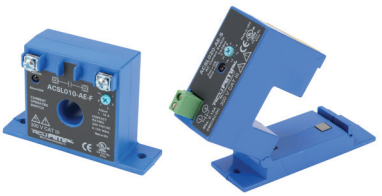
ACSL Series AC Current Switches



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

- Five-year warranty
- 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 upon 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.

Agency Approvals

ACSL AC Current Operated Switches					
Part Number	**Description**	**Trip Range Adjustment**	**Pcs/Pkg**	**Wt (lb)**	**Price**
ACSL010-AE-F	N.O. AC adjustable trip range current switch in fixed core enclosure	1-10A	1	0.25	
ACSL020-AE-S	N.O. AC adjustable trip range current switch in split core enclosure	2-20A	1	0.30	
ACSL050-AE-F	N.O. AC adjustable trip range current switch in fixed core enclosure	10-50A	1	0.25	
ACSL050-AE-S	N.O. AC adjustable trip range current switch in split core enclosure	20-50A	1	0.30	
ACSL100-AE-F	N.O. AC adjustable trip range current switch in fixed core enclosure	50-100A	1	0.25	
ACSL100-AE-S	N.O. AC adjustable trip range current switch in split core enclosure	50-100A	1	0.30	
ACSL150-AE-F	N.O. AC adjustable trip range current switch in fixed core enclosure	100-150A	1	0.25	
ACSL150-AE-S	N.O. AC adjustable trip range current switch in split core enclosure	100-150A	1	0.30	
Accessories					
DRA-2B	35mm DIN rail adapters, 1.70"x0.45"x0.83" [43.7x11.4x21.0 mm]		2	0.40	

ACSL Series Specifications	
Power Required	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 1-150A
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
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
Agency Approvals*	UL/cUL (E222847), CE

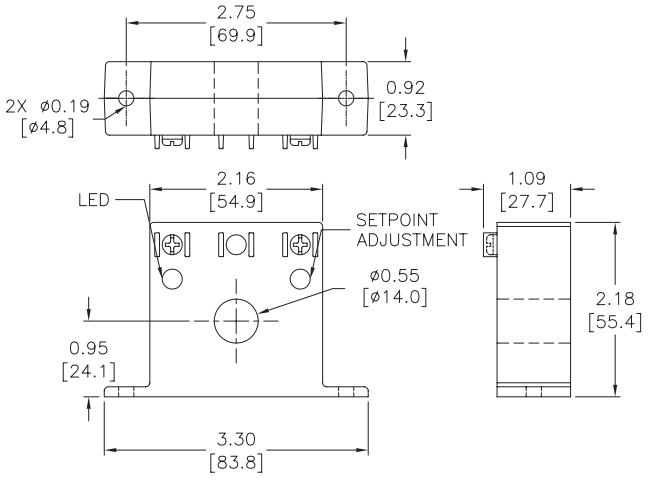
** To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at* _____

Maximum Amps				
Type	**Setpoint (Trip Point) Ranges**	**Maximum Input Amps**		
		Continuous	**6 Sec.**	**1 Sec.**
Fixed Core	1-10A	150	400	1000
	10-50A	150	400	1000
	50-100A	150	400	1000
	100-150A	150	400	1000
Split Core	2-20A	150	400	1000
	20-50A	150	400	1000
	50-100A	150	400	1000
	100-150A	150	400	1000

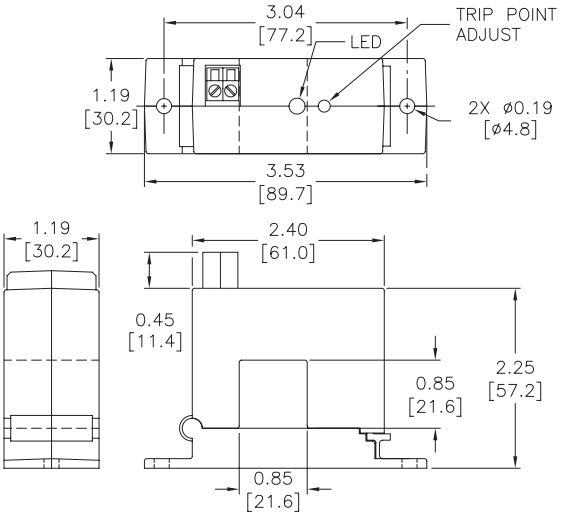
ACSL Series AC Current Switches

Dimensions

Inches [mm]



