

## Proximity Sensors

Section 18



## Photoelectric Sensors

Section 19



## IEC Limit Switches

Section 20



## Encoders

Section 21



## Current Sensors

Section 22



## Pressure Sensors

Section 23

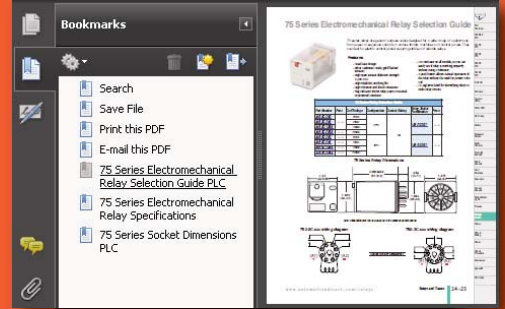


## Temperature Sensors

Section 24



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- Click on part #s to link directly to our online store for current pricing, specs, stocking information and more



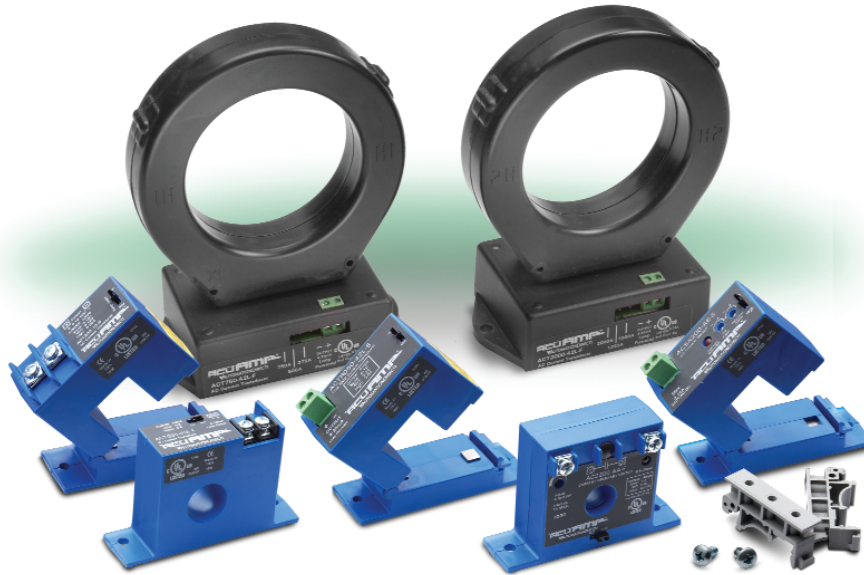
# ACUAMP™ Switches and Transducers

## Overview

The ACUAMP series 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 and current switches, all designed in a rugged industry-standard feed-through package, including both fixed core and split core models.

Each model has multiple input ranges (set by movable jumpers) for maximum flexibility across many current ratings. The current transducer output choices include 4 to 20mA, 24 VDC 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 configurations.

A unit featuring field adjustable time delay is also offered in the Current Switch series. All models are panel-mountable; convenient DIN-rail adapter accessories are available. Use the Selection Guide to find the best sensor for your requirements.



ACUAMP Specifications by Model Type

Specifications	Transducer	Transducer with True RMS	Switch	Switch	Switch
Model	ACT	ACTR	ACS150	ACS200	ACSX
<b>Input Range</b>	Jumper selectable: ACT005: 0 to 2 A 0 to 5 A ACT050: 0 to 10 A 0 to 20 A 0 to 50 A ACT200: 0 to 100 A 0 to 150 A 0 to 200 A ACT750: 0 to 375 A 0 to 500 A 0 to 750 A ACT2000: 0 to 1000 A 0 to 1333 A 0 to 2000 A	Jumper selectable: ACTR005: 0 to 2 A 0 to 5 A ACTR050: 0 to 10 A 0 to 20 A 0 to 50 A ACTR200: 0 to 100 A 0 to 150 A 0 to 200 A ACTR750: 0 to 375 A 0 to 500 A 0 to 750 A ACTR2000: 0 to 1000 A 0 to 1333 A 0 to 2000 A	Normally Open: -F core: 1 to 150 A -S core: 1.75 to 150 A  Normally Closed: -F core: 1 to 150 A -S core: 1.75 to 150 A	Jumper Selectable: Normally Open: -F core: 1 to 6 A 6 to 40 A 40 to 175 A -S core: 1.75 to 6 A 6 to 40 A 40 to 200 A  Normally Closed: -F core: 1 to 6 A 6 to 40 A 40 to 175 A -S core: 1.75 to 6 A 6 to 40 A 40 to 200 A	Jumper Selectable: Normally Open: -F core: 1.5 to 12 A 12 to 55 A 55 to 175 A -S core: 2 to 12 A 12 to 55 A 50 to 200 A  Normally Closed: -F core: 1.5 to 12 A 12 to 55 A 55 to 175 A -S core: 1.5 to 12 A 12 to 55 A 50 to 200 A
<b>Output Range</b>	-10 models: 0 - 10 VDC -42L models: 4 - 20 mA, loop-powered	4 - 20 mA, loop-powered true RMS	Normally Open: 0.15 A @ 240 VAC or VDC  Normally Closed: 0.2 A @ 135 VAC or VDC	Normally Open/Normally Closed AC model: 1A @ 240 VAC Normally Open/Normally Closed DC model: 0.15A @ 30 VDC	Normally Open/Normally Closed AC model: 1A @ 240 VAC Normally Open/Normally Closed DC model: 0.2 A @ 135 VAC/VDC
<b>Frequency Range</b>	-10 models: 50 to 60 Hz sinusoidal waveforms only -42L models: 20 - 100 Hz	10 to 400 Hz non-sinusoidal waveforms	6 to 100 Hz	6 to 100 Hz	50 to 100 Hz
<b>Response Time</b>	-10 models: 100 ms -42L models: 300 ms	600 ms	120 ms	40 to 120 ms	Field adjustable time delay: 0.12 to 15 seconds
<b>Sensing Aperture</b>	ACT005, ACT050, ACT200: -F core: 0.75" (19mm) dia. -S core: 0.85" (21.6mm) sq. ACT750, ACT2000: 3.0" (76.2 mm) dia	ACTR005, ACTR050, ACTR200: -F core: 0.75" (19mm) dia. -S core: 0.85" (21.6mm) sq. ACTR750, ACTR2000: 3.0" (76.2 mm) dia	-F core: 0.75" (19mm) dia. -S core: 0.85" (21.7mm) sq.	-F core: 0.55" (13.97mm) dia. -S core: 0.85" (21.7mm) sq.	-F core: 0.75" (19mm) dia. -S core: 0.85" (21.7mm) sq.

