

# ATS SERIES

## AC Current Transducer/Switch with Digital Setpoint Display

ATS Series AC Current Sensors combine a current operated switch and transducer into a single package. The FL model features a digital display that gives visual indication of the setpoint for greater accuracy. The sensor provides a solid-state contact which will change state when the current exceeds an adjustable level or falls below the normal running current. This means reduced installation time, plus the option to have local control of a starter coil while at the same time sending the analog signal back to a controller housed in a separate cabinet.



Digital Setpoint Display (patent pending)

### Applications

#### Electronic Proof of Operation

- Current operated switches eliminate the need for multiple pipe or duct penetrations and are more reliable than electromechanical pressure or flow switches.

#### Conveyors

- Detects jams and overloads.
- Interlocks multiple conveyor sections.

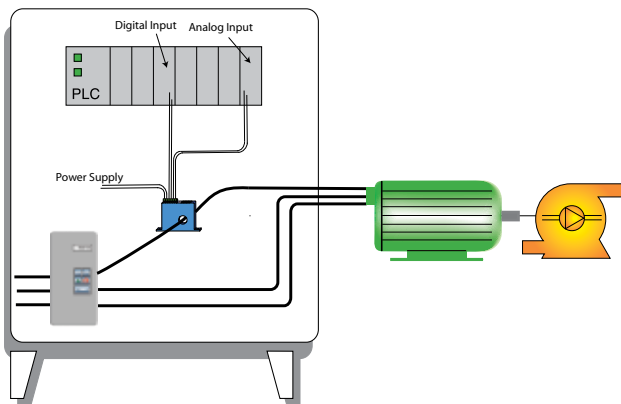
#### Pump Control

- Provides signal to measure current and shuts down the pump if the current rises over the setpoint.

#### Cooling Towers

- Analog monitors time of use and contact opens if a filter clogs.

Pump Jam & Suction Loss Protection



### Features

#### Solid-State Output

- N.O. or N.C. solid-state switch for control circuits up to 240 VAC.
- Compatible with most automation systems.

#### Externally Powered

- Allows for higher accuracy.

#### Easily Adjustable and Precise Setpoint

- Speeds startup.

#### Analog Output

- Measure the current used at all times.

#### LED Display

- Provides quick visual indication of where the contact changes. Display flashes on and off when current has exceeded the setpoint.
- Easiest and most accurate setpoint adjustment available.

#### Built-in Mounting Feet

- Simple, two-screw panel mounting or attach with DIN rail brackets (included).\*

#### Designed for UL/cUL and CE Approval

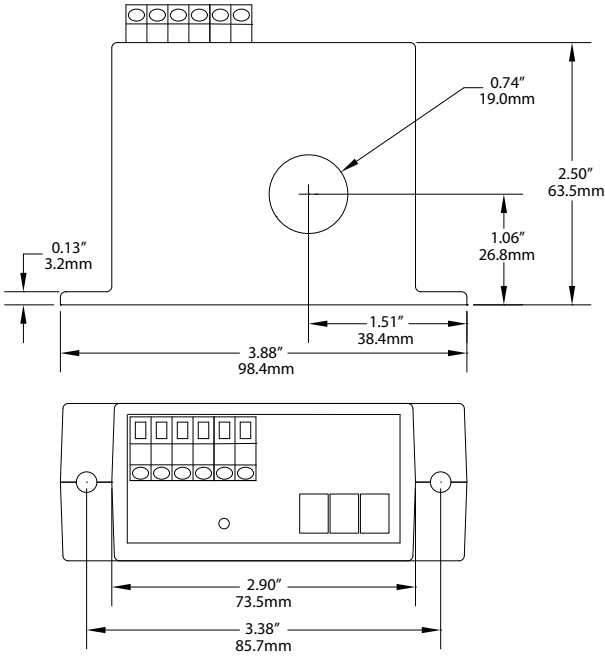
- Accepted worldwide.

\*For information on the DIN rail accessories kit, see page 122.

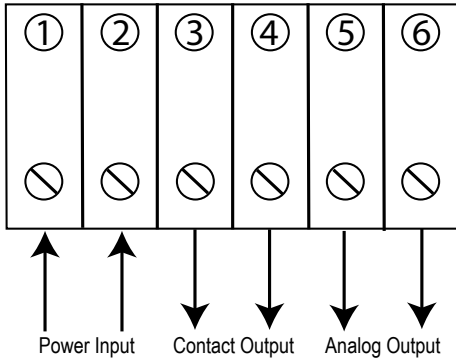
- For additional Application Examples, go to [www.nktechnologies.com/applications](http://www.nktechnologies.com/applications)

**OEMs** Test & Evaluation Units for OEMs  
Free program expedites evaluation process. See page 1 for details.

AC Current Transducer Dimensions



AC Current Transducer Connections



Display shows the trip point, and flashes when AC current exceeds that value. A trip point of 15 A is displayed as 015.

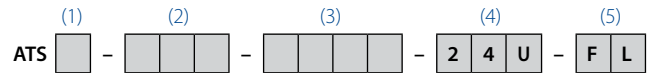
AC Current Transducer Specifications

<b>Power Supply</b>	24 VDC (18–30 V)
<b>Power Consumption</b>	40–70 mA
<b>Input Range</b>	<ul style="list-style-type: none"> <li>• ATS1: 0-50 A</li> <li>• ATS2: 0-200 A</li> </ul>
<b>Output Signal</b>	<ul style="list-style-type: none"> <li>• 4–20 mA 500 Ω max.</li> <li>• 0–5 or 0–10 VDC: 5 KΩ max.</li> </ul>
<b>Output Limit</b>	5/10 VDC; 20 mA
<b>Output Impedance</b>	<ul style="list-style-type: none"> <li>• 4–20 mA 500 Ω max.</li> <li>• 0–5 or 0–10 VDC: 5 KΩ max.</li> </ul>
<b>Accuracy</b>	+/-1.0% FS
<b>Analog Response Time</b>	250ms to 90% step change
<b>Switch Response Time</b>	<ul style="list-style-type: none"> <li>• &lt;500ms for 5% over set point</li> <li>• &lt;200ms for 50% over set point</li> <li>• &lt;150ms for 100% over set point</li> </ul>
<b>Hysteresis</b>	5%
<b>Frequency Range</b>	40–400 Hz
<b>Setpoint Range</b>	<ul style="list-style-type: none"> <li>• ATS1: 1–50 A (adjustable)</li> <li>• ATS2: 4–200 A (adjustable)</li> </ul>
<b>Output</b>	Isolated solid-state relay
<b>Output Rating</b>	1.0 A @ 240 VAC
<b>Isolation Voltage</b>	UL listed to 1270 VAC, tested to 5 KV
<b>Case</b>	UL94 V-0 Flammability Rated
<b>Environmental</b>	-4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing
<b>Listings</b>	Designed for UL/cUL and CE approval

AC Current Transducer Ordering Information

Sample Model Number: ATS1-420-NOAC-24U-FL

Adjustable AC current operated switch/transducer, normally open, solid-core case. (DIN rail adapters are included)



(1) Range

1	0–50 Analog, 1–50 switch adjustment
2	0–200 Analog, 4–200 switch adjustment

(2) Analog Signal Type

420	4–20 mA (powered by sensor)
005	0–5 VDC
010	0–10 VDC

(3) Output Contact

NOAC	Normally Open, closes on current rise, AC control only
NCAC	Normally Closed, opens on current rise, AC control only

(4) Power Supply

24U	24 VAC or DC
-----	--------------

(5) Case Style

FL	Solid-core
----	------------

