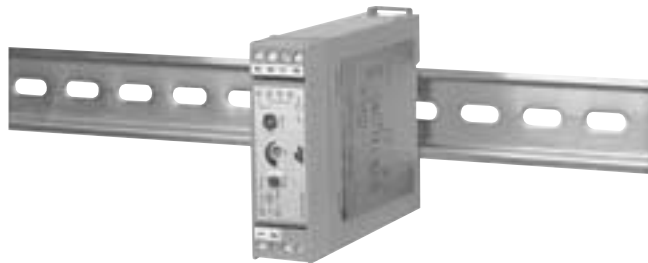


MODEL AIMR - LOOP POWERED SETPOINT ALARM



- LOOP POWERED - NO EXTERNAL 24 VDC POWER SUPPLY REQUIRED
- LOW BURDEN ON THE 4 TO 20 mA LOOP (275Ω)
- BI-STABLE RELAY - REQUIRES NO HOLDING CURRENT
- CONFIGURABLE RELAY ACTION - LATCHING OR NON-LATCHING
- SPDT RELAY CONTACT RATED 1 A, 125 VAC
- REPEATABILITY BETTER THAN 0.3%



DESCRIPTION

The Setpoint Module is a primary or redundant industrial process control alarm. The setpoint module features a loop powered threshold monitoring circuit with a bi-stable relay, LED indication of relay status, configurable hysteresis function and relay action. The threshold is set using a 20-turn potentiometer, while the configurable functions are set by moveable jumper settings.

The loop connections are made on the input side of the module through pluggable terminal blocks, terminals #1 and #2, featuring proven gas tight wire clamping technology. Inputs and outputs are physically separated to opposite sides of the module to ensure correct connection of the inputs and outputs. Relay connections are also made through pluggable terminal blocks.

Hysteresis may be set to 0.1 mA or 1.0 mA, depending upon the application. A 0.1 mA setting allows higher precision response for slowly varying signals, while the 1.0 mA setting is useful for applications where the signal has significant overshoot and undershoot (such as tank levels with unstable liquids).

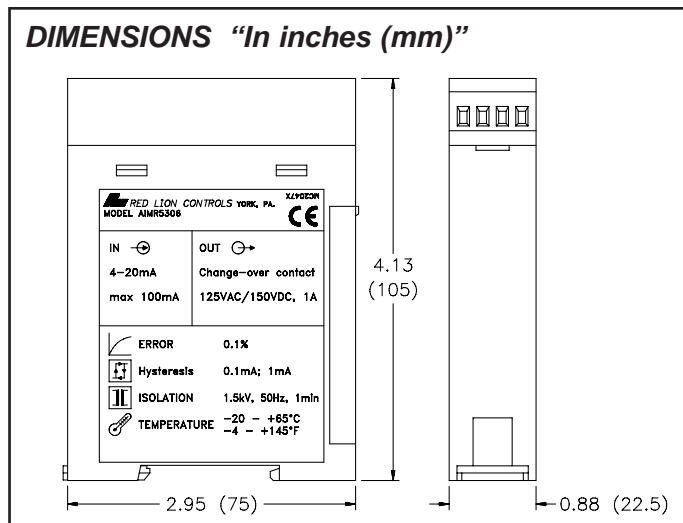
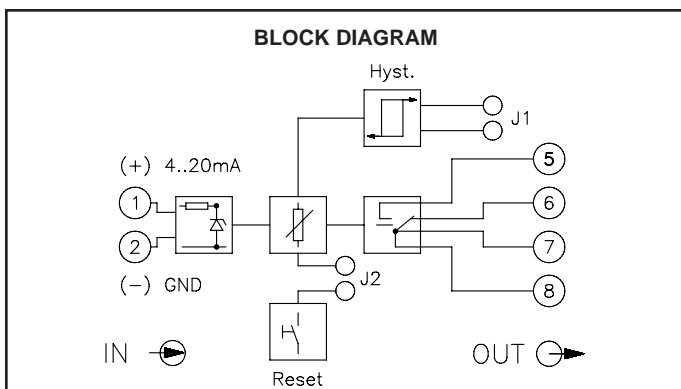
Relay function may be set in one of two modes: latching or non-latching. Latching mode engages the relay when the input signal crosses the setpoint threshold, and prevents the relay from releasing, when the signal drops below the setpoint threshold. A "RESET" button on the top of the module is used to release the relay when the input signal is below the setpoint. Non-latching mode allows the relay to release when the signal drops below the setpoint threshold.

