Transmitter w/alarm

841T Transmitters

Frequency, Pulse Counter Input

Models
841T-0500: Frequency input transmitter
841T-1500: Transmitter with limit alarm

Input Ranges
Sensor types: TTL, dry contact, open collector NPN/PNP, NAMUR, magnetic pickups, proximity

Frequency: 0 to 100Hz, 0 to 1KHz, 0 to 50KHz
Pulse: 0 to 65535 pulses

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
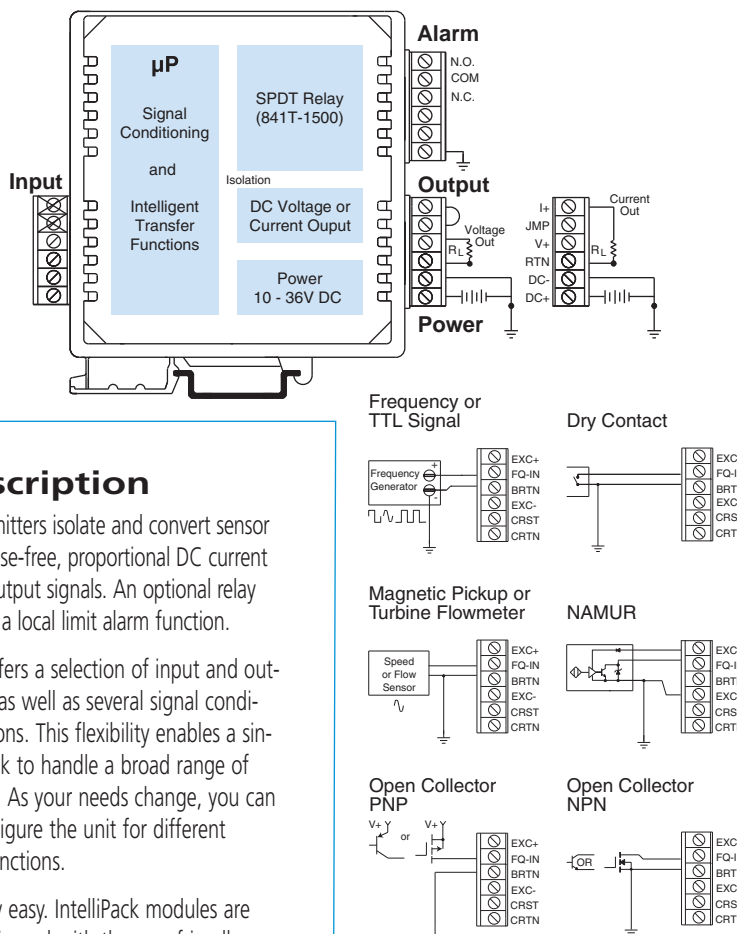UL, cUL listed.

■ 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 XP/Vista/7 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

Resolution

Input Range	Resolution
0 to 100Hz	0.01Hz
0 to 1000Hz	0.1Hz
0 to 50,000Hz	1Hz
0 to 65,535 pulses	1 pulse

Noise Rejection
Common Mode: Better than 80dB @ 60Hz.

Input Response Time (for input step change)
-3dB @ 35KHz.

Input Overvoltage Protection
Bipolar Transient Voltage Suppressors (TVS).

Continued on next page.

■ Performance

■ Frequency Input

Input Types
TTL, dry contact, open collector NPN/PNP, NAMUR, magnetic pickups, proximity sensors.

Frequency Ranges
0 to 100Hz
0 to 1000Hz
0 to 50,000Hz.

Pulse Counter Input Range
0 to 65535 pulses.

Minimum Input Pulse Width
Frequency inputs: 10μS.
Pulse counting inputs: 5mS.

Voltage Ranges
Unipolar: 0 to 100V DC.
Bipolar: ±50mV to ±100V peak.

Zero/Full Scale Adjustment
Zero and span: 100% full range adjustment.
Pulse counting: Up to 65535 spans within range.

Input Threshold/Hysteresis
Bipolar:
    Threshold: 0.01V, typical.
    Hysteresis: ±25mV or ±83mV.
Unipolar:
    Threshold: 1.5V or 5V.
    Hysteresis: ±25mV or ±83mV

Input Debounce (Event Counter)
0 to 1000mS (configurable in 5mS increments).

Frequency Excitation Supply
Selectable, +8.2V or +12V @ 15mA.

Input Impedance
35K ohms, typical.

