D-CSF 3604 for EMEA/APAC

DSP based channel/band selective TETRA fibre optic repeater EMEA/APAC

Key features

- High power +36 dBm
- Optimized for low noise figure
- Remote supervision and alarm handling in the D-CSF 3604 is realized through the fibre connection via the OMU unit's modem or Ethernet
- The unique combination of high output power and highly linear power amplifiers ensures large coverage with uniformly excellent signal quality
- The D-CSF 3604 can optionally be upgraded with a second optical transceiver module for redundant fibre applications
- Available either as band selective unit or as channel selective unit

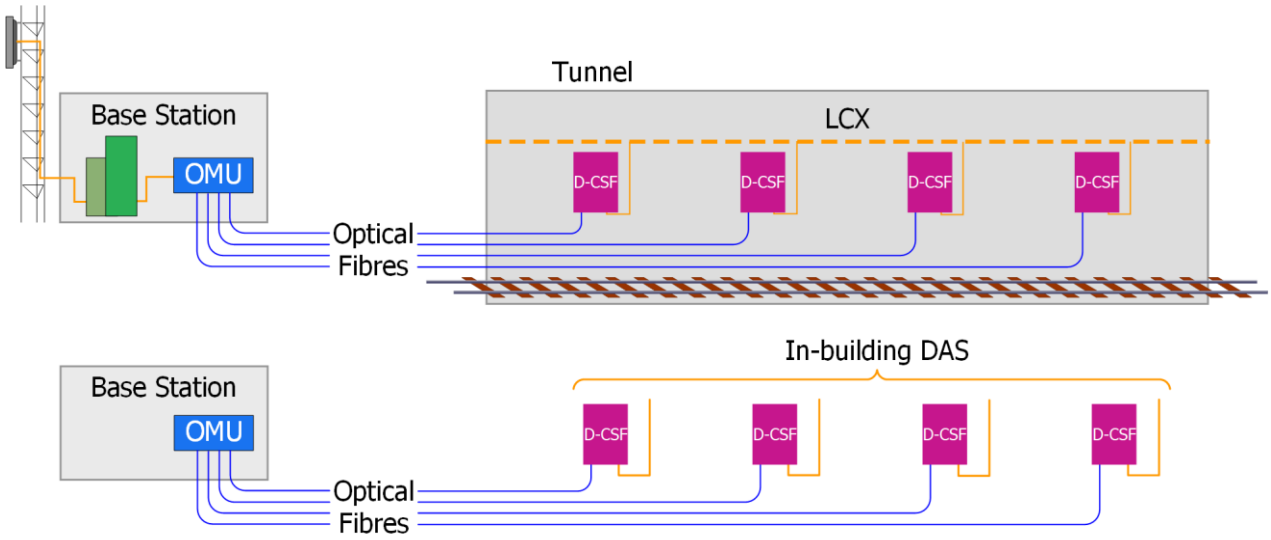
The D-CSF 3604 is a fibre optic fed TETRA repeater. The repeater is part of a system that is fed from an Axell Wireless Optical Master Unit (OMU). RF signals are coupled off from a nearby base station by the OMU, which modulates the RF to optical signals that are distributed via fibre optic cables to one or several remote D-CSF repeaters. 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.

These remote D-CSF 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 D-CSF 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 Axell Wireless supervision and control software tool, Active Element Manager.

Automatic optical gain setting

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



Technical specification

RF parameters		Downlink	Uplink
General frequency ranges available (others upon request up to 520 MHz)		390 MHz to 395 MHz 390 MHz to 396.5 MHz 390 MHz to 397 MHz 395 MHz to 400 MHz 420 MHz to 425 MHz 423 MHz to 430 MHz 425 MHz to 430 MHz 460 MHz to 465 MHz 465 MHz to 470 MHz	380 MHz to 385 MHz 380 MHz to 386.5 MHz 380 MHz to 387 MHz 385 MHz to 390 MHz 410 MHz to 415 MHz 413 MHz to 420 MHz 415 MHz to 420 MHz 450 MHz to 455 MHz 455 MHz to 460 MHz
Operation bandwidth		5/6.5/7 MHz (others upon request)	
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	
IP3		+ 68 dBm	
Noise Figure (uplink)		<6 dB, 5 dB typical at maximum gain	
Available filters / Group delay		band selective unit	channel selective unit
		<2 µs at band centre for 5 MHz filter. <7 µs at band edge	High selectivity 30 kHz: 60 µs typ. Low delay 30 kHz: 30 µs typ. High selectivity 60 kHz: 14 µs typ. Low delay 90 kHz: 11 µs typ.
Fibre optic loss compensation		Implemented	
Spurious Emissions from RF port		< -36dBm	
Intermodulation Products		< -60dBc or < -36dBm	
Optical Module Electrical Specification			
Maximum optical output power		+3 dBm ±2 dB	
Maximum optical input power		+2 dBm	
Power Requirements		230 VAC 50 Hz or 115 VAC 60 Hz or -48 VDC	
Power Consumption		150 W, typical	
External connection			
Local Maintenance Terminal		RS232	
Server Port		N female (rack mount) / 7-16 female (wall mount)	
Optical Port		SC/APC female	
Remote connection		Via fibre connection to OMU as standard or alternatively can be factory configured for Ethernet alarm reporting.	
Mechanical specification		rack mount	wall mount
Dimensions W x H x D		19" x 4U x 450 mm	540 mm x 382 mm x 198 mm
Weight		< 20 kg	< 28 kg
Cooling		Convection	
Environmental			
EMC		See RED Compliance below	
Operating Temperature		-25°C to +55°C (-13°F to +131°F)	
Storage Temperature		-30°C to +70°C (-22°F to +158°F)	
Humidity		0 to 95% RHNC	
RED Compliance	Safety	EN 60950-1, EN 60825-1, EN 50385	
	EMC	EN 301 489-1, EN 301 489-5	
	Radio	EN 302 561	