

# ACUAMP® AC Current Switches, Transducers and Indicator

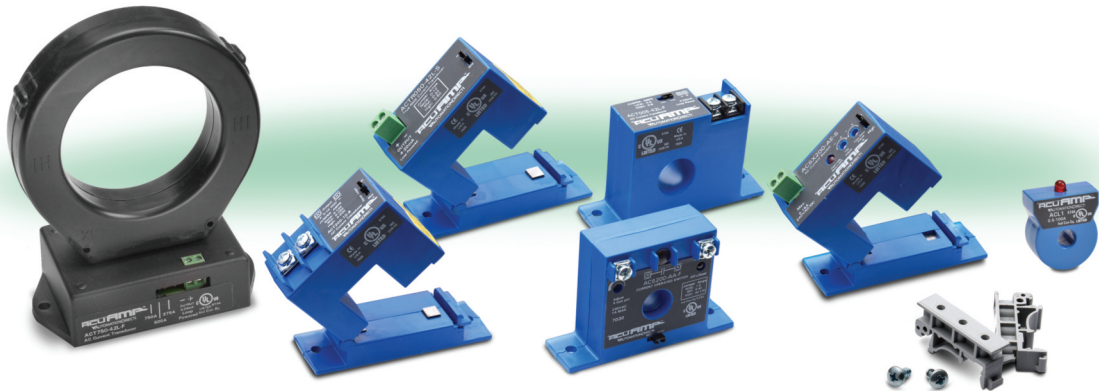
## Overview

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.

ACT and ACS models have 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 and Normally Closed configurations.

A unit featuring field adjustable time delay is also offered in the Current Switch series. The ACL1 Current Indicator senses AC current ranging from 0.5 to 100 A and requires no power for the indicating LED.

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 AC Specifications by Model Type						
Specifications	Transducer	Transducer (True RMS)	Switch			Indicator
Model	ACT	ACTR	ACS150	ACS200	ACSX	ACL1
<b>Input Range</b>	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: 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	Normally Open: -F core: 1 to 150A -S core: 1.75 to 150A  Normally Closed: -F core: 1 to 150A -S core: 1.75 to 150A	Jumper Selectable: Normally Open: -F core: 1 to 6A 6 to 40A 40 to 175A -S core: 1.75 to 6A 6 to 40A 40 to 200A  Normally Closed: -F core: 1 to 6A 6 to 40A 40 to 175A -S core: 1.75 to 6A 6 to 40A 40 to 200A	Jumper Selectable: Normally Open: -F core: 1.5 to 12A 12 to 55A 55 to 175A -S core: 2 to 12A 12 to 55A 55 to 200A  Normally Closed: -F core: 1.5 to 12A 12 to 55A 55 to 175A -S core: 2 to 12A 12 to 55A 55 to 200A	0.5 to 100 A
<b>Output</b>	-10 models: 0-10 VDC -42L models: 4-20 mA, loop-powered	4-20 mA, loop-powered true RMS	Normally Open: 0.15A @ 240 VAC or VDC  Normally Closed: 0.2A @ 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: 0.2A @ 135 VAC/VDC	LED Only (flashing, red)
<b>Frequency Range</b>	-10 models: 50 to 60 Hz -42L models: 20-100 Hz sinusoidal waveforms only	10 to 400 Hz non-sinusoidal waveforms	6 to 100 Hz	6 to 100 Hz	50 to 100 Hz	50 - 400 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	N/A
<b>Sensing Aperture</b>	ACT005, ACT050, ACT200: -F core: 0.75 in [19 mm] dia. -S core: 0.85 in [21.6 mm] sq.  ACT750, ACT2000: 3.0 in [76.2 mm] dia	ACTR005, ACTR050, ACTR200: -F core: 0.75 in [19 mm] dia. -S core: 0.85 in [21.6 mm] sq.  ACTR750, ACTR2000: 3.0 in [76.2 mm] dia	-F core: 0.75 in [19 mm] dia. -S core: 0.85 in [21.7 mm] sq.	-F core: 0.55 in [13.97 mm] dia. -S core: 0.85 in [21.7 mm] sq.	-F core: 0.75 in [19 mm] dia. -S core: 0.85 in [21.7 mm] sq.	0.32 in [8.13 mm]



