



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
<u>ACSX200-AA-S</u>	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
<u>ACSX200-AA-F</u>	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
<u>ACSX200-CA-S</u>	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
<u>ACSX200-AE-F</u>	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
<u>ACSX200-AE-S</u>	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
<u>ACSX200-CE-F</u>	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
<u>ACSX200-CE-S</u>	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				
<u>DRA-2B</u>	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
<u>ACSX200-AE-F</u>	**
<u>ACSX200-AE-S</u>	**
<u>ACSX200-CE-F</u>	150
<u>ACSX200-CE-S</u>	150
<u>ACSX200-AA-S</u>	20mA
<u>ACSX200-AA-F</u>	20mA
<u>ACSX200-CA-S</u>	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			



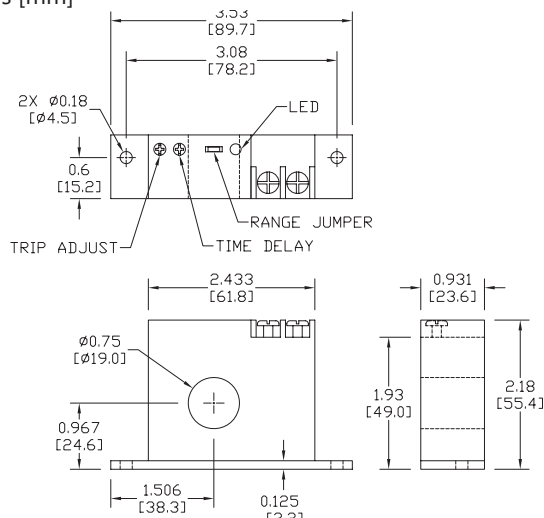
ACSX Series AC Current Switches

Specifications

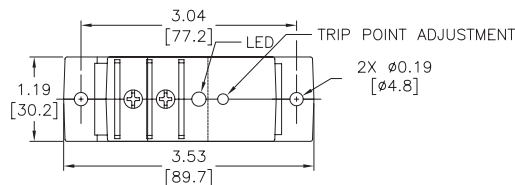
Power Supply	None - self powered
Output	Isolated solid-state switch
Switch Rating	N.O. or N.C. AC only: 1.0A @ 240VAC N.O. AC/DC: 0.15A @ 240 VAC/VDC N.C. AC/DC: 0.20A @ 135 VAC/VDC
Off State Leakage	<10 μ A, 2.5mA, N.C. AC only output
Response Time	0.12 to 15 seconds, adjustable
Hysteresis	5% of setpoint, 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

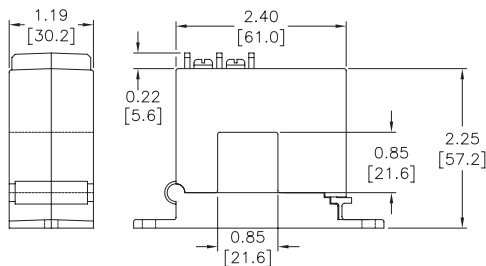
Inches [mm]



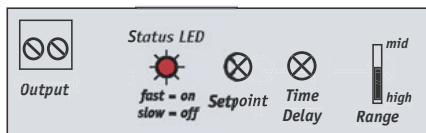
ACSX Series Fixed Core



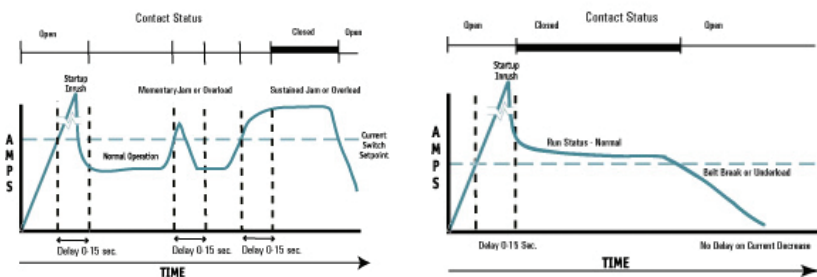
ACSX Series Split Core



Wiring

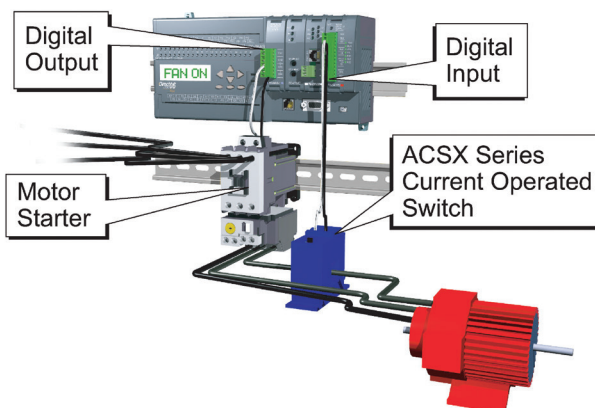


Use up to 14 AWG copper wire



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

Application Example





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.



