

#### **Operating Device**

# MMIL



The operating device MMIL 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. It can be equipped optionally with a handsfree system featuring echo compensation and noise cancelling.

#### **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.

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 MMIL has a 10" color touch display with protective glass and a keyboard with 6 keys with dedicated function.

The following functions are realised by the hard keys:

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

All other operating functions will be controlled by softkeys.



## **TECHNICAL DATA**

DIMENSIONS/WEIGHT				
Construction	closed housing			
ВхНхТ	(315 x 215 x 69.2) mm incl. Hands-free module			
Weight	3.0 kg			
DISPLAY				
Design	transmissive TFT colour LCD with touch function			
Effective visible surface	(216.96 x 135.6) mm			
Resolution	(1280 x 800) Pixel			
Reading angle at 25 °C	vertical: ±85°, horizontal: ±85° (at CR ↗ 10)			
ENVIRONMENTAL CONDITIONS				
Protection class	front: IP65 according to DIN EN 60529			
	Note: as the USB connector offers an electrical interface this compnent can't be protected. rear side: IP20 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	ST1: OT3 +15 °C (at switch-on for max. 10 min)			
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			

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## **TECHNICAL DATA**

## INTERFACES Central device MESA 26 (IFOT)

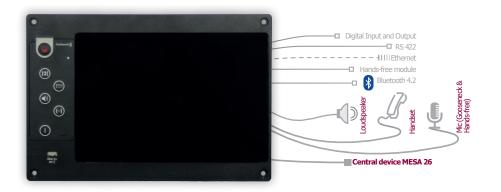
Miscellaneous	Protective ground
Ethernet	8-pin M12 female (X coding)
RS422 (Data application/IFS)	15-pin D-Sub female
Hands-free module	25-pin D-Sub female
Handset, loudspeaker, dig. I/O	25-pin D-Sub female
Microphones (Gooseneck, hands-free microphone)	9-pin D-Sub female
Central device MESA 26 (IFOT)	25-pin D-Sub male

### INTERFACES FRONT

USB Port	USB Typ A	charging power 1.5 A
Bluetooth	BT 4.2	

#### POWER SUPPLY

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