

Battery Systems
- Monitor the state of critical backup batteries.

Features

- Compact, one-piece design
- Built-in mounting feet with optional 35 mm DIN rail adapter available.
- Removable terminal blocks that accept up to 12 AWG solid or stranded wire
- Adaptive hysteresis is 5% of setpoint, allowing closer control.
- Selectable input ranges allow end users to tailor sensing ranges and improves the odds of having the right range for the job.
- Not polarity sensitive; can measure positive or negative current.
- Output is magnetically isolated from the input for safety and to eliminate voltage drop.
- **Five-year warranty**

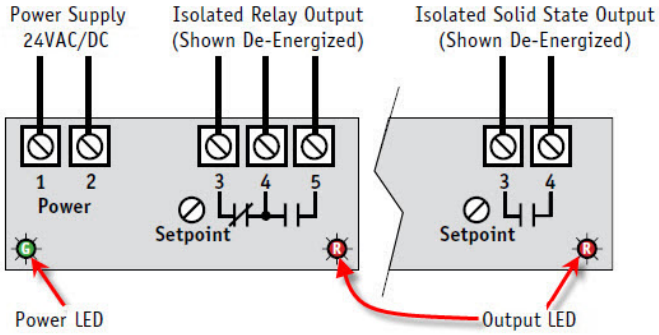
DCS100 Series DC Current Switches				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
DCS100-AE-24-F	AcuAMP DC current switch, fixed core, 5-15, 10-50, or 20-100A selectable sensing range, 5-100A adjustable trip point, 11-turn potentiometer, solid state switch, N.O. output, 0.15A @ 240 VAC/VDC output rating.	1	0.35	$124.00
DCS100-1C-24-F	AcuAMP DC current switch, fixed core, 5-15, 10-50, or 20-100A selectable sensing range, 5-100A adjustable trip point, 11-turn potentiometer, relay, SPDT output, 5A @ 240 VAC or 3A @ 30 VDC output rating.	1	0.35	$130.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

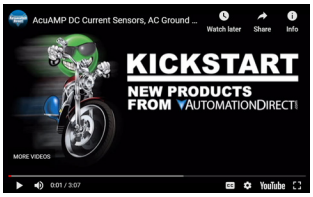
Ranges and Maximum Amps			
Jumper Position	***Range***	***Maximum Input Amps***	
		Continuous	***5 Seconds***
Low	5-15A	200A	300A
Mid	10-50A	200A	300A
High	20-100A	200A	300A

DCS100 Series Specifications		
Models Available	***AE***	***1C***
Power Supply	20-28 VAC/DC	20-28 VAC/DC
Power Consumption	2VA	2VA
Switch Rating	Solid State, N.O. (0.15 A @ 240 VAC/DC)	SPDT (Form C) Relay 5A General Purpose @ 240VAC 3A Inductive @ 240VAC 3A @ 30VDC 1/8 HP @ 240VAC
Off State Leakage	<10µA	None
Response Time	100ms (10% above setpoint), 20ms (100% above setpoint)	100ms (10% above setpoint), 20ms (100% above setpoint)
Hysterisis Approx	5% of setpoint	5% of setpoint
Repeatability	0.5 %	0.5%
Input Ranges	5-15, 10-50 and 20-100A, Jumper Selectable	5-15, 10-50 and 20-100A, Jumper Selectable
Setpoint (Trip Point) Adjust	11-turn Potentiometer	11-turn Potentiometer
Sensing Aperture	0.75" [19.1 mm] diameter	0.75" [19.1 mm] diameter
Isolation Voltage	3KV	3KV
Frequency Range	DC	DC
Case	UL 94V-0 Flammability Rated	UL 94V-0 Flammability Rated
Environmental	Operating Temperature: -40 to 140°F [-40 to 60°C]	Operating Temperature: -4 to 122°F [-20 to 50°C]
	Relative Humidity: 0-95% RH, non-condensing	
	Pollution Degree 2	
	Altitude to 2000 meters	
Certifications	cULus listed (E222847), CE	