Accuracy

Input Range	Accuracy
0 to 100Hz	±0.04Hz
0 to 1000Hz	±0.4Hz
0 to 50,000Hz	±10Hz
0 to 65,535 pulses	±1 pulse

■ Output (DC V/mA)

D/A Converter
16-bit $\Sigma-\Delta$.

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. 1 ohm 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. 100mA @ 24V. 160mA @ 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
UL listed (USA, Canada).
UL3121 - general product safety.

■ Configuration

Software Configuration
Units are fully programmable via the Windows XP/Vista/7 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.

■ Physical

Enclosure
Case: 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 and Shipping Weight
1.05W x 4.68H x 4.35D in. (26.7 x 118.9 x 110.5 mm)
1 pound (0.45 Kg) packed.

■ Ordering Information

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

841T-0500
IntelliPack transmitter unit (freq/pulse counter input).

841T-1500
Same as above, plus an SPDT relay output.

800C-SIP
Software Interface Package.
Only one kit is required for all IntelliPack models.
See diagram on Page 83 for included parts.

5034-225
USB-to-RS232 adapter. See page 121 for more info.

PS5R-D24
Power supply (24V DC, 2.1A).
See Power Supplies on Page 199.

TBK-B01
Optional terminal block kit, barrier strip style, 2 pcs.
(For use with 841T-0500 model.)

TBK-B02
Optional terminal block kit, barrier strip style, 4 pcs.
(For use with 841T-1500 model with alarm.)

TBK-S01
Optional terminal block kit, spring clamp style, 2 pcs.
(For use with 841T-0500 model.)

TBK-S02
Optional terminal block kit, spring clamp style, 4 pcs.
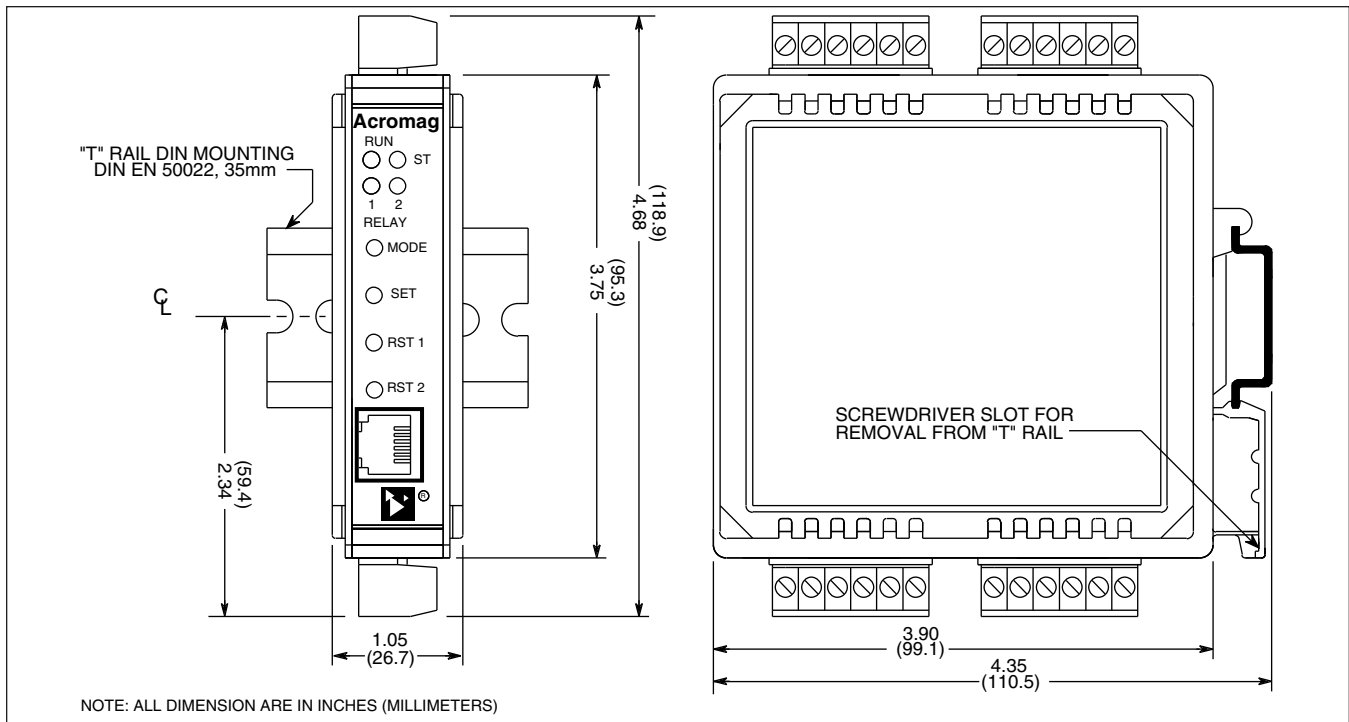(For use with 841T-1500 model with alarm.)