# Switches and Transducers Application Guide

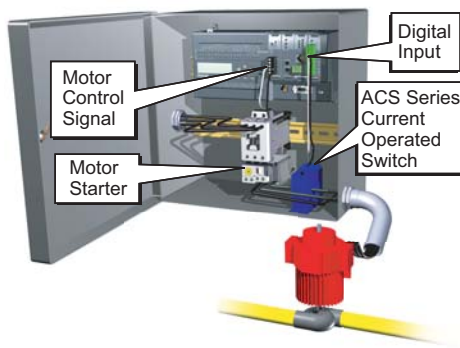
## Application Guide

ACUAMP current sensors are a great fit for many applications, including material handling, fan and pump applications, and heating systems. With both current transducers and current switches, this sensor family gives you valuable data for

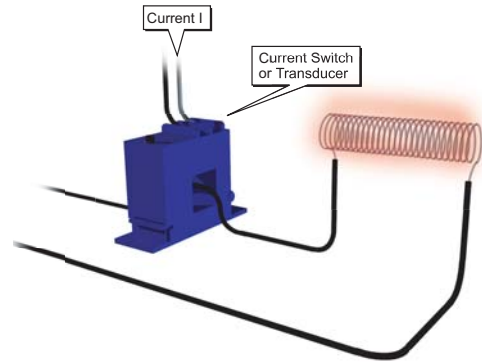
processes ranging from monitoring loads to preventive maintenance. Models with the ability to read True RMS non-sinusoidal waveforms make it easy to monitor applications using variable frequency drives.

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

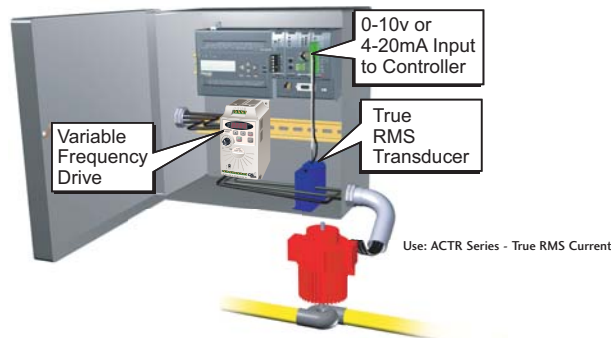
### Pump Jam & Suction Loss Protection



### Heater Life Prediction



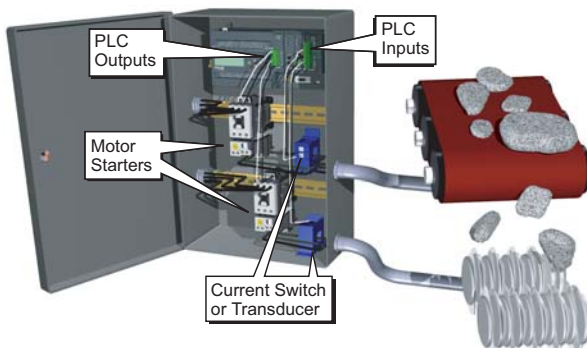
### Pump Load Monitoring



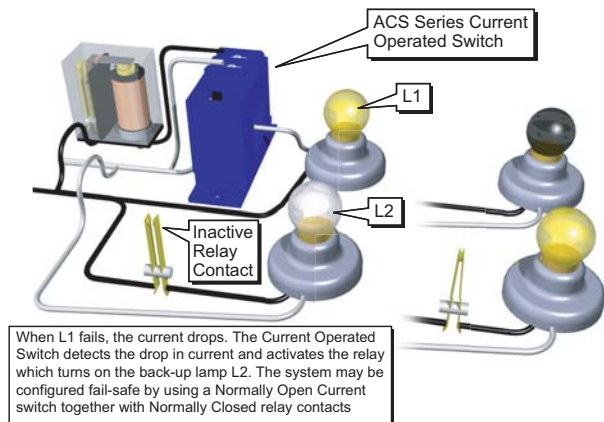
### Crusher/Grinder/Shredder Motor Interlocks

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



- Company Info.
- PLCs
- Field I/O
- Software
- C-more & other HMI
- AC Drives
- AC Motors
- Power Transmiss.
- Steppers/ Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors**
- Pressure Sensors
- Temp. Sensors
- Pushbuttons/ Lights
- Process
- Relays/ Timers
- Comm.
- Terminal Blocks & Wiring
- Power
- Circuit Protection
- Enclosures
- Tools
- Pneumatics
- Appendix
- Part Index

# ACT Series Current Transducers



ACT current transducers combine a current transformer and signal conditioner into a single package. The ACT series has jumper-selected current input 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. Full-scale input ranges are user-selectable from 2A to 2000 A. 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 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

- Five-year warranty
- 4-20 mA or 0-10 VDC outputs
- Use up to 14 AWG copper wires
- 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
- Selectable input ranges allow end-users to tailor sensing ranges and improves the odds of having the right range for the job
- Output is magnetically isolated from the input for safety and to eliminate voltage drop

## Agency Approvals

UL, cUL, CE approvals accepted worldwide

ACT Series Current Transducers				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACT050-10-F	AC current transducer, 0-10 VDC output, fixed core	1	0.30	<--->
ACT050-10-S	AC current transducer, 0-10 VDC output, split core	1	0.38	<--->
ACT200-10-F	AC current transducer, 0-10 VDC output, fixed core	1	0.30	<--->
ACT200-10-S	AC current transducer, 0-10 VDC output, split core	1	0.38	<--->
ACT005-42L-F	AC current transducer, 4-20mA output, fixed core	1	0.30	<--->
ACT005-42L-S	AC current transducer, 4-20mA output, split core	1	0.35	<--->
ACT050-42L-F	AC current transducer, 4-20mA output, fixed core	1	0.30	<--->
ACT050-42L-S	AC current transducer, 4-20mA output, split core	1	0.35	<--->
ACT200-42L-F	AC current transducer, 4-20mA output, fixed core	1	0.30	<--->
ACT200-42L-S	AC current transducer, 4-20mA output, split core	1	0.35	<--->
ACT750-42L-F	AC current transducer, 4-20mA output, fixed core	1	2.0	<--->
ACT2000-42L-F	AC current transducer, 4-20mA output, fixed core	1	2.0	<--->
Accessories				
DRA-2	DIN rail adapters, 1.69"x0.39"x0.75" (43x10x19 mm)	2	0.40	<--->

