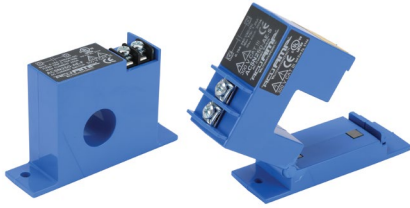




ACSN250 Series AC Current Switches



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

- Five-year warranty
- 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 35mm DIN rail adapter available.

Agency Approvals



ACSN250 AC Current Operated Switches				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACSN250-AE-F	N.O. non-adjustable AC current switch, fixed core enclosure	1	0.25	\$48.00
ACSN250-AE-S	N.O. non-adjustable AC current switch, split core enclosure	1	0.30	\$58.00
Accessories				
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]	2	0.40	\$3.75

Maximum Amps				
Type	Range	Maximum Input 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 to 122°F [-20 to 50°C] Relative humidity: 0-95% RH, Non-condensing Pollution Degree 2 Altitude to 2000 meters
Agency Approvals*	UL/cUL (E222847), CE

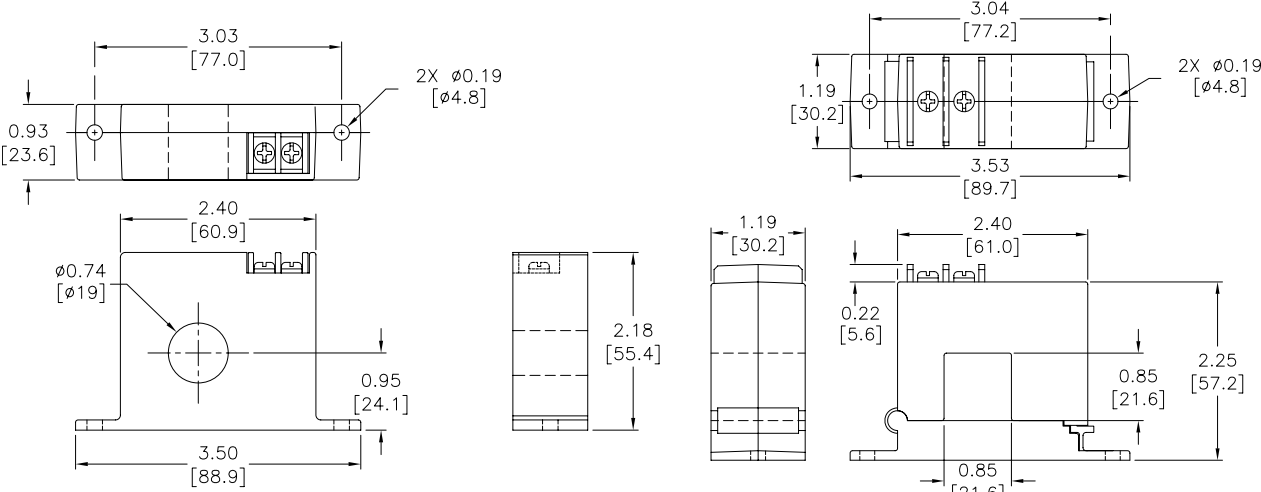
* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.AutomationDirect.com



ACSN250 Series AC Current Switches

Dimensions

Inches [mm]