NOTE 1: To order factory configuration, call Acromag for a configuration form which must accompany your order. Also, append "-C" to model number (example: 841T-1500-C). 800C-SIP kit is still recommended.

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

Dimensions

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

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

CL

(59.4)
2.34

(118.9)
4.68

(95.3)
3.75

SCREWDRIVER SLOT FOR
REMOVAL FROM "T" RAIL

1.05
(26.7)

3.90
(99.1)

4.35
(110.5)

NOTE: ALL DIMENSION ARE IN INCHES (MILLIMETERS)

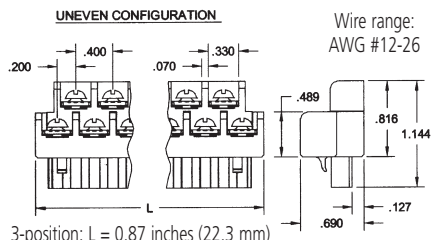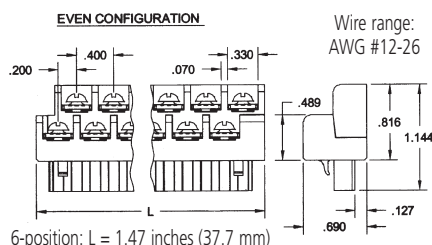# Accessories

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

.200 .400 .070 .330
.489 .816 1.144 .127 .690

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

UNEVEN CONFIGURATION

Wire range: AWG #12-26

.200 .400 .070 .330
.489 .816 1.144 .127 .690

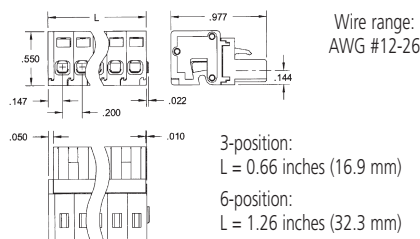3-position: L = 0.87 inches (22.3 mm)

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

L .977 .550 .144 .147 .200 .022 .050 .010

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
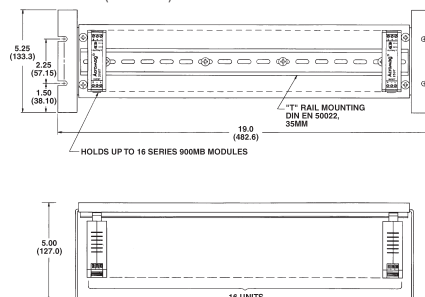
Mounting Hardware

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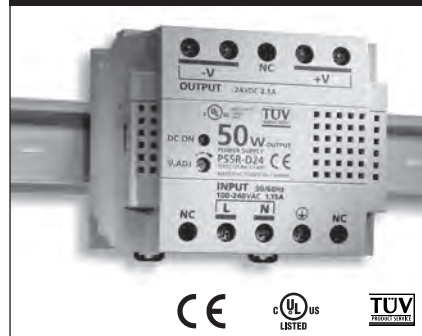
■ Ordering Information
20RM-16-DIN
19" rack-mount kit with DIN rail.

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

5.25 (133.3) 2.25 (57.15) 1.50 (38.10) 19.0 (482.6)

"T" RAIL MOUNTING DIN EN 50022, 35MM

HOLDS UP TO 16 SERIES 900MB MODULES

5.00 (127.0)

16 UNITS

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

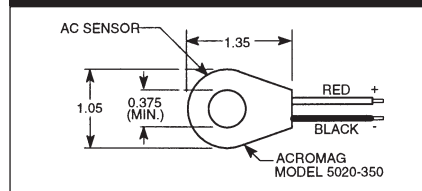See Power Supplies on Page 199 for other models and more information.

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

AC SENSOR 1.35 1.05 0.375 (MIN.) RED + BLACK - ACROMAG MODEL 5020-350

■ Ordering Information
5020-350
AC current sensor (See page 205)

IntelliPack®