# AC Current Sensors, Switches and Transducers Application Guide

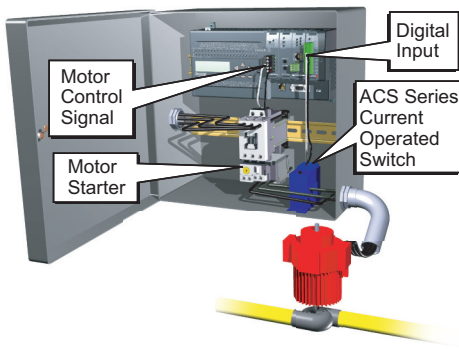
## Application Guide

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

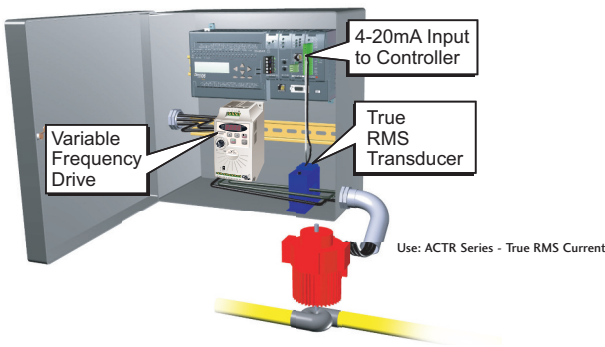
for processes ranging from monitoring loads to preventive maintenance. Models with the ability to read True RMS non-sinusoidal waveforms make it easy to monitor applications using variable frequency drives.

