

OVERVIEW

Transmission Dynamics® has developed the Receiver and Signal Relay Unit (RSRU) transceiver, an in-service data logging system that can be paired with a variety of devices, allowing wireless condition monitoring of a railway vehicle and infrastructure. Examples of devices typically paired with the RSRU are Smart Oil Plug®, Wireless Accelerometer and SmartBug®.

The RSRU is powered from the trains power supply (24 VDC). The transceiver features high-accuracy GPS location and train direction, plus 4G-LTE cellular connectivity via a shark fin antenna. Data is transferred from the transmitters, via the transceiver, to the Global Data Network®, where it can be viewed and manipulated remotely by the client (figure 2).

The RSRU is designed to be mounted on a bespoke sub-plate, tailored to each application using 4 x M6 through holes for fixing. The transceiver incorporates a circular plug in power connector (rated to MIL-DTL-5015), which allows for quick and easy replacements of the device if required.



Figure 1

TRANSCEIVER (figure 1)

Communication	- 2.4 GHz Licence-free - 4G-LTE - GPS
Power	24VDC, 10 W
Size	160 x 105.0 x 92.9 mm
Weight	0.65 kg
Temperature Range	-40 °C to +85 °C
IP Rating	IP67
Warranty	12 months

TESTING STANDARDS

EMC and EMI compatibility	BS:EN 50121-3-2:2016 BS:EN 301489-1 V2.1.1 BS EN 301-17 V3.2.0
Environmental suitability	BS:EN 50155:2017
Shock and Vibration	BS:EN 61373:2010



Figure 2