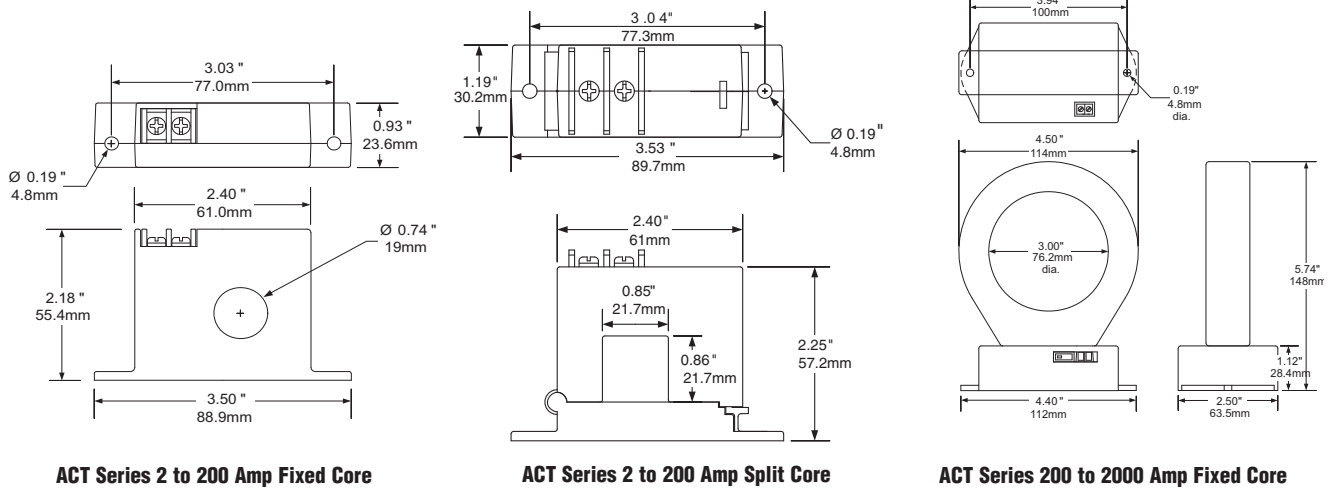
Maximum Input Ranges				
Model	Range	Maximum Input Amps		
		Continuous	6 Sec	1 Sec
ACT005	0 to 2A	80	125	250
	0 to 5A	100	125	250
ACT050	0 to 10A	80	125	250
	0 to 20A	110	150	300
ACT200	0 to 50A	175	215	400
	0 to 100A	200	300	600
	0 to 150A	300	450	800
ACT750	0 to 200A	400	500	1000
	0 to 375A	750	1500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

ACT Series Specifications			
	-10 Models	-42L Models up to 200A	-42L Models 200 to 2000A
<b>Power Supply</b>	Self-powered	24 VDC loop nominal, 40 VDC max	24 VDC nominal; 40 VDC maximum
<b>Output Signal</b>	0 to 10 VDC	4 - 20 mA, Loop-powered	4 - 20 mA, Loop-powered
<b>Output Limit</b>	15 VDC	32 mA	23 mA
<b>Accuracy</b>	1% full scale	1% full scale	1% full scale
<b>Response Time (10-90% step change)</b>	100 ms	300 ms	600 ms
<b>Input Ranges</b>	Field selectable from 0 to 200 A		Field selectable from 200 to 2000 A
<b>Sensing Aperture</b>	-F core: 0.74" (19 mm) diameter; -S core: 0.85" (21.6 mm) sq.		3.0" (76.2mm) diameter
<b>Isolation Voltage</b>	UL listed to 1,270VAC. Tested to 5,000 VAC (1 minute max)		600 VAC
<b>Frequency Range (for sinusoidal waveforms)</b>	50 to 60 Hz	20 to 100 Hz	50 to 60 Hz
<b>Case</b>	UL 94V-0 flammability rated		
<b>Environmental</b>	<b>Temperature</b>	-4 to 122°F (-20 to 50°C)	
	<b>Humidity</b>	0 to 95% RH, non-condensing	
<b>Agency Listings</b>	UL listed 508, UL file E222847, CE approved		

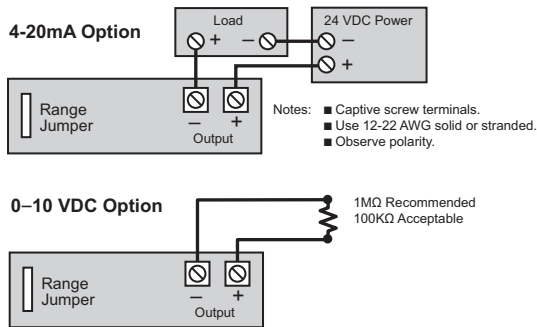
# ACUAMP™ ACT Series Current Transducers

- Company Info.
- PLCs
- Field I/O
- Software
- C-more & other HMI
- AC Drives
- AC Motors
- Power Transmiss.
- Steppers/ Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors**
- Pressure Sensors
- Temp. Sensors
- Pushbuttons/ Lights
- Process
- Relays/ Timers
- Comm.
- Terminal Blocks & Wiring
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- Circuit Protection
- Enclosures
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## Dimensions (in/mm)

