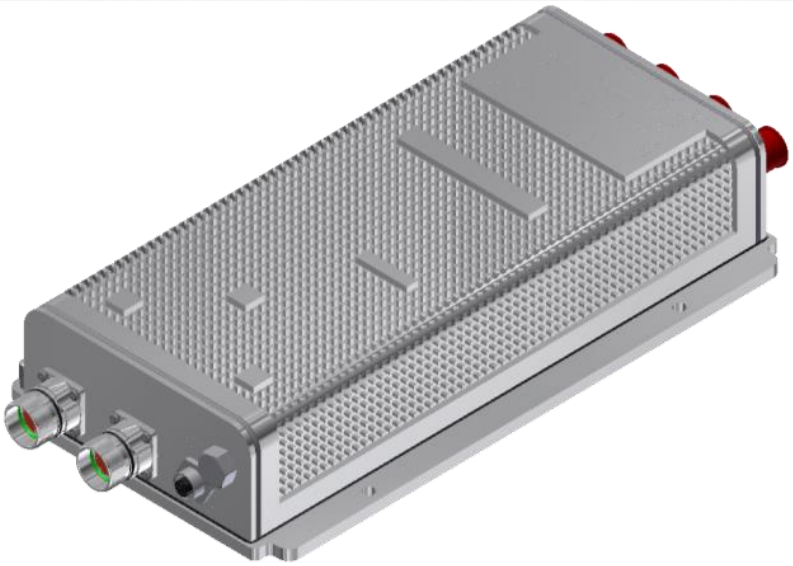
Intertech·Rail

Multiprotocol Rail Reader Xtreme - MPRX

Features

- Designed for rail applications
- Fixed mount, integrated package (reader and RF module)
- Reads Association of American Railroads (AAR) format tags and Super eGo® (SeGo) protocol tags
- Supports SeGo read/write transactions
- Supports tag and mutual authentication
- 902-928 MHz RF range operation in North America
- Real-time clock
- Tag read buffering
- Programmable RF output power
- Programmable frequency
- Supports up to two AT5720 Check Tags
- Multiplexes up to four antennas
- Direct interface to TransCore's Train Recording Unit (TRU™)



TransCore's Multiprotocol Rail Reader (MPRX) is a fully integrated, self-contained 902- to 928-MHz wireless radio frequency identification (RFID) reader that is specifically designed for rail applications. The MPRX is a replacement for TransCore's AI1200 Reader/AR2200 RF Module systems.

The MPRX can read AAR format and SeGo protocol tags.

All MPRXs provide unparalleled flexibility by offering a real-time clock; expanded tag read buffering; programmable RF output power; programmable frequency range from 860.00 to 930.00 MHz[1] in 250-kHz programmable frequency steps; system integrity checking; and programmable group select.

The MPRX employs advanced multiplexing techniques that improve reader performance at higher train speeds when compared to legacy products. In addition, this unique multiplexing mode provides the capability for one reader to manage up to four antennas, allowing a single reader to be used for two tracks.

The MPRX interfaces directly to TransCore's TRU rail wayside automatic equipment identification (AEI) controller to provide a complete railroad AEI reader system to the North American railroads.

Multiprotocol Rail Readers are quickly and easily installed, tested, and maintained by TransCore trained, authorized personnel.

1.In the United States, the authorized continuous wave frequency band is 902.25 to 903.75 MHz and 910.00 to 921.50 MHz and the authorized modulated frequency band for this product is 911.75 to 919.75 MHz.

Multiprotocol Rail Reader

RF CHARACTERISTICS

Frequency Range
AAR-format: 902.25 to 903.75 MHz and 910.00 to 921.50 MHz

SeGo protocol: 911.75 to 919.75 MHz

RF Control
By sense inputs

Range
Read performance varies depending on tag and reader configuration and environment.

Consult the *Multiprotocol Rail Reader System Guide* for tag and reader selection.

I/O CONTROL

Input: two independent dry contact closures for sense circuits

Output: one tag lock output

RS–232, RS-422 and Ethernet ports

POWER REQUIREMENTS

Input Power
DC: 12 to 24V, 35 watts maximum
DC: 24 to 110V, 35 watts maximum

RF Output Power
2 W maximum to 200 mW minimum, selectable in 1-dB steps

Available in 4 ports only

LICENSING

Equipment License
The user is required to obtain a Part 90 site license from the FCC to operate the unit in the United States. Access the FCC Web site at www.wireless.fcc.gov/uls for more information.

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

Safety
Multiprotocol Rail Readers comply with the requirements of Underwriters Laboratories UL–60950-1, Standard for Safety of Information Technology Equipment.

PHYSICAL

Dimensions
Size: 13 x 5 x 2.49 in. (33 x 7.62 x 6.32 cm)

Weight: 5.7 lb

Mounting Location
In railside equipment hut or enclosure

Enclosure
Rated to IP65
The MPRR is enclosed in an aluminum housing.

ENVIRONMENTAL

Operating Air Temperature
-40°F to +158°F (-40°C to +70°C)

Storage Temperature
-40°F to +185°F (-40°C to +85°C)

Humidity
95% condensing

Vibration
The MPRR complies with vibration tolerance limits specified in AREMA C&S Manual, Class C, D, E, I and J.

Shock, Operational
The MPRR complies with shock tolerance limits specified in AREMA C&S Manual, Class C, D, E, I and J.

OPTIONS

Part Numbers

MPRX is available in two versions:

2-02-7-6401: MPRX, 1 port, IP65, AREMA Class C,D,E,I and J, 12-24VDC

2-02-7-6404: MPRX, 4 ports, IP65, AREMA Class C,D,E,I and J, 12-24VDC

2-02-7-6501: MPRX, 1 port, IP65, AREMA Class C,D,E,I and J, 24-110VDC

2-02-7-6504: MPRX, 4 ports, IP65, AREMA Class C,D,E,I and J, 24-110VDC

2-02-7-6401-X: MPRX, 1 port, IP65, AREMA Class C,D,E,I and J, 12-24 VDC, AI1204 Emulation firmware

2-02-7-6501-X: MPRX, 1 port, IP65, AREMA Class C,D,E,I and J, 24-110 VDC, AI 1204 Emulation firmware

2-02-7-6504-G2: MPRX, 4 ports, IP65, AREMA Class C,D,E,I and J, 24-110VDC, ATA/Gen2 firmware

Cables: 2-02-9-1007 (checktag, 35ft), 2-02-9-2007 (host, 35ft), 2-02-9-3035 (antenna, 35ft).