

TETRA Band selective repeater In-line



Features

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

Description

This type of repeater is connected directly to the radiating cable and by that compensates for signal attenuation in the radiating cable.

The in-line repeater(s) can be installed with an off-air or a fibre-fed repeater acting as an interface between the TBS (TETRA Base station) and the in-line repeater system.

The number of in-line repeaters connected in series is limited by the S/N-ratio at the last in-line repeater. Systems based on in-line repeaters are most suitable for shorter (<5 km) tunnels or structures.

In the basic version the repeater can be monitored locally using RSE (Repeater executive software). Alarms can be 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 will also monitor forward and reverse RF-power from and to the radiating cable. 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	40 dB	
Gain adjustment	30 dB in 1 dB step	
In/output return loss	> 12 dB	
Impedance	50Ω	
Noise figure	< 4 dB	
Uplink AGC	40 dB	
Power supply	90–260 V, 47–63 Hz	
Power consumption	Medium power version < 35W	High power version < 140W

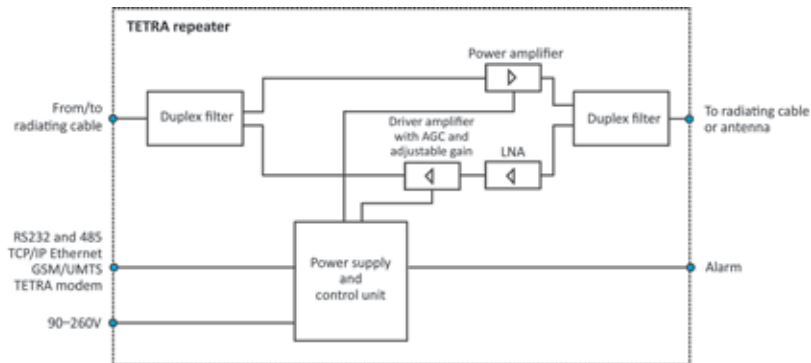
Mechanical

	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)	

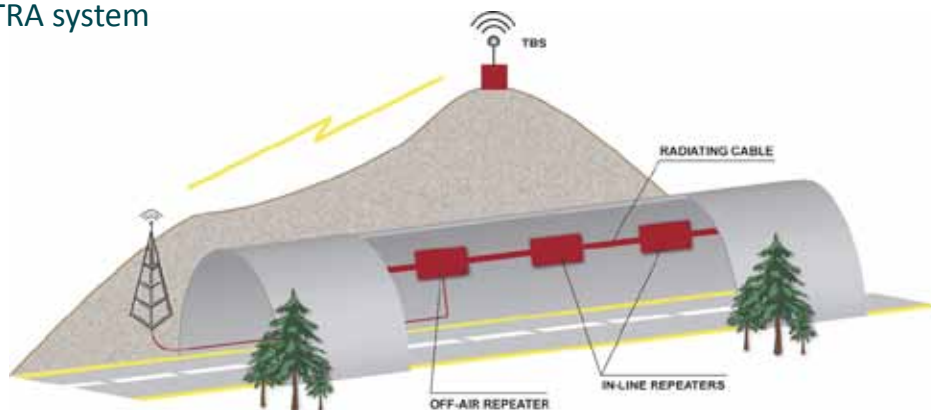
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Block diagram



Typical TETRA system In-line



Ordering information

Article	Type	Description
271012	ILALW-3	Band selective in-line repeater, medium power, wall mount
271013	ILALR-3	Band selective in-line repeater, medium power, 19" mount
271014	ILAHW-3	Band selective in-line repeater, high power, wall mount
271015	ILAHR-3	Band selective in-line 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