Bluebell

BC313 Series
Fibre video interfaces

Thank you for purchasing this Bluebell Opticom professional broadcast video product. The BC313 Series of interfaces are very simple to install and this Quick Start Guide should provide sufficient information to get you up and running in the vast majority of cases.

Should you need additional information, an Operation Guide with full technical information is available on request.

Quick Start Guide

Ref: 313 Series QSG issue 1.0_01/15

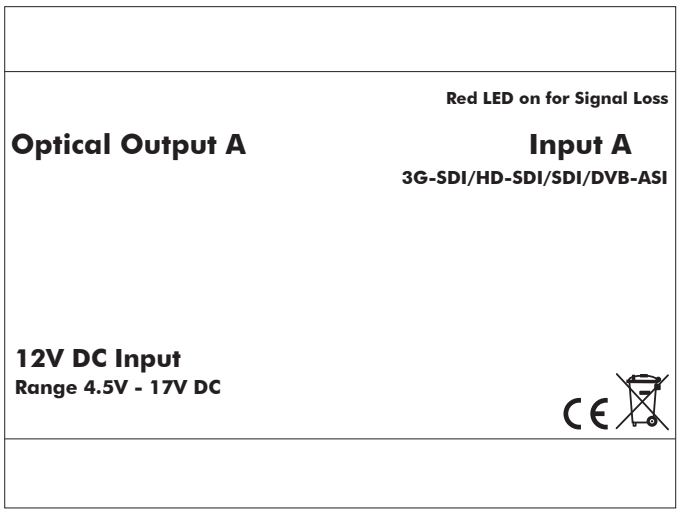
Overview:

The BC313 Series is a range of compact, stand-alone fibre interface modules intended for OB applications, which allow SDI video to be transmitted over fibre-optic cable.

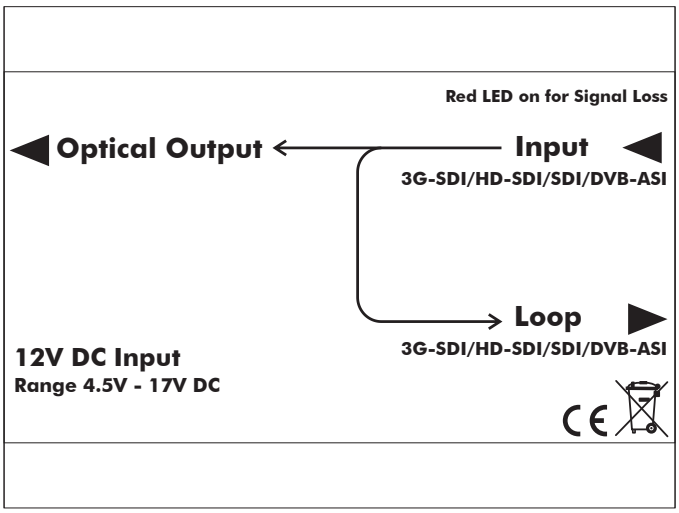
This Quick Start Guide covers four models making up the range:

- BC313T transmitter – single channel, SDI input, single fibre output
- BC313T/L transmitter – as BC313T, but with loop-through video output
- BC313R receiver – single channel, single fibre input, SDI output
- BC313R/D receiver – as BC313R, but with second (buffered) SDI output

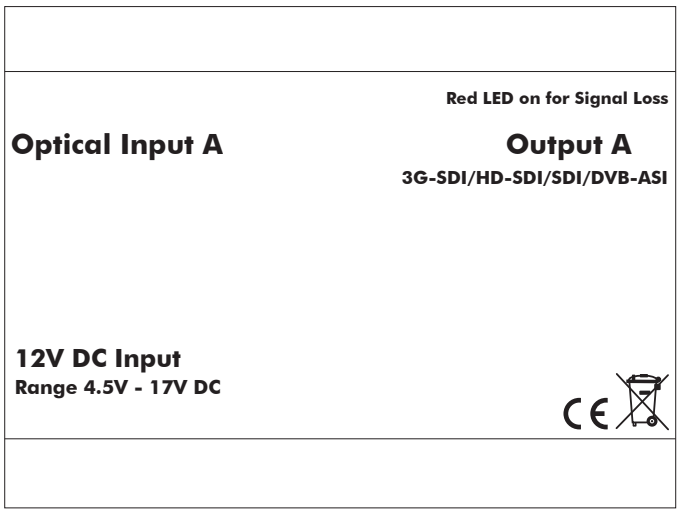
The four models are of identical construction, and in outward appearance differ only in the silk-screened labelling on the module:



