Transmitter w/alarm

811T Transmitters

DC Current, DC Voltage, and AC Current Input

Models
811T-0500: Universal DC input transmitter
811T-1500: Transmitter with limit alarm

Input Ranges
DC Current: 0 to 22mA
DC Voltage: ±100V DC
AC Current: 0 to 20A AC (with external sensor)

Output Ranges
0 to 1mA, 0 to 20mA, 4 to 20mA DC
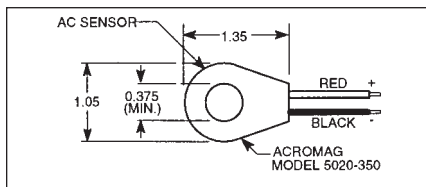0 to 5V, 0 to 10V DC

Limit Alarm
SPDT electro-mechanical relay (-1500 unit only)
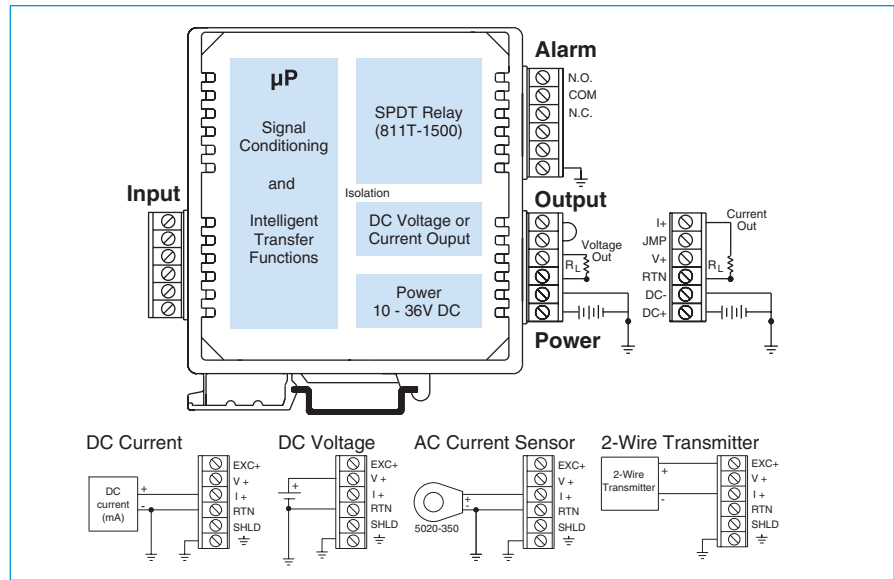
Power Requirement
10 to 36V DC

Approvals
CE marked. UL, cUL listed.

AC Current Sensor Model 5020-350
(ordered separately)

■ Description

These transmitters isolate and convert sensor inputs to noise-free, proportional DC current or voltage output signals. An optional relay output adds a local limit alarm function.

Each unit offers a selection of input and output ranges, as well as several signal conditioning options. This flexibility enables a single IntelliPack to handle a broad range of applications. As your needs change, you can easily reconfigure the unit for different ranges or functions.

Setup is very easy. IntelliPack modules are quickly configured with the user-friendly Windows software program. Field adjustments are simple with the module's front-panel push-buttons and status LEDs. Once configured, IntelliPacks operate independent of any host computer.

■ Special Features

■ High-resolution Sigma-Delta A/D converter delivers high accuracy with low noise.

■ Advanced microcontroller provides intelligent signal processing power for linearization, averaging, and square root computations.

■ Windows 95/98/ME/NT/XP/2000 software configuration speeds setup and replacement.

■ Multi-purpose inputs and outputs reduce spare stock requirements.

■ Relay output option provides local limit alarm capability.

■ Performance

■ General Input

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

Ambient Temperature Effect
Better than ±0.005% of input span per °C or ±1µV, whichever is greater.

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

Input Response Time (for input step change)
Less than 100mS typical
to 98% of final output value.

Input Overvoltage Protection
Bipolar Transient Voltage Suppressors (TVS).

■ DC Current Input

DC Current Input Range (100% rangeable)

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

DC Current Input Impedance
24.9 ohms.

Excitation Supply (for 2-wire instruments)
+15V DC at 24mA maximum.

DC Current Input Accuracy
Better than ±0.05% of input span.

continued on next page

■ DC Voltage Input

DC Voltage Input Ranges (100% rangeable)

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.

DC Voltage Input Accuracy
Better than ±0.05% of input span.

■ 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

AC Current Input Accuracy
Better than ±0.05% of input span.

■ Output (DC V/mA)

D/A Converter
16-bit Σ–Δ.

Current Output
Ranges: 0-1mA, 0-20mA, 4-20mA.
Compliance: 10V minimum (500Ω load).
Accuracy: 0.025% of span.

