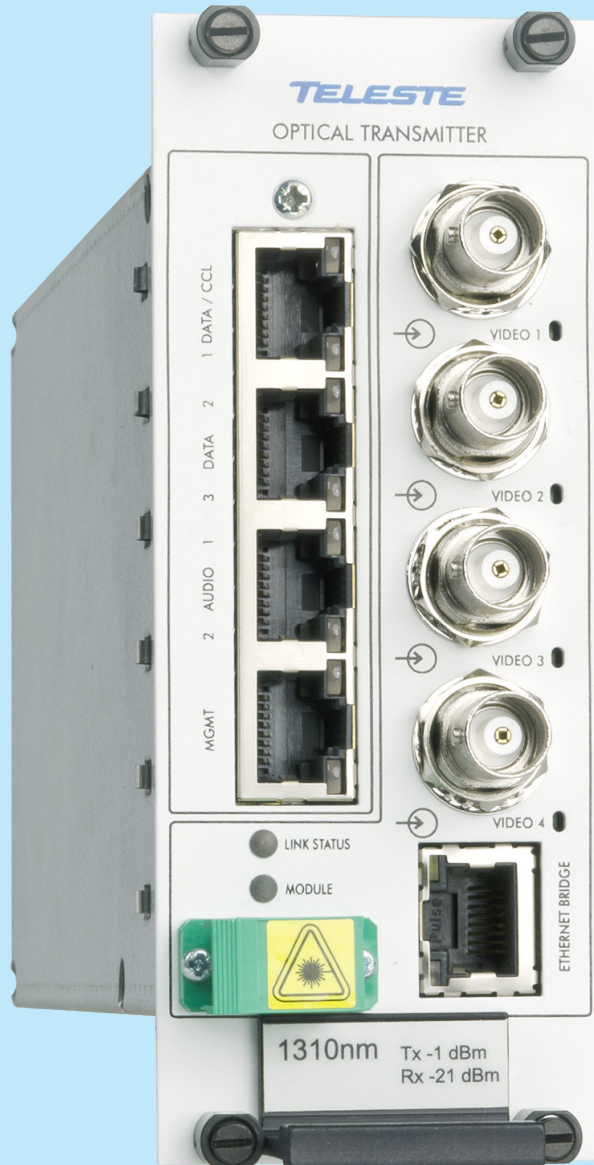# TELESTE

Four Channel Video Links

CFO First Mile products are high speed rate digital fibre optic modems for a variety of CCTV applications.

CFO product family video modems are typically used in point-to-point fibre optic transmission systems. The optical operation on CFO461 is based on 1310/1310 nm bidirectional signalling whereas the new CFO491 with 1550/1310 nm WDM operation brings extra gain to link budget. All four baseband video channels are interference-free and independent on other sub-channels.

CFO 461 and CFO491 modems support multiple serial data needs such as e.g. PTZ and access control. The dual audio channels are suitable for any PA needs but are fit for broadcast purposes as well.

Above all the CFO modems can make a step closer to meet today´s networking requirements by containing a built-in Fast Ethernet Bridge. The Ethernet capability offers an easy migration path e.g. for LAN extensions, edge recording or any IP device on remote CCTV camera locations.
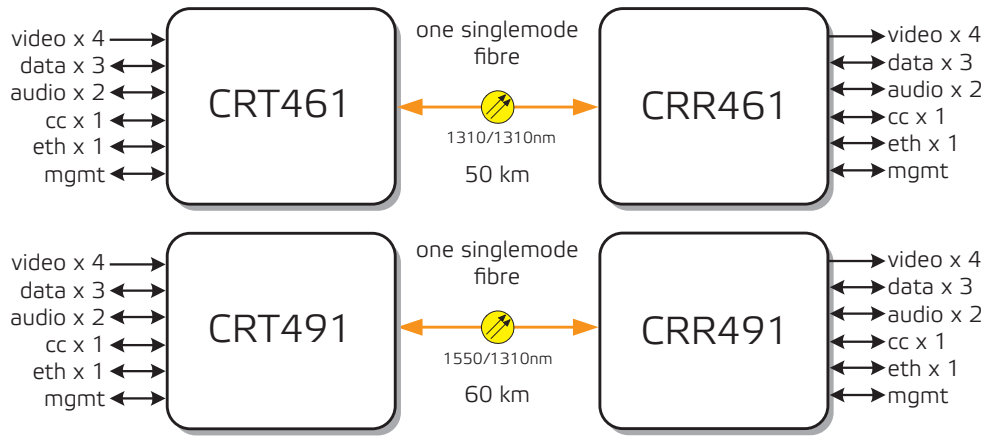
CFO video modems are manageable over TCP/IP connection or locally via a serial port. Units are open to any 3rd party network management system via SNMP.

