



MESA 26: Operating Device

MMIT

The operating device MMIT as part of the train radio system MESA 26 is designed for the menu-driven operation of digital and analogue train radio. It fulfils the requirements for the operation on rail-vehicles and it is designed for the console installation in the driver's cabin. With the use of handset and a loudspeaker the driving crew is able to carry out diverse communication tasks.

The design of the key symbols is based on DIN CLC/TS 50459-5:2008-05; VDE V 0831-459-5:2008-05 part 5.

The **MMIT** has a display with touch function and a key-board with 6 keys with dedicated function. The touch display shows a keyboard with 14 soft keys and 4 additional keys with dedicated functions.

The display is covered with anti-reflection coated protective glass. The only key with key-inhibit function is the emergency call key.

Hardkeys: Keys with fixed functional allocation independent from the current menu level.

The following functions are realised by the hard keys:

- Emergency call
- Call to secondary controller
- Call to conductor
- Passenger announcement
- Train to train call
- Reset button

All other operating functions will be controlled by softkeys.

Softkeys: The functional allocation of the softkeys is given by the direct and adjacent area of the display and depends on current menu level of the radio system.

A fixed functional allocation at the same softkeys in the menu levels and an optimal display size allow an easy handling of all operating activities by the train driver.

Operating concept

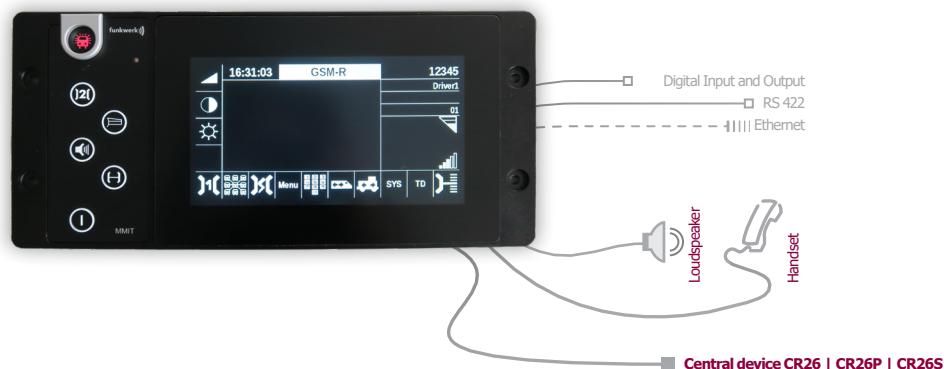
Funkwerk's operation devices are developed in accordance with the specification as well as to European standards. They are characterised by its innovative and intuitive ease of use. Except for permanently reachable key functions our MMIs are mainly controlled by softkeys to facilitate its use and to provide the flexibility for functional adaptations without needed hardware modifications.

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Technical Specification

Display		Dimensions+ Weight	
Design	transmissive TFT colour LCD with touch function	Construction	closed housing
Effective visible surface	(154 x 86) mm	B x H x T	(296 x 138 x 39) mm
Resolution	(1024 x 600) Pixel	Weight	1.4 kg
Reading angle at 25 °C	vertical: ±80°, horizontal: ±80° (at CR ≥ 10)		
Environmental Conditions			
Protection class	front: IP 54 according to DIN EN 60529		
	rear side: IP 20 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		
Climatic Conditions			
Operating temperature range	OT3: -25 to +70 °C		
extended temperature range at switch-on for max. 10 min	ST1: OT3 +15 °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	according to EN 50155		
Altitude and pressure fluctuation	-100 m to 1,800 m above sea level		
Interfaces			
X1: Central unit CR26 CR26P CR26S	25-pin D-Sub male		
X6: RS422 (Data application/IFS)	15-pin D-Sub female		
X7: Ethernet	4-pin M12 female (coding D)		
X8: X2: handset, loudspeaker, digital I/O	25-pin D-Sub female		
Miscellaneous	Protective earth		
Power Supply			
Nominal input voltage	24 / 48 V _{DC} (via central device as standard CR26 CR26P CR26S with 48 V)		



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