Voltage Output
Ranges: 0-5V, 0-10V.
Compliance: 10mA maximum with short circuit protection. 1Ω output impedance.
Accuracy: 0.025% of span.

Accuracy (overall input to output)
0.075% of span.

■ Output (Relay)

Relay
One SPDT electro-mechanical relay.

Relay Ratings (CSA ratings)
25V DC @ 5A.
120/240V AC @ 5A.

Relay Time Delay
Adjustable alarm delay of up to 25 seconds.

Contact Material
Silver-cadmium oxide (AgCdO).

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
10 to 36V DC. 110mA @ 24V. 170mA @ 15V.

Isolation (optical)
4-way (input/output/relay/power).
1500V AC for 60 seconds or 250V AC continuous.

Radiated Field Immunity (RFI)
EN61000-4-3, EN50082-1.

Electromagnetic Field Immunity (EMI)
Less than ±0.25% of output span effect 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, UL 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
Output, zero/full-scale, relay setpoint and deadband are configurable via push-buttons and a standard calibrator.

LED Indicators
LEDs indicate power, status, calibration, and alarm.

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

■ Physical

Enclosure
Case: Self-extinguishing NYLON type 6.6 polyamide thermoplastic UL94 V-2 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.

811T-0500
IntelliPack transmitter unit (DC voltage/current input).

811T-1500
Same as above, plus an SPDT relay output.

5020-350
AC current sensor. Required for AC current inputs.
See Page 189 for more information.

800C-SIP
Software Interface Package.
Only one kit is required for all IntelliPack models.
See diagram on Page 47 for included parts.

5034-225
USB-to-RS232 adapter. See page 91 for more info.

PS5R-D24
Power supply (24V DC, 2.1A).
See Power Supplies on page 183.

TBK-B01
Optional terminal block kit, barrier strip style, 2 pcs.
(For use with 811T-0500 model.)

TBK-B02
Optional terminal block kit, barrier strip style, 4 pcs.
(For use with 811T-1500 model with alarm.)

TBK-S01
Optional terminal block kit, spring clamp style, 2 pcs.
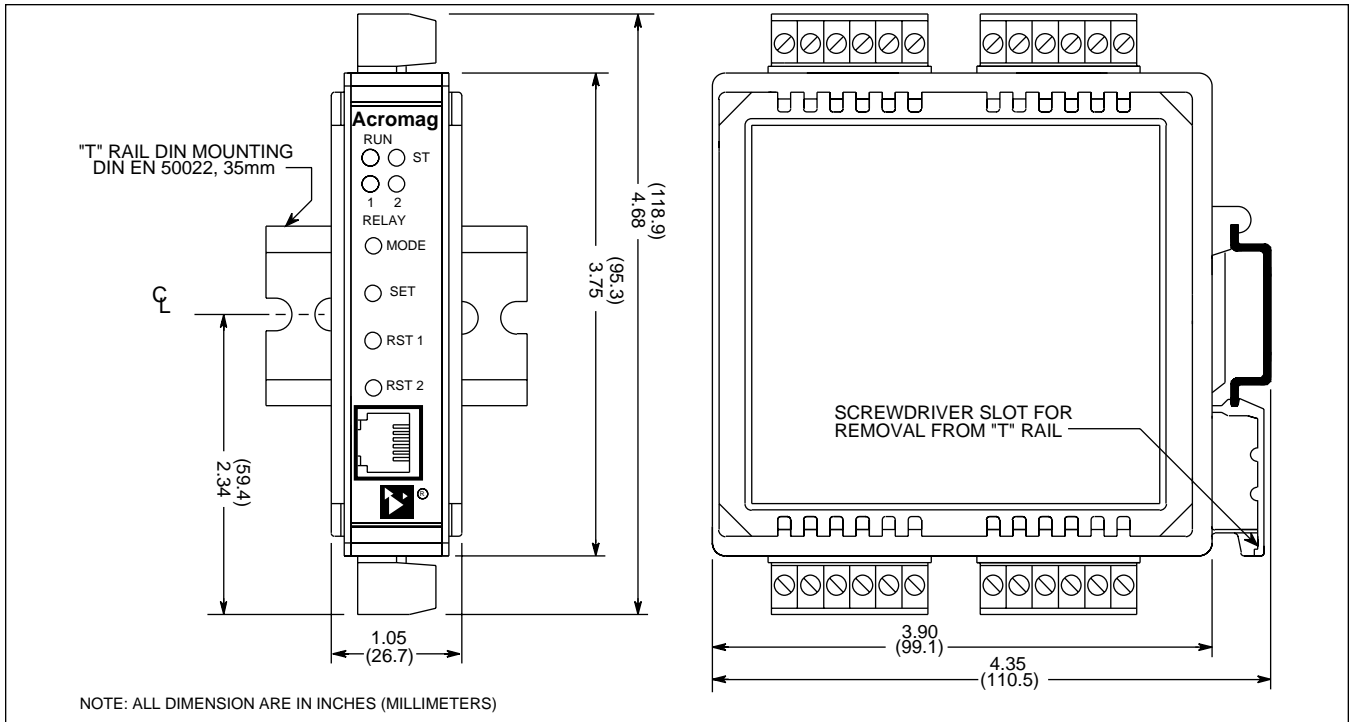(For use with 811T-0500 model.)