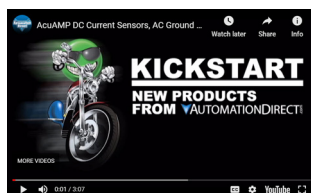
AC Current Switches, Transducers and Indicators

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

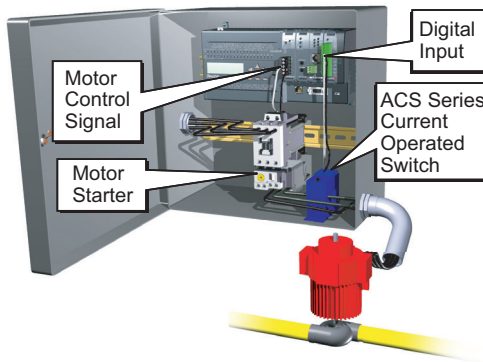
Application Guide

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

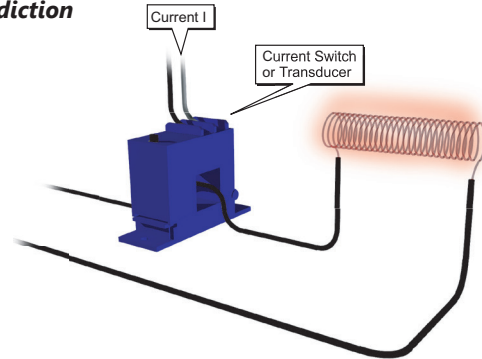
valuable data for processes ranging from monitoring loads to preventive maintenance. Models with the ability to read True RMS non-sinusoidal waveforms make it easy to monitor applications using variable frequency drives.

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

Pump Jam & Suction Loss Protection



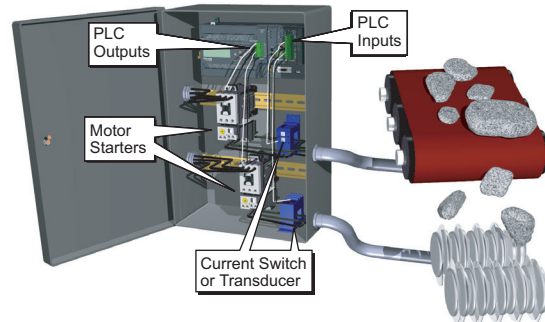
Heater Life Prediction



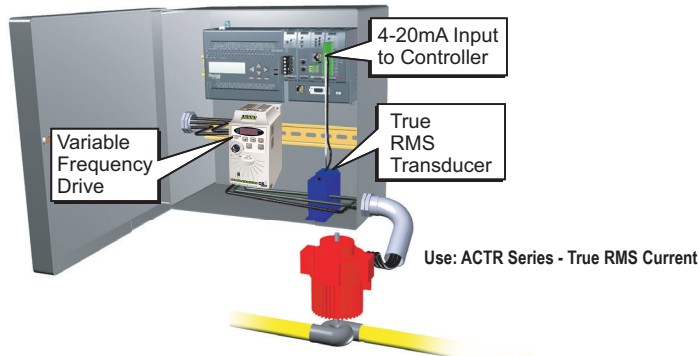
Crusher/Grinder/Shredder Motor Interlocks

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

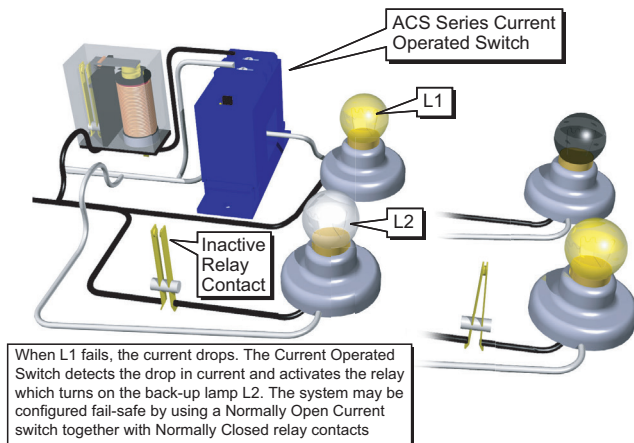
- Help prevent jamming
- Improve the uniformity of the resultant product
- Enhance overall production efficiency



Pump Load Monitoring



Lamp Failure Detection



Electric Motor Load Status

