



Intelligent Alarms



811A Alarm, 812A Dual Alarm

DC Current, DC Voltage, and AC Current Input

Models

- 811A-0100: Alarm with one DPDT relay
- 811A-0200: Alarm with two SPDT relays
- 812A-0200: Dual alarm with two SPDT relays

Input Ranges

- DC Current: 0 to 22mA
- DC Voltage: $\pm 100V$ DC
- AC Current: 0 to 20A AC (with AC current sensor)

Alarm Outputs

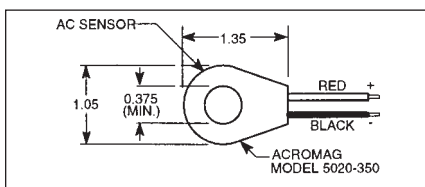
Single DPDT electro-mechanical 5A relay (-0100), Dual SPDT electro-mechanical 5A relays (-0200)

Power Requirement

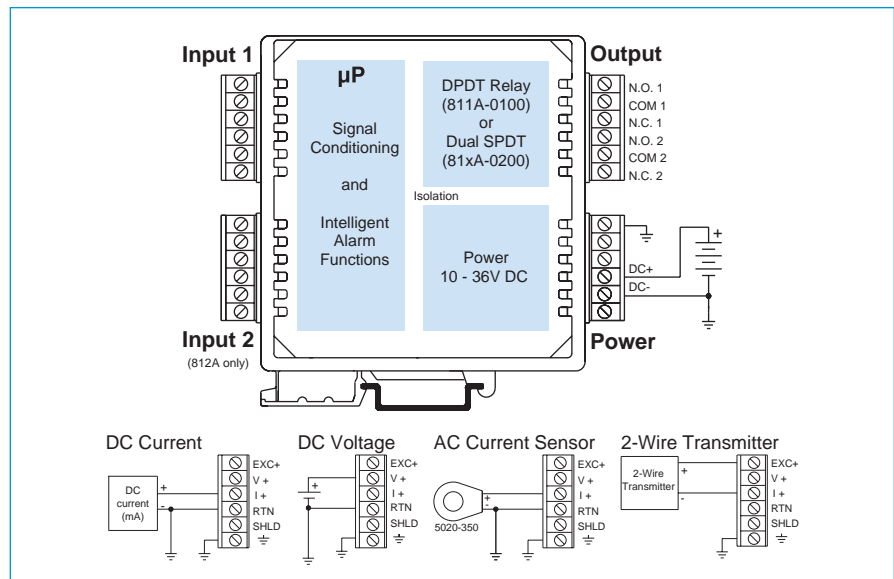
10 to 36V DC

Approvals

CE marked. UL, cUL listed.



AC Current Sensor Model 5020-350 (ordered separately)



Description

IntelliPack alarms compare inputs against user-defined limit setpoints to control built-in relays.

Each unit offers a selection of input ranges and alarm functions to handle a broad range of applications. As your needs change, you can easily reconfigure the unit for different ranges or functions. Alarm functions available on all models include on/off controller, limit alarm, window alarm, deviation alarm, rate-of-change alarm, and peak/valley detection.

Setup is very easy. IntelliPack alarms are configured through a user-friendly Windows 95/98/ME/NT/XP/2000 program. Field adjustments and recalibration are quickly performed with front-panel push-buttons and status LEDs. Once configured, IntelliPacks operate independent of any host computer.

Special Features

- Integrated microcontroller performs intelligent signal processing for advanced alarm functions.
- Windows 95/98/ME/NT/XP/2000 software configuration speeds setup and replacement.
- Push-button reprogrammability facilitates changes in the field without a host PC.
- Multi-purpose inputs accept numerous ranges to reduce spare stock requirements.
- High-resolution Sigma-Delta A/D converter delivers high accuracy with low noise.

- Input excitation supply on each input provides power for a two-wire transmitter.

- Dual alarm operation lets you perform two alarm functions at the same time.

Performance

General Input

Analog to Digital (A/D) Converter
16-bit Σ - Δ A/D converter.

Ambient Temperature Effect

Better than $\pm 0.005\%$ of input span per $^{\circ}C$ or $\pm 1\mu V$, whichever is greater.

Noise Rejection

Normal Mode: Better than 40dB @ 60Hz.
Common Mode: Better than 100dB @ 60Hz.

