



Series 300

Video, data & audio transmission product for singlemode optical fibre.

The COE Series 300 provides transmission of 1 video signal and 2 duplex data or audio signals on one singlemode optical fibre. It has been designed specifically for the professional surveillance market where high performance, high quality and flexible product configuration is required. Digital FM synthesis and control of all circuitry guarantees optimal performance over the environmental operating range.

Features and Benefits

- 1 simplex high quality FM transmission channel – Meets RS250B medium haul specification as required by the transportation market
- Multi standard video channel with 10MHz bandwidth – Supports PAL & NTSC signal formats including audio sub carriers
- 2 independent duplex auxiliary channels with extended data rate offering 10 User defined interface standards per channel – Two independent channels enable camera telemetry and monitoring system data feeds - specifically suited to the ITS market
- Single fibre operation for all product formats with 0 - 20dB optical budget performance – Minimum system fibre usage with adjustment free operation up to 50km+
- Comprehensive alarm diagnostic LEDs with relay output for remote monitoring – Fast diagnosis of system faults or fibre failure both visually and electrically
- COE data monitor built in – Anti-lock data bus protection minimises system failures for formats such as RS485
- Remote enable included on both transmitter and receiver units – Allows multiple infeed and dual redundant systems to be realised with ease
- Fully compatible with 3170BVUAC sub rack – Up to 11 cards per rack with mix of singlemode and multimode (S200 & S170) in the same rack

System Overview

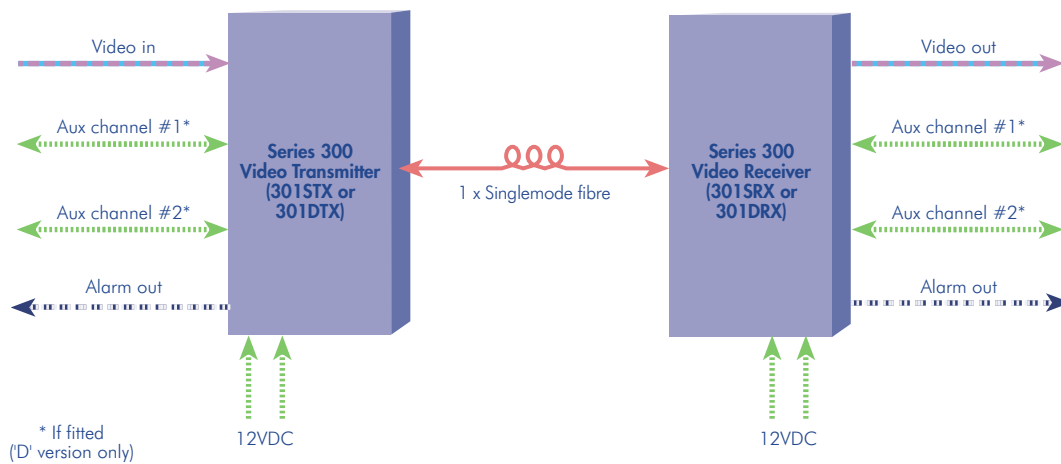
Series 300 is available in Eurocard or boxed format with all connections provided on two part connectors for ease of installation. No user adjustments are required as automatic control circuitry is featured throughout. Compatibility with existing COE racking allows easy expansion or upgrade for multimode systems where additional single-mode long distance camera points are required.





Typical applications

Series 300 schematic



Typical applications

CCTV systems - Industrial & Commercial

Series 300 is ideally suited to the CCTV systems designer as it supports many common formats of telemetry. The data transmission rate has been extended to 64 kbs^{-1} to cater for ever increasing data rates encountered in the field. The unique AL-BUS circuitry developed by COE ensures minimum system disruption upon a link failure caused by fibre breakage or lightning strike - a common cause of system outage. Video performance exceeds normal CCTV requirements thus guaranteeing faithful reproduction in the

