Dual-Mode Cab Radio MESA 23

MTRS 1+A BSH

The MTRS 1+A BSH is a terminal unit for the purpose of train radio, shunting radio and data applications which operates in GSM-R networks and in the analogue radio networks in accordance with UIC 751-3 (450 MHz). It fulfils the European requirements for use in rail vehicles.

MESA 23: The universal system architecture contains uniform and standardised interfaces and sub-assemblies conceived as 19" plug-in printed circuit boards. Thereby an easy and fast exchange of the sub-assemblies is guaranteed.

The MTRS 1+A BSH consists of the digital and analogue transmission and receiving device, the controls, the interface modules and the power supply. The CON/IFOT module controls the radio module, manages the priority of the calls, controls the operating devices, the modules for analogue train radiotelephony, the additional data applications and the interface modules.

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

Together with operating device MMIS, handsets and loudspeakers, the MTRS 1+A BSH realises full train radio functionality.

This standard model can be equipped with the following assemblies:

- IFS module with 2 serial interfaces for data transmission
- IFS-A module with 1 serial interface for data transmission and 1 interface to connect external radio devices
- UIC module for connecting to the train's internal UIC line according to UIC 568. (PA/Intercom)

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TECHNICAL DATA

DIMENSIONS / WEIGHT

Construction	enclosed housing
Width	300 mm
Height	530 mm
Depth	280 mm
Weight	max. 31 kg

POWER SUPPLY

Input voltage	nominal 24, 36, 48, 72 or 110 VDC
Tolerances	according to DIN EN 50155
Interruption	according to DIN EN 50155, Class S1 (no interruption)
Maximal input power	nominal 365 W (calculated)
Maximal power consumption	3.3 A to 15.2 A (depending on voltage 110 VDC to 24 VDC)

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; +A: analog] [design] / [nominal input voltageg] / optional: UIC / optional: IFS or IFS-A / optional: CON (Jumper)
System identification	MESA 23-01: including central unit (MTRS 1+A BSH), operating unit(s) MMIS, handset(s), loudspeaker(s) and cables

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TECHNICAL DATA

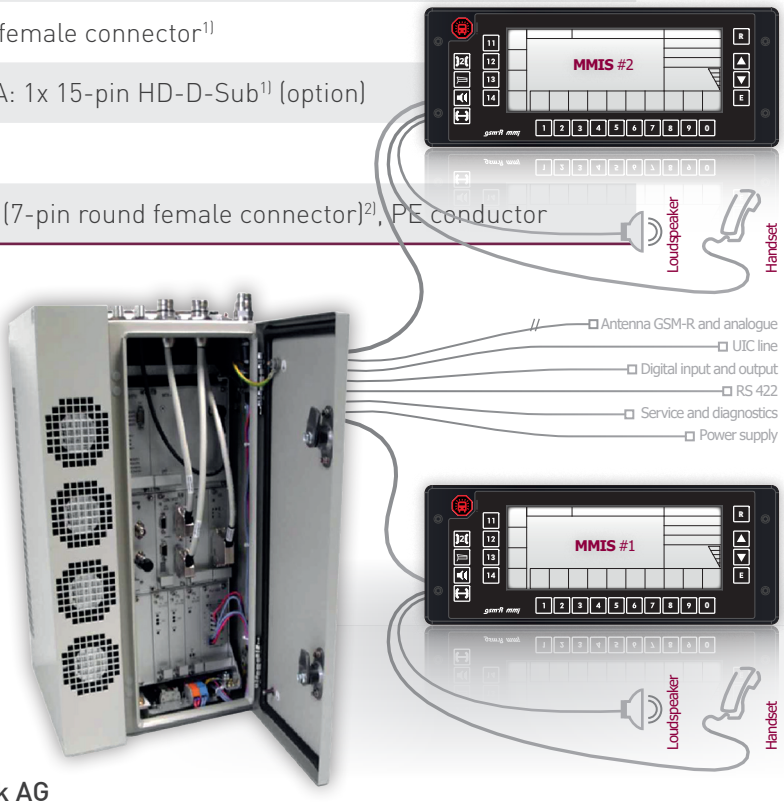
CLIMATIC CONDITIONS

Operating temperature range	-25 °C to +55 °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 19-pin round female connector[1)]
Antenna connection	2x N female (analogue and GSM-R)
UIC line	9-pin round female connector[1)] (option)
Digital input and output	16-pin round female connector[1)]
RS422	IFS: 2x / IFS-A: 1x 15-pin HD-D-Sub[1)] (option)
Service, diagnostics	9-pin D-Sub
Miscellaneous	power supply (7-pin round female connector)[2)], PE conductor

[1)] Series 623, shieldable, design Q
[2)] type R15



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