TBK-S02
Optional terminal block kit, spring clamp style, 4 pcs.
(For use with 811T-1500 model with alarm.)

NOTE 1: To order factory configuration, call Acromag for a configuration form which must accompany your order. Also, append "-C" to model number (example: 811T-1500-C). 800C-SIP kit is still recommended.
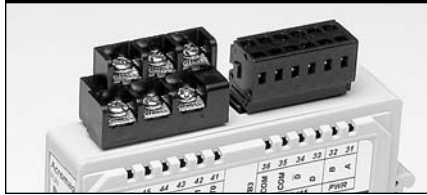
IntelliPack®

Dimensions

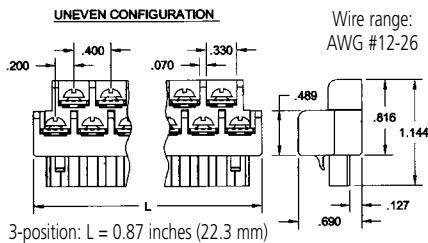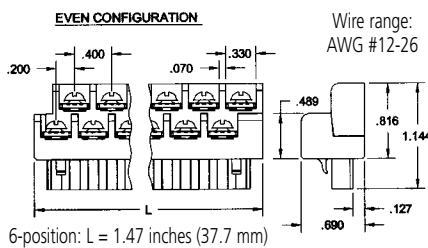"T" RAIL DIN MOUNTING
DIN EN 50022, 35mm

Acromag
RUN
ST
1   2
RELAY
MODE
SET
RST 1
RST 2

ÇL

(59.4)
2.34

(118.9)
4.68

(95.3)
3.75

1.05
(26.7)

SCREWDRIVER SLOT FOR
REMOVAL FROM "T" RAIL

3.90
(99.1)

4.35
(110.5)

NOTE: ALL DIMENSION ARE IN INCHES (MILLIMETERS)

Signal Conditioners

Accessories

Terminal Blocks

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

■ Ordering Information
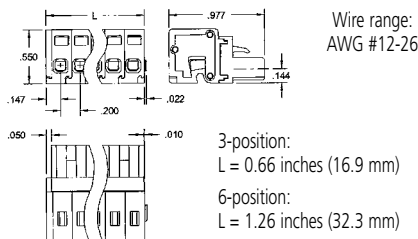See individual I/O modules for compatibility.

Barrier Strip Terminal Blocks

EVEN CONFIGURATION

Wire range: AWG #12-26

6-position: L = 1.47 inches (37.7 mm)

UNEVEN CONFIGURATION

Wire range: AWG #12-26

3-position: L = 0.87 inches (22.3 mm)

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

Wire range: AWG #12-26

3-position:
L = 0.66 inches (16.9 mm)

6-position:
L = 1.26 inches (32.3 mm)

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
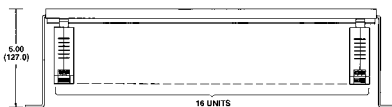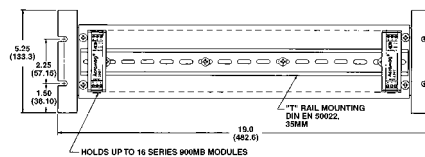three 6-position pieces

---

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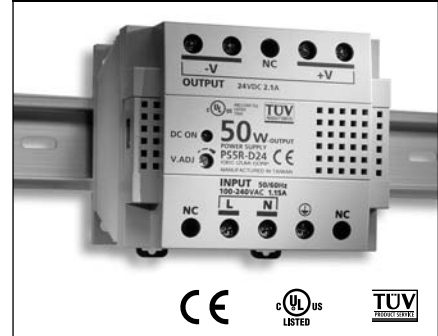
■ Ordering Information
20RM-16-DIN
19" rack-mount kit with DIN rail.

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 183 for other models and more information.
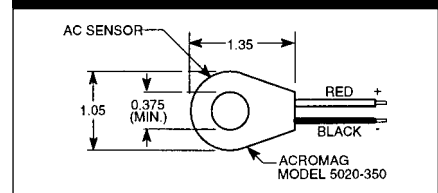
USB / RS232 Adapter

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