One and four channel video links

For high performance uncompressed real time video transmission. CFO First Mile series consist of fibre optic video modems providing a lossless point-to-point transmission system for variety of CCTV applications.

CFO160 V x1 D x3 A x2 C c x3/2 E x1

CFO460 V x4 D x3 A x2 C c x3/2 E x1

The CFO160/460 series provides a low cost video transmission by utilising the industry standard swappable SFP optics for a proprietary point-to-point communication.

A selection of SFP optics allows the operation up to 2 km in a multimode fibre or up to 40 km in a singlemode fibre.

The configuration of the link can be modified on site which offers a quick response time for e.g. cable re-routings or spare part replacements.

In addition to enchanged 8 bit video, multiple RS-data channels and dual audio capacity, the CFO160/460 modems have also a built-in Fast Ethernet Bridge to carry IP services as well.

The series utilises uncompressed digital technology to provide a high performance video transmission. All common composite video formats are supported.

Units are compatible with all previous and current CFO mechanical installation systems. Both rack and stand-alone installations are supported.

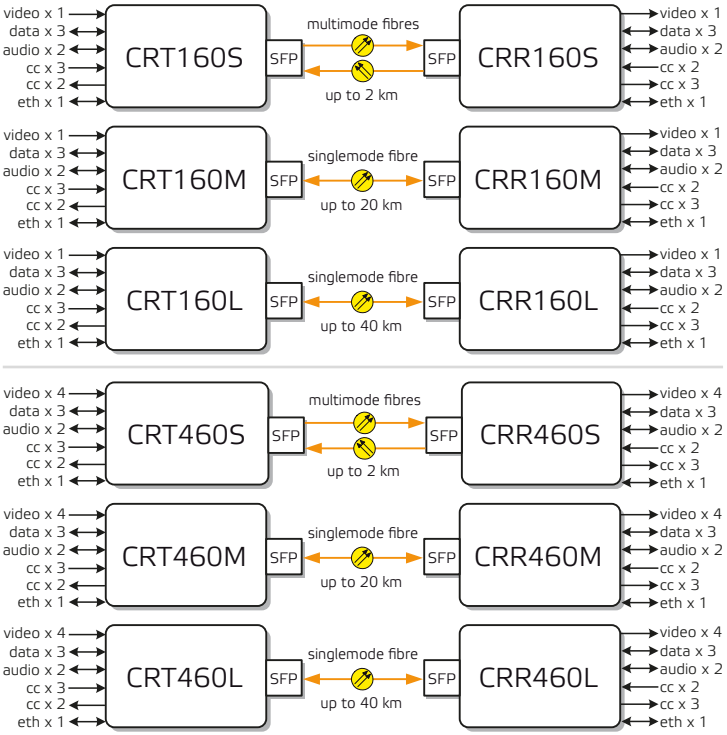
As with all CFO platform products the new series meet all typical EMC and generic environmental requirements as well.

Features

- 1 and 4 channel video multiplexer
- CVBS (PAL/NTSC) video channels
- Alternative SFP optics for various optical needs
- Standard alternatives 2 km MMF, 20 km SMF and 40 km SMF
- Video SNR 57 dB typical, 8 bit video sampling
- Data supports RS232, RS422 or RS485
- Uncompressed zero delay digital transmission
- Fast Ethernet Bridge, full 100% throughput
- Multiple Contact Closure channels
- Dual Audio
- Common card units for rackmount or stand-alone installations
- Compatible with all CFO installation systems
- EMC and environmental conformance

CFO160 model with bi-directional audio, data, contact closure, RS-data channels and 100M Ethernet.

Block diagrams



Technical specifications *(Typical values unless otherwise stated)*

Optical		
SFP plug-in optics	see block diagram examples	
2 km multimode	1310 & 1310 nm	bidi 2-fibre, model S
20 km singlemode	1310/1550 nm	bidi 1-fibre, model M
40 km singlemode	1310/1550 nm	bidi 1-fibre, model L
Connector	Single or duplex-LC/PC	
Video		
Number of channels	1/4	composite video
Sampling frequency	13.88 MHz	
Sampling resolution	8 bits	
Source and load impedance	75 ohm	
Input and output signal levels	1 Vp-p	
Input overload level	1.5 Vp-p	DC component
Insertion gain	+/- 5%	
Bandwidth	5.8 MHz	-3 dB
C/L gain inequality	+/-5%	
C/L delay inequality	40 ns	
Differential gain	2%	
Differential phase	1°	
S/N ratio	57 dB	unified weighted ITU-T J.61
Connector	BNC female	
Data		
Number of channels	3 bi-directional	
Data format		
RS232	bi-state, 2-wire, EIA RS232C	
RS422	bi-state, 4-wire, EIA RS422	
RS485-2W	tri-state, 2-wire half-duplex, EIA RS485	
RS485-4W	tri-state, 4-wire, EIA RS485	
485/422 specific	Line termination	selectable
	Line bias	selectable
	Half-duplex dwell-time	selectable
Data rate	0...230 kbps	
Sampling rate	16 MHz	oversampled
Connector	push-in terminal block	

Audio		
Number of channels	2 bi-directional	unbalanced / balanced
Sampling frequency	81.4 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	3/2	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	
General		
Supply voltage	10.5...14 VDC	regulated
Current consumption, max	450 mA	operational with SFP
Dimensions	3U x 10HP x 190 mm	
Weight	0.5 kg	
IP Housing	20	dry indoor required
Operating temperature	-34...+74 °C	
Storage temperature	-40...+80 °C	
Humidity	0...90%	non-condensing
Indicators LEDs	Video presence, Link status, Ethernet bridge	
Alarm	Link status	B-alarm (open collector)
	Video sorce	B-alarm (open collector)
EMC conformance	EN61000-6-3, EN50130-4	
Optical conformance	EN 60825-1, FDA 21 CFR 1040.21 and 1040.11	
Safety	EN 60951-1	
Other	RoHS	
Notes		
Class 1M Laser product		

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