



SIGNALING POWER MONITORING (BUSBARS)

EarthWatch 2

Continuous Monitoring of Power Supply Busbars

The EarthWatch unit is designed to monitor earth leakage within the rail environment. It is intended to be installed in equipment rooms and line side equipment cases and provides real time monitoring of earth leakage and voltage measurement of power supply busbars.

The EarthWatch 2 unit can simultaneously monitor up to 5 channels, each of which is auto-sensing for AC or DC, uploading the data to an external server via mobile network or Ethernet.

As well as general purpose railway busbar monitoring, EarthWatch 2 is capable of returning measurements as detailed in Network Rail document NR/L2/SIG/30014/D115/DT3 -61.



Applications



SPM
Signaling Power
Monitoring

Benefits

- » Early stage detection of earth faults
- » Continuous monitoring of insulation to earth
- » Power supply busbar integrity management
- » Condition based maintenance
- » Diagnostics via Ethernet, cellular data & WiFi (via optional adapter)

Application

Optimised Power Supply Busbar Integrity Management

The EarthWatch unit is typically used to provide real time monitoring of Earth Leakage and Voltage in Earth-Free power supply systems.

Key Features

- » Ease of installation
- » Speed of measurement – can be used to detect <1sec transient earths on assets operation
- » Compatible with voestalpine zentrak monitoring platform and third party monitoring systems
- » Consistent high accuracy across complete voltage and temperature range
- » Provides Network Rail (UK) Legacy V1/V2 values as defined by NR/L2/SIG/30014/D115/DT3-61
- » The integrity of the earth reference is tested by using a two wire connection where the net loop resistance through the two wires is continuously monitored.

EarthWatch 2

Specifications

Input Channels (Fully isolated)

Input range:	10V to 175V AC / DC
Isolation (at 250Vac/dc):	Channel - channel >5MΩ Channel - earth >5MΩ
Frequency range:	50Hz ±1%
Measurement Range:	
» Voltage	10-175V AC / DC
» Leakage to Earth	0-5MΩ. ±5% (20kΩ-1MΩ), ±10% (10-20kΩ, >1MΩ), ±1kΩ (<10kΩ)
Measurement stimulus:	+/- 12Vdc

Earth Connection Integrity Loop Test

R_{LOOP} test: 0Ω to 1000Ω (±10% reading, ±0.5Ω)

Volt Free Contact Digital Output

Type:	Single pole volt free contacts NC
Max operating voltage:	30V DC or 250VAC
Max switching current:	5A

RS-485 Channel

(An isolated RS-485 port is provided for future expansion)

Auxiliary 5V DC Power Supply

(An isolated DC power output is provided for future expansion)

Voltage output:	5V DC
Maximum current output:	200mA

Power Supply

Input range:	85-264V AC, 47-63Hz
Power safety:	IEC Class II, 3kV Input/Output
Inrush current:	<3.0A at 110V AC at 25°C
Power consumption:	50W maximum, 8W typical

Environmental

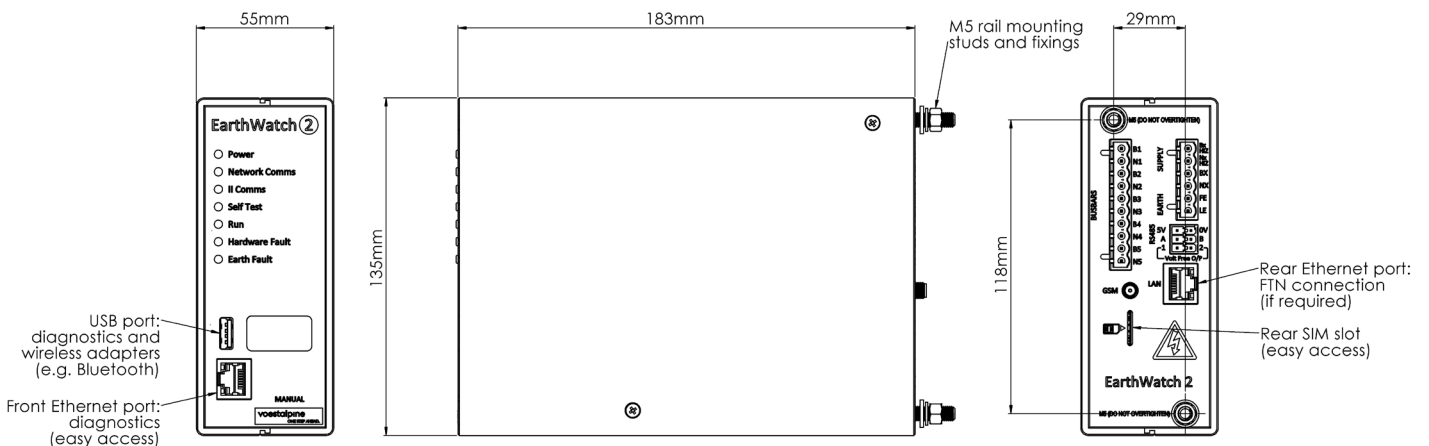
Storage temperature:	-20°C to +70°C
Operating temperature:	-25°C to +70°C
IP rating:	IP52 (with all connectors fitted)
Enclosure flammability:	UL94V-0
Insulation co-ordination:	EN50124
Shock and vibration:	EN50125
Climate:	EN50125
EMC Emissions:	EN50121-4 CISPR 16-2-3, CISPR 16-2-1
EMC Immunity:	EN50121-4
ESD precautions must be observed	

Mechanical

Rear power interface:	“Phoenix Contact” MSTBA series cable connectors
Weight:	713 g
Dimensions [W x H x D]:	55 mm x 135 mm x 183 mm

Part Numbers

EarthWatch 2 (unit only): EWATCH-000-BM-002



For further details please contact:
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voestalpine Signaling
www.voestalpine.com/railway-systems