A combination of through hole and surface mount technology provides stable, low drift performance, even in harsh industrial environments. Rhodium-plated contacts ensure low contact resistance even when low-level signals are switched, while levels up to 1 A and 125 VAC are also accommodated.

The module's environmental operating temperature range is -20°C to +65°C. The modular high density packaging and mounting saves time and panel space. The modules snap onto standard 35 mm flat DIN rail.

SPECIFICATIONS

1. **INPUT SIGNAL:** 4 to 20 mA
2. **VOLTAGE DROP:** 5.5 V
3. **LOOP BURDEN:** 275 Ω
4. **SETPOINT RANGE:** 4 to 20 mA
5. **HYSTERESIS RANGE:** 0.1 mA, 1.0 mA
6. **OUTPUT TYPE:** Form C contacts max. rating 1 A @ 125 VAC, 150 VDC
Max. Switching Capacity:
 30 W DC
 60 VA AC
Mechanical Life: 10⁸ switching cycles
7. **OPERATING TEMPERATURE RANGE:** -20 to +65°C (-4 to 149°F)
8. **TEMPERATURE COEFFICIENT:** <0.01%/K
9. **CONSTRUCTION:** Case body is green, high impact plastic.
10. **CONNECTIONS:** 24 -14 AWG wire
11. **MOUNTING:** Standard DIN Top hat (T) profile rail according to EN50022 - 35 x 7.5 and 35 x 15.
12. **WEIGHT:** 3.25 oz (92.08 g)



ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBER
AIMR	Loop Powered Setpoint Switch	AIMR5306

FUNCTIONS

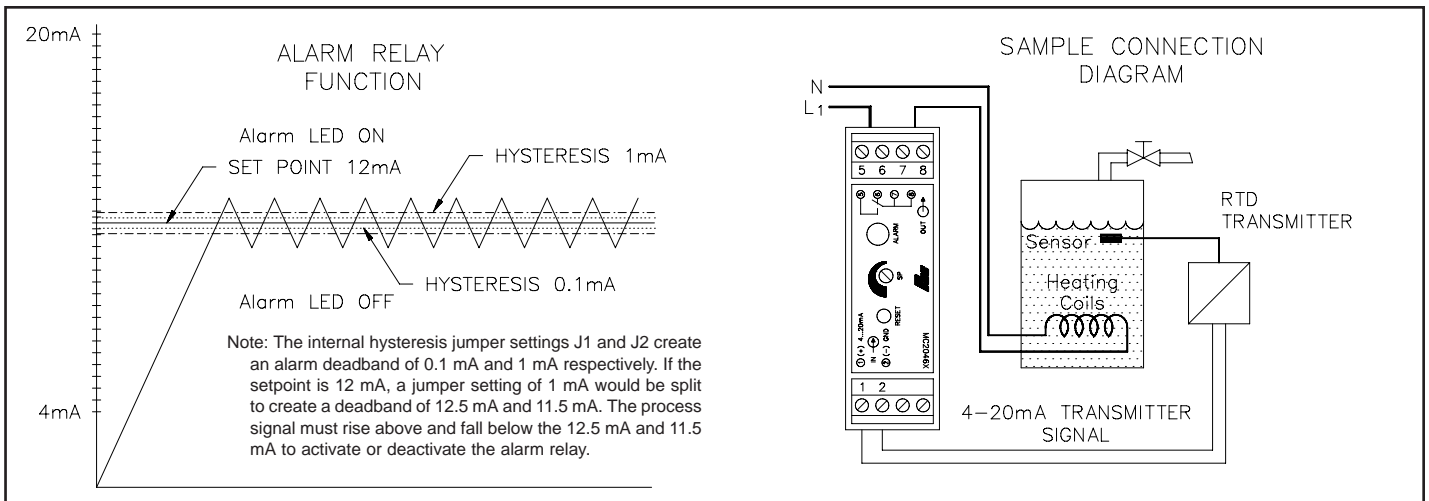
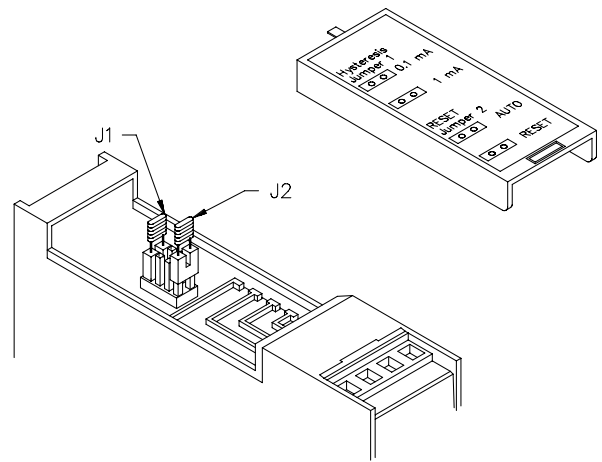
The setpoint value is set with a 20-turn potentiometer on the top of the module.

