

# EN 50155 Configuration Backup Device

## USB-M12



- ⌘ Ultra robust USB backup and maintenance device
  - Compatible with the Viper-112/212 ranges and RFR-212-FB
  - Metal housing
  - WeOS compatible automatic backup and restore
- ⌘ Externally tested and verified to EN 50155
  - Surge resistance and isolation
  - Magnetic field immunity & conducted emission
  - Shock and vibration
- ⌘ Designed for extreme operational environments
  - IP67
  - M12 connection
  - Ambient temperature  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) to  $+70^{\circ}\text{C}$  ( $+158^{\circ}\text{F}$ )
- ⌘ Design and production testing to match requirements for train control
  - MTBF 7 014 000 h
  - Post production testing exceeding EN 50155 mandatory requirements
  - Burn in on all units
  - Manufactured according to IPC-A-610D Class2



**EN 50121-3-2**  
Rolling Stock

**EN 50121-4**  
Railway Trackside

**EN 50155**  
On Board Rail

**EN 61000-6-1**  
Residential Immunity

**EN 61000-6-2**  
Industrial Immunity

**EN 61000-6-3**  
Residential Emission

**EN 61000-6-4**  
Industrial Emission

The USB-M12 is a configuration backup device designed to meet the full requirements of the rail vehicle market. This device can be used with the Viper-112/212 ranges and RFR-212-FB, and allows the configuration of the switch to be saved. The device can then be left attached to the switch for easy maintenance exchange of units. It also enables easy update of the switch configuration by attaching the device to the switch and cycling power.

As is critical for all equipment to be installed in rail vehicles, this device has been externally tested across the complete spectrum of standards required by EN 50155.

Westermo understand that systems on railcars are required by the EN 50155 standard to have a useful life of 20 years, so we use the highest quality components to deliver extended MTBF figures.

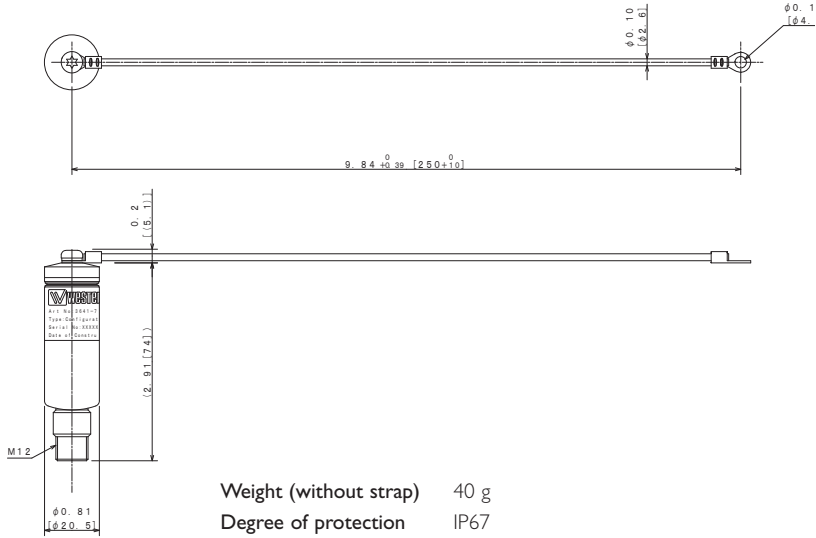
The EN 50155 standard requires mandatory performance and isolation testing. Not only does Westermo meet these, we exceed them in order to meet the additional manufacturer requirements for train control. Westermo's Swedish factory has been building Ethernet switches for the railcar market for many years and understands the measures that are required to provide the highest quality manufactured solutions.

### Ordering Information

Art.no	Description
3641-0190	USB M12 plug IP67, without fastening strap
3641-7190	USB M12 plug IP67, with fastening strap

# Specifications

## Dimensional drawing



## Specifications

Electrical specification	USB v1.1
Connection	M12 A-coded male
Memory size	16 Mbyte
Temperature	Operating: -40°C to 70°C (-40°F to 158°F) Storage: -50°C to 85°C (-58°F to 185°F)

## USB Connection

1	D-	Data -
2	Vbus	Power from USB host (+5V)
3	NC	
4	D+	Data +
5	Gnd	Ground reference

## Agency approvals and standards compliance

EMC	EN 50121-4, Railway applications – Electromagnetic compatibility – Emission and immunity of the signalling and telecommunications apparatus
	EN 50121-3-2, Railway applications – Electromagnetic compatibility – Rolling Stock apparatus
	EN 61000-6-1, Electromagnetic compatibility – Immunity for residential, commercial and light-industrial environments
	EN 61000-6-2, Electromagnetic compatibility – Immunity for industrial environments
	EN 61000-6-3, Electromagnetic compatibility – Emission standards for residential, commercial and light industrial environments
	EN 61000-6-4, Electromagnetic compatibility – Emission standard for industrial environments