

GSM-R Cab Radio MESA 23

MTRS 1 BC



The MTRS 1 BC is a terminal unit for the purpose of train radio, shunting radio and data applications which operates in GSM-R networks. It fulfils the European requirements for use in rail vehicles.

MESA 23: The universal system architecture of that reliable and widely-used cab radio family contains uniform and standardised interfaces and components.

The MTRS 1 BC is the main component of a digital train radio system. It consists of the digital transmission and receiving device, the controls, the interface board for external devices and the internal power supply. The CON-BC board controls the radio module, manages the priority of the calls, controls the operating devices MMIS, the additional data applications and the interface boards.

The terminal unit operates in the 900 MHz GSM frequency range in the following frequencies:

- » Transmitting frequency range: 873 to 915 MHz
- » Receiving frequency range: 918 to 960 MHz

In joint operation with operating device MMIS, handsets and loudspeakers, the MTRS 1 BC realises full train radio functionality.

The installation of a SIM card suitable for train radio as well as an appropriate DC/DC converter are required for the operation of the MTRS 1 BC.

The MTRS 1 BC generally integrates standard components of the cab radio family MESA 23 and thereby benefits from the advantages of a strong demanded and already in high quantities sold system. Because of its compactness and protection class it is the smallest replaceable unit itself.

TECHNICAL DATA

DIMENSIONS / WEIGHT

Construction	closed cassette 51 TE / 3 HE according to IEC 60297
Width	258.7 mm
Height	128.4 mm
Depth	238 mm
Weight	5.6 kg

POWER SUPPLY

Input voltage	24 ... 110 VDC (via DC/DC converter)
Connection type	Connection no 16 according to EN 50121-3-2 Tab. A2
Voltage range	(23.5 to 30) VDC
Maximal input power	6 A
Maximal power consumption	max. 150 W (calculated with two operating devices)

ENVIRONMENTAL CONDITIONS

Protection class	IP54 according to DIN EN 60529
Vibration and shocks	according to DIN EN 50155
EMC	according to DIN EN 50121-3-2 and DIN EN 50155

NOTE

Designation scheme	MTRS [1: GSM-R] [design]
System identification	MESA 23-09: including central unit (MTRS 1 BC), operating unit(s) MMIS, handset(s), loudspeaker(s) and cables

TECHNICAL DATA

CLIMATIC CONDITIONS

Operating temperature range	-25 °C to +70 °C
Storage temperature range	-40 °C to +70 °C (in original package)
Maximal gradient	± 1 °C/min of ambient temperature
Maximal humidity	75 % in annual average
Relative humidity	95 % on max. 30 days per year
Altitude and pressure fluctuation	-100 m to 1800 m above sea level

INTERFACES

Operating devices MMIS	2x 26-pin HD-D-Sub
Antenna	TNC female
UIC line	25-pinpolig D-Sub
Digital input and output	15-pin HD-D-Sub
RS422 / NF	1x 15-pin HD-D-Sub / 1x 25-pin D-Sub
Service, diagnostics	9-pin D-Sub
Miscellaneous	power supply, PE conductor