DCS100 Series DC Current Switches

Wiring

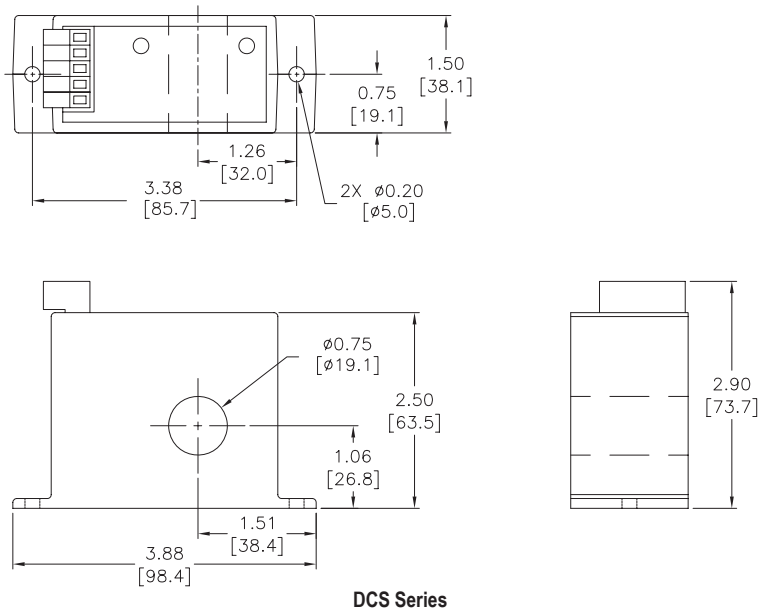




Click on the thumbnail or go to https://www.automationdirect.com/VID-CT-0001 for a short introductory video on the AcuAmp Current Switches, Transducers and Indicators

Dimensions

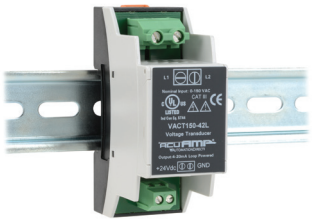
Inches [mm]



DCS Series

See our website www.AutomationDirect.com for complete Engineering drawings.

VACT Series AC Voltage Transducers



VACT series AC voltage transducers are high-performance True RMS transducers for sensing voltage in single-phase installations. Applicable on circuits of 120V, 208V, 240V, 277V, and 480V, the VACT series models provide a fully isolated, 4-20 mA output proportional to rated voltage in both sinusoidal and non-sinusoidal (variable frequency) situations. Housed in a slim, compact, easy-to-install DIN rail mounted enclosure, the VACT series comes in a variety of voltage ranges and use four wire terminal block connections.

Applications

True RMS Voltage Monitoring

- Detect below normal or "brown out" voltage conditions; protect against possible motor overheating.
- Identify phase loss conditions by detecting voltage reduction in one or more phase of three-phase motor.
- Monitor over voltage conditions associated with regenerative voltage to help in diagnosing/avoiding motor drive issues.
- Detect voltage conditions which may cause stress in or damage to soft starter components (SCRs).

Features

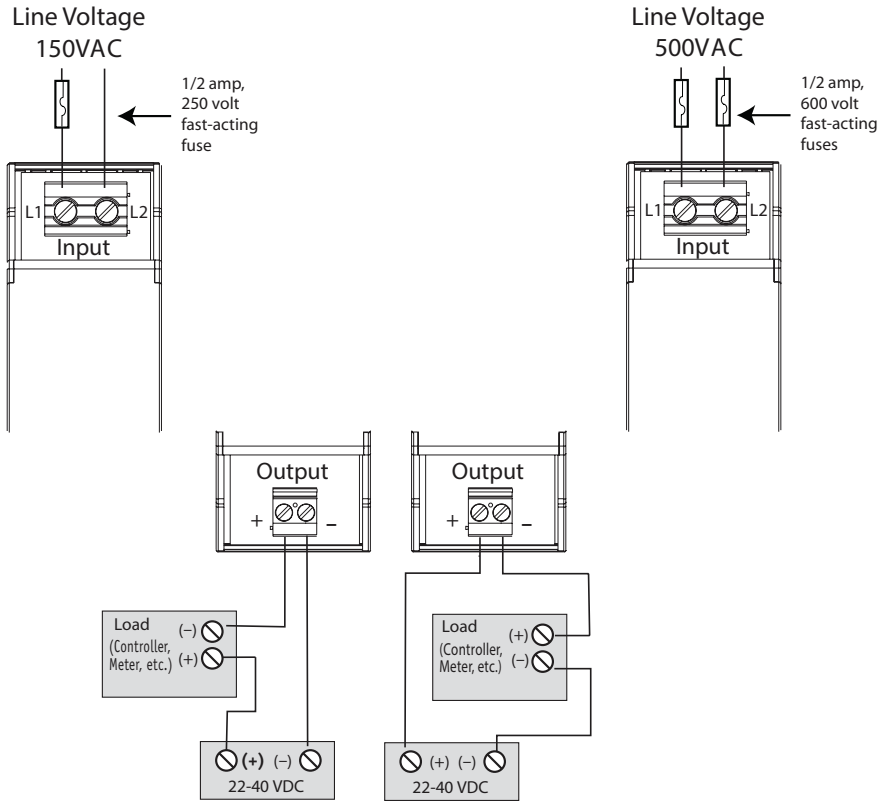
- **True RMS Output:** Allows for use in situations where power supplied is non-sinusoidal, poor power quality installations or other electrically harsh/ challenging environments.
- **Standard 4-20 mA Loop Powered Output:** Industry standard output makes use with existing controllers, data loggers and SCADA equipment easy and reliable.
- **Input/Output Isolation:** Input and output circuitry electrically isolated for improved safety of use.
- **Compact DIN rail Mount Enclosure:** Space saving 35mm wide enclosure makes installation quick and easy.
- **Five-year warranty**

