

BSF 3604

Band selective fibre optic TETRA, dual band repeater for EMEA & APAC

Key features

- High power, 36dBm in each band (with one carrier).
- 2 non-adjacent frequency bands in one compact enclosure.
- SC/APC F/O interface.
- Optimized for low noise figure.
- Full monitoring, supervision and alarm handling through SNMP, Webserver or AEM monitoring software via the fibre connection to the associated OMU.
- The unique combination of high output power and highly linear power amplifiers ensures large coverage with uniformly excellent signal quality.
- The BSF 3604 can optionally be upgraded with a second optical transceiver module for redundant fibre applications



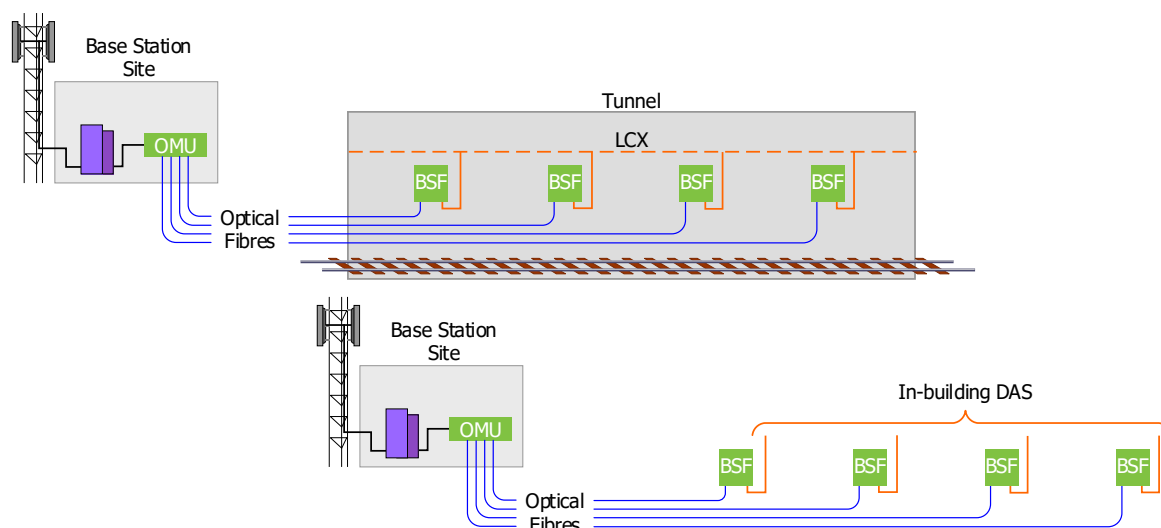
The BSF 3604 is a fibre optic fed TETRA repeater. This dual band, version processes two different (non-adjacent) bands in one enclosure. The repeater is part of a system that is fed from an Optical Master Units (OMU). The maximum optical loss allowed for is 10 dBo between the OMU and the most distant 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.

A distributed antenna system or LCX array can be used to distribute the signal throughout the area to be covered. The high output power results in having to deploy a fewer number of sites, which in turn lowers the capital expenditures for the roll out as a whole.

These remote units can be installed up to 20 km from the base station site, offering a great flexibility when providing RF coverage in areas where off air transmission is not a preferable solution. The fibre optic system is easily remotely monitored and controlled by Axell Wireless' effective supervision tool, Active Element Manager.

Automatic optical gain setting

The system gain is adjusted for optical loss in the fibre by measuring the level of a pilot carrier sent from the OMU. The level of the received pilot carrier is continuously monitored.



Technical specification

RF Specifications				
Frequency Range (Bands must be non- adjacent, others bands upon request up to 520MHz)		Downlink	Uplink	Bandwidth
		390 MHz to 395 MHz	380 MHz to 385 MHz	5 MHz
		395 MHz to 400 MHz	385 MHz to 390 MHz	5 MHz
		420 MHz to 425 MHz	410 MHz to 415 MHz	5 MHz
		425 MHz to 430 MHz	415 MHz to 420 MHz	5 MHz
		460 MHz to 465 MHz	450 MHz to 455 MHz	5 MHz
		465 MHz to 470 MHz	455 MHz to 460 MHz	5 MHz
		390 MHz to 397 MHz	380 MHz to 387 MHz	7 MHz
		390 MHz to 396.5 MHz	380 MHz to 386.5 MHz	6.5 MHz
		423 MHz to 430 MHz	413 MHz to 420 MHz	7 MHz
Number of frequency bands		2 non-adjacent bands		
Duplex distance (in one band)		10 MHz (others upon request)		
Impedance		50 Ω		
Output power/carrier (DL) per band	1 carrier:	+36 dBm		
	2 carriers:	+33 dBm		
	3-4 carriers:	+30 dBm		
	8 carriers:	+27 dBm		
IP3		+68 dBm		
Noise figure (UL)		<6 dB, 5 dB typical at maximum gain		
Group delay		2 μs max		
Fibre optic loss compensation		Implemented		
Spurious emissions from RF port		< -36 dBm		
Intermodulation products		< -60 dBc or < -36 dBm		
Optical module electrical specification				
Maximum optical output power		+3 dBm ±2 dB		
Maximum optical input power		+2 dBm		
Power Requirements		115 VAC 50Hz/60Hz or 230 VAC 50Hz/60Hz or -48 VDC		
Power Consumption		<150 W, typical		
External connection				
Local Maintenance Terminal		RS232		
RF Port		7/16 DIN female		
Optical Port		SC/APC female		
Remote connection		Via OMU as standard or alternatively can be factory configured for Ethernet alarm reporting		
Mechanical and Environmental specification				
Dimensions		540mm x 382mm x 313mm		
Weight		30 kg		
Cooling		Convection		
Mounting		Aluminium (IP65) wall-mount enclosure		
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)		
Compliance				
Complies with:	Safety	EN 62368-1:2014+A11:2017, EN 60825-1:2014, EN 50385:2017		
	EMC	EN 301 489-1 V2.2.0 (2017-03), EN 301 489-5 V2.2.0 (2017-03), EN 50121-4:2016		
	Radio	EN 302 561 V2.1.1 (2016-03)		