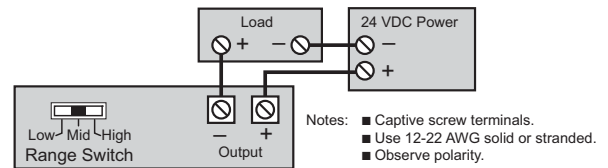


## Connections ACT Series 0 to 200 Amp

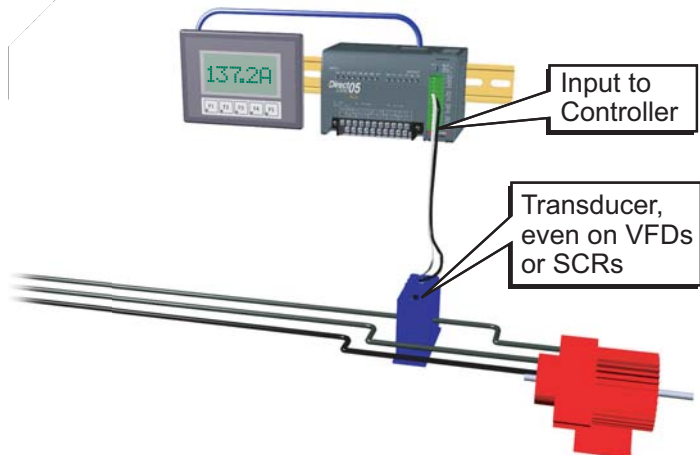
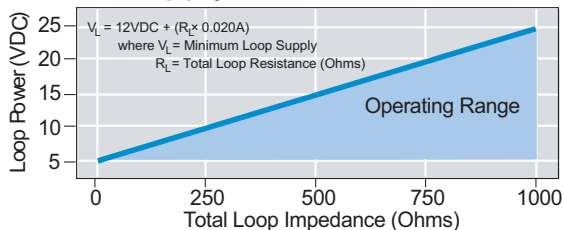


Terminals are #6 screws.

## Connections ACT Series from 200 to 2000 Amp



## Power Supply (4-20mA output only)





## Why use ACTR transducers?

The current waveform of a typical linear load is a pure sine wave. In VFD and SCR applications, however, output waveforms are rough approximations of a sine wave, and are non-sinusoidal.

There are numerous spikes and dips in each cycle. 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 nonlinear 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 or burst fired (time proportioned) 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

- Five-year warranty
- 4-20 mA output only
- True RMS technology is accurate on distorted waveforms such as VFD or SCR outputs
- Choice of jumper-selectable ranges reduces inventory and eliminates zero and span pots.
- Output is magnetically isolated from the input for safety and eliminates voltage drop

## Agency Approvals

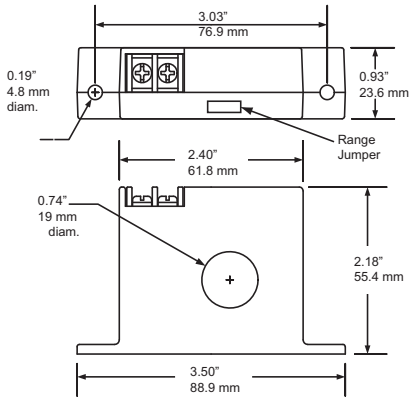
UL, cUL, CE approvals accepted worldwide

ACTR Series Current Transducers					
Part Number	Description	Pcs/Pkg	Wt (lb)	Price	
ACTR005-42L-F	AC current transducer with true RMS, 4-20mA output, fixed core	1	0.30	<--->	
ACTR005-42L-S	AC current transducer with true RMS, 4-20mA output, split core	1	0.36	<--->	
ACTR050-42L-F	AC current transducer with true RMS, 4-20mA output, fixed core	1	0.30	<--->	
ACTR050-42L-S	AC current transducer with true RMS, 4-20mA output, split core	1	0.36	<--->	
ACTR200-42L-F	AC current transducer with true RMS, 4-20mA output, fixed core	1	0.30	<--->	
ACTR200-42L-S	AC current transducer with true RMS, 4-20mA output, split core	1	0.36	<--->	
ACTR750-42L-F	AC current transducer with true RMS, 4-20mA output, fixed core	1	2.00	<--->	
ACTR-2000-42L-F	AC current transducer with true RMS, 4-20mA output, fixed core	1	2.00	<--->	
Accessories					
DRA-2	DIN rail adapters, 1.69"x0.39"x0.75" (43x10x19 mm)	2	0.40	<--->	

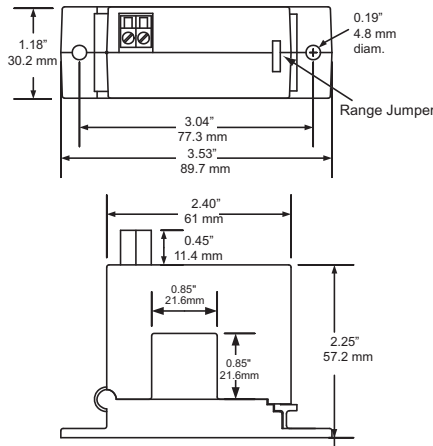
Maximum Input Ranges				
Model	Range	Maximum Input Amps		
		Continuous	6 Sec	1 Sec
ACTR005	0 to 2A	80	125	250
	0 to 5A	100	125	250
ACTR050	0 to 10A	80	125	250
	0 to 20A	110	150	300
ACTR200	0 to 50A	175	215	400
	0 to 100A	200	300	600
	0 to 150A	300	450	800
ACTR750	0 to 200A	400	500	1000
	0 to 375A	750	1500	3750
	0 to 500A	750		
ACTR2000	0 to 750A	750	4000	10 k
	0 to 1000A	2000		
	0 to 1333A	2000		
	0 to 2000A	2000		

ACTR Series Specifications		
	-42L Models up to 200 A	-42L Models 200 to 2000A
Power Supply	24 VDC nominal, (12 to 40 VDC) Loop-powered	24 VDC nominal, (40 VDC max) Loop-powered
Output Signal	4 -20 mA, loop-powered, true RMS	
Output Limit	23 mA	
Accuracy	1% full scale, true RMS	
Response Time (10-90% step change)	600 ms	
Input Ranges	Field selectable from 0 to 200 A	Field selectable from 200 to 2000 A
Sensing Aperture	-F core: 0.74" (19 mm) dia. -S core: 0.85" (21.6 mm) sq.	3.0" (76.2 mm) dia.
Isolation Voltage	UL listed to 1,270VAC. Tested to 5,000 VAC (1 min. max)	UL listed to 600 VAC.
Frequency Range	10 to 400 Hz	
Case	UL 94 V-0 flammability rated	
Environmental	Temperature	-4 to 122°F (-20 to 50°C)
	Humidity	0 to 95% RH, non-condensing
Agency Listings	UL listed 508, UL file E222847, CE approved	

