



## 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

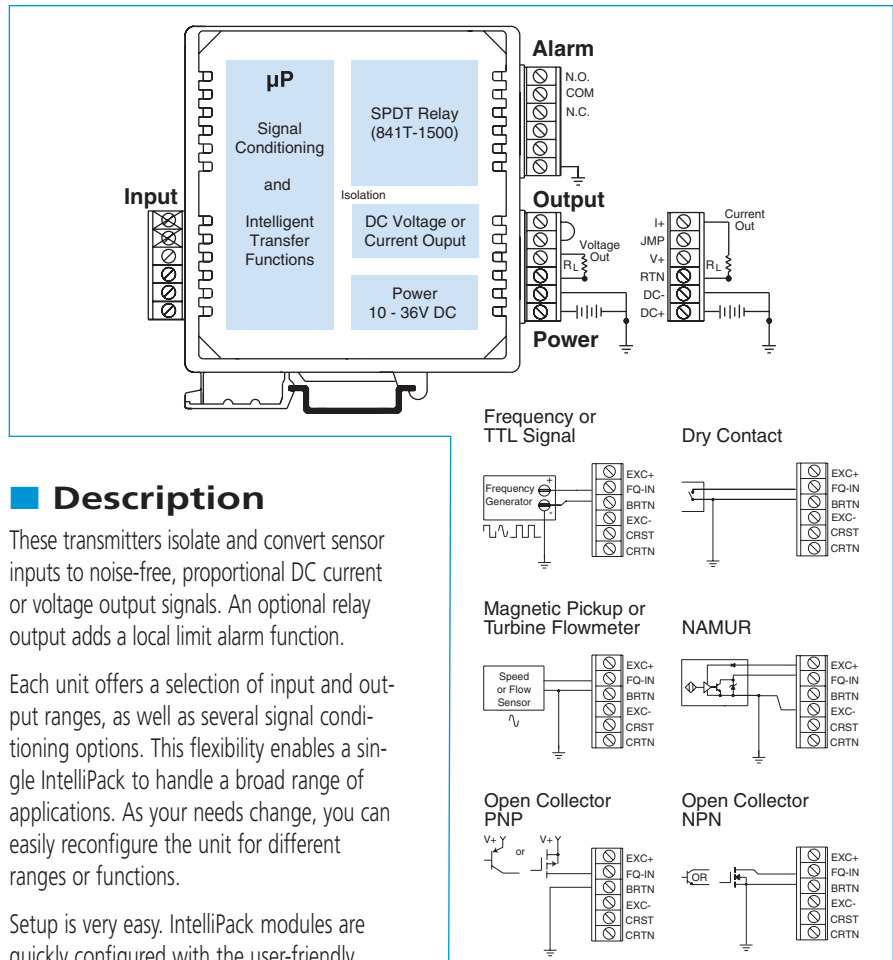
SPDT electro-mechanical relay (-1500 unit only)

#### Power Requirement

10 to 36V DC

#### Approvals

CE marked. 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 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

##### 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: 10 $\mu$ S.  
Pulse counting inputs: 5mS.

#### Voltage Ranges

Unipolar: 0 to 100V DC.  
Bipolar:  $\pm$ 50mV to  $\pm$ 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:  $\pm$ 25mV or  $\pm$ 83mV.  
Unipolar:  
Threshold: 1.5V or 5V.  
Hysteresis:  $\pm$ 25mV or  $\pm$ 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	$\pm$ 0.04Hz
0 to 1000Hz	$\pm$ 0.4Hz
0 to 50,000Hz	$\pm$ 10Hz
0 to 65,535 pulses	$\pm$ 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 (500 $\Omega$  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  $\pm$ 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.

