The AT5831 Location Transponder works seamlessly with TransCore’s AI1831 Interrogator to provide data to a train’s onboard Absolute Positioning System (APRS). Packaged in a weatherproof Xenoy UV-stabilized case, this transponder is designed to function in harsh and fire-sensitive environments.

The AT5831 Location Transponder is mounted to the trackbed. Customer-specified fixed data is stored in the transponder. The AI1831 Location Interrogator, which is mounted to the train’s undercarriage, retrieves the stored information and updates the train’s host computer system.

The AT5831 Location Transponder receives power from the AI1831 Interrogator through an induction link as the transponder is read, eliminating the need for batteries.

**Features**

- Compatible with AI1831 Location Interrogator and AP4431 Programmer/Tester
- No battery – powered through induction coupling
- Weatherproof and UV-stabilized case designed for harsh and fire-sensitive environments

**Applications**

- Automatic train control
- Emergency braking systems
- Positive train control
- Moving block train control
AT5831 Location Transponder

**COMMUNICATIONS**

**Frequency Range**
2445 to 2455 MHz
15 MHz, 125 kHz

**Polarization**
Length parallel to sleeper (perpendicular to rail)

**SOFTWARE FEATURES**

**Data Memory**
Stores up to 768 bits

**POWER REQUIREMENTS**

**Power Source**
125 kHz Inductive link (no battery)

**PHYSICAL**

**Dimensions**
Size: 32 x 15 x 6 cm (12.6 x 5.9 x 2.4 in)
Weight: 1.5 kg (3.4 lbs)

**Case Material**
Weatherproof Xenoy, UV-stabilized
Meets LUL flammability requirements

**Mounting Surface**
Non-metallic or metallic

**Mounting Method**
Mounts directly to any flat trackbed surface using M12 x 30 mm (0.47 x 1.18 in) or equivalent bolts

**ENVIRONMENTAL**

**Operating Temperature**
-30°C to +70°C (-22°F to +158°F)

**Humidity**
95% condensing

**Shock and Vibration**
Designed for trackbed environment

**SOFTWARE FEATURES**

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**STANDARDS**

Meets London Underground Limited (LUL) flammability and nontoxic smoke emissions requirements
British Railways Board/Railway Industry Association RIA13 and RIA20
IP67 Dust Ingress/Water Immersion (1m of immersion)

**PROGRAMMING**

Can be programmed to customer specifications at the factory, or programmed by the user in the field, using TransCore’s AP4431 Programmer/Tester

**OPTIONS**

**Custom Colors**
Contact TransCore Sales Support for color options

**Laser Etch**
Customer specified data can be laser-etched into transponder case

**ACCESSORIES**

AP4431 Programmer/Tester
Contains serial interface logic for connection to host PC

AP4431 Programmer Package
Turnkey field programming package that combines laptop PC with AP4431 programmer and TransCore’s APR programming software

**MODEL PART NUMBER**
13-5831-NNN

For more information:

**Sales Support**
800.923.4824

**Technical Support**
505.856.8007

transcore.com