Input Filter

Normal mode filtering, plus digital filtering optimized and fixed per input range within Σ - Δ ADC.

Input Response Time

Less than 100ms to 98% of final value for a step change in the input. A software programmable delay can be implemented for filtering transients.

Relay Time Delay

Adjustable alarm delay of up to 25 seconds.

Input Overvoltage Protection

Bipolar Transient Voltage Suppressors (TVS).

Accuracy (DC Voltage/Current Inputs)

Better than $\pm 0.05\%$ of input span.

Continued on next page.



■ DC Current Input

DC Current Input Range

Input Ranges	Resolution
0 to 5mA DC	189nA/LSB
0 to 22mA DC	757nA/LSB

DC Current Input Impedance

24.9 ohms.

Excitation Supply (for 2-wire instruments)

+15V DC, 24mA maximum.

■ DC voltage Input

DC Voltage Input Ranges

Input Ranges	Resolution
±100V DC	3.77mV
±50V DC	1.88mV
±25V DC	942µV
±12V DC	471µV
±6V DC	236µV
±3V DC	118µV

Input impedance

Greater than 500K ohms.

■ AC Current Input

AC Current Input Range (optional)

An optional external AC current sensor is required to monitor AC current signals (Model 5020-350).

AC Current Range	Primary Turns
0 to 20A AC	1
0 to 10A AC	2
0 to 5A AC	4
0 to 2A AC	10
0 to 1A AC	20

■ Output

Relay (811A-0100 model)

One DPDT electro-mechanical relay.
Contact material Silver Nickel (AgNi 90/10).

Relays (811A-0200, 812A-0200 models)

Two independent SPDT electro-mechanical relays.
Contact material Silver-Cadmium Oxide (AgCdO).

Relay Ratings (CSA ratings)

25V DC @ 5A.
120/240V AC @ 5A.

Expected Mechanical Life

20 million operations.

■ Environmental

Ambient Temperature

Operating: -25 to 70°C (-13 to 158°F).
Storage: -40 to 85°C (-40 to 185°F).

Relative Humidity

5 to 95%.

Power Requirements

811A:
10 to 36V DC. 70mA @ 24V. 110mA @ 15V.
812A:
10 to 36V DC. 110mA @ 24V. 155mA @ 15V.

Isolation

3-way (input/output/power).
1500V AC for 60 seconds or 250V AC continuous.
Inputs share a common on 812A Model.

Radiated Field Immunity (RFI)

EN61000-4-3, EN50082-1.

Electromagnetic Field Immunity (EMI)

No relay trips will occur beyond ±0.25% of input span from setpoint under the influence of electromagnetic fields from switching solenoids, commutator motors, and drill motors.

Electrical Fast Transient (EFT)

EN61000-4-4, EN50082-1.

Surge Withstanding Capability (SWC)

EN61000-4-5, EN50082-1.

Electrostatic Discharge (ESD)

EN61000-4-2, EN50082-1.

Radiated Emissions

EN50081-1 for Class B equipment.

Approvals

CE marked, UL, cUL listed (USA, Canada).
UL3121 - general product safety.

■ Configuration

Software Configuration

Units are fully programmable via the Windows 95/98/ME/2000/NT/XP IntelliPack Configuration Program. Configuration downloads from PC through EIA232 serial port using Acromag 800C-SIP kit.

Field Configuration

Setpoint and deadband are configurable via push-buttons and a standard calibrator.

LED Indicators

LEDs indicate power, status, and alarm.

■ Physical

Enclosure

Case: Self-extinguishing NYLON type 6.6 polyamide thermoplastic UL94 V-2, color beige; general purpose NEMA Type 1 enclosure.

Connectors (Removable terminal blocks)

Wire Range: AWG #14-22 (AWG #12 stranded only).

Printed Circuit Boards

Military grade FR-4 epoxy glass circuit board.

Dimensions

1.05W x 4.68H x 4.35D inches.
26.7W x 118.9H x 110.5D millimeters.

Shipping Weight

1 pound (0.45 Kg) packed.

■ Ordering Information

IMPORTANT: All IntelliPacks require initial software configuration (order 800C-SIP). See Note 1 below.

811A-0100

IntelliPack alarm unit.
One DC voltage/current input, one DPDT relay.

811A-0200

Same as above except two SPDT relays.

812A-0200

IntelliPack alarm unit.
Two DC voltage/current inputs, two SPDT relays.