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

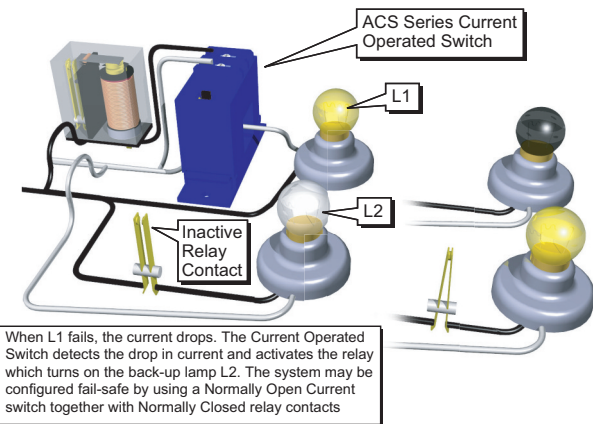
### Pump Jam & Suction Loss Protection



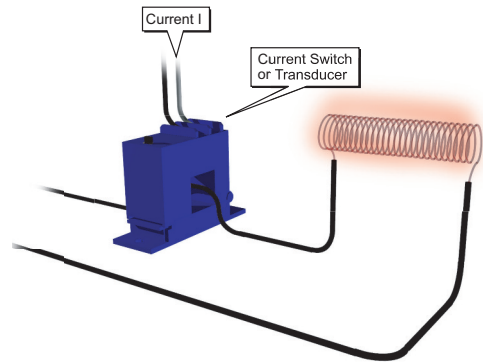
### Pump Load Monitoring



### Lamp Failure Detection



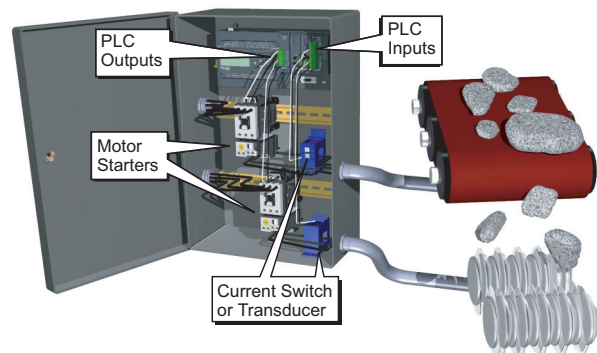
### Heater Life Prediction



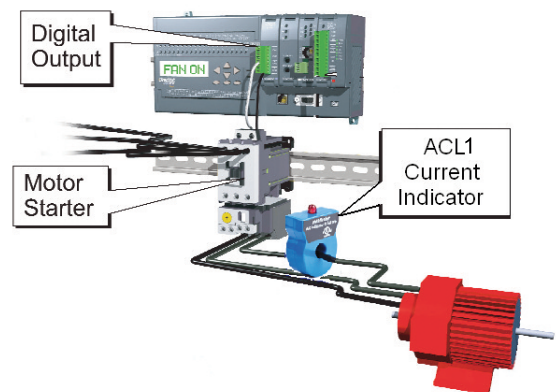
### Crusher/Grinder/Shredder Motor Interlocks

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



### Electric Motor Load Status



Company Information

Drives

Soft Starters

Motors

Power Transmission

Motion: Servos and Steppers

Motor Controls

Sensors: Proximity

Sensors: Photoelectric

Sensors: Encoders

Sensors: Limit Switches

Sensors: Current

Sensors: Pressure

Sensors: Temperature

Sensors: Level

Sensors: Flow Switches

Pushbuttons and Lights

Stacklights

Signal Devices

Process

Relays and Timers

Pneumatics: Air Prep

Pneumatics: Directional Control Valves

Pneumatics: Cylinders

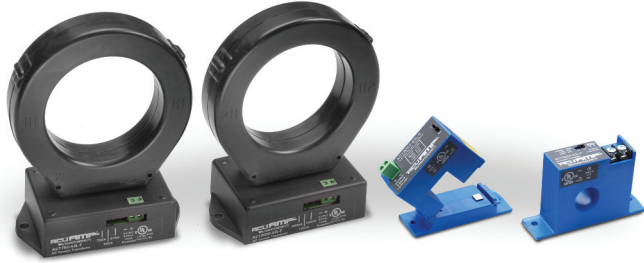
Pneumatics: Tubing

Pneumatics: Air Fittings

Appendix Book 2

Terms and Conditions

# ACUAMP<sup>®</sup> ACT Series AC Current Transducers



ACT current transducers combine a current transformer and signal conditioner into a single package. The ACT series has jumper-selectable 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 2000A. 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 wire
- 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.
- Built-in feet with optional 35 mm DIN rail adapter available.

## Agency Approvals

UL, cUL, CE approvals accepted worldwide

ACT Series AC 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

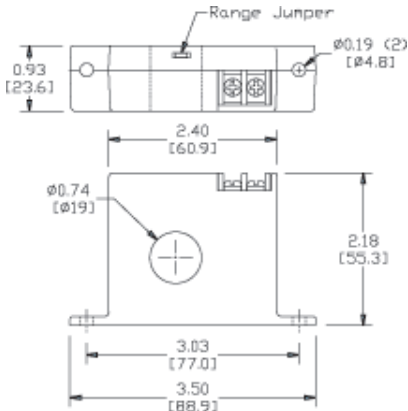
ACT Series Specifications			
	10 Models	42L Models up to 200A	42L Models 375 to 2000A
<b>Power Supply</b>	Self-powered	24 VDC loop nominal, 40 VDC max	24 VDC nominal; 40 VDC maximum
<b>Output Signal</b>	0 to 10 VDC	4 - 20 mA, Loop-powered	4 - 20 mA, Loop-powered
<b>Output Limit</b>	15 VDC	32 mA	23 mA
<b>Output Load</b>	1M $\Omega$ minimum 100 k $\Omega$ (add 1.3% to accuracy)	600 $\Omega$ maximum @ 24 VDC	600 $\Omega$ maximum @ 24 VDC
<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 375 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		



