

## TETRA

### BSF424

## FIBRE OPTIC REPEATER



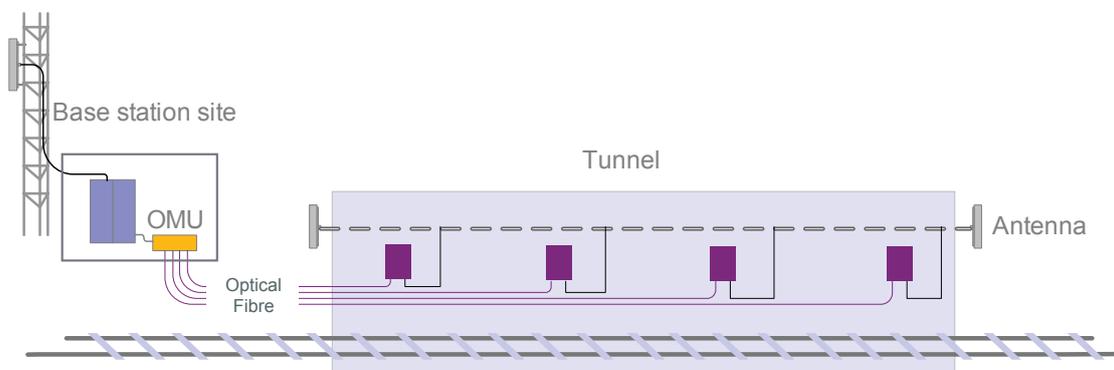
The BSF424 is a fibre optic fed TETRA repeater. The repeater is part of a system that is fed from an Optical Master Unit (OMU). The maximum optical loss allowed for is 10 dB of fibre between the OMU and the most distant last remote unit that the OMU supports. This offers great flexibility when providing RF coverage in areas where it is not possible to rely on off air transmission. The fibre optic system is easily remotely monitored and controlled by Axell Wireless effective supervision tool, Axell Wireless Element Manager.

## PRODUCT BENEFITS

- Supports the use of WDM (Wavelength Division Multiplexing) technology resulting in a limited need for fibres.
- Remote supervision and alarm handling in the BSF424 is realized through the fibre connection via the OMU unit's modem or optional via built in modem.
- The unique combination of high output power and highly linear power amplifiers ensures large coverage with uniformly excellent signal quality.
- The BSF424 can optionally be upgraded with a second optical transceiver module for redundant fiber applications.

## AUTOMATIC OPTICAL GAIN SETTING

The gain is adjusted in the downlink chain by measuring the level of the pilot carrier sent from the Optical Master Unit (OMU). The level of the received pilot carrier is continuously monitored.



## SPECIFICATIONS

Frequency range	380-470MHz
Operator bandwidth	5 MHz
Duplex distance	10 MHz
Impedance	50 $\Omega$
Output power/carrier (DL)	1 carrier: +36 dBm, 2 carriers: +33 dBm, 3-4 carriers: +30 dBm 8 carriers: +27 dBm
IP3	> +68dBm
Noise figure (UL)	<6dB, 5dB typical at maximum gain
Group delay	2us max
Fibre optic loss compensation	Implemented
Spurious Emissions from RF port	< -36dBm
Intermodulation Products	< -36dBm

### Optical Module Electrical Specification

Optical Wavelength	Two color system	Three color system	Four color system
Master	1310 $\pm$ 10 nm	1310 $\pm$ 10 nm	1310 $\pm$ 10 nm
Slave 1	1550 $\pm$ 3 nm	1550 $\pm$ 3 nm	1550 $\pm$ 3 nm
Slave 2	N/A	1510 $\pm$ 3 nm	1510 $\pm$ 3 nm
Slave 3	N/A	N/A	1550 $\pm$ 3 nm

Maximum optical output power	+3 dBm $\pm$ 2 dB
Maximum optical input power	+2 dBm
Power Requirements	230 VAC 50Hz, 115 VAC 60Hz, -48 VDC
Power Consumption	<100 W, typical

### External connection

Local Maintenance Terminal	RS232
Server Port	7/16 female
Optical Ports	1 x SC/APC female
Modem antenna connector	SMA
Remote connection	Via OMU or (optional) GSM, GSM-R PSTN modem or Ethernet

### Mechanical Specification

Dimensions	540 x 350 x 150 mm
Enclosure	Aluminium (IP65)
Weight	28 kg
Cooling	Convection

### Environmental Specification

EMC	See compliance below
Operating Temperature	- 25°C to + 55°C
Storage	- 30°C to + 70°C
Humidity	ETSI EN 300 019-2-4 (see compliance below)
MTBF	> 100 000 hrs
Complies with	R&TTE Directive including, EN 301 489-18 ETSI TS 101 789-1, EN 60 950

All data is subject to change without prior notice

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