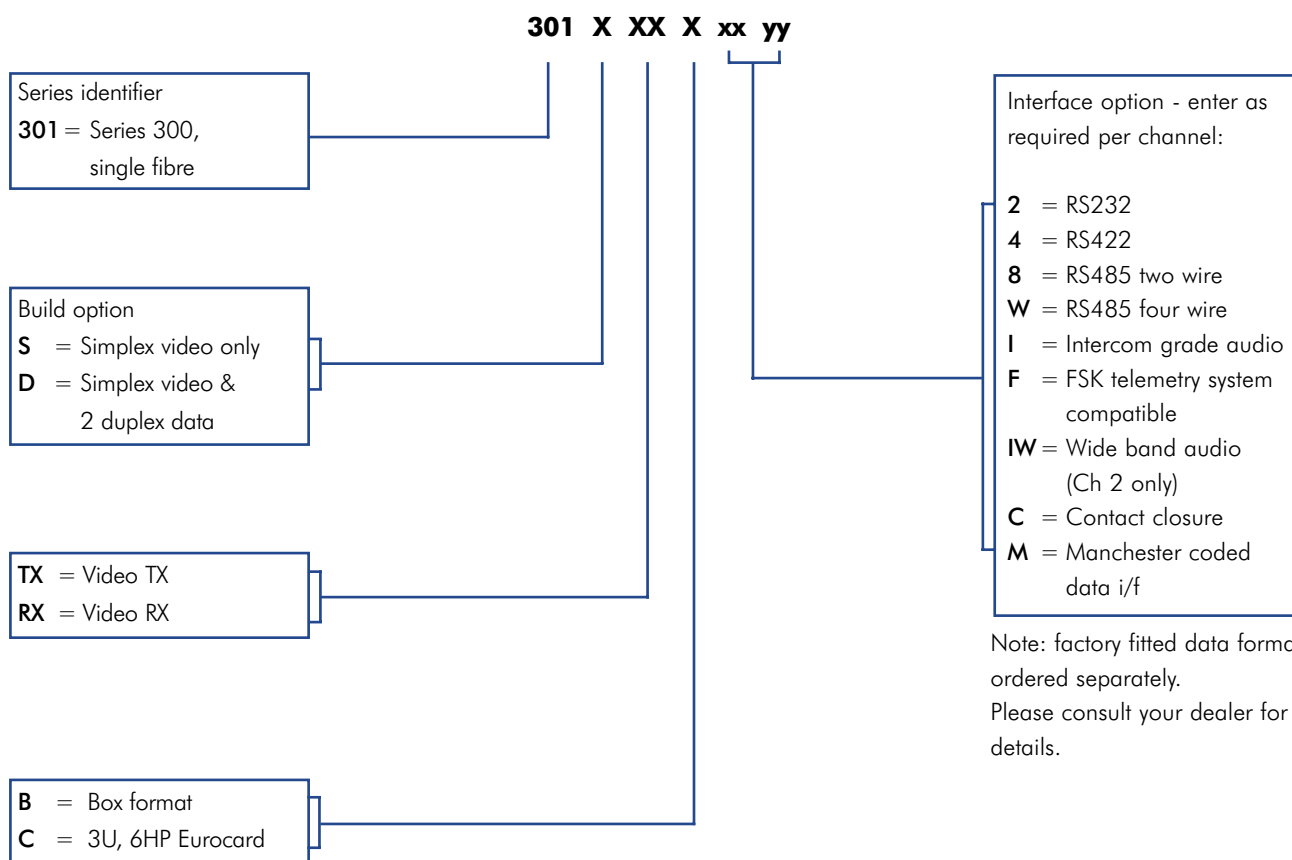
control room. The high optical budget of 20dB (50km+) covers the vast majority of the CCTV camera - control room distance requirements. The box and card formats cover most installation situations and an operating temperature of -30 to $+74^{\circ}\text{C}$ means that Series 300 can be used in adverse conditions with confidence. These unique features coupled with high performance allow one product to be used for many different designs and applications.

Traffic monitoring and transport surveillance

Series 300 has been designed with the highly demanding transport market in mind. The two independent auxiliary channels support many data formats commonly encountered in traffic systems. The provision of two channels enables the product to transport camera telemetry and traffic signal control data simultaneously alongside the video signal - all on one singlemode fibre. Alternatively, one channel might be used as a secondary backup for the signal control data in a traffic light cluster. The high quality video channel, based on the latest digitally controlled FM circuitry, ensures this product meets RS250B medium haul specifications - a common requirement in this market.

The high optical budget enables long distance transmission to be achieved and also covers high loss fibre system problems due to multiple connections or fibre routing issues. The ultra wide operating temperature range and high vibration specification meet international standards for road/rail systems thus ensuring long life and trouble free service. Where high system integrity or fibre usage is critical the remote enable on both transmitter and receiver allows dual redundancy and single fibre, multiple infeed systems to be realised. These are features normally only found on larger, more expensive systems.

Series 300 - Product order codes



Note: The wideband audio option is only available for Data Channel #2.

xx = Channel #1

yy = Channel #2

Accessories and spares

Racks and power supplies

Series 300 Eurocards are fully compatible with the COE **3170BV** rack. Up to 11 cards of any type may be housed in the rack which is supplied with a fitted power supply and cabled for the full complement of cards.

Order code = 3170BVUAC

A stand alone power supply is available, capable of supplying up to five **301S** variants or up to two **301D** variants. The power supply has an IEC inlet and flying lead for the 12VDC output.

Order code = PSU12VDCBOX

Spares

The data, audio and contact closure interface modules are available as spares and simply plug into the relevant position on the main board. Please contact COE Sales for details.

Performance and specifications

All figures shown are typical

Video

■ Channel bandwidth	10MHz min
■ Video Input level	1Vp-p with +3dB overload point
■ Video channel gain	1 (+/-30% adjustable)
■ Impedance	75 Ohms unbalanced
■ Signal/Noise ratio	> 60 dB weighted
■ Diff Phase	1°
■ Diff gain	2 %
■ K rating	1 %

(Meets overall requirements of RS250B medium haul)

Environmental

■ Operating temperature	-30°C to +74°C
■ Storage temperature	-30°C to +75°C
■ Vibration	5g

Mechanical

■ Eurocard variants	6HP x 3U x 160mm
■ 301STXB	90 x 60 x 30mm
■ All other variants	170 x 110 x 50mm

Optical performance

■ 301STX	-3dBm launch
■ 301SRX sensitivity	-3dBm to -23dBm
■ 301DTX	-3dBm launch
■ 301DRX sensitivity	-3dBm to -23dBm
■ Path loss capability	0 - 20dB (All variants)

Power requirements

■ 301S (TX or RX)	+12VDC @ 200mA
■ 301D (TX or RX)	+12VDC @ 450mA

Aux channel (data) – for two way transmission

■ Rate	Up to 64kbs ⁻¹ async:
■ Format	See order codes
■ Bit error rate	10 ⁻⁹

Aux channel (audio) - for two way transmission

■ Low B/W option*	300 - 3400Hz, 40dB S/N
■ High B/W option	50 - 10000Hz, 50dB S/N

Connections

■ Video	75 Ohms BNC
■ Fibre	FC/PC
■ Power	3 pin H3 Din or Screw terminal - variant dependent

* Supports all common FSK data formats
e.g. Maxpro, Philips etc.



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