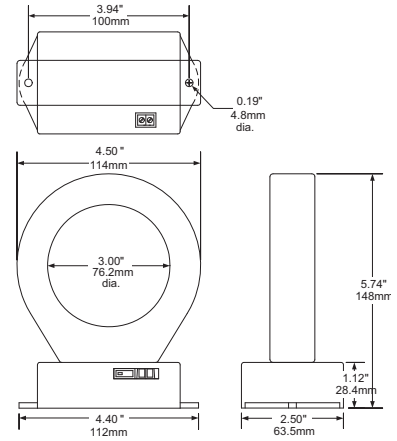
## Dimensions (in/mm)



**ACTR Series 2 to 200 Amp Fixed Core**

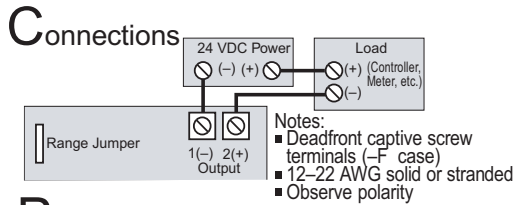


**ACTR Series 2 to 200 Amp Split Core**

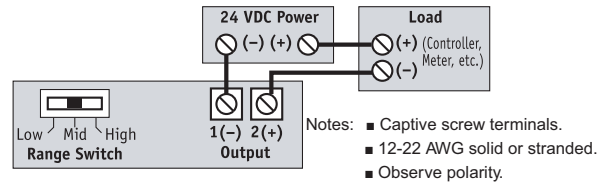


**ACTR Series 200 to 2000 Amp Fixed Core**

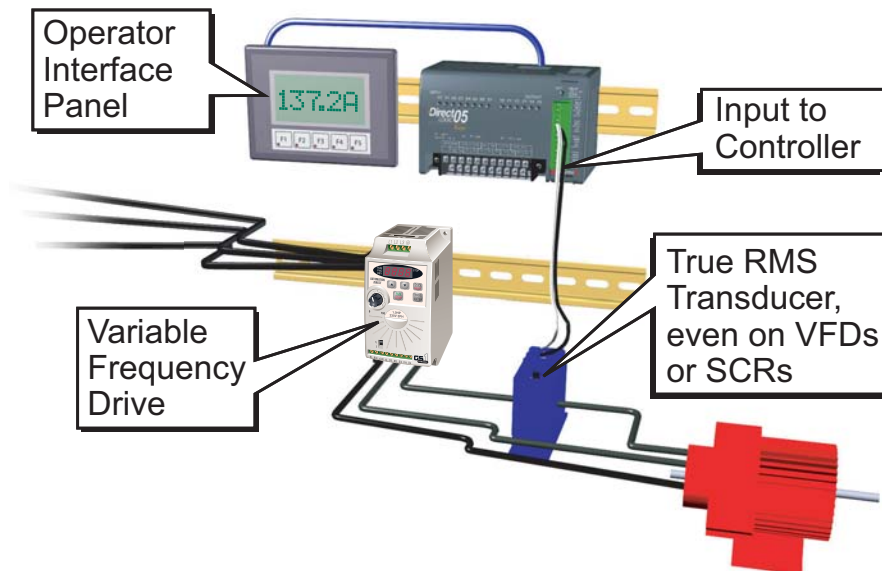
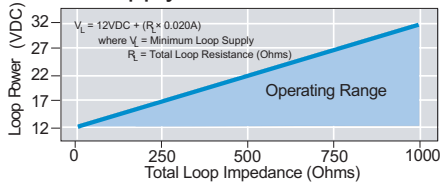
## Connections ACTR Series 0 to 200 A



## Connections ACTR Series 200 to 2000 A



## Power Supply (4-20 mA output only)



# ACUAMP ACS150 Series 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

- Five-year warranty
- Choose from N.O. output models, 0.15 A @ 240 VAC/VDC or N.C. output, 0.20 A @ 240 VAC/VDC
- Status LED provides visual indication of setpoint trip and contact action
- Self-powered operation cuts installation time and operating costs
- Field-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
- Integral mounting feet offer secure mounting

## Agency Approvals

UL, cUL, CE approvals accepted worldwide

ACS150 Current Operated Switches				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACS150-AE-F	N.O. AC/DC adjustable current switch in fixed core enclosure	1	0.30	<--->
ACS150-AE-S	N.O. AC/DC adjustable current switch in split core enclosure	1	0.35	<--->
ACS150-CE-F	N.C. AC/DC adjustable current switch in fixed core enclosure	1	0.30	<--->
ACS150-CE-S	N.C. AC/DC adjustable current switch in fixed core enclosure	1	0.35	<--->
Accessories				
DRA-2	DIN rail adapters, 1.69"x0.39"x0.75" (43x10x19 mm)	2	0.40	<--->

ACS150 Maximum Input Ranges				
Type	Range - Adjustable	Maximum Input Amps		
		Continuous	6 Sec. max	1 Sec. max
N.O. Fixed Core	1 to 150 A	150	400	1000
N.O. Split Core	1.75 to 150 A	150	400	1000
N.C. Fixed Core	1 to 150 A	150	400	1000
N.C. Split Core	1.75 to 150 A	150	400	1000

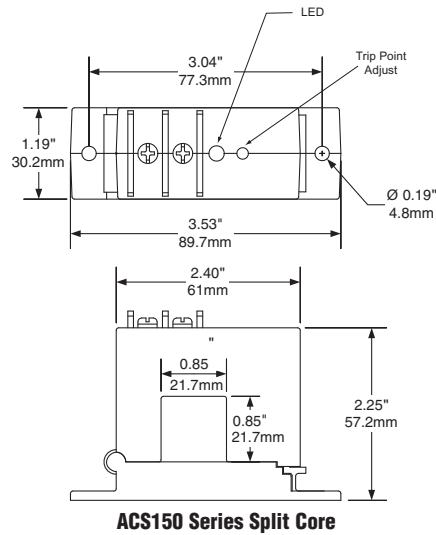
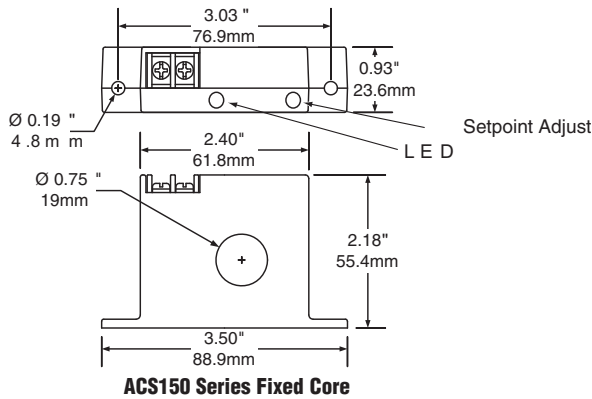
ACS150 Series Specifications	
Power Supply	None - Self-powered
Output	Isolated solid-state switch
Output Rating	N.O. 0.15 A @ 240 VAC or VDC N.C. 0.20 A @ 135 VAC or VDC
Response Time	120 ms
Off State Leakage	< 10 $\mu$ A
Input Ranges	N.O.: Fixed-core: 1 to 150 A. Split-core: 1.75 to 150 A N.C.: Fixed-core: 1 to 150 A. Split-core: 1.75 to 150 A
Hysteresis	5% of Setpoint
Overload (1 second duration)	1,000 A
Isolation Voltage	UL listed to 1,270VAC. Tested to 5,000 VAC (1 minute max)
Frequency Range	6 to 100 Hz
Case	UL 94V-0 flammability rated
Environmental	Temperature
	Humidity
Agency Listings	UL listed 508, UL file E222847, CE approved

