Current Monitoring

Current Switches

The Schneider Electric range of current switches delivers high performance, reliable current monitoring for applications including fan status, belt loss, and most Variable Speed Drive (VSD) applications. Current switches detect changes in a conductor's current/amperage and provide a digital output to Building Management System (BMS) controllers. The current switches are available in solid-core versions for new projects and split-core versions to accommodate retrofits.

Specifications

Sensor power	Induced from monitored conductor
Frequency	50/60 Hz
Hysteresis	10% of set-point (typical)
Off state resistance	Open switch represents 1+ MΩ
On state resistance	Closed switch represents <200 mΩ
Agency approvals	CE: EN61010-1
Installation category	Cat. III, pollution degree 2

Solid-Core

Part number	Model number	Current/ Amperage range	Output ratings	Set-point
3240100000	H708-S6	1 … 135 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Adjustable
3240101000	H709HV-S6	1 … 135 A continuous	N.O. 1.0 A @ 250 Vac, not polarity sensitive	Adjustable
3240106000	H800-S6	0.25 … 200 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Fixed (0.25 A or less)

Split-Core

Part number	Model number	Current/ Amperage range	Output ratings	Set-point
3240102000	H308-S6	0.75 … 50 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Adjustable
3240103000	H608-S6	0.5 … 175 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Adjustable
3240104000	H908-S6	2.5 … 135 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Adjustable
3240105000	H909HV-S6	2.5 … 135 A continuous	N.O. 1.0 A @ 250 Vac, not polarity sensitive	Adjustable
3240108000	H300-S6	0.15 … 60 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Fixed (0.15 A or less)
3240109000	H600-S6	0.15 … 200 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Fixed (0.15 A or less)
3240110000	H900-S6	1.5 … 200 A continuous	N.O. 1.0 A @ 30 Vac/dc, not polarity sensitive	Fixed (1.5 A or less)

Accessories

Part number	Model number	Description
3240301000	AH01-S6	DIN rail adapter for H6/7/8/9xx-S6
3240302000	AH27-S6	DIN rail adapter for H3xx-S6

H11D-S6

Current Switch

H11D-S6

The Schneider Electric H11D-S6 is an over-current and under-current switch intended for use with HVAC systems (i.e., fans or blowers). When the H11D-S6 is unpowered, the status output contacts are open. When the device is powered, the contacts close and remain closed during normal operation. The H11D-S6 learns the nominal amperage in the conductor, then monitors for amperage changes outside the range chosen using the slide switch. If the amperage goes out of the established range, the contacts open, raising an alarm in the system controller.

This alarm state persists until the amperage comes back to within range (5% of learned nominal rate below the upper trip limit or 5% of learned nominal rate above the lower trip limit of the learned nominal conditions) and remains within range for 30 seconds to ensure that the system has truly returned to normal operation. If load conditions change, use the reset button to send the H11D-S6 back into learning mode.

Specifications

Sensor power	Induced by monitored conductor
Amperage range	60 Hz: 2.5 … 200 A Max. 50 Hz: 3.0 … 200 A Max.
Sensor output rating	N.O. 1.0 A@30 Vac/dc; not polarity sensitive
LCD backlight	Off at low currents; illuminates when monitored current exceeds 4.5 A; flashes during an alarm state while current remains above 4.5 A
Response Time	1 sec.
Insulation class	300 Vac RMS, insulated conductors only
Frequency	50/60 Hz
On-state resistance	≤1.0 Ω
Off-state resistance	≥1.0 MΩ
Accuracy	±2% FS
Set-point target range, Switch Setting A	±40% of learned nominal current; Max. learned current of 142 A to enable an upper trip limit at or below 200 A
Set-point Target Range, Switch Setting B	±60% of learned nominal current; Max. learned current of 125 A to enable an upper trip limit at or below 200 A
Switch Setting C	On/Off Status; contacts are closed while amperage is above 2.5 A
Alarm Reset Range	±5% of learned nominal current
Set-point Calibration Learn Period	30 sec.; self-learning, pushbutton reset
Normal-to-Alarm Output Delay	1 sec. maximum
Alarm-to-Normal Output Delay	30 sec. nominal
Agency approvals	CE: EN61010-1
Installation category	Cat. III, pollution degree 2

Part number	Model number
3240111000	H11D-S6

H614-S6

Current Switch

H614-S6

The Schneider Electric H614-S6 is a current-sensitive switching device designed for use with variable speed drive (VSD) systems. It is equipped with an auto-calibration feature that allows the device to distinguish between a reduced current/amp draw due to normal changes in frequency and an abnormal drop due to belt loss or other mechanical failures.

