

July 1996

Data Sheet 1.10

### Description

Moore Industries' 4-wire ACT Current Transmitter accepts standard AC inputs from current transformers and potential transformers. It converts the input to a proportional current or voltage signal for monitoring motor currents, and interfacing with a distributed control system or another process instrument.

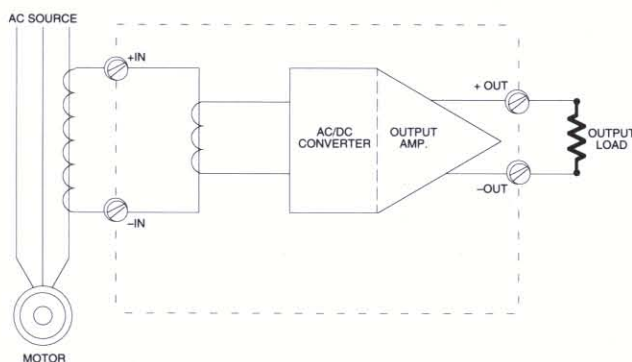
The ACT, for personal safety, incorporates an internal toroidal input transformer that steps a 0-5 amp ac current input to 0-5 milliamps. The transformer also isolates the input and enables the ACT to withstand large momentary surges of input current.

For additional safety, the ACT can be ordered with the toroidal input transformer (-EM option) mounted outside the unit. This option permits servicing without opening the secondary of the customer current transformer.

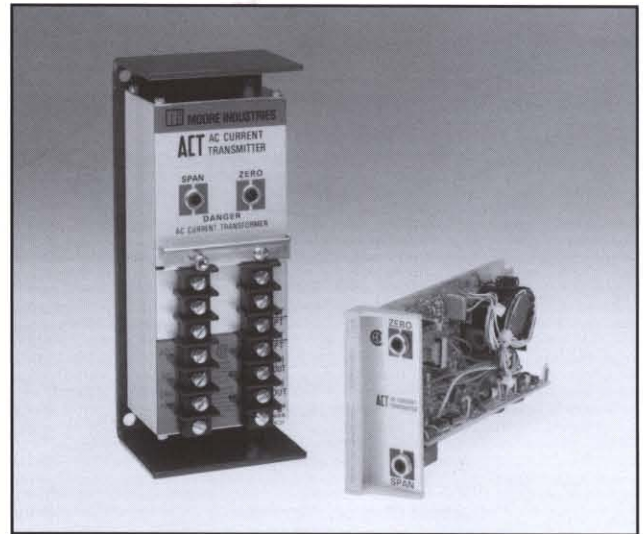
The ACT is offered with a variety of other options including complete RFI/EMI protection. Current transformers are available for interfacing with current inputs higher than the standard inputs. For details, see the back page.

### Ordering Specifications

To order, use the bold face data from the Ordering Specifications section of the Specifications table (see back page). For assistance, refer to the model number example located at the bottom of the table.



**ACT**



*Available in a variety of housing configurations, the ACT is ideal for mounting in a control room or in a field-mounted single- or multi-unit enclosure.*

### Features

- **Wide range of inputs and outputs.** Interfaces almost any current/voltage device to any process control system, readout device, or process control instrument.
- **Low output ripple/high common mode rejection.** Low output ripple and high common mode rejection mean output signals are exceptionally accurate, stable, and noise-free.
- **Complete isolation.** Eliminates signal inaccuracies caused by ground loops.
- **RFI/EMI protection.** When ordered with the -RF option, the ACT is resistant to the harmful effects of radio frequency and electromagnetic interference.

#### Certifications



**CSA General Location – STD**, File Number LR28549-18;  
**Explosion-proof – STD housing**, File Number LR28549-17  
 Groups C and D (in EX enclosure)

