

BSF 3604-RM

Band selective, fibre optic, TETRA repeater, Single band, 19" rack-mount for EMEA & APAC

Key features

- High power +36 dBm.
- Optimized for low noise figure.
- Remote supervision and alarm handling in the BSF 3604-RM is realized through the fibre connection via the OMU or Ethernet.



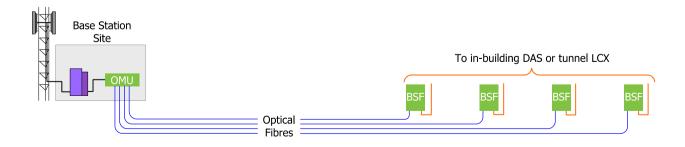
- The unique combination of high output power and highly linear power amplifiers ensures large coverage with uniformly excellent signal quality.
- The BSF 3604 can optionally be upgraded with a second optical transceiver module for redundant fibre applications.
- Convenient 19" rack-mount form factor.

The BSF 3604-RM is a fibre optic fed TETRA repeater. The repeater is part of a system that is fed from a PBE Axell Optical Master Unit (OMU). RF signals are coupled off from a nearby base station by the OMU which modulates the RF to optical signals which are distributed via fibre optic cables to one or several remote BSF repeaters. The maximum optical loss allowed for is 10 dBo between the OMU and the most distant last remote unit that the OMU supports.

These remote BSF repeaters can be installed up to 20 km from the base station site, offering great flexibility when providing RF coverage in areas where off air reception is not a preferable or possible solution. The remote BSF repeaters demodulate the optical signal to RF and feed it to a Distributed Antenna System (DAS) or Leaky Feeder array to distribute the RF signal throughout the area to be covered. The high output power of the remote BSF repeaters results in a need to deploy fewer remote sites, which lowers the capital expenditures for the deployment. The fibre optic system is easily remotely monitored and controlled by The PBE Axell supervision and control software tool, Active Element Manager (AEM).

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.





Technical specification

RF parameters				
		Downlink	Uplink	Bandwidth
General frequency ranges available (others upon request up to 520 MHz, bands must be non-adjacent)		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
		423 MHz to 430 MHz	413 MHz to 420 MHz	7 MHz
		390 MHz to 396.5 MHz	380 MHz to 386.5 MHz	6.5 MHz
Number of frequency bands		1		
Duplex distance		10 MHz (others upon request)		
Impedance		50 Ω		
Downlink output power/carrier:		1 carrier: +36 dBm		
		2 carriers: +33 dBm		
		3-4 carriers: +30 dBm		
		8 carriers: +27 dBm		
Noise Figure (uplink)		+ 68 dBm		
Noise Figure (uplink)		<6 dB, 5 dB typical at maximum gain		
Group Delay		2 μs max Implemented		
Fibre optic loss compensation		< -36 dBm		
Spurious Emissions from RF port Intermodulation Products		< -36 dBm		
Optical Module Electrical	Specification	< -00 ubc of < -30 ubili		
Maximum optical output power		+3 dBm ±2 dB		
Maximum optical input power		+2 dBm		
Power Requirements		12 (1011)		
Supply voltage		120 V ac 60Hz or 230 V ac 50Hz or -48 V dc		
Power Consumption		100 W, typical		
External connections				
Local Maintenance Terminal		RS232		
RF Port		N female		
Optical Port		SC/APC female		
Remote connection		Via OMU or (optional) GSM, GSM-R PSTN modem or Ethernet		
Mechanical and Environmental specification				
Dimensions W x H x D		19", 4U, 450 mm		
Weight		< 20 kg		
Cooling		Convection		
Mounting		Rack mounted		
EMC		See RED Compliance below		
Operating Temperature		-25°C to +55°C		
Storage Temperature		-30°C to +70°C		
Humidity		0 to 95% RHNC		
Compliance				
Complies with RED:	Safety	EN 62368-1, EN 50385		
	EMC	EN 301 489-1, EN 301 489-5		
	Radio	EN 302 561		

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