The H614-S6 is designed for HVAC fan and blower systems, as well as some pumping systems involving consistent viscosity liquids. If an H614-S6 is installed on one phase of the VSD, it detects changes in that phase that result from the VSD compensating for changes elsewhere in the system. Alternatively, for increased sensitivity, an H614-S6 can be used on all three phases for immediate detection of amperage changes anywhere in the system.

A change from the normal amperage and frequency profile in the monitored conductor will cause the resistance of the FET status output to change state, similar to the action of a mechanical switch. The status output is suitable for connection to building controllers or other appropriate data acquisition equipment operating at up to 30 volts. The H614-S6 requires no external power supply to generate its output.

Performance of the H614-S6 can be optimized through an optional step. When the H614-S6 is first powered and is in Learn Mode, manually cycle through each 5 Hz frequency band, allowing the VSD to remain at each band for 15 seconds.

Specifications

Sensor power	Induced from monitored conductor
Amperage range	1.5 … 150 A Continuous
Sensor output rating	N.O. 1.0 A@30 Vac/dc
Response time	1 sec.
Insulation class	300 Vac RMS, insulated conductors only
Frequency	12 … 115 Hz
Alarm limits	±20% of learned current in every 5 Hz freq. band
Normal-to-Alarm status output delay	5 sec. max.
Alarm-to-Normal status output delay	1 sec. nominal
Off Delay	<30 sec (nominal)
Agency approvals	CE: EN61010-1
Installation category	Cat. III, pollution degree 2

Part number	Model number
3240112000	H614-S6

Current Transducers

The Schneider Electric range of current transducers delivers high performance, reliable current monitoring for applications including fan status, belt loss, and most Variable Speed Drive (VSD) applications. Current transducers detect changes in a conductor's current/amperage and provide an analog output to Building Management System (BMS) controllers. The current transducers are available in solid-core versions for new projects and split-core versions to accommodate retrofits.

Specifications

Response Time	2 sec.
Frequency	50/60 Hz
Accuracy	±2% FS from 10 … 100% of selected range
Agency approvals	CE: EN61010-1
Installation category	Cat. III, pollution degree 2

Solid-Core

Part number	Model number	Power	Amperage range	Output
3240201000	H721LC-S6	30 mA (Max.) @12 … 30 Vdc	0 … 10/20/40 A (selectable)	4 … 20 mA
3240202000	H721HC-S6	30 mA (Max.) @12 … 30 Vdc	0 … 50/100/200 A (selectable)	4 … 20 mA
3240204000	H722LC-S6	Induced from monitored conductor	0 … 10/20/40 A (selectable)	0 … 5 Vdc
3240205000	H722HC-S6	Induced from monitored conductor	0 … 50/100/200 A (selectable)	0 … 5 Vdc
3240212000	H822-S6	Induced from monitored conductor	0 … 10 A	0 … 5 Vdc
3240213000	H822-20-S6	Induced from monitored conductor	0 … 20 A	0 … 5 Vdc
3240206000	H723LC-S6	Induced from monitored conductor	0 … 10/20/40 A (selectable)	0 … 10 Vdc
3240207000	H723HC-S6	Induced from monitored conductor	0 … 50/100/200 A (selectable)	0 … 10 Vdc

Split-Core

Part number	Model number	Current/ amperage range	Output ratings	Set-point
3240203000	H921-S6	30 mA (Max.) @12 … 30 Vdc	0 … 30/60/120 A (selectable)	4 … 20 mA
3240210000	H221-S6	30 mA (Max.) @12 … 30 Vdc	0 … 100 A to 0 … 300 A (adjustable)	4 … 20 mA
3240211000	H321-S6	30 mA (Max.) @12 … 30 Vdc	0 … 300 A to 0 … 800 A (adjustable)	4 … 20 mA
3240208000	H922-S6	Powered from conductor	0 … 30/60/120 A (selectable)	0 … 5 Vdc
3240209000	H923-S6	Powered from conductor	0 … 20/100/150 A (selectable)	0 … 10 Vdc