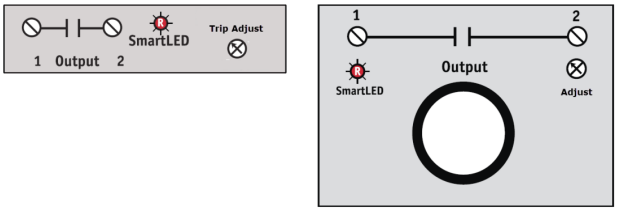
ACSL Series Fixed Core



ACSL Series Split Core

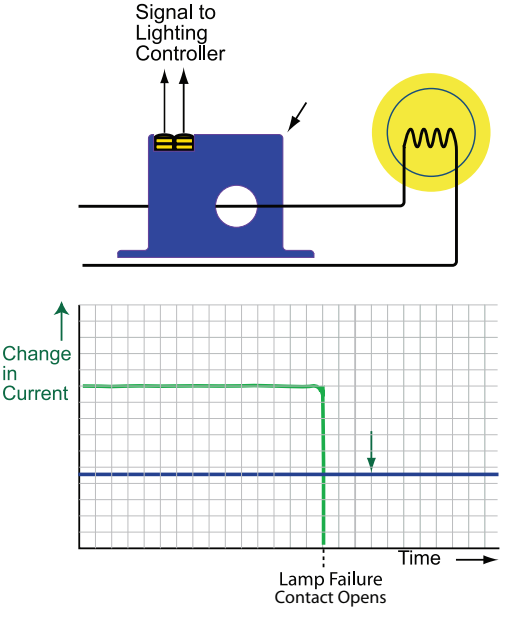
See our website for complete Engineering drawings.

Connections



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

Application Example



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.

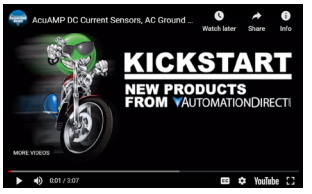
These current sensors can be mounted in a panel (convenient DIN rail adapter accessory is available) or attached to the monitored conductor with a wire tie. Use the Selection Guide below to find the best sensor for your requirements.

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.



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

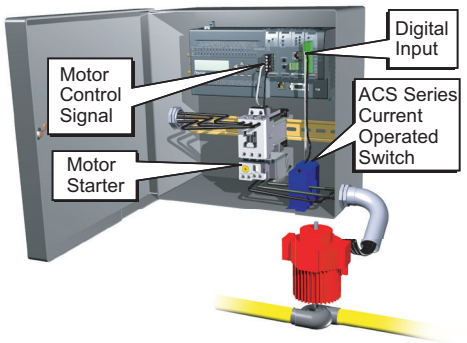
AC Current Sensors, Switches and Transducers Application Guide

Application Guide

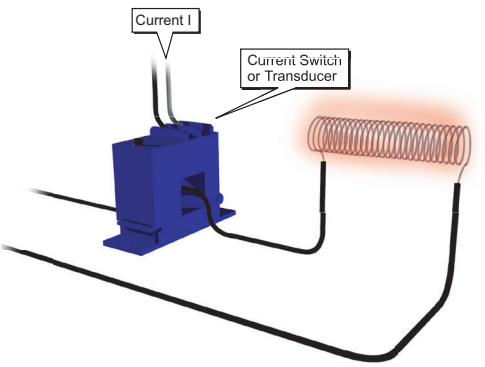
ACUAMP current sensors are a great fit for many applications including material handling, fan and pump applications, and heating systems. With current transducers, current switches and current indicators, this sensor family gives you valuable data for processes ranging from monitoring loads to preventive 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.

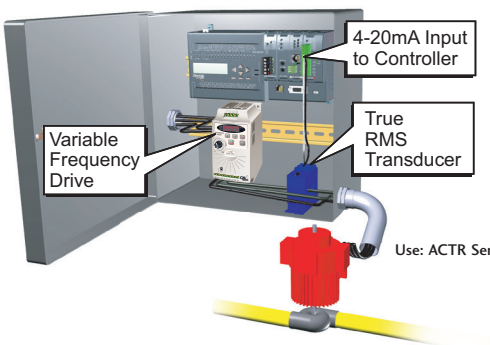
Pump Jam & Suction Loss Protection



Heater Life Prediction



Pump Load Monitoring

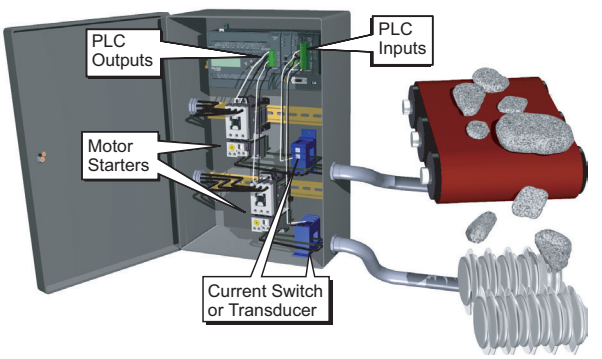


Use: ACTR Series - True RMS Current

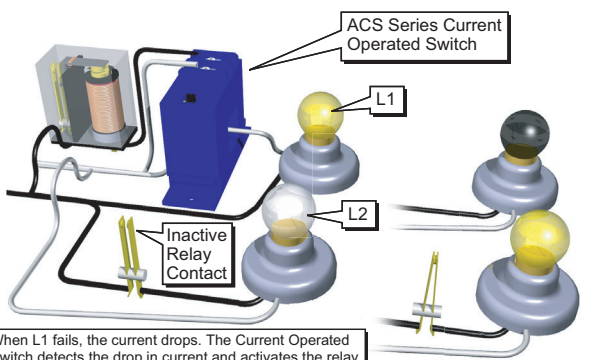
Crusher/Grinder/Shredder Motor Interlocks

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 ef ciency**



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