

January 2024

► **Description**

The 2-wire ACX Current Transmitter accepts standard AC inputs from current and potential transformers. It converts the AC input to a proportional DC current signal for monitoring motor currents, and interfacing with a distributed control system or another process instrument.

The ACX measuring circuit incorporates an internal toroidal transformer that steps a 0-5 amp AC input down to 0-5 milliamps AC. For personal safety, this input transformer can be optionally mounted externally (-EM option). Externally mounting the transformer assures the signal at the ACX terminals is a safe, low level. Servicing the ACX can be performed without shorting the secondary of the -EM transformer.

Additionally, the ACX has input/output isolation protecting the integrity of the measurement and can withstand large momentary surges of input current.

The ACX is offered with a variety of other options including complete RFI/EMI protection. For details, see the back page.



Figure 1. The ACX is offered in high-density DIN-style and hockey-puck housings. The hockey-puck housing mounts on a relay track or in an explosion-proof enclosure pictured on the left.

► **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

**Certifications**

**CE** CE Conformant – EMC Directive 2014/30/EU EN61326



**ACX-HP in BH or SB2 Housing**  
**Factory Mutual Approvals (FM Global Group):**  
**Explosion-Proof & Dust-Ignition Proof**  
 Class I, Division 1, Groups A\*, B, C & D  
 Class II & III, Division 1, Groups E, F & G  
**Environmental Protection: Type 4X & IP66**  
 T6 @ 60°C Maximum Operating Ambient  
 \*For Group A applications, seal all conduits within 18"



**CSA Group (Canadian Standards Association):**  
**Explosion-Proof**  
 Class I, Division 1, Groups A\*, B, C & D  
 Class II, III, Groups E, F & G  
 Type 4X, IP66  
 Ambient Temp. Range: -20°C to +60°C; T6  
 \*For U.S. Group A applications, seal all conduits within 18"

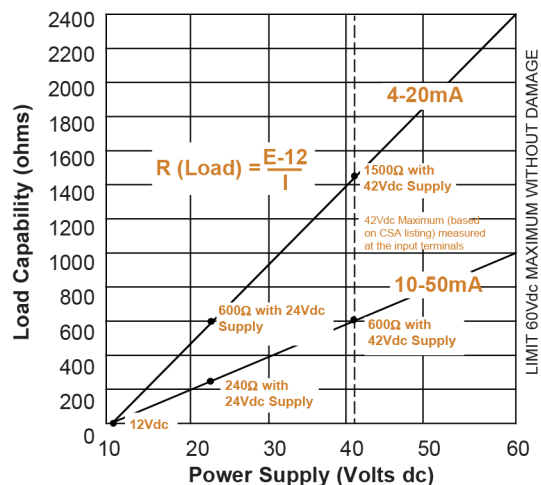


**ATEX Directive 2014/34/EU (ISSEP):**  
**Explosion/Flameproof**  
 Ex II 2 G Ex d IIC T6 Gb  
 Ex II 2 D Ex tb IIIC Db T85°C IP66



**ANZEx (TestSafe):**  
**Explosion/Flameproof**  
 Ex d IIC T6 (Tamb 60°C) IP66

Figure 2. The load capability of the ACX increases with the power supply.



# ACX

## AC Current Transmitter

### ► Specifications

<p><b>Performance</b></p> <p><b>Calibration Capability:</b> ±0.2% of span (linearity and repeatability); ±0.5% of span at 0-10Vac range and lower</p> <p><b>Isolation:</b> Input and output are transformer isolated up to 500Vdc</p> <p><b>Overload Capability:</b> 35 amps for 30 seconds with - EM option; 150% overvoltage with voltage input</p>	<p><b>Performance Cont</b></p> <p><b>Load Capability:</b> R (Load) = <math>\frac{E - 12}{I}</math></p> <p><b>Ripple:</b> 10mV peak-to-peak maximum</p> <p><b>Ambient Temperature Range:</b> -20°C to +82°C (-4°F to +180°F)</p> <p><b>Effect:</b> ±0.015%/C (±0.01%/F) over above range</p>	<p><b>Adjustments</b></p> <p><b>Type:</b> External multiturn potentiometers</p> <p><b>Span:</b> With full-scale input, adjusts output to 100%, ±10% of selected output span</p> <p><b>Zero:</b> With minimum input, adjusts output to 0%, ±10% of selected output span</p> <p><b>Weight</b> 170 g (6 oz.)</p>
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### ► Ordering Information