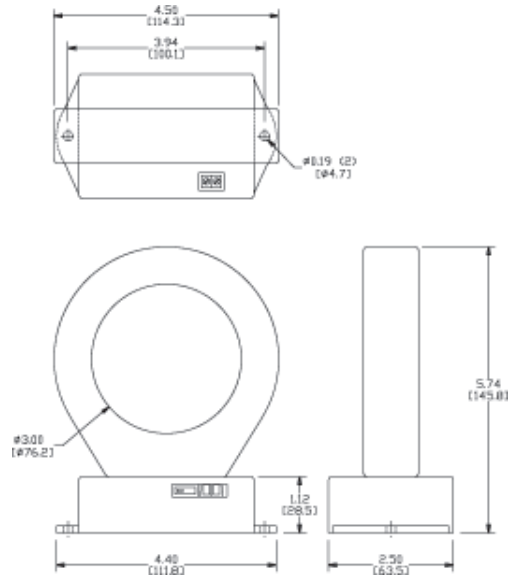
# ACUAMP® ACT Series AC Current Transducers

## Dimensions

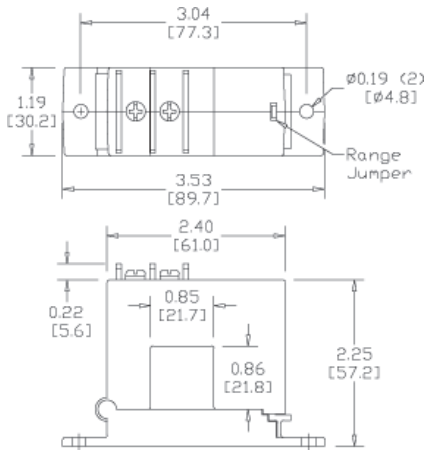
Inches [mm]



**ACT Series, 2 to 200 Amp Fixed Core**

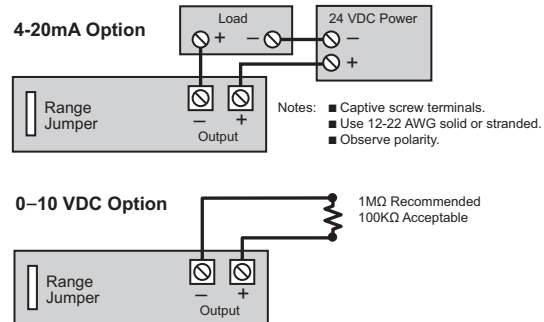


**ACT Series, 200 to 2000 Amp Fixed Core**



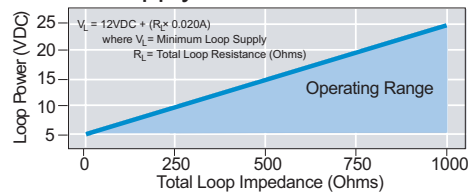
**ACT Series, 2 to 200 Amp Split Core**

## Connections ACT Series, 0 to 200 Amp

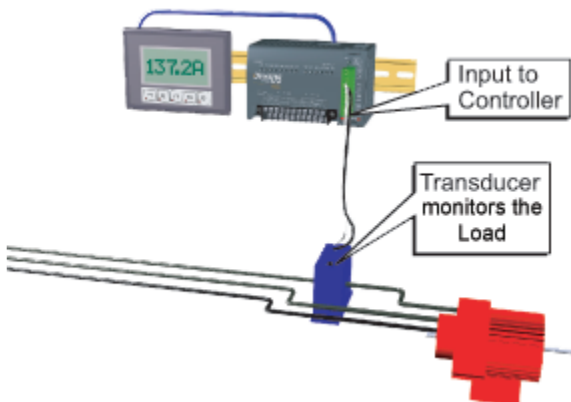
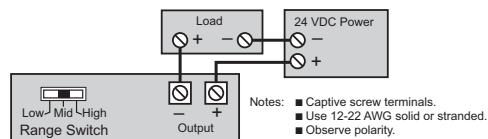


Terminals are #6 screws.

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



## Connections ACT Series, 200 to 2000 Amp



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