**City of Los Angeles General Location – STD**,  
 File Number 314074

# ACT

AC Current Transmitter

## Specifications

Characteristics	Ordering Specifications	Options (continued)
<p><b>Performance</b></p> <p><b>Calibration Capability:</b> <math>\pm 0.5\%</math> of span (linearity and repeatability)</p> <p><b>Isolation:</b> On both ac and dc units, input and output are transformer isolated (to 500V rms) with no dc connections between them</p> <p><b>Common Mode Rejection:</b> Exceeds 120dB at 60Hz with limit of 500Vrms</p> <p><b>Overload Capability:</b> 35 amps for 30 seconds with -EM option; 150% overvoltage with voltage input</p> <p><b>Current Output:</b> Operational amplifier feedback current source; output limited to 150% of maximum output range value</p> <p><b>Ripple:</b> <math>&lt; 10\text{mV P/P}</math> at maximum span and maximum load resistance</p> <p><b>Load effect:</b> <math>\pm 0.01\%</math> of span from 0 to maximum load resistance (current output)</p> <p><b>Line Voltage Effect:</b> <math>\pm 0.005\%/1\%</math> line voltage change</p> <p><b>Ambient Temperature Range:</b> <math>-29^\circ\text{C}</math> to <math>+82^\circ\text{C}</math> (<math>-20^\circ\text{F}</math> to <math>+180^\circ\text{F}</math>)</p> <p><b>Effect:</b> <math>\pm 0.018/^\circ\text{C}</math> (<math>\pm 0.01\%/^\circ\text{F}</math>) over above range</p> <p><b>Adjustments Type:</b> External multiturn potentiometers</p> <p><b>Span:</b> With full scale input, adjusts output to 100%, <math>\pm 20\%</math> of selected output span</p> <p><b>Zero:</b> With minimum input, adjusts output to 0%, <math>\pm 10\%</math> of selected output span</p> <p><b>Weight</b> 900 grams (2 lbs.)</p>	<p><b>Unit</b> ACT AC Current Transmitter</p> <p><b>Input</b> Current (into 0.1 ohm input impedance): <b>0-1AAC</b> <b>0-2AAC</b> <b>0-3AAC</b> <b>0-4AAC</b> <b>0-5AAC</b> Voltage (into 1000 ohms per volt input impedance): <b>0-1.5VAC</b> <b>0-5VAC</b> <b>0-10VAC</b> <b>0-25VAC</b> <b>0-50VAC</b> <b>0-120VAC</b> <b>0-150VAC</b></p> <p><b>Output</b> Current: <b>1-5MA</b> into 0-4800 ohms <b>4-20MA</b> into 0-1200 ohms <b>10-50MA</b> into 0-480 ohms <b>SC</b> Field-selectable current output, any of above outputs (not available with EUR housing) Voltage: <b>0-5V</b> into 20 kilohms <b>0-10V</b> into 20 kilohms <b>1-5V</b> into 20 kilohms</p> <p><b>Power</b> <b>24DC</b>, <math>\pm 10\%</math> <b>45DC</b>, <math>\pm 10\%</math> <b>117AC</b>, 50/60Hz, <math>\pm 10\%</math> <b>220AC</b>, 50/60Hz, <math>\pm 10\%</math> <b>240AC</b>, 50/60Hz, <math>\pm 10\%</math> (EUR housing available with 24DC only)</p> <p><b>Options</b> <b>-EM</b> Externally-mounted input transformer for current input (required with PC housing; requires separate housing when explosion-proof is specified)</p>	<p><b>Options</b> <b>-HI</b> High current (20mA) on voltage outputs <b>-RF</b> RFI/EMI protection (requires -EM option for current input); Standard housing rates 50V/m - ABC = 0.1% F.S. when tested according to SAMA Standard PMC 33.1</p> <p><b>Housings*</b> <b>STD</b> Standard housing with U-back bracket for surface mounting <b>AB</b> Standard housing with angle flanges for surface mounting or mounting in an enclosure <b>PC</b> Plug-in card for mounting in an RMR or SMR rack (-EM option required) <b>EUR</b> Euro-style plug-in card for mounting in an RMR-EU rack <b>CP</b> Conduit plate for use with standard units <b>DCM</b> DIN clip for mounting STD standard housing on G-type DIN standard rail <b>EX</b> Housing mounted in 2-hub, solid cover, explosion-proof enclosure <b>GP</b> General purpose metal enclosure <b>OT</b> Oil-tight enclosure for single unit (NEMA 12) <b>PM</b> Panel mount enclosure <b>WT</b> Water-tight enclosure for single unit (NEMA 4)</p> <p><small>*For housing dimensions and terminal designations, see the applicable housing sheet.</small></p>

**When ordering, specify:**  
Unit / Input / Output / Power / Options [Housing]

**Model number example:**  
ACT / 0-5A / 4-20MA / 117AC / -EM [STD]



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