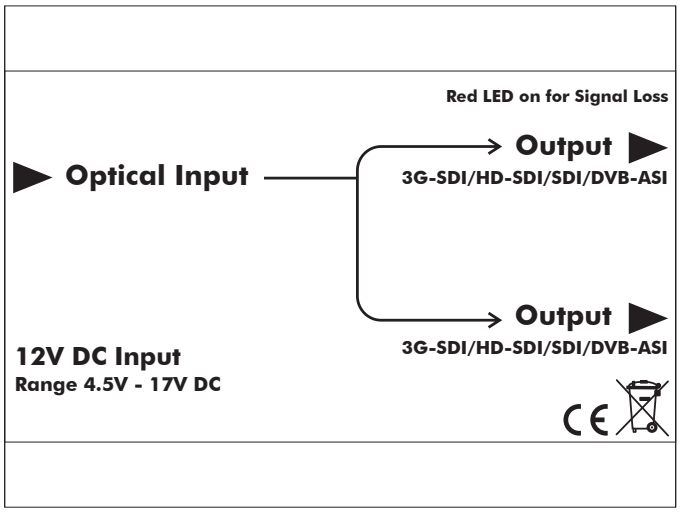
BC313T



BC313T/L



BC313R



BC313R/D

Power supply:

All BC313 models require an external power supply voltage between 4.5 and 17 V. A Bluebell Model PS12 PSU (12 V) will be packed with the interface if one was ordered. The power supply connector is a Neutrik® XLR4M, and a locking mating connector is pre-fitted to the PS12 DC cable.

Pin	
1	0 V
2	n/c
3	n/c
4	+V DC

If using an alternative PSU, wire the connector as above.

Model	Power
BC313T	2.5 W
BC313T/L2	2.5 W
BC313R	2 W
BC313R/D	2 W

Power consumption of the BC313 models.

Inputs and outputs:

Video:

BC313 interfaces are intended for use with serial digital video signals with data rates up to 3 Gb/s. Standards supported are SD-SDI (SMPTE 259M-compliant), HD-SDI (SMPTE 292M-compliant) and 3G-SDI (SMPTE 424M-compliant); ASI baseband streams are also compatible.

Video inputs and outputs are on 75 ohm BNC sockets. The BC313T and BC313R have a single connector, for video input or output respectively.

The BC313T/L has a second BNC, which is a “loop-through” of the input signal. This signal is equalised and reclocked.

The BC313R/D also has an additional BNC connector, in this case an independently-buffered second output, enabling the interface to feed two different destinations.

Optical:

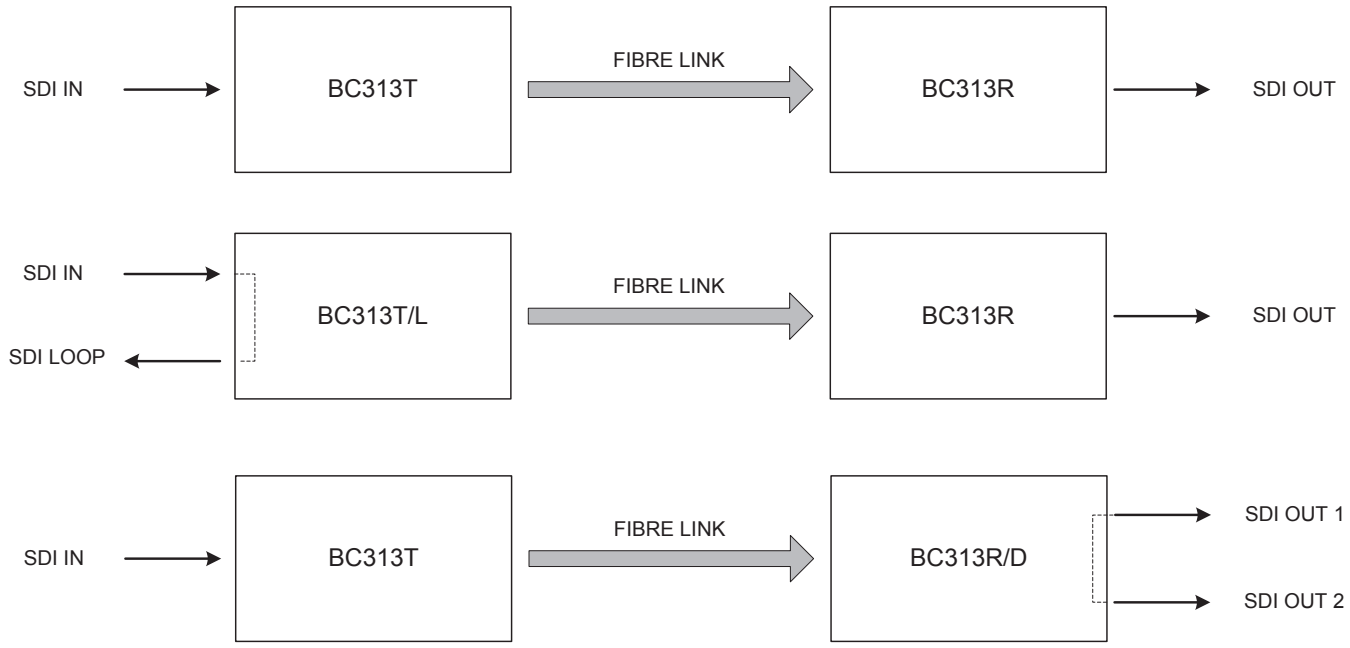
A dual LC optical SFP connector is fitted as standard; only the upper optical port is active (BC313 units are unidirectional). If specified at the time of ordering, an ST optical connector may be fitted instead.

Single-mode operation is standard; alternative multi-mode versions of each model are available. The standard transmission wavelength for single-mode versions is 1310 nm; a version with an alternative wavelength (1550 nm) is also available. Transmitters fitted with lasers tuned to specific CWDM wavelengths are also available. Any of the alternative options will have been specified at the time of order.

Note that the optical receivers in the BC313R and BC313R/D are wideband, and can be used with all wavelengths in the range 1270 – 1610 nm.

Using the BC313:

Normally, BC313 units will be used in pairs, with a BC313T (or BC313T/L) and a BC313R (or BC313R/D) at the ends of the fibre run.



LEDs:

Bi-colour LEDs are fitted adjacent to each of the primary SDI video BNC input or output connectors; they are not fitted to the loop-through output on the BC313T/L or the second output on the BC313R/D. These illuminate green to confirm a valid input signal, or red to indicate either no signal or a signal which is in some way invalid. On a BC313T and BC313T/L, the LEDs monitor the incoming SDI video signal (but see note re jumpers below), on a BC323R and BC313R/D, they confirm the receipt of a valid optical signal.

Reclocking:

The factory default is for the data at all the inputs (SDI or optical) to be internally reclocked. This will generally be desirable for the majority of operational situations. The reclocking circuitry may be bypassed on a per-channel basis by moving internal PCB jumpers; this may be desirable when low data rates or asynchronous operation are in use. Please consult the Operation Guide for details of how to do this.

SDI LED detection source:

Each transmission channel (i.e., in the BC313T and BC313T/L) has an additional jumper which sets the source signal for triggering the bi-colour LED. The default setting is for the LED to confirm a valid SDI stream, but this may be altered to monitor the amplitude of the incoming signal, in which case a red illumination indicates that the signal level is too low for data recovery to be made.

Contact details:

Bluebell Opticom Ltd.
Unit 2, The Quadrant
Howarth Road
Maidenhead
Berkshire
SL6 1AP
United Kingdom

Tel: +44 (0) 1628 510055
Fax: +44 (0) 1628 510057
Email: support@bluebell.tv
Web: www.bluebell.tv