

AI1422E

Transportation Reader

The AI1422E Transportation Reader is the next generation of TransCore's on-board readers. The streamlined AI1422E incorporates the latest technology while maintaining the functionality of the original AI1422.

The AI1422E retains familiar features for backwards compatibility, adding a wide-input DC power supply (24-110V), software-controlled RF power, and more communication options. The AI1422E boasts Ethernet and RS422 communications for long-distance applications as well as the standard dual-RS232 ports for compatibility. All interfaces support simultaneous host communications in real-time for passing tag data to the host computer.

The AI1422E Transportation Reader is a rack-mountable unit designed for installation in an on-train electronic cabinet, with an under-train antenna and tags mounted at fixed positions on the railbed or guideway sleepers. The AI1422E Transportation Reader sends tag data to the train's host computer for processing.

The AI1422E offers both 915MHz and ETSI compliant models for global use. The 915MHz model is compatible with TransCore's 915MHz transportation tags and rail antennas. The ETSI model is compatible with TransCore's suite of ETSI compliant tags and antennas.



Features

- ▶ Wide-input DC power supply (24-110V)
- ▶ Software-controlled RF power
- ▶ 1U standard rack-mount design
- ▶ Multiple communication schemes allow simultaneous monitoring over Ethernet, RS422, and RS232
- ▶ LED indicator lights give feedback on power status, RF, and tag lock
- ▶ Meets AREMA C&S and EN 50155 regulations for on-train devices

Applications

- ▶ Rack-mounted rail environment
- ▶ On-board train environment

AI1422E Transportation Reader

COMMUNICATION

Available Frequency Ranges

FCC: 902-928MHz, Fixed Frequency

ETSI: 865.7-867.5MHz, Frequency Hopping

Protocols

American Trucking Association (ATA)

American Association of Railroads (AAR)

HARDWARE FEATURES

RF Connector

N-type Socket

Communication Ports

1 – Main RS232 (DB9)

1 – Auxiliary RS232 (DB9)

1 – RS422 (Terminal Block)

1 – Ethernet (M12-10/100)

I/O Connector

16 Pin Phoenix Connector with:

5V Logic tag lock

5V Logic power active

5V Logic RF active

5V Logic trigger input

5V Wiegand output

POWER REQUIREMENTS

Input Voltage

24VDC-110VDC \pm 30%

(12-150VDC Min/Max)

PHYSICAL

Dimensions

Size: 19.0 x 1.75 x 9.0 in (48.3 x 4.4 x 22.9 cm)

Weight: 5 lb (2.27 kg)

COMPLIANCE

RF Interference

FCC units have been tested and are verified to Part 15 of the FCC rules for a Class A digital device.

REGULATORY

Standards

Designed to meet the following standards:

AREMA C&S Part 11.5.1 Class C

AREMA C&S Part 11.5.1 Class D

AREMA C&S Part 11.5.1 Class E

AREMA C&S Part 11.5.1 Class J

EN 50125-3:2003

EN 50121-3-2

EN 50155

EN 55022:2006 +A1:2007

EN 61000-4-3:2006 +A1:2008

EN 61000-4-4:2004

EN 61000-4-6:2007

EN 61000-4-8:1994 +A1:2001

EN 61000-4-9

EN 61000-6-4

EN 61373:2011

IEC 60950-1

LICENSING

Equipment License

FCC: The user is required to obtain a Part 90 site license from the FCC to operate in the United States. Access the FCC website at <http://wireless.fcc.gov/uls> for more information.

FCC ID: FIHA1422E

Users in all countries should check with the appropriate local authorities for licensing requirements.

ETSI: Designed and tested for EN 302 208 1&2 (2014-06) and EN 301 489 (2009-05) compliance

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% non-condensing over operating temperature range

Vibration Tolerance

Complies with AREMA C&S Manual, Part 11.5.1 Class I & J

Complies with EN61373

Shock Tolerance

Complies with AREMA C&S Manual, Part 11.5.1 Class I & J

Complies with EN61373