ACS150 Minimum Load/MTBF	
Minimum Load Operating Current	MTBF (Mean Time Between Failure) x 10 <sup>6</sup>
**	4.33 hours
**	4.33 hours

\*\* 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."

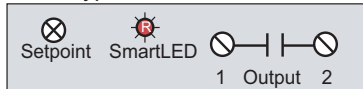


## Dimensions (in/mm)

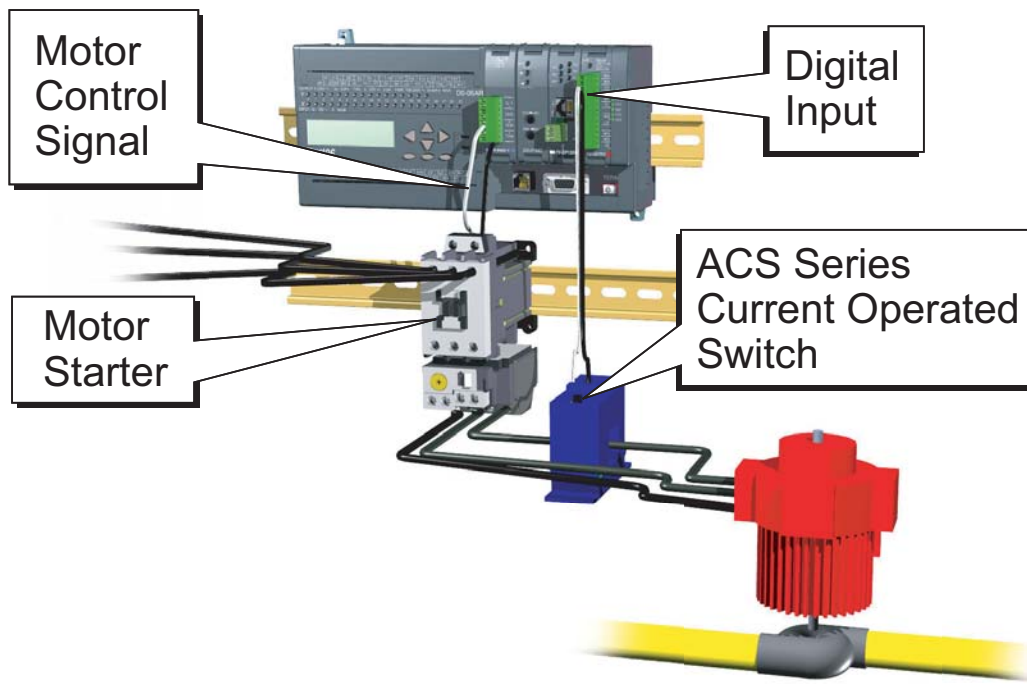
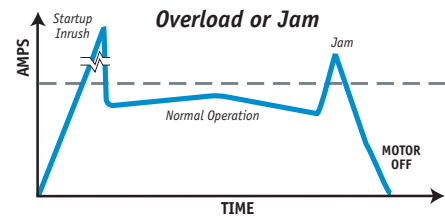
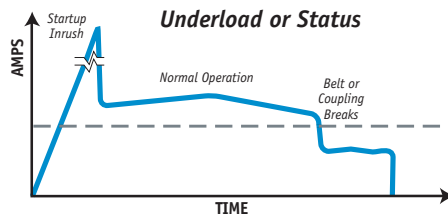


## Connections

Typical of Models with LED



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



- Company Info.
- PLCs
- Field I/O
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- C-more & other HMI
- AC Drives
- AC Motors
- Power Transmiss.
- Steppers/Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pressure Sensors
- Temp. Sensors
- Pushbuttons/Lights
- Process
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# ACUAMP™ ACS200 Series 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

- Five-year warranty
- N.O./N.C. universal outputs  
1A @ 240 VAC or 0.15 A @ 30 VDC
- Status LED provides visual indication of setpoint trip and contact action
- Self-powered operation cuts installation time and operating costs
- Field-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
- Integral mounting feet provide secure mounting

## Agency Approvals

UL, cUL, CE approvals accepted worldwide

ACS200 Current Operated Switches				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACS200-AA-F	N.O. AC adjustable current switch, fixed core	1	0.40	<--->
ACS200-AA-S	N.O. AC adjustable current switch, split core	1	0.40	<--->
ACS200-CA-F	N.C. AC adjustable current switch, fixed core	1	0.40	<--->
ACS200-CA-S	N.C. AC adjustable current switch, split core	1	0.40	<--->
ACS200-AD-F	N.O. DC adjustable current switch, fixed core	1	0.40	<--->
ACS200-AD-S	N.O. DC adjustable current switch, split core	1	0.40	<--->
ACS200-CD-F	N.C. DC adjustable current switch, fixed core	1	0.40	<--->
ACS200-CD-S	N.C. DC adjustable current switch, split core	1	0.40	<--->
Accessories				
DRA-2	DIN rail adapters, 1.69"x0.39"x0.75" (43x10x19 mm)	2	0.40	<--->