VACT Series AC Voltage Transducers				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
VACT150-42L	AcuAMP AC voltage transducer, 0-150 VAC sensing range, True RMS, 4-20mA output.	1	0.25	$190.00
VACT500-42L	AcuAMP AC voltage transducer, 0-500 VAC sensing range, True RMS, 4-20mA output.	1	0.25	$190.00

VACT Series Specifications	
Power Supply	24VDC (22VDC-40VDC), Use Class 2 power supply only
Voltage Measurement	150V (for monitoring 120VAC) and 500V (for monitoring 208, 240, 277, 480 VAC), not to exceed 600VAC RMS
Output	4-20 mA proportional;loop powered (sinking), capped at 24mA max
Response Time	250ms (to 90% value)
Accuracy	<1%
Linearity	<0.5%
Output Impedance	500Ω maximum
Isolation Voltage	2500 Volts per UL
Frequency Range	40-100 Hz
Case	UL94V-0 Flammability Rating
Environmental	Operating temperature: -4 to122°F (-20 to 50°C)
	Relative humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude to 2000 meters
Certifications	cULus listed (E222847), CE

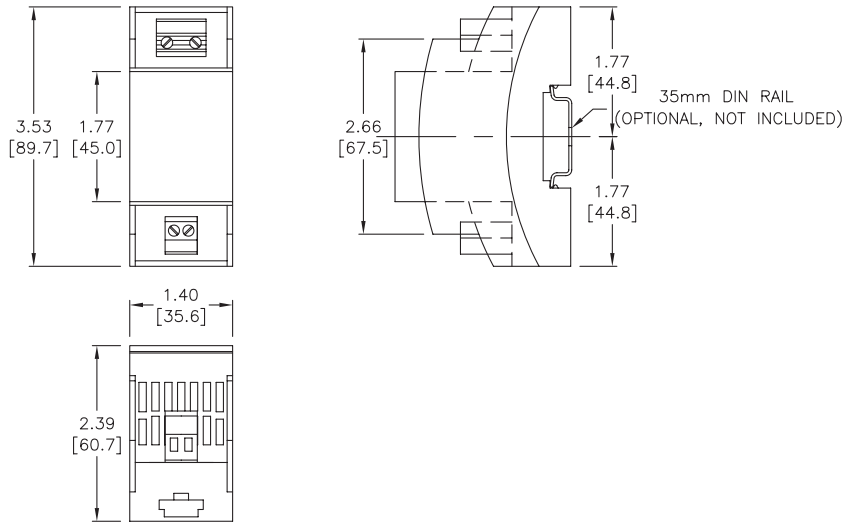
VACT Series AC Voltage Transducers

Wiring



Dimensions

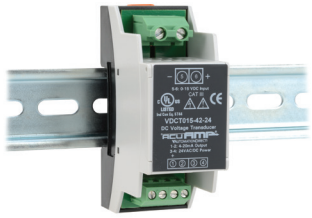
Inches [mm]



VACT Series

See our website www.AutomationDirect.com for complete Engineering drawings.

VDCT Series DC Voltage Transducers



The VDCT series DC voltage transducers are high-performance transducers for sensing voltage in DC powered installations. Applicable on circuits up to 50VDC, the VDCT series models provide a fully isolated, 4-20 mA output proportional to rated nominal voltage in DC circuits. Housed in a slim, compact, easy-to-install DIN rail mounted enclosure, the VDCT series comes in two different nominal voltage ranges.

Applications

- Detect below normal or "brown out" voltage conditions; protect against possible motor overheating.
- Monitor over voltage conditions associated with regenerative voltage to help in diagnosing/avoiding motor drive issues.
- Detect voltage conditions which may cause stress in or damage to soft starter components (SCRs).

Features

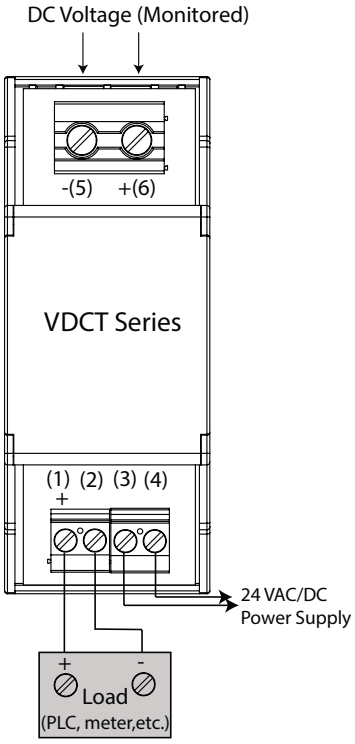
- **Accurate Output:** Two ranges available for your application, up to 50VDC
- **Standard 4-20 mA Output:** Industry standard output makes use with existing controllers, data loggers and SCADA equipment easy and reliable.
- **Input/Output Isolation:** Input and output circuitry electrically isolated for improved safety of use.
- **Compact DIN rail Mount Enclosure:** Space saving 35mm wide enclosure makes installation quick and easy.
- **Five-year warranty**