5020-350

AC current sensor. Required for AC current inputs.
See page 219 for more information.

800C-SIP

Software Interface Package.
Only one kit is required for all IntelliPack models.
See diagram on Page 73 for included parts.

5034-225

USB-to-RS232 adapter. See page 117 for more info.

P55R-D24

Power supply (24V DC, 2.1A).
See Power Supplies on page 213.

TBK-B02

Optional terminal block kit, barrier strip style, 4 pcs.

TBK-S02

Optional terminal block kit, spring clamp style, 4 pcs.

NOTE 1: To order factory configuration, call Acromag for a configuration form which must accompany your order. Also, append "-C" to model number (example: 811A-0200-C). 800C-SIP kit is still recommended.



Optional terminal blocks: barrier strip (left) and spring clamp (right). Cage clamp terminal is standard.



Accessories

Terminal Blocks

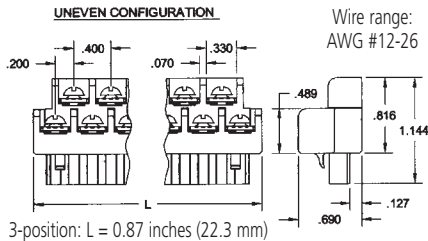
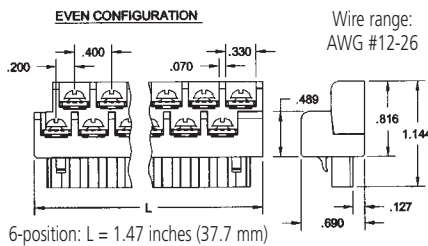


Barrier strip (left) and spring clamp (right).

Ordering Information

See individual I/O modules for compatibility.

Barrier Strip Terminal Blocks

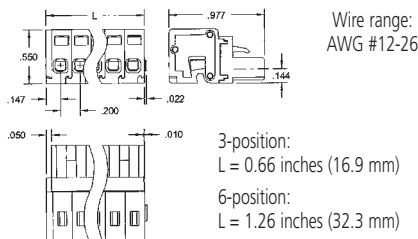


TBK-B01
Terminal block kit,
two 6-position pieces

TBK-B02
Terminal block kit,
four 6-position pieces

TBK-B03
Terminal block kit,
one 3-position and
three 6-position pieces

Spring Clamp Terminal Blocks



TBK-S01
Terminal block kit,
two 6-position pieces

TBK-S02
Terminal block kit,
four 6-position pieces

TBK-S03
Terminal block kit,
one 3-position and
three 6-position pieces

Mounting Hardware



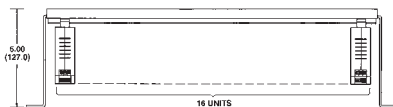
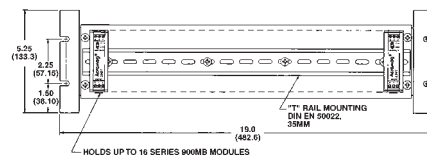
DIN-Rail Mounting

For your convenience, Acromag offers several mounting accessories to simplify your system installation. Our 19" rack-mount kit provides a clean solution for mounting your I/O modules and a power supply. Or you can buy precut DIN rail strips for mounting on any flat surface.

Ordering Information

20RM-16-DIN
19" rack-mount kit with DIN rail.

DIN RAIL 3.0
DIN RAIL 16.7
DIN rail strip, Type T, 3 inches (75mm) or
16.7 inches (425mm)



Power Supplies



50W Supply

Input Power Requirement
85 to 264V AC or 105 to 370V DC

Output
24V DC, 2.1A (50W)

Ordering Information

PS5R-D24
Universal 50W power supply

See Power Supplies on page 213 for other models and more information.

USB / RS232 Adapter

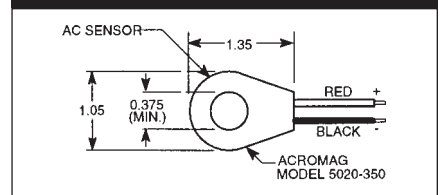


Length: 3.15 in (8.0 cm)
Height: 0.80 in (2.03 cm)
Width: 1.75 in (4.44 cm)
Weight: 1.6 oz (45.36 g)

Ordering Information

5034-225
USB-to-RS232 adapter

AC Current Sensor



Ordering Information

5020-350
AC current sensor



Dimensions

