



GSM-R Radio Devices

focX[®]

The New Generation

dualfocX[®]
by funkwerk

shuntfocX[®]
by funkwerk

railfocX[®]
by funkwerk

deskfocX[®]
by funkwerk

f.locX[®]
by funkwerk

www.funkwerk.com

funkwerk



focX® - The New Generation

In respect of the needs for suitable and rugged handheld equipment for the specific harsh environmental conditions in railway operations Funkwerk has developed the product family **focX®**. This has been done based on the respective specifications for the digital GSM-R standard as well as for the analogue UIC 751-3 standard.

The **focX®**- products have been designed for the specific market needs of the European railway operators. Based on the design concept a highly efficient platform for GSM-R can be offered.

All **focX®**-handhelds are already prepared with a transceiver that supports the future use of the **GSM-R frequency band extension from 4 to 7 MHz**.

Out of this product family the **DualfocX®** is the world's first **OPS** (Operational Handheld for Shunting) that fulfills the whole set of functional requirements including Direct Mode according EIRENE FRS for shunting operations. With Direct Mode the handsets can also be used whenever a fixed GSM-R network infrastructure is not available.

The latest product from Funkwerk is a mobile GSM-R modem f.locX.

OPH & OPS Handhelds

focX®-Handhelds are designed to protection class IP65. With their dust and water-jet protection characteristics they are capable to be used under harsh environmental conditions.

The transflective display allows a good readability of user information even under direct sunlight exposure.

DualfocX®

The **DualfocX® / DualfocX®S** is the world's first **OPH** (Operational Purpose Handheld) / **OPS** (Operational Purpose Handheld for Shunting) that fulfills the whole set of functional requirements including Direct Mode according EIRENE FRS for shunting operations. With Direct Mode the handsets can also be used whenever a fixed GSM-R network infrastructure is not available.

Ideally this handheld is either suitable for railway operators who did not yet launch GSM-R throughout their whole service areas or for railway operators who want to use Direct Mode (simplex) based on the European-wide harmonized UIC 450 MHz frequency band in GSM-R traffic hot-spots where no additional GSM-R frequency resources are available (e.g. big shunting yards). In order to provide this capability this Dual Mode handheld is equipped with an additional transceiver.

DualfocX® / DualfocX®S is able to listen to GSM-R and to the chosen 450 MHz channel at the same time. This allows implementing intelligent call pre-emption scenar-



deskfocX® Wireless GSM-R
Desk Terminal



f.locX® (Mobile GSM-R
modem)

rios covering both radio technologies. Optionally the **DualfocX**® / **DualfocX**®S is also available with a GPS receiver, RF monitoring application, Geo-fencing application and lone worker function (tilting sensor).

ShunfocX®

The **ShunfocX**® is Funkwerk's **OPS** that comes with rugged design dedicated for GSM-R shunting operations in Point To Point calling mode or Group calling mode. Optionally the **ShunfocX**® is also available with a GPS receiver, RF monitoring application, Geo-fencing application and lone worker function (tilting sensor)

RailfocX®

The **RailfocX**® is Funkwerk's **OPH** that is offered without the Shunting software application module of GSM-R. This handheld comes also with rugged design for harsh environments, protection class IP65, transfective display at 240 x 320 pixels and impact-resistance for outdoor use. Optionally the **RailfocX**® is also available with a GPS receiver, RF monitoring application, Geo-fencing application and lone worker function (tilting sensor).

DeskfocX®

The **deskfocX**® is a complete GSM-R radio terminal as a comfortable desk device with handsfree equipment. The hardware and software of these is based on the 2W-GSM-R handheld product line **focX**®.

The handling is as easy, as the handheld's.

The user alternatively has the possibility to telephone in the GSM-R net using the telephone handset or the handsfree equipment (PTT button, gooseneck microphone, loudspeaker).

f.locX®

The **f.locX**® is a mobile battery powered GSM-R modem with Bluetooth interface and status indicators.

The modem is connected to mobile devices via Bluetooth 4.1 and is designed for use in GSM-R networks. It can handle voice, SMS, as well as data transfer applications.

The **f.locX**® is controlled by apps which are installed on standard Android smartphones or tablets.

The combination of Funkwerk's GSM-R Telephony app and the **f.locX**® GSM-R modem provides GSM-R specific functions of EIRENE devices classes GPH and OPH. Other apps enable the **f.locX** to transfer data via the GSM-R network.

The **f.locX**® allows the user to utilise the safe transmission in the GSM-R networks independent from the type of the smartphone. Due to the support of Android and iOS the **f.locX**® is usable by the majority of smartphone users and with many devices.



Innovation is our Philosophy

Since 1982 **Funkwerk** develops and produces train radio systems for the German and international markets.

GSM-R: Due to the overall market globalization that affects also the railway and other transportation networks the European railway operators are focusing on a homologated digital radio communication platform for seamless international train operations. The chosen standard is GSM-R which serves the PMR related needs for advanced speech call functionalities at best.

Funkwerk is proud to be the European market leader in the segment of GSM-R train radio terminals, the so called CabRadios.

Funkwerk Systems GmbH
Im Funkwerk 5 | D-99625 Kölleda
Tel.: +49 (0) 3635/458-0 | Fax: +49 (0) 3635/458-599
info@funkwerk.com | www.funkwerk.com

funkwerk 