

VFD Switches and Current Sensors

Variable Frequency Drive Monitoring and Control




U.S. Patent No. 5,705,989

DESCRIPTION

Hawkeye 904, 934, and 720 current monitoring devices provide unique solutions for accurately monitoring status of motors controlled by variable frequency drives.

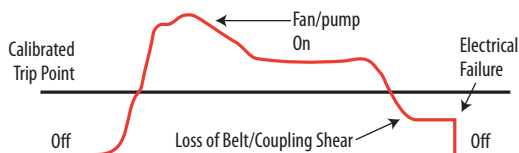
The microprocessor-based H904 and H934 store the sensed amperage values for normal operation at various frequency ranges in non-volatile memory. This information allows the device to distinguish between a reduced amp draw due to normal changes in the frequency and an abnormal amp drop due to belt loss or other mechanical failures. The relay on the H934 is isolated from the current switch, and all relay connections are externally accessible on the device.

The H720 analog output corresponds to current in the monitored conductor from 10 to 80 Hz.

APPLICATIONS

- Monitoring positive status on motors controlled by variable frequency drives
- Replacing pressure switches
- Measuring current and load trending

DETECTS BELT LOSS/COUPLING SHEAR!



Now you can easily detect when drive belts slip, break, or pump couplings shear. In fact, a typical HVAC motor that loses its load has a reduction of current draw of up to 50%. That's why our sensors are the industry standard for status.



SPECIFICATIONS

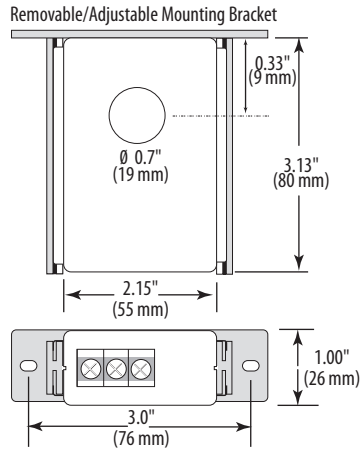


Sensor Power	H904/H934: Induced from monitored conductor; H720: 12-30VDC
Insulation Class	600VAC RMS
Frequency Range	H720: 10 to 80 Hz; H904/H934: 20 to 34 Hz for on/off status, 34 to 75 Hz for belt loss indication
Temperature Range	-15° to 60°C (5° to 140°F)
Humidity Range	10-90% RH non-condensing
Off Delay (H904/H934)	0 sec to 2 min.
Accuracy (H720)	0.5% (combined linearity, hysteresis, and repeatability)
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)
Agency Approvals	UL 508 open device listing

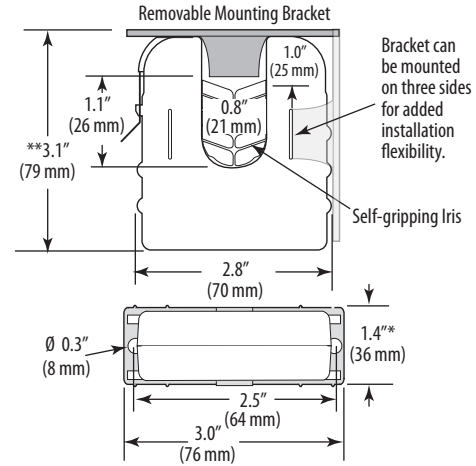
Do not use the LED status indicators as evidence of applied voltage.

DIMENSIONAL DRAWINGS

H720



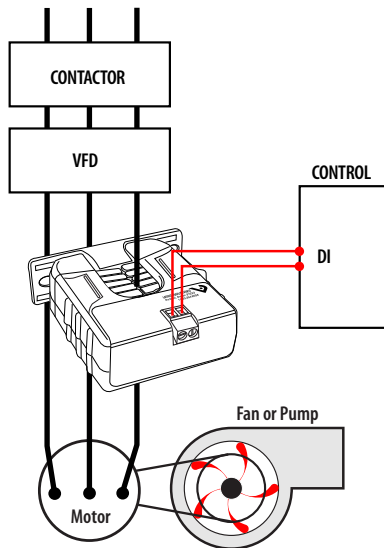
H904/934



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

APPLICATION/WIRING DIAGRAM (H904)

Monitoring Fan / Pump Motors for Positive Proof of Flow



NOTE: The H904 is not intended for use in staged pump or variable inlet vane applications.



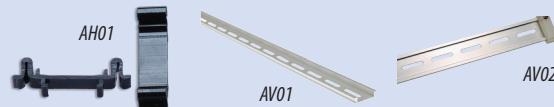
ORDERING INFORMATION

MODEL	AMPERAGE RANGE	STATUS OUTPUT	MIN. TRIP POINT	RELAY TYPE	HOUSING	STATUS LED	RELAY POWER LED	UL
H720	lower limit: 0A Upper limit: 20 to 200A	4-20mA	n/a	none	Solid-core			●
H904	3.5 - 135A, 20 - 75 Hz	Max. N.O. 0.1A@30VAC/DC	3.5A or less	none	Split-core	●		●
H934				SPST, N.O.		●	●	●

ACCESSORIES

DIN Rail Clip Set (AH01)

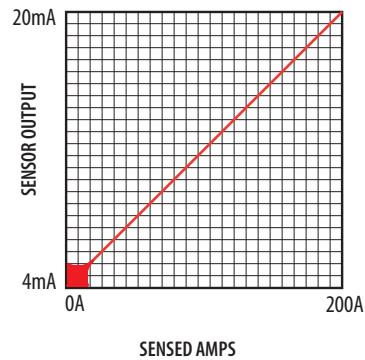
DIN Rail (AV01) and DIN Stop Clip (AV02)



EXAMPLE LINEAR OUTPUT (H720)

Scale software as shown

Requires 12-30VDC for sensor power



H934 RELAY CONTACT RATINGS

Resistive.....5A@250VAC, 30VDC

TYPICAL COIL PERFORMANCE

Voltage	AC	DC
24V.....	10mA	10mA