

# AT5417 Externally Powered Signal Tag

## Features

- ▶ Customer programmable using the AP4600 Multi-function Tag Programmer
- ▶ Flexible configuration: works with ATA/ISO/AAR compatible reader systems
- ▶ Harsh environment durability
- ▶ Powered by AC or DC
- ▶ Weather-resistant, polycarbonate, UV-stabilized sealed tag case



The AT5417 Externally Powered Signal Tag, also called a signal transponder, is used for rail traffic monitoring and automatic data capturing. When the AT5417 is connected to a rail signal light system, the reader can verify the status of the signal light.

This tag is RF programmable, and may be programmed by the customer using the TransCore AP4600 Multifunction Tag Programmer and the AT5417 Programming Bracket. Data on this tag can be configured to match American Trucking Association (ATA), International Organization for Standardization (ISO), or Association of American Railroads (AAR) compatible reader systems.

The AT5417 tag uses AC or DC power. It comes with a three foot (0.9m) two wire interface cable. The conductor leads are left bare for convenient connection to a terminal strip, microcomputer, or power supply.

TransCore's RFID based systems are trusted worldwide by mass transit agencies, to provide precise location and accurate data as part of their rail system control and signal systems.

# AT5417 Externally Powered Signal Tag

## COMMUNICATIONS

### Frequency Range

902 to 928 MHz

### Typical Working Range

Determined by reader

### Polarization

Parallel with longer side

## TIMING

### On Timing

The Signal Tag is functional and ready for interrogation by the reader within 60 ms of receiving external power. See Power Source for power requirements.

### Off Timing

After the Signal Tag has been powered up for 10 seconds or more and the power is discontinued, the tag is functional and can be interrogated by the reader for an additional 170 ms to 320 ms. See Power Source section for power requirements.

## POWER REQUIREMENTS

### Power Source

Externally powered through wire interface

**AC:** 5V to 10V RMS at 50-60 Hz

**DC:** 5V to 24V at  $\leq 5$  mA

## SOFTWARE FEATURES

### Data Memory

**ATA Mode:** 60 bits

10 six-bit ASCII characters

User memory programmable using RF link

## LIFE EXPECTANCY

### Service Life

Unlimited (no battery)

## PHYSICAL

### Dimensions

**Size:** 9.3 x 2.4 x 0.8 in. (23.6 x 6.1 x 2 cm)

**Weight:** 7.9 oz (225 g) including cable

### Case Material

Weather-resistant, polycarbonate, UV-stabilized sealed case

### Mounting Surface

**Fastener Mounting:** Can be mounted directly to any flat, smooth metal surface using bolts, screws, or blind rivets.

**Backplate Mounting:** If the mounting surface is nonmetallic or irregular, the tag must first be mounted to a metal backplate, and then attached to the surface.

**Tape Mounting:** For applications where the integrity of the mounting surface cannot be compromised, the tag can be mounted on a flat, smooth surface using double-sided tape.

### Mounting Method

Bolts, rivets, screws, TIR-approved fasteners, or double-sided tape

### Interface Cable

AT5417 Externally Powered Signal Tag comes hardwired with a jacketed, two-conductor, twisted-pair 3-foot (0.9-m) interface cable.

## ENVIRONMENTAL

### Operating Temperature

-40°F to +158°F (-40°C to +70°C)

### Storage Temperature

-67°F to +185°F (-55°C to +85°C)

### Humidity

0 to 95% noncondensing @86°F (30°C) during operation

### Vibration Tolerance

5 to 20 Hz, sine wave, 0.2-inch peak to peak

20 to 200 Hz, 4.2 G peak

### Shock Tolerance

10 G terminal peak sawtooth, 11-ms duration, 3 axes

### Harsh Vibration Tolerance

20 G<sub>rms</sub> 20 to 2000 Hz

### Harsh Shock Tolerance

200 G, half-sine pulse, 3 ms duration, 3 axes

## COMPLIANCE

### RF Interference

Units have been tested and are verified to FCC Part 15, Subpart B, Class B - Unintentional Radiators.

### Electromagnetic Compatibility (EMC)

Units have been tested and are verified to EN50121-4:2006/AC:2008 Railway Applications - Electromagnetic Compatibility Part 4: Emission and Immunity of Signaling and Telecommunications Apparatus.

## OPTIONS

### Labeling

Identification information, custom logos and/or organization name can be marked on tag case. Model number and ID number can be indelibly marked on tag case top surface.

## ACCESSORIES

### AP4600 Multifunction Tag Programmer

The AP4600 programmer is designed for use in an office environment and connects to a host PC's USB port.

The AT5417 Externally Powered Signal Tag can be programmed in the field using the AP4600 Multifunction Tag Programmer. A programming bracket (sold separately) and external power to the tag is required.

**Part number 14-4600-001**

### AP4600 Programming Bracket

AP4600 Programming Bracket is designed to hold the AT5417 in the correct position for ease of programming.

**Part number 54-4600-001**

For more information:

Call **800.923.4824** (Sales Support) **505.856.8007** (Technical Support)

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