Direct Current Sensors: Split-Core, mA and Voltage Output

DC Applications

pulse reset technology™
U.S. Pat. #6,160,697; 6,522,517; 7,242,157



H971

Hawkeye™

CURRENT MONITORING

DESCRIPTION

Hawkeye DC Sensors provide accurate load level monitoring of DC current loads. The H970 combines a Hall Effect sensor with proven transducer circuitry. Slide-switch selectable amperage ranges and field selectable mA and VDC outputs maximize flexibility. The H971 uses Pulse Reset Technology™ with field proven circuitry to provide a superior solution for DC applications with minimal risk of permanent magnetization, ensuring longer life and better accuracy.

The H970 has low and high current options with slide switch selectable amperage ranges and a choice of 0-5V, 0-10V, or 4-20mA outputs. The EA20 and the H971 have 4-20mA output only. The H971 also offers bidirectional sensing capability and a user-adjustable span to allow greater application flexibility.

APPLICATIONS

- Battery chargers
- Motor armature current
- Motor field current
- Automotive loads
- Marine equipment
- Solar energy applications
- Telecom
- Electroplating

CURRENT SENSING
THE ULTIMATE PROOF OF FLOW
Maximize Reliability
Minimize Installed Cost

FEATURES

All Models

- Self-gripping iris for easy installation
- Bracket can be installed in three different configurations...added flexibility
- Status LED ensures proper wiring...easy set up
- 5-year warranty

H970 Multi-Output Model

- Factory calibrated switch-selectable amp ranges (20/40/80 or 50/100/200) for high resolution and installation ease
- mA and DC voltage outputs...maximum installation flexibility

H971 Bidirectional Model

- Patented Pulse Reset Technology™ significantly increases accuracy...sensor is not affected by stray magnetic fields...minimize worry of magnetization from over-current faults
- User-adjustable span from ±20A to ±200A
- Range can be factory-set per customer specifications (SP model)

EA20 Unidirectional Model

- Patented Pulse Reset Technology™ significantly increases accuracy...sensor is not affected by stray magnetic fields...minimize worry of magnetization from over-current faults
- 100, 150, and 200A span versions available...application flexibility

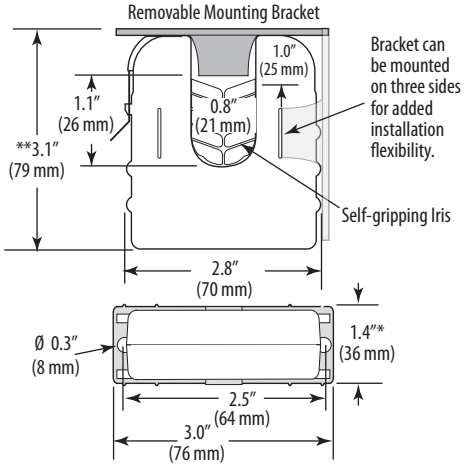
SPECIFICATIONS

5 Year Warranty

System Technology	**H970:** Open loop Hall effect; **H971, EA20:** Exclusive Pulse Reset Technology™
Amperage Range	**H970:** LC: 0-20/40/80; HC: 0-50/100/200 (slide switch selectable); **H971:** ±200ADC; **EA20:** 0-100ADC/0-150ADC/0-200ADC
Sensor Supply Voltage	**H970:** 15-30VAC/DC for 0-10VDC and 4-20mA outputs, 12-30VAC/DC for 0-5VDC output; **H971, EA20:** 12-24VDC*
Supply Current	35mA max.**
Insulation Class	**H970:** 840VDC; **H971:** 600VDC, **EA20:** 1000VDC
Temperature Range	**H970:** -15° to 60°C (5° to 140°F); **H971, EA20:** -30° to 60°C (-22° to 140°F)
Humidity Range	10-90% RH non-condensing
Output	**H970:** 4-20mA, 0-5VDC, 0-10VDC (2 options allowed per sensor); **H971:** Bidirectional 4-20mA (adjustable span)***; **EA20:** Unidirectional 4-20mA
Terminal Block Wire Size	24-14 AWG (0.2 to 2.1 mm^2)
Terminal Block Torque	3.5 to 4.4 in-lbs (0.4 to 0.5 N-m)
H970 Accuracy:	
Accuracy	±3% F.S. (combined linearity, hysteresis, and repeatability)
Repeatability	±1%
Linearity	±1%
H971/EA20 Accuracy:	
Accuracy at Ranges Below 100A	±0.5A (combined linearity, hysteresis, and repeatability)****
Accuracy at Ranges Above 100A	±0.5% full scale (combined linearity, hysteresis, and repeatability)****
Withstand Current	25,000ADC
Response Time	H970: 2 sec; H971, EA20: Less than 150 msec
Agency Approvals	UL 508 open device listing; CE: EN61010-1:2001-2, CAT III, pollution degree 2, basic insulation