CFO video modems are temperature hardened and well-suited for industrial, traffic and urban monitoring systems. Stand-alone units mounted into CMA adaptors can be equipped with optional CLP line protectors providing a surge/transient protection as well a common mode interference filtering.
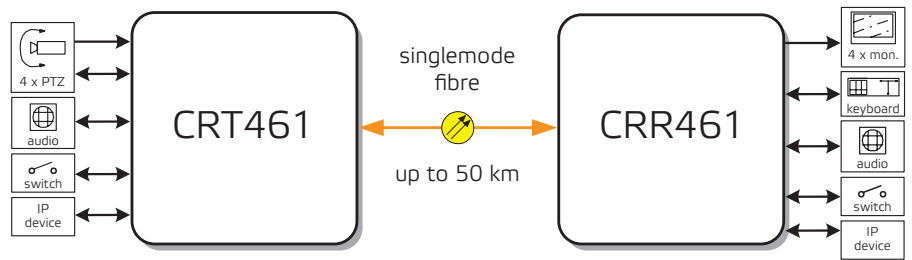
Indoor installations can be executed by standard 19" racks powered by robust AC or DC supplies (redundancy option). All CFO units follow a mix-and-match fashion and can share the common installation base.

- High performance uncompressed real time digital video transmission, SNR 67 dB typical, 10 bit video sampling
- Four CVBS (PAL/NTSC) video or two Y/C video channels
- 1 x 10/100Base-Tx Ethernet
- Autonegotion, FD or HD selectable
- 3 x bi-directional data interfaces, compatible with RS232/422/485
- User data rate up to 230 kbps / channel
- 2 x bi-directional audio, supports unbalanced or balanced wiring
- 1 x bi-directional contact closure
- In-band configuration and management
- Card format applicable both for rack mount and stand-alone installations
- Mechanically compact and ruggedised
- EMC and environmental conformance
- CE approved

Block diagrams

video x 4, data x 3, audio x 2, cc x 1, eth x 1, mgmt → **CRT461** — one singlemode fibre — 1310/1310nm — 50 km → **CRR461** → video x 4, data x 3, audio x 2, cc x 1, eth x 1, mgmt

video x 4, data x 3, audio x 2, cc x 1, eth x 1, mgmt → **CRT491** — one singlemode fibre — 1550/1310nm — 60 km → **CRR491** → video x 4, data x 3, audio x 2, cc x 1, eth x 1, mgmt

Application example

4 x PTZ, audio, switch, IP device → **CRT461** — singlemode fibre — up to 50 km → **CRR461** → 4 x mon., keyboard, audio, switch, IP device

Technical specifications

Optical

Wavelength	1310/1310 nm	CFO461	bi-directional
	1550/1310 nm	CFO491	bi-directional
Output power	-1 dBm	CFO461	
	+1 dBm	CFO491	
Received power	-21 dBm	CFO461	min.
	-23 dBm	CFO491	min.

Video

Number of channels	4	uni-directional
Standard	PAL/NTSC or Y/C	CVBS
Input and output signal levels	1 Vp-p	
Input overload level	1.5 Vp-p	DC component
Impedance	75 ohm	
Sampling	10 bits / 15.55 MHz	
Bandwidth	6.5 MHz	- 3 dB
C/L gain inequality	3 %	
C/L delay inequality	40 ns	max
Differential gain	2 %	max
Differential phase	2º	max
S/N ratio	67 dB	unified, weighted

Data

Number of channels	3	bi-directional
Data 1 & 2 format	RS232/422/485	selectable
Data 3 format	RS232	fixed
Data rate	0...230 kbps	all channels
Dwelltime setting	50...10000 µs	RS485 2-wire

Audio

Number of channels	2 bi-directional	unbalanced / balanced
Sampling frequency	60.5 kHz	
Sampling resolution	16 bits	
Input impedance	600/10k ohm	selectable
Output impedance	10 ohm	
Nominal level	0 dBm	
Clipping level	+20 dBm	
Frequency response	0.02...20 kHz	- 3 dB, ref. 1 kHz
S/N ratio	70 dBqp	CCIR weighted

Contact Closure

Number of channels	1	bi-directional
Input	dry contact	open/close, max loop R 120 ohm
Output	relay	max 30 V/1A switching
Data rate	5 Hz	max

Ethernet Bridge

Number of ports	1	bi-directional
Port type	10/100Base-TX	configurable
Compliant	IEEE802.3, IEEE802.3U	

Management

Command Line Interface	RS-232 and/or TCP/IP terminal
SNMP	v2, MIB-II, remote via network

General

Supply voltage	10.5...14 V DC	regulated
Current consumption (max)	750 mA	steady state
Dimensions (H x W x D)	3U ● 10HP ● 190 mm	without CMA
Weight	0.8 kg	

Connectors

Video	BNC female	
Data/audio/cc/mgmt/Ethernet	RJ-45 female	
Optical	SC/APC 8º	angle-polished only

Environmental

Operating temperature	-34...+74 ºC	
Storage temperature	-34...+74 ºC	
Humidity	0...95 %	non condensing
EMC compatibility	EN61000-6-4, EN50130-4, CE FCC CFR 47 Part 15 (subpart B, class A)	

Notes

Class 1M Laser Product

Typical values unless otherwise stated

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