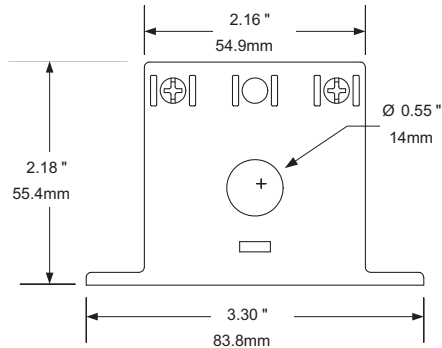
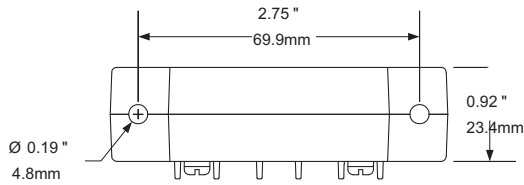
ACS200 Series Specifications		
Power Supply	None - Self-powered	
Output	Isolated solid-state switch	
Output Rating	N.O./N.C. AC: 1A @ 240 VAC N.O./N.C. DC: 0.15A @ 30 VDC	
Response Time	40 - 120 ms	
Off State Leakage	< 10 µA	
Input Ranges	Jumper selectable: N.O. Fixed core: 1 to 175 A. Split core: 1.75 to 200 A; N.C. Fixed core: 1 to 175 A. Split core: 1.5 to 200 A	
Hysteresis	low: 0.15A; mid: 0.3; high: 0.9A	
Overload (1 second duration)	low: 600 A; mid: 800 A; high: 1,200 A	
Isolation Voltage	UL listed to 1,270VAC. Tested to 5,000 VAC (1 minute max)	
Frequency Range	6 to 100 Hz	
Case	UL 94V-0 flammability rated	
Environmental	Temperature	-58 to 149°F (-50 to 65°C)
	Humidity	0 to 95% RH, non-condensing
Agency Listings	UL listed 508, UL file E222847, CE approved	

Maximum Input Ranges				
Range Jumper	Range - Fixed Core	Range Split Core	Maximum Input Amps	
			6 Sec max	1 Sec max
NONE	1 to 6 A	1.75 to 6 A	400	600
MID	6 to 40 A	6 to 40 A	500	800
HIGH	40 to 175 A	40 to 200 A	800	1200

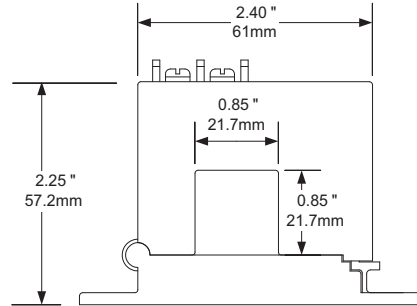
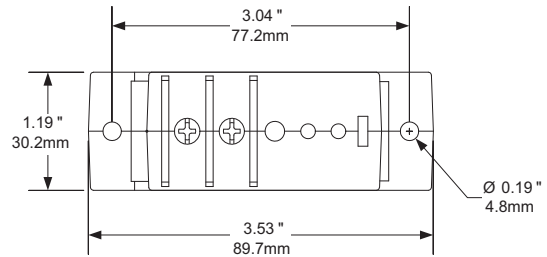
Switching Delay			
Delay	LOW Range	MID Range	HIGH Range
ON Delay	0.23 sec max	0.05 sec max	0.03 sec max
OFF Delay	0.02 sec max	0.02 sec max	0.01 sec max
Hysteresis			
	6%	4%	3%

ACS200 Minimum Load/MTBF		
Part Number	Minimum Load Operating Current	MTBF (Mean Time Between Failure) x 10 <sup>6</sup>
ACS200-AA-F	20 mA	4.29 hours
ACS200-AA-S	20 mA	
ACS200-CA-F	20 mA	4.29 hours
ACS200-CA-S	20 mA	
ACS200-AD-F	1 mA	4.39 hours
ACS200-AD-S	1 mA	
ACS200-CD-F	1 mA	4.39 hours
ACS200-CD-S	1 mA	

## Dimensions (in/mm)

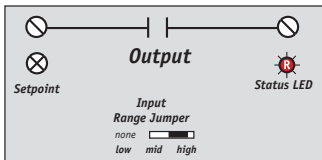


**ACS200 Series Fixed Core**

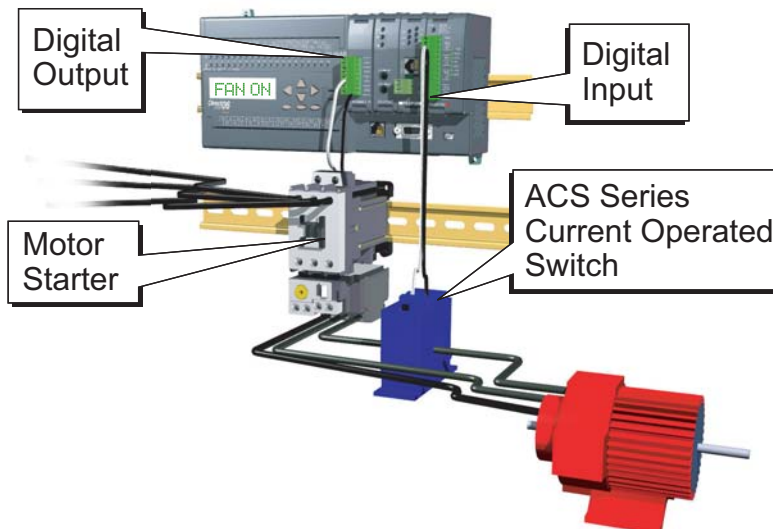
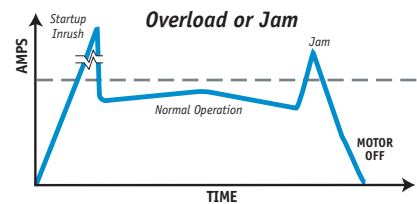
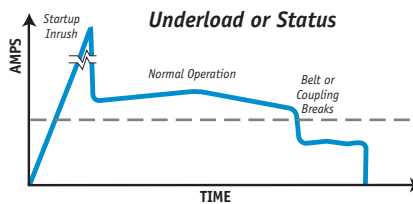


**ACS200 Series Split Core**

## Connections



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





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 0-15 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