## ■ 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 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.

### TTBK-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.)

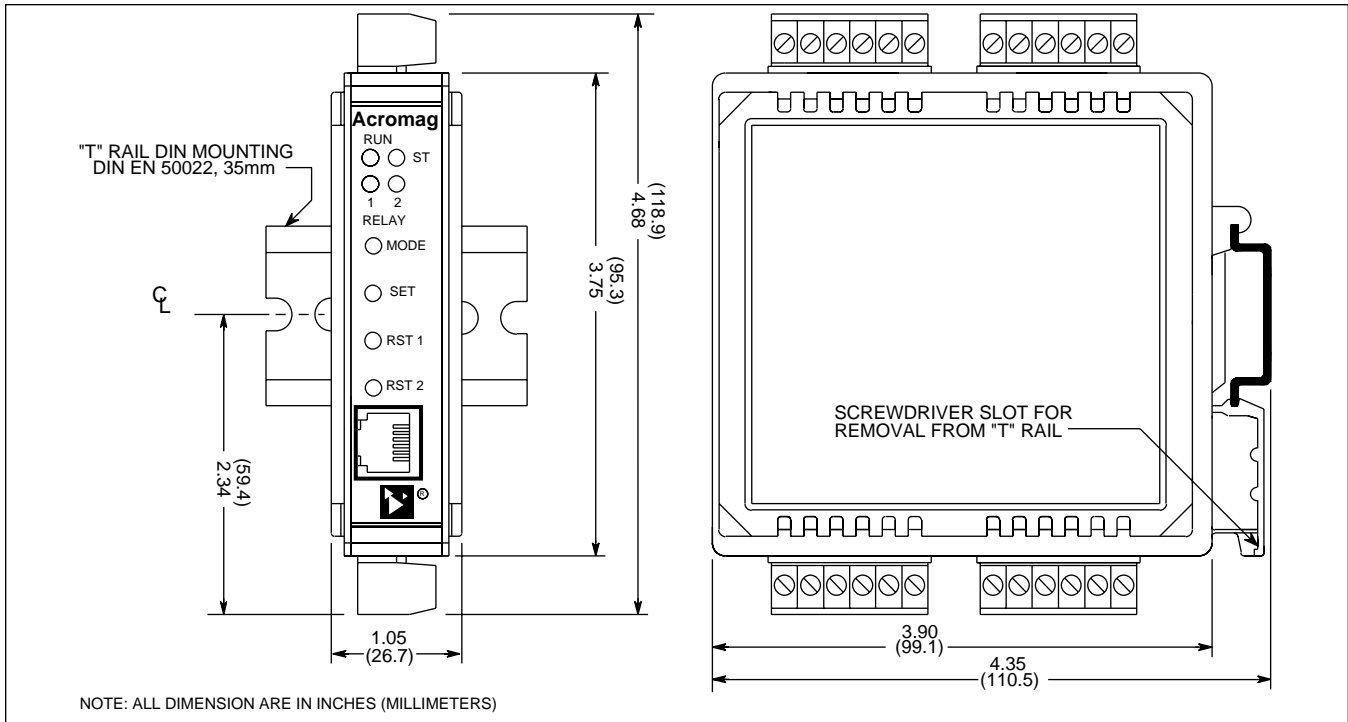
NOTE 1: To order factory configuration, call Acromag for a configuration form which must accompany your order. Also, append "-C" to model number (example: 841T-1500-C). 800C-SIP kit is still recommended.



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



## Dimensions





## Accessories

### Terminal Blocks

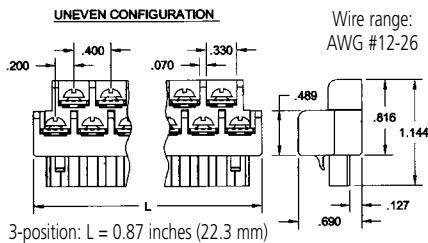
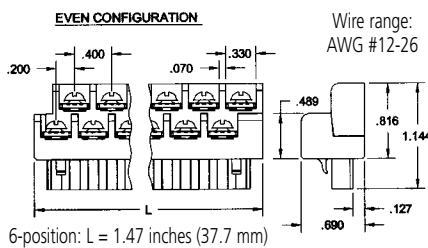


Barrier strip (left) and spring clamp (right).

#### Ordering Information

See individual I/O modules for compatibility.

#### Barrier Strip Terminal Blocks

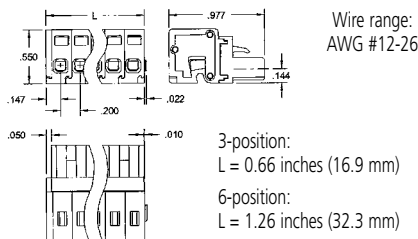


**TBK-B01**  
Terminal block kit,  
two 6-position pieces

**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



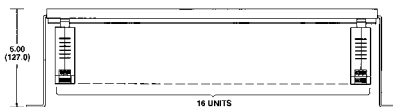
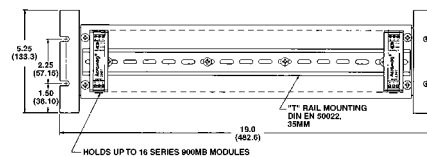
#### DIN-Rail Mounting

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.

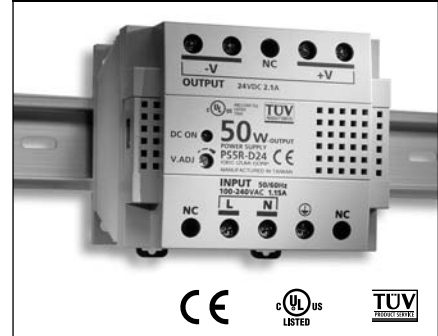
#### Ordering Information

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 183 for other models and more information.

### USB / RS232 Adapter

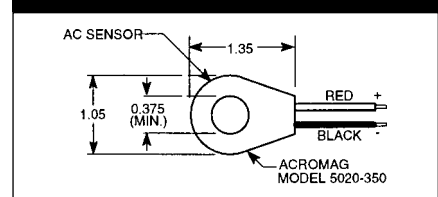


Length: 3.15 in (8.0 cm)  
Height: 0.80 in (2.03 cm)  
Width: 1.75 in (4.44 cm)  
Weight: 1.6 oz (45.36 g)

#### Ordering Information

5034-225  
USB-to-RS232 adapter

### AC Current Sensor



#### Ordering Information

5020-350  
AC current sensor