VDCT Series DC Voltage Transducers				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
VDCT015-42-24	AcuAMP DC voltage transducer, 0-15 VDC sensing range, 4-20mA output.	1	0.25	$190.00
VDCT050-42-24	AcuAMP DC voltage transducer, 0-50 VDC sensing range, 4-20mA output.	1	0.25	$190.00

VDCT Series Specifications	
Power Supply	24 VAC/DC External Power (20-45 VDC), <2VA Use Class 2 power supply
Input	15V (for monitoring 12VDC) and 50V (for monitoring 24, 36, 48 VDC), not to exceed 600VDC
Output	4-20mA proportional; capped at 24mA max
Response Time	250ms (to 90% value)
Accuracy	<1%
Linearity	<0.5%
Output Impedance	500Ω maximum
Isolation Voltage	2500 Volts per UL
Frequency Range	DC
Case	UL94V-0 Flammability Rating
Environmental	Operating temperature: -4 to122°F (-20 to 50°C)
	Relative humidity: 0-95% RH, Non-condensing
	Pollution Degree 2
	Altitude to 2000 meters
Certifications	cULus listed (E222847), CE

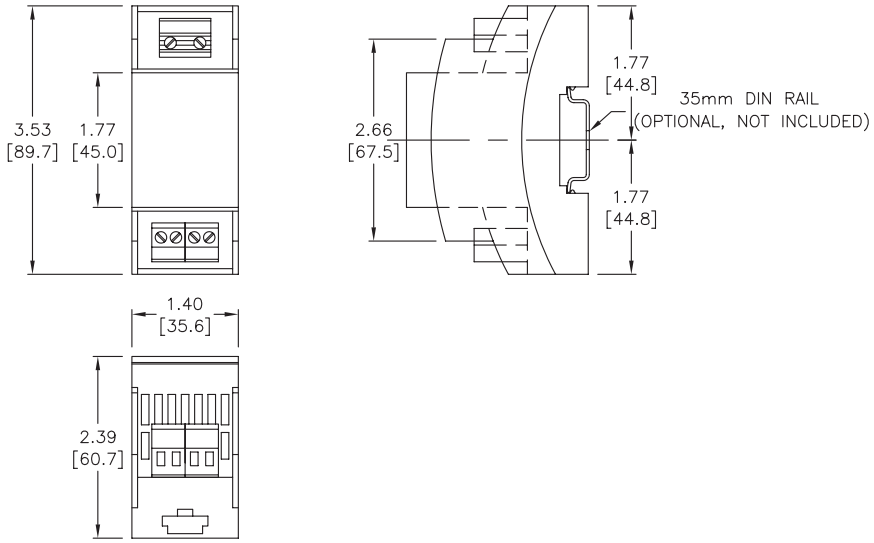
VDCT Series DC Voltage Transducers

Wiring



Dimensions

Inches [mm]



VDCT Series

See our website www.AutomationDirect.com for complete Engineering drawings.

VADT Series AC/DC Voltage Transducers

VADT series AC/DC voltage transducers are high-performance True RMS sensing for AC voltage in single-phase or 3-phase installations and DC voltage sensing in DC powered installations. Applicable on AC circuits of 120V, 208V, 240V, 277V, and 480V, or DC circuits of 12V, 24V, 48V, 120V, the VADT series models provide a 4-20 mA output proportional to rated voltage in both sinusoidal and non-sinusoidal (variable frequency) situations and DC voltage. Housed in a slim, compact, easy-to-install DIN rail mounted enclosure, the VADT series comes in a variety of voltage ranges.

Applications

True RMS or DC Voltage Monitoring

- Detect below normal or "brownout" voltage conditions; protect against possible motor overheating.
- Identify phase loss conditions by detecting voltage reduction in one or more phase of three-phase motor.
- Monitor over voltage conditions associated with regenerative voltage to help in diagnosing/avoiding motor drive issues.
- Detect voltage conditions that may cause stress or damage to soft starter components (SCRs).