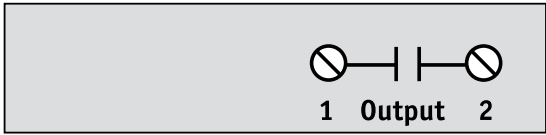


ACSN250 Fixed Core

ACSN250 Split Core

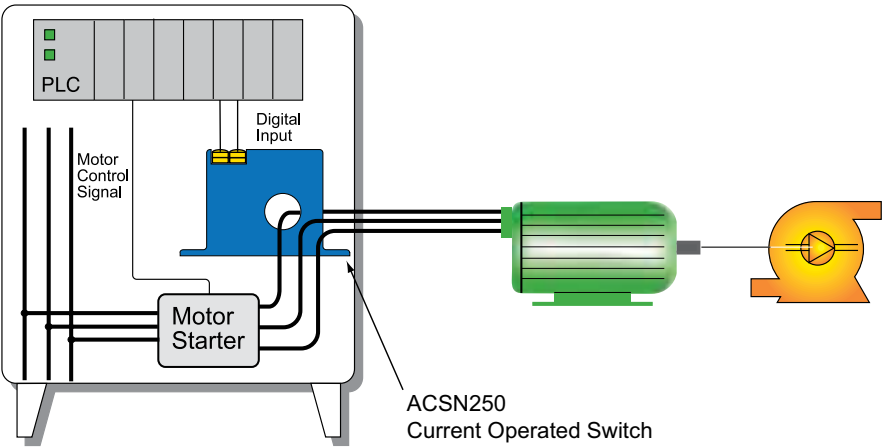
Connection ACSN250 Series

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



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

Application Example



ACUAMP® 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 are isolated solid state switches and are available in Normally Open and Normally Closed configurations.

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 (convenient DIN rail adapter accessory is available) or attached to the monitored conductor with a wire tie. Use the Selection Guide below to find the best sensor for your requirements.



Selection Guide

AcuAMP AC Current Transducer Specifications by Model Type		
Specifications	Transducer	Transducer (True RMS)
Model	ACT	ACTR
Input Range	Jumper 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	Jumper selectable (fixed and split core): 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 (flexible split core): ACTR500: 0 to 500A ACTR1000: 0 to 1000A ACTR2000: 0 to 2000A
Output	-10 models: 0–10 VDC, self-powered -42L models: 4–20 mA, loop-powered	4–20 mA, loop-powered true RMS
Frequency Range	-10 models: 50 to 60 Hz -42L models: 20 to 100 Hz sinusoidal waveforms only	10 to 400 Hz; (40 to 400 Hz flexible split core models) sinusoidal and non-sinusoidal waveforms
Response Time	-10 models: 100ms -42L models: 300ms	600ms
Sensing Aperture	ACT005, ACT050, ACT200: Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.6 mm] sq. ACT750, ACT2000: 3.0 in [76.2 mm] dia.	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: Split (flexible split core) core, 4.5 in [114.3mm] dia.



AC Current Switches, Transducers and Indicator

AcuAMP AC Current Switch Specifications by Model Type							
Specifications	AC Current Switches						Indicator
Model	ACSN100	ACSN250	ACS150	ACSL	ACS200	ACSX	ACL1
Input Range	0 to 100A	0 to 250A	Fixed core: 1 to 150A Split core: 1.75 to 150A	0 to 150A	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	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	0 to 100A
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 ACSL100: 50-100A ACSL150: 100-150A Monitored load current not required to adjust setpoint	Adjustable: (4-turn potentiometer) Fixed core: 1-175A Split core: 1.75-200A Monitored load current required to adjust setpoint	Adjustable: Fixed core: 1.5-175A (15-turn potentiometer) Split core: 2-200A (4-turn potentiometer) Monitored load current required to adjust setpoint	Non-adjustable: 0.5 A
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; Normally Open AC: 0.2 A @ 135VAC	Isolated solid state: Normally Open or Normally Closed AC model: 1A @ 240VAC Normally Open or Normally Closed DC model: 0.15 A @ 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	LED Only (flashing, red)
Frequency Range	50 to 400 Hz	6 to 100 Hz	6 to 100 Hz	10 to 100 Hz	6 to 100 Hz	50 to 100 Hz	50 to 400 Hz
Response Time	N/A	120ms	120ms	100ms & 2s inrush delay	40 to 120 ms	Field adjustable time delay: 0.12 to 15 seconds	N/A
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.	Fixed core: 0.75 in [19mm] dia. Split core: 0.85 in [21.7 mm] sq.	0.30 in [8.13 mm] dia.