Unit	Input	Output	Power	Options	Housing		
ACX AC Current Transmitter	Current (into 0.1ohm input impedance)	<b>4-20MA</b> into 600ohm with 24Vdc power supply	<b>12-42DC</b> (loop-powered on output side)	<b>-EM</b> Externally-mounted input transformer, with 36" leads for current input <b>-RF</b> RFI/EMI protection (Requires -EM options for current inputs); DIN and hockey-puck housings rate 50V/m -ABC = 0.1% F.S. when tested according to SAMA Standard PMC 33.1 <b>-RTB</b> Removable terminal block (DIN housing only)	<b>DIN</b> Universal DIN-style housing mounts on 32mm G-type and 35mm Top Hat DIN-rails		
	<b>0-1AAC</b>	<b>10-50MA</b> into 600ohm with 42Vdc power supply			<b>HP</b> Hockey-puck housing with spring clips for mounting in an explosion-proof enclosure		
	<b>0-2AAC</b>				<b>FL</b> Hockey-puck housing with flanges for surface or relay track mounting		
	<b>0-3AAC</b>				<b>BH2NS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with two 1/2-inch NPT entry ports and a solid cover		
	<b>0-4AAC</b>				<b>BH2TS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with two 3/4-inch NPT entry ports and a solid cover		
	<b>0-5AAC</b>				<b>BH2MS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with two M20 x 1.5 NPT entry ports and a solid cover		
	Voltage (into 100ohm per volt input impedance)						<b>BH3NS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with three 1/2-inch NPT entry ports and a solid cover
	<b>0-.5VAC</b>						<b>BH3TS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with two 3/4-inch side-entry NPT ports, one 1/2" bottom port, and a solid cover
	<b>0-1.5VAC</b>						<b>BH3MS</b> (*) or (‡) Aluminum Explosion-Proof enclosure with two, M20 x 1.5 side-entry ports, one 1/2" bottom-entry port, and a solid cover
	<b>0-5VAC</b>						<b>SB2NS</b> (*) or (‡) 316 Stainless Steel 2-Hub, Explosion-Proof enclosure with two, 1/2-inch NPT entry ports and a solid cover
	<b>0-10VAC</b>						<b>SB2MS</b> (*) or (‡) 316 Stainless Steel 2-Hub, Explosion-Proof enclosure with two, M20 x 1.5 entry ports and a solid cover
	<b>0-25VAC</b>						<b>D2LS</b> 2-Hub, Aluminum base, solid cover, IP66/NEMA 4X enclosure
	<b>0-50VAC</b>						* Either <b>A</b> or <b>E</b> suffix (comes supplied with 2" pipe mount hardware)
<b>0-120VAC</b>				<b>A</b> suffix indicates ANZEx/TestSafe (Ex d) Flameproof approvals (i.e. BH2MSA)			
<b>0-150VAC</b>				<b>E</b> suffix indicates ATEX (Ex d and tD) Flameproof approvals (i.e. BH2MSE)			
				‡ <b>P</b> suffix indicates enclosure comes equipped with base plate and U-bolts for mounting on a 2-inch pipe (i.e. BH2NSP)			
				See BH, SB and D-BOX Datasheets for additional information.			

To order, specify: Unit / Input / Output / Power / Options [Housing]  
Model Number Example: ACX/0-5AAC/4-20MA/12-42DC/-EM [DIN]

Specifications and information subject to change without notice.



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