Features

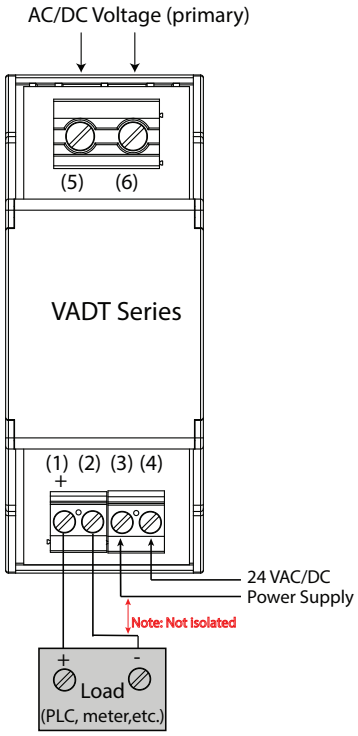
- Zero to 5 KHz Measurement
- Allows for use in situations where power supplied is non-sinusoidal such as VFD applications, poor power quality installations or other electrically harsh/ challenging environments.
- Industry standard 4-20mA compatible with controllers, data loggers and SCADA
- Compact DIN Rail Mount Case
- Space saving enclosure mounts quickly on 35mm DIN rail with integral mounting clips
- Five-year warranty

VADT Series AC/DC Voltage Transducers				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
VADT015-42-24	AcuAMP AC/DC voltage transducer, 0-15 VAC/VDC sensing range, True RMS, 4-20mA output.	1	0.27	$190.00
VADT050-42-24	AcuAMP AC/DC voltage transducer, 0-50 VAC/VDC sensing range, True RMS, 4-20mA output.	1	0.27	$190.00
VADT150-42-24	AcuAMP AC/DC voltage transducer, 0-150 VAC/VDC sensing range, True RMS, 4-20mA output.	1	0.27	$190.00
VADT500-42-24	AcuAMP AC/DC voltage transducer, 0-500 VAC/VDC sensing range, True RMS, 4-20mA output.	1	0.27	$190.00

Specifications	
Power Supply	24 VAC/DC (+/-8.3%) External Power (Note: Output and power supply negatives are not isolated.)
Power Consumption	< 2VA
Voltage Measurement	15, 50, 150, and 500 VAC or DC
Frequency Range	0 - 5KHz
Output	4 - 20 mA
Output Limit	31mA
Response Time	500 ms (90% step change)
Accuracy	<1% Full Scale
Output Impedance	< 400Ω
Isolation Voltage	UL tested to 2200VAC
Case	UL 94V-0 Flammability rated thermoplastic
Environmental	-Temp -4 to 122°F (-20 to 50°C) -Humidity 0-95% RH, Non-condensing -Pollution degree 2 -Altitude 2000 meters
Certifications	cULus listed E222847, CE

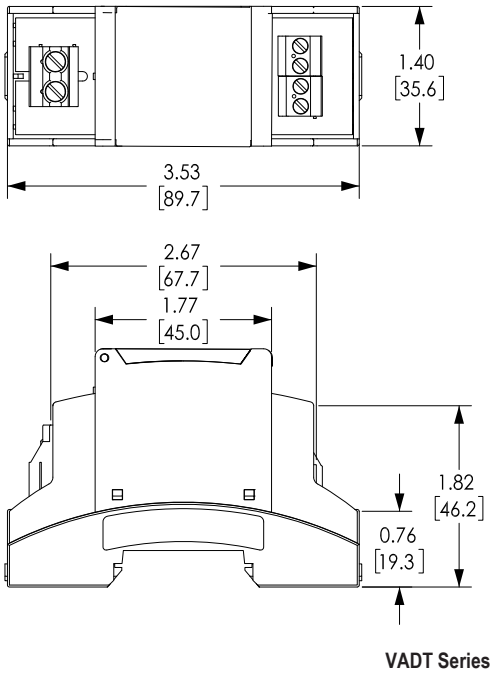
VADT Series AC/DC Voltage Transducers

Wiring



Dimensions

Inches [mm]



VADT Series

See our website www.AutomationDirect.com for complete Engineering drawings.

GFS/GFSL Series AC Ground Fault Sensors

Ground fault sensors help protect people, products, and processes from damage that can be caused by ground fault conditions. The GFS series monitors all current-carrying conductors in grounded single and three-phase delta or wye systems.

GFS series sensors offer jumper-selectable setpoints of 5, 10 or 30 mA. The GFS models come in a fixed core case with a 0.75" sensing aperture and are UL Recognized. The GFSL models come in a fixed core case with a large 1.87" sensing aperture and are UL Listed.

Applications

Personnel Protection
(typically 5mA)

- Detects sensitive ground fault conditions, which may be injurious to personnel and processes
- Functions as sensor and alarm trigger when part of an overall ground fault protection system

Equipment Protection
(typically 10mA or 30mA)

For applications where personal protection is not the primary concern, higher setpoint capability helps eliminate nuisance tripping while still providing adequate ground fault detection to protect machine electronics.

Regulatory

Meets requirements as stipulated by governmental and industrial regulatory groups for ground fault sensing.