ACUAMP[®] AC Current Sensors, Switches and Transducers Application Guide

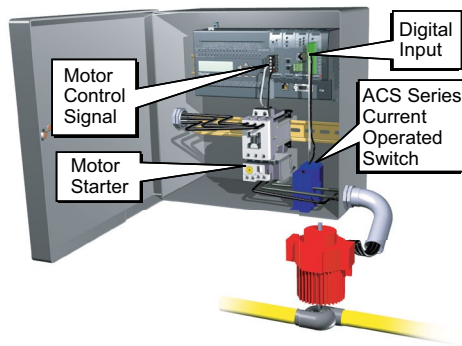
Application Guide

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

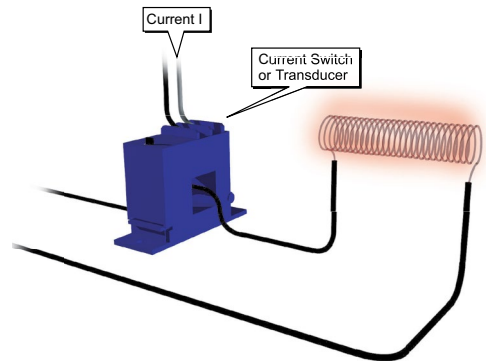
from monitoring loads to preventive maintenance. Models with the ability to read True RMS non-sinusoidal waveforms make it easy to monitor applications using variable frequency drives.

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

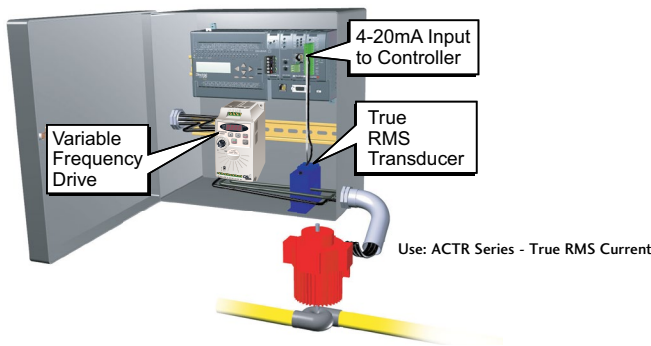
Pump Jam & Suction Loss Protection



Heater Life Prediction



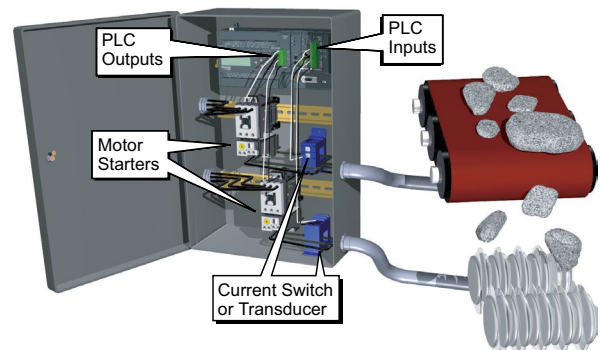
Pump Load Monitoring



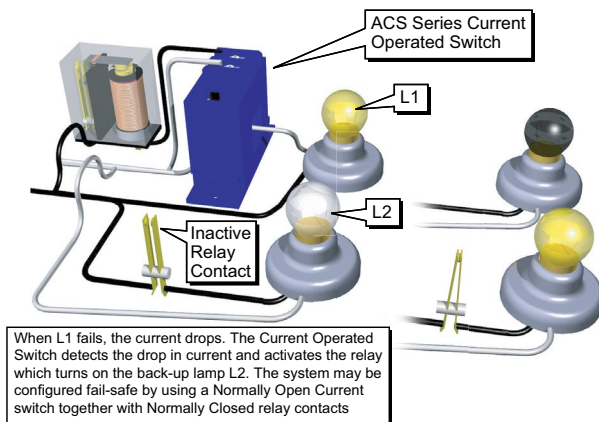
Crusher/Grinder/Shredder Motor Interlocks

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



Electric Motor Load Status

