Datasheet

radiosystem

TETRA Band selective repeater Fibre-fed

Features

• High and Medium power versions • Compact size
• High linearity • Remote and local control and monitoring
• Robust design • Low power consumption
• Easy installation

Description

This type of repeater has a built-in fibre optical interface. The fibre optical interface is connected to the TBS (TETRA Base station) via a single fibre. At the base station a FOMU (Fibre optical master unit) converts TBS' RF-signals to optical signals sent to the repeater in DL and optical signals to RF-signals sent to the TBS in UL.

To provide TETRA coverage in confined areas the RF-input/output of the repeater is connected to an antenna, radiating cable or both combined.

The repeater can be installed as a single repeater system or as a system comprising of several repeaters.

In the basic version the repeater can be monitored locally using RSE (Repeater executive software). Alarms can be also monitored remotely via an external alarm system on site or via a GSM/UMTS network.

Should the operator of a TETRA network desire to have in-depth remote control and monitoring functionality, the repeater can be equipped with TCP/IP over Ethernet, GSM/UMTS and TETRA management systems controlled via SAMS (Supervision and monitoring software).

The management system has a built-in homepage and offers the possibility to control a variety of internal as well as external parameters, analogue and digital signals and alarms. The management system also monitors forward and reverse RF-power. The repeater's software can be updated remotely via the management system.

The repeater can be supplied with Radiosystem's battery backup.

For easy installation the repeater is delivered with illustrative installation software.

Specification

Electrical

Frequency band	380–430 MHz	
Bandwidth	5 MHz	
Pass band ripple	< +/– 1,5 dB	
Delay	Typical < 1µs	
Down link power per carrier	Medium power version 19 dBm @ 2 carriers	High power version 29 dBm @ 2 carriers
Spurious and harmonics	< –36 dBm	
Gain	85 dB/UL, 40 dB/DL	
Gain adjustment	30 dB in 1 dB step	
In/output return loss	> 12 dB	
Impedance	50Ω	
Noise figure DL/UL	< 4 dB / 10dB	
Uplink AGC	40 dB	
Power supply	90–260 V, 47–63 Hz	
Power consumption	Medium power version < 35W	High power version < 140W

Optical

Optical power	Min 2, Max 6 dBm
Wave length	1310 (master), 1510, 1530, 1550, 1570 nm
Output noise	–135 dBm/Hz
Optical interface	FC/APC-N
Fibre type	Single mode

Mechanical

	Wall mount	19" Mount
Dimensions	400 x 500 x 250 mm	400 x 440 x 350 mm
Weight	< 30 kg	< 30 kg
Protection class	IP54	IP20
Operating temperature	–10 to +55°C	
RF connectors	N-female	
PC connector	RS232 and Ethernet	
GSM-antenna connector	TNC-female	
Alarm output	NO and NC (3 pol mini-DIN)	

Radiosystem's Best Practice Continual Improvement Program means this data may be subject to alteration.

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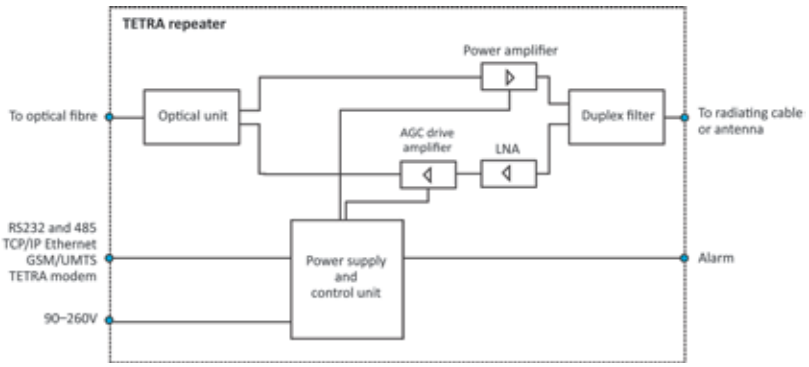
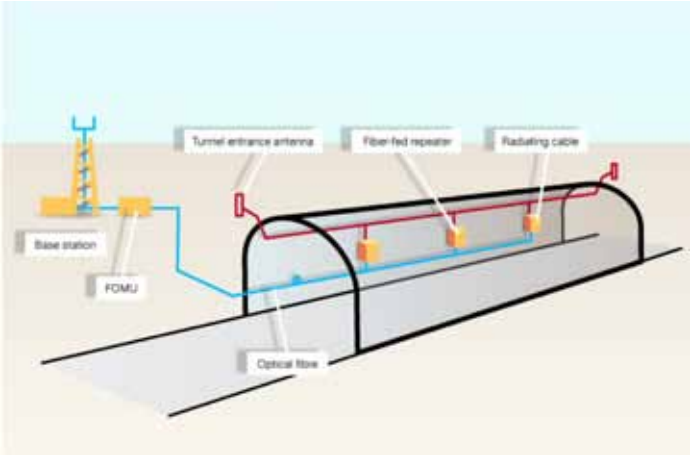
TETRA Band selective repeater
Fibre-fed

Block diagram



Typical Fibre-fed road tunnel



Ordering information

Article	Type	Description
271016	FFALW-3	Band selective fibre-fed repeater, medium power, wall mount
271017	FFALR-3	Band selective fibre-fed repeater, medium power, 19” mount
271018	FFAHW-3	Band selective fibre-fed repeater, high power, wall mount
271019	FFAHR-3	Band selective fibre-fed repeater, high power, 19” mount

Options

270221	OPT1	Frequency range Public safety: UL 380–385MHz / DL 390–395MHz
270222	OPT2	Frequency range Commercial: UL 410–415MHz / DL 420–425MHz
270223	OPT3	Frequency range Commercial: UL 415–420MHz / DL 425–430MHz
270224	OPT4	Special frequency range inside 380–430 MHz
270225	OPT5	Alarm notice via GSM/UMTS
270226	OPT6	External test point Down link (–30 dB)
270227	OPT7	Dual antenna output in Down link
270228	OPT8	Management system including: TCP/IP over Ethernet, web interface, alarm, forward and reverse power monitoring, remote software update (IAP)
270229	OPT9	Management system as in option 8 with GSM/UMTS interface
270230	OPT10	Management system as in option 8 with TETRA modem interface
270232	OPT12	Door alarm sensor