Features

- **Wide Range of Options:** Mechanical relay outputs with Auto or Manual reset.
- **Setpoint Options:** Field selectable 5mA, 10mA or 30mA setpoints makes user adjustments fast, sure and convenient.
- **Compatible with Standard Equipment:** Applicable on single- and three-phase systems. Ideal for use with shunt trip breakers. Magnetically isolated from monitored circuit and control power.
- Built-in feet with optional 35mm DIN rail adapter available. Large aperture version has integral 35mm DIN rail mounting.
- **Not compatible with VFD or SCR Outputs**
- **Five-year warranty**

(GFS) *(GFSL)*

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

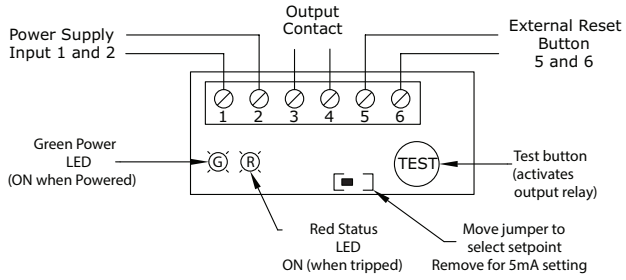
GFS & GFSL Series Ground Fault Sensors				
Part Number	***Description***	***Pcs/Pkg***	***Wt (lb)***	***Price***
GFS30-M1A-24-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.O., manual reset output, 24 VAC/VDC operating voltage.	1	0.50	$283.00
GFS30-M1B-24-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.C., manual reset output, 24 VAC/VDC operating voltage.	1	0.50	$283.00
GFS30-D1C-24-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPDT normally de-energized, automatic reset output, 24 VAC/VDC operating voltage.	1	0.50	$193.00
GFS30-E1C-24-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPDT normally energized, automatic reset output, 24 VAC/VDC operating voltage.	1	0.50	$205.00
GFS30-M1A-120A-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.O., manual reset output, 120 VAC operating voltage.	1	0.50	$283.00
GFS30-M1B-120A-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.C., manual reset output, 120 VAC operating voltage.	1	0.50	$283.00
GFS30-D1C-120A-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPDT normally de-energized, automatic reset output, 120 VAC operating voltage.	1	0.50	$193.00
GFS30-E1C-120A-F	AcuAMP ground fault sensor, fixed core, 5, 10, or 30 mA selectable trip point, relay, SPDT normally energized, automatic reset output, 120 VAC operating voltage.	1	0.50	$205.00
GFSL30-M1A-120A-F	AcuAMP ground fault sensor, large aperture fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.O., manual reset output, 120 VAC operating voltage.	1	0.50	$326.00
GFSL30-M1B-120A-F	AcuAMP ground fault sensor, large aperture fixed core, 5, 10, or 30 mA selectable trip point, relay, SPST-N.C., manual reset output, 120 VAC operating voltage.	1	0.50	$326.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	$6.00

GFS/GFSL Series AC Ground Fault Sensors

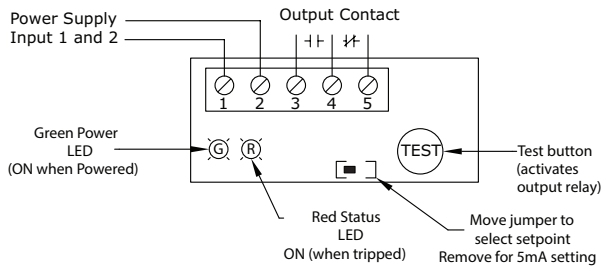
GFS & GFSL Series Specifications		
Models Available	***GFS***	***GFSL***
Power Supply	Model 24-F: 24 VAC/DC (20.4-27.6 VAC or 19.2-30 VDC) Model 120A-F: 120VAC (66-132 VAC), 50/60 Hz	120 VAC (66-132 VAC), 50/60 Hz
Monitored Circuit	1500 VAC max, 50-400 Hz	600VAC line-to-line max., 50/60 Hz
Output Signal	SPST or SPDT	SPST (normally open or normally closed)
Output Rating	Manual: SPST Relay, 1A @ 125VAC, 2A @ 30VDC, Auto: SPDT Relay, 1A @ 125VAC, 2A @ 30VDC	Manual Reset: SPST Relay, 1A @ 125VAC, 2A @ 30VDC
Off State Leakage	None	None
Power Consumption	2.5 VA max	2.5 VA max
Setpoint (Trip Point)	5, 10 and 30 mA jumper select	5, 10 and 30 mA jumper select
Response Time	200ms @ 5% above setpoint	200ms @ 5% over setpoint 60ms @ 50% over setpoint 15ms @ 500% over setpoint
Sensing Aperture	0.75" [19.1 mm] diameter	1.82" [46mm] diameter
Isolation Voltage	5kV (tested)	UL tested to 1,048VAC
Case	UL 94V-0 Flammability Rated	UL 94V-0 Flammability Rated
Environmental	Operating temperature: -4 to122°F (-20 to 50°C)	
	Relative humidity: 0-95% RH, Non-condensing	
	Pollution Degree 2	
	Altitude to 2000 meters	
Certifications	URus recognized 1053 (E343037), CE	cULus listed 508 (E222847), CE