Do not use the LED status indicators as evidence of applied voltage. For applications requiring double or reinforced insulation, please contact the factory.
** For currents over 120A, supply voltage must be at least 15V.*
*** For H971, at zero load current: 35mA max.; at 200A load current: 55mA to 100mA depending on supply voltage and current polarity.*
**** Unless factory set per customer specifications (H971SP only).*
***** For single conductor through product (no wraps).*

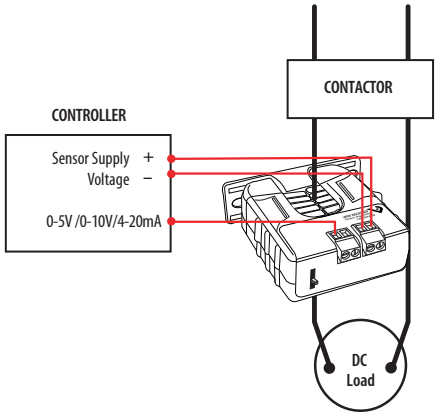
DIMENSIONAL DRAWING



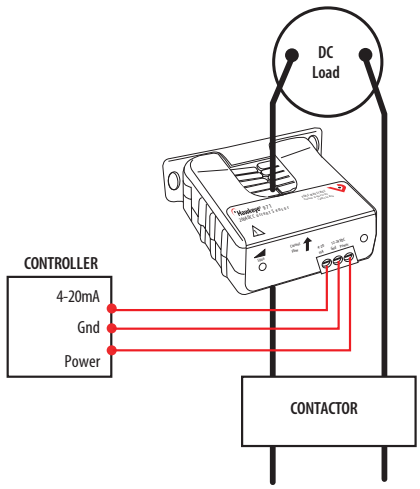
** Terminal block may extend up to 1/8" over the height dimensions shown.*
*** Slide switch may extend up to 1/4" over the height dimensions shown*

APPLICATION/WIRING DIAGRAMS

H970

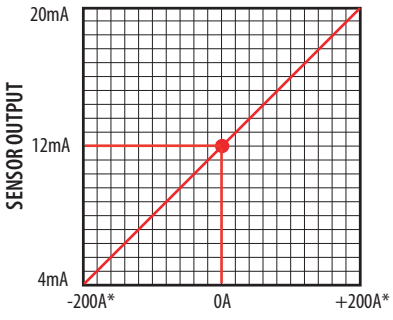


H971/EA20



H971 BIDIRECTIONAL OUTPUT

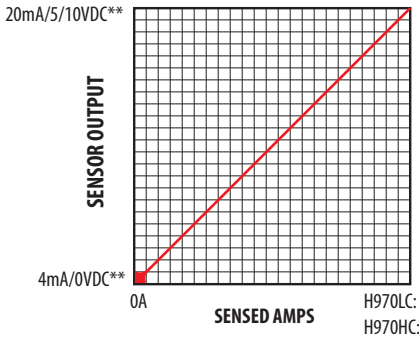
Scale software as shown



**Field Adjustable from ±20A to ±200A*
(not applicable to customer-specified factory scaled models)

H970/EA20 LINEAR OUTPUT

Scale software as shown



H970LC: 20/40/80A*
H970HC: 50/100/200A*
EA20: 100/150/200A

**Slide-Switch Selectable*
*** Voltage option not available on EA20*

ORDERING INFORMATION

MODEL	PULSE RESET TECHNOLOGY	AMPERAGE RANGE (DC)	SENSOR OUTPUT	HOUSING	STATUS LED	UL	CE	RoHS
Hawkeye Series								
H971	●	0 - 200A	Bidirectional 4-20mA	Split-core	●	●	●	●
H971SP	●	0 - 200A*	Bidirectional 4-20mA	Split-core	●	●	●	●
H970LCA		0 to 20/40/80A	4-20mA and 0-5VDC	Split-core	●			
H970LCB			4-20mA and 0-10VDC	Split-core	●			
H970HCA		0 to 50/100/200A	4-20mA and 0-5VDC	Split-core	●			
H970HCB			4-20mA and 0-10VDC	Split-core	●			
EA Series								
EA20BB010	●	0-100A	Unidirectional 4-20mA	Split-core	●	●**	●	●
EA20BB015	●	0-150A	Unidirectional 4-20mA	Split-core	●	●**	●	●
EA20BB020	●	0-200A	Unidirectional 4-20mA	Split-core	●	●**	●	●

** Range set in factory per customer specified value from 0 to ±20A through 0 to ±199A.*
*** UL Recognized*

ACCESSORIES

DIN Rail Clip Set (AH01)
DIN Rail (AV01) and DIN Stop Clip (AV02)



CURRENT MONITORING