Hysteresis is configured to 0.1 or 1.0 mA by removing the side door and positioning a jumper. The hysteresis (0.1 or 1.0 mA) is centered around the setpoint. To trip the alarm, the signal current must exceed the setpoint plus half the hysteresis setting. To deactivate the alarm, the signal must drop below the setpoint minus half the hysteresis.

Relay function is also configured by removing the side door. As shown on the side door label, when the J2 jumper is in the upper (AUTO) position, the relay is released when the input drops below the setpoint and passes out of the hysteresis range. "RESET" keeps the relay engaged until the RESET button on top of the module is depressed.

Loop connections are made at terminal blocks #1 and #2, with #1 being the positive connection, and #2 being the negative connection. The module will drop approximately 5.5V on the loop, or present a burden of 275 Ω .

Relay connections are positions #5 through #8. Positions #7 and #8 are common to the relay center contact. Two positions enable simple daisy-chaining of a supply voltage for a load from one module to the next. The contacts are rated for 125 VAC or 150 VDC, at 1 A continuous current, maximum. Switching is rated at 30 W DC and 60 VA AC.



Setup Procedure

For setup, keep AIMR in Auto mode. Apply current at desired setpoint value. Turn SP pot clockwise to decrease trip point level. When the Alarm LED comes on, stop turning SP pot. Turn SP pot counterclockwise slightly. Press Reset button and the Alarm LED should turn off. Turn SP pot clockwise very slowly and when the Alarm LED comes on, immediately stop. Lower the current and verify the Alarm LED goes off. Raise the current and the Alarm LED should come on. Move jumper to Reset if desiring Latch mode.

Removal of Loop Power

In Auto mode, the relays will always change to the Alarm State with the removal of loop power. When the loop power is restored, the relays will return to the proper status state. In Reset mode, the relays power up as shown in the chart below.

AIMR Mode Operations With Alarm States

Mode	Loop Power	Setpoint	LED	6-7	5-7	Reset Button
Auto (Boundary)	Power up	Same as Auto-On				
Auto (Boundary)	On	Below	Off	Closed	Open	No affect
Auto (Boundary)	On	Above	On	Open	Closed	Momentary reverse
Auto (Boundary)	On	Above to Below	Off	Closed	Open	No affect
Auto (Boundary)	Off	N / A	Off	Open	Closed	No affect
Reset (Latch)	Power up	Below	On	Open	Closed	Changes to Pwr On / Below
Reset (Latch)	Power up	Above	On	Open	Closed	Changes to Pwr On / Above
Reset (Latch)	On	Below	Off	Closed	Open	No affect
Reset (Latch)	On	Above	On	Open	Closed	Momentary reverse
Reset (Latch)	On	Above to Below	On	Open	Closed	Reverses listed state
Reset (Latch)	Off	Previously Below	Off	Open	Closed	No affect
Reset (Latch)	Off	Previously Above	Off	Open	Closed	No affect