Wiring

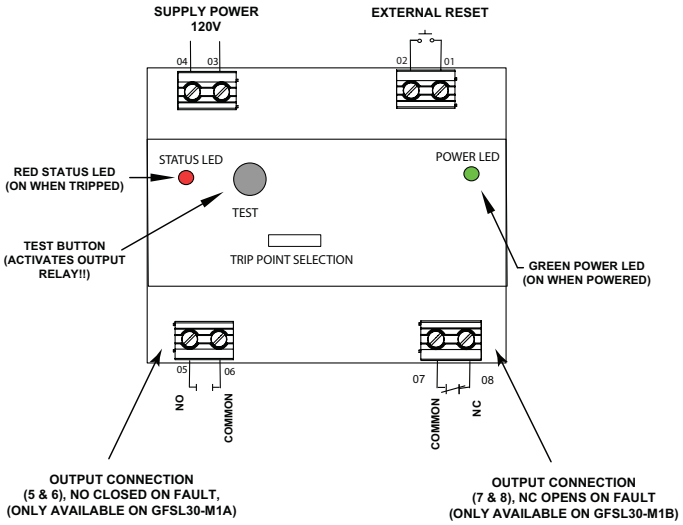
GFS M1A and M1B Models



GFS D1C and E1C Models



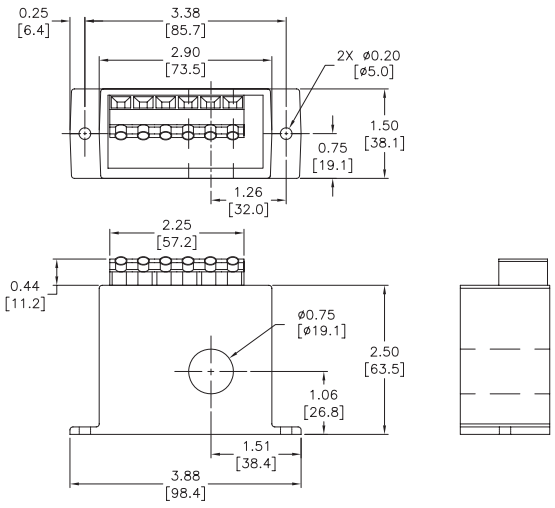
GFSL M1A and MIB Models



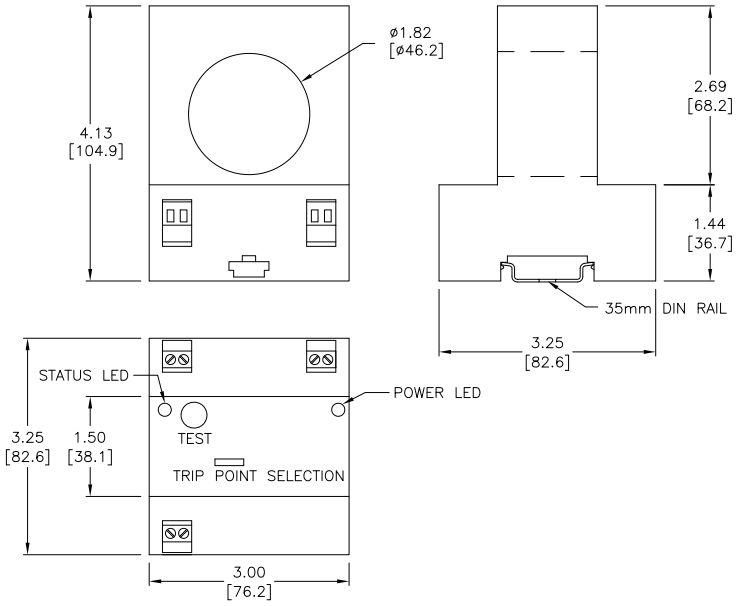
GFS/GFSL Series AC Ground Fault Sensors

Dimensions

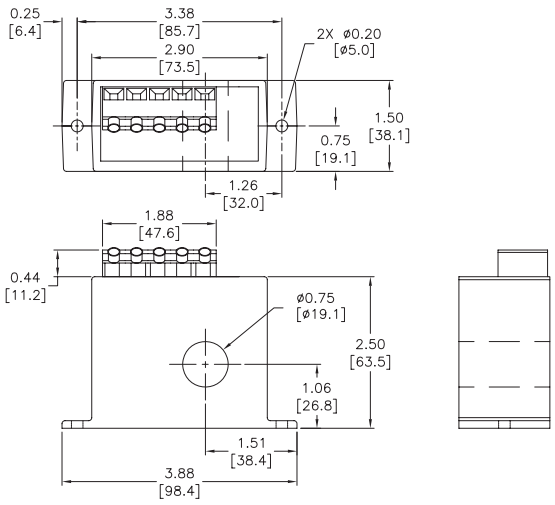
Inches [mm]