- Five-year warranty
- Adjustable start-up/delay timer is field-adjustable from 0.2 to 15 seconds to eliminate nuisance alarms caused by start-up inrush or temporary overcurrent conditions.
- Choice of N.O./N.C. AC or AC/DC outputs: Contact ratings of 1.0A @ 240 VAC or universal outputs of 0.15A @ 240 VAC/VDC for use with most standard motor control systems.
- Improved ease of installation and use:
  - 1.0A rating eliminates need for 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

## Agency Approvals

UL, cUL listed  
CE approval pending

ACSX Current Operated Switches				
Part Number	Description	Pcs/Pkg	Wt (lb)	Price
ACSX200-AA-S	N.O. AC adjustable current switch, split core	1	0.40	<--->
ACSX200-CA-S	N.C. AC adjustable current switch, split core	1	0.40	<--->
ACSX200-AE-F	N.O. AC/DC adjustable current switch, fixed core	1	0.30	<--->
ACSX200-AE-S	N.O. AC/DC adjustable current switch, split core	1	0.40	<--->
ACSX200-CE-F	N.C. AC/DC adjustable current switch, fixed core	1	0.30	<--->
ACSX200-CE-S	N.C. AC/DC adjustable current switch, split core	1	0.40	<--->
Accessories				
DRA-2	DIN rail adapters, 1.69"x0.39"x0.75" (43x10x19 mm)	2	0.40	<--->

ACSX Series Specifications	
<b>Power Supply</b>	None - Self-powered
<b>Output</b>	Isolated solid-state switch
<b>Output Rating</b>	N.O./N.C. AC: 1A @ 240 VAC; N.O. AC/DC: 0.15 A @ 240 VAC/VDC N.C. AC/DC: 0.20 A @ 135 VAC/VDC
<b>Response Time</b>	Adjustable 0.2 to 15 seconds
<b>Off State Leakage</b>	< 10 µA
<b>Input Ranges</b>	Jumper Selectable: N.O. Fixed core: 1.5 to 175 A N.O. Split core: 2 to 200 A N.C. Fixed core: 1.5 to 200 N.C. Split core: 2 to 200
<b>Hysteresis</b>	5% constant
<b>Overload (1 second duration)</b>	1.5 to 12 A Range: 600 A; 12 to 55 A Range: 800 A; 50 to 200 A Range: 1200 A
<b>Isolation Voltage</b>	UL listed to 1,270VAC. Tested to 5,000 VAC (1 minute max)
<b>Frequency Range</b>	50 to 100 Hz
<b>Case</b>	UL 94V-0 flammability rated
<b>Environmental</b>	<b>Temperature</b>
	<b>Humidity</b>
<b>Agency Listings</b>	UL listed 508, UL file E222847, UL Pending for Model ACSX200-AA-F CE approval pending

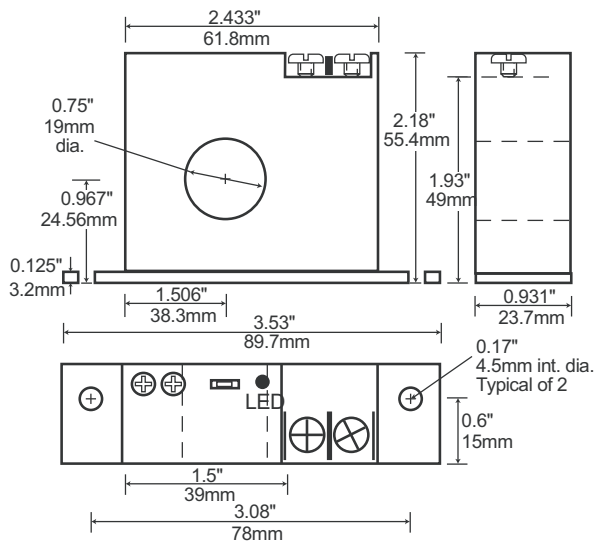
Type	Range - Adjustable	Maximum Input Amps		
		Continuous	6 Sec max	1 Sec max
N.O. Fixed Core	1.5-175 A	150	400	1000
N.O. Split Core	2-200 A	150	400	1000
N.C. Fixed Core	1.5-175 A	150	400	1000
N.C. Split Core	2-200 A	150	400	1000

ACSX200 Minimum Load/MTBF		
Part Number	Minimum Load Operating Current	MTBF (Mean Time Between Failure) x 10 <sup>6</sup>
ACSX200-AE-F	**	4.33 hours
ACSX200-AE-S	**	4.33 hours
ACSX200-CE-F	150	400
ACSX200-CE-S	150	400
ACSX200-AA-F	20 mA	4.29 hours
ACSX200-AA-S	20 mA	4.29 hours
ACSX200-CA-S	20 mA	4.29 hours

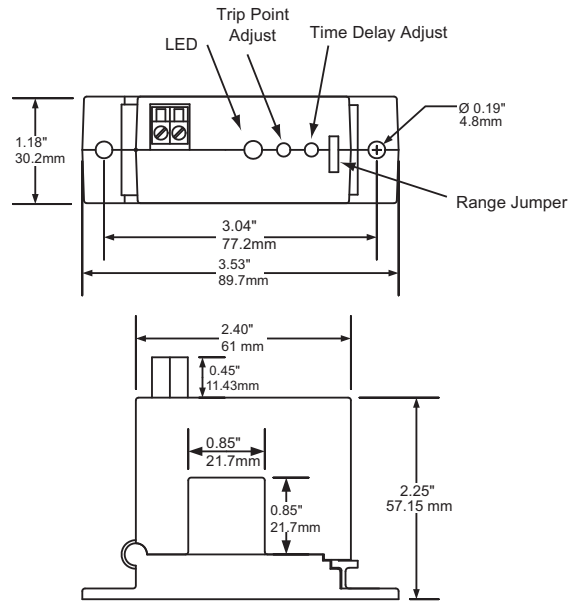
\*\* The AC/DC switch output has no specified minimum load required to operate the output. There is a maximum resistance of 5 ohms across the output when the switch is "on."

# ACUAMP™ ACSX Series Switches

## Dimensions (in/mm)

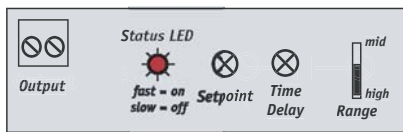


**ACSX Series Fixed Core**



**ACSX Series Split Core**

## Connections



Use up to 14 AWG copper wire