GFS M1A and M1B Models



GFSL M1A and MIB Models



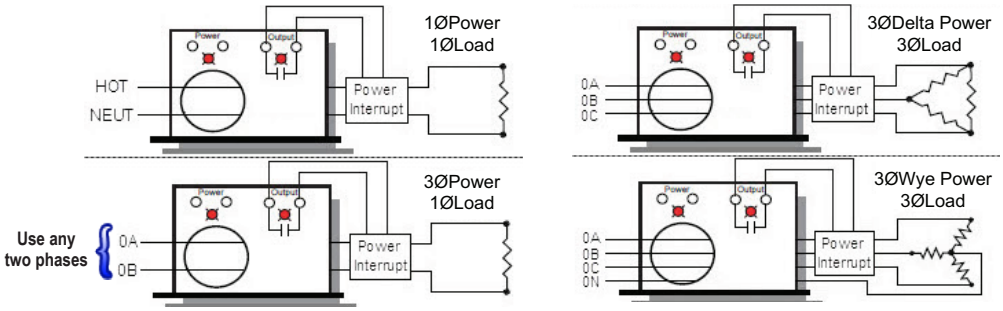
GFS D1C and E1C Models

See our website www.AutomationDirect.com for complete Engineering drawings.

Ground Fault Sensors Operation and Applications

Principle of Operation

"Zero Sum" Operating Principle:
In three-phase delta and wye systems, under normal conditions current in the 'hot' leg of a two-wire load is equal in magnitude but opposite in sign to the current in the neutral leg. As a result, the electromagnetic fields surrounding these two conductors cancel each other, producing a "zero sum current."As soon as current leaks to ground (fault condition), the two currents become imbalanced and a net magnetic field results. GFS Series sensors monitor this field and trip alarm contacts when the leakage rises above setpoint.



Operation/Setup

Auto Reset Sensors (E1C and D1C)
GFS Auto Reset sensors monitor all current carrying conductors and will trip when a ground fault is sensed. The output of these sensors will automatically reset when the ground fault condition is cleared. Select from three factory calibrated setpoints by moving the setpoint jumper to the desired position.

- 5mA setpoint: Detect sensitive ground fault conditions that may be injurious to personnel or processes.
- 10 mA and 30 mA setpoints: These higher setpoints help eliminate nuisance tripping while still providing adequate ground fault protection for machine electronics.

Normally Energized Models (E1C)
- Used to detect both ground faults and loss of control power

Normally De-energized Models (D1C)
- Used to detect ground faults

Manual Reset Sensors

	NO POWER		CONTROL POWER APPLIED			
			No Fault		Fault Detected	
	Output	LED	Output	LED	Output	LED
N.C.	Closed	OFF	Open	OFF	Closed	ON
N.O.	Open	OFF	Closed	OFF	Open	ON

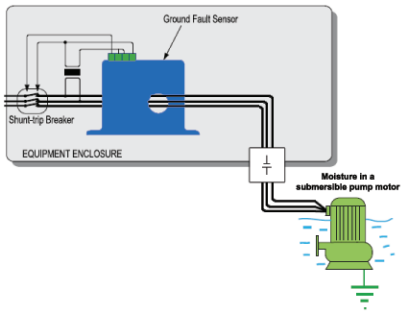
(M1A and M1B)
GFS Manual Reset Sensors monitor all current carrying conductors and will trip when a ground fault is sensed. When the output of these sensors trips it will latch in the tripped position even after the ground fault is cleared. If control power is removed, the sensor remains in its last output state. To reset the sensor, the ground fault condition must be removed and a momentary dry contact closed at the external reset terminals

	NO POWER		CONTROL POWER APPLIED			
			No Fault		Fault Detected	
	Output	LED	Output	LED	Output	LED
N.C.	Closed	OFF	Closed	OFF	Open	ON
N.O.	Open	OFF	Open	OFF	Closed	ON

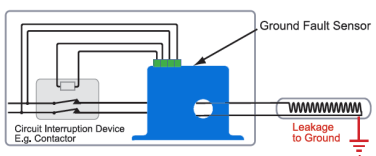
- Models with M1A suffix: The contact is normally open with no ground fault condition, and closed when a ground fault is sensed.
- Models with M1B suffix: The contact is normally closed with no ground fault condition, and open when a ground fault is sensed.

Application Examples

Pump Seal Failure



Insulation Breakdown Monitoring



Snow Melting or Soil Warming System