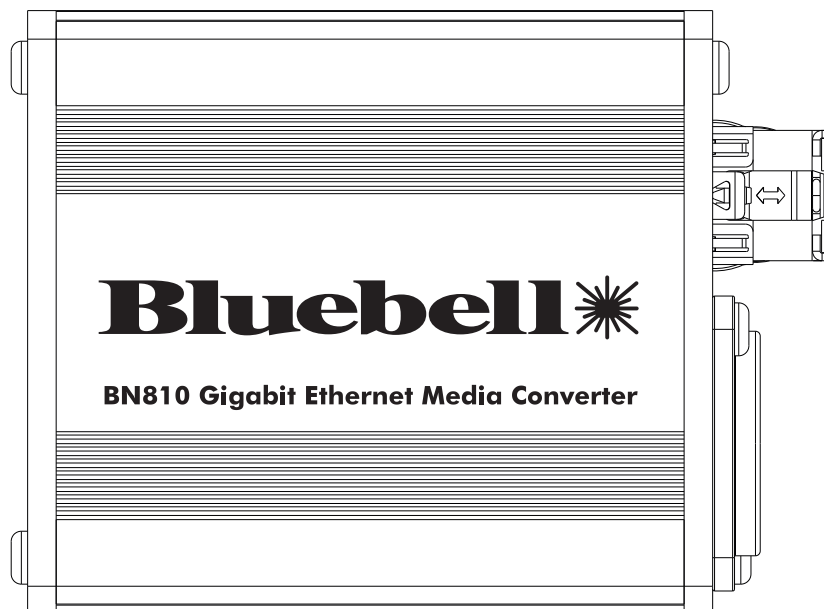


BN810 Gigabit Ethernet Converters



Thank you for purchasing this Bluebell Opticom professional broadcast video product. The BN810 fibre 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.

Quick Start Guide

Overview:

The BN810 is a compact, stand-alone fibre interface allowing Gigabit Ethernet data to be transported up to 40 km over fibre-optic cable. A standard RJ45 network port provides the “copper” connection; the optical port is an SFP cage fitted with an appropriate module.

This Quick Start Guide covers five variants, which differ only in the SFP module fitted. All models are compliant with 10/100/1000Base-T Ethernet standards on the copper side.

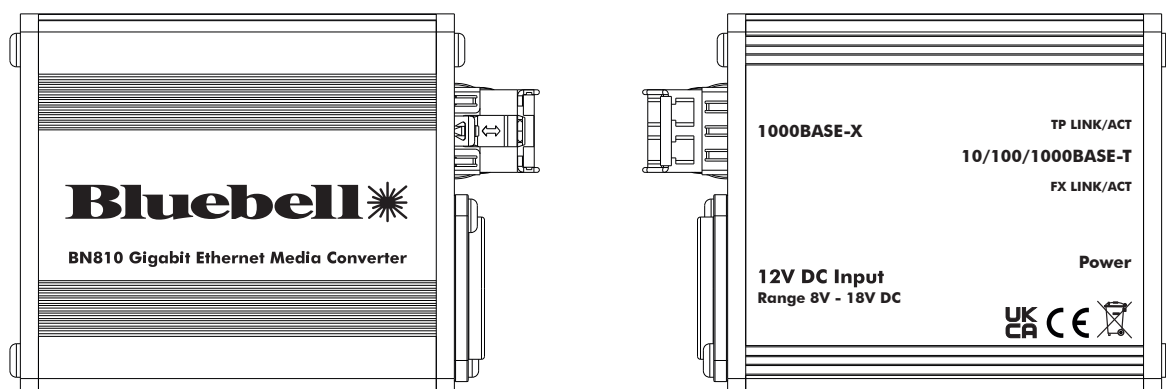
The range is as follows:

- BN810S/2/13/LH – dual fibre transceiver interface; transmitter wavelength 1310 nm.
- BN810S/2/CWDM/xx/WB – dual fibre transceiver; transmitter wavelength determined by customer at time of order, selected from standard CWDM grid. ('xx' in the Part No. will indicate the wavelength.)
- BN810S/13/15 – single fibre transceiver interface; transmitter wavelength 1310 nm. Intended to be used with variant BN810S/15/13 as a matched pair to permit bidirectional operation over a single fibre.
- BN810S/15/13 – single fibre transceiver interface; transmitter wavelength 1550 nm. Intended to be used with variant BN810S/13/15 as a matched pair to permit bidirectional operation over a single fibre.

The four variants above are intended for singlemode fibre operation. Multimode fibre modules are also available on request.

- BN810 – this variant will be supplied without an optical module. An empty SFP cage is fitted to allow customers to use optical modules of their own choice. The interface's operation will be determined by the choice of module.

All variants are of identical construction and appearance.



Power supply:

All BN810 variants require an external power supply voltage between 8 and 18 V DC. 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.

If using an alternative PSU, wire the connector as below:

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

The power consumption of all BN810 variants is typically 1.5 W at 12 V DC. The actual figure will depend on the type of SFP module fitted.

Inputs and outputs:

Ethernet:

All BN810 variants handle bidirectional Ethernet data via an RJ45 connector employing standard Cat 5/Cat 6 network UTP cabling.

The Ethernet port is compatible with 10Base-T, 100Base-T and 1000Base-T data rates. Auto negotiation is employed to select the correct data format, and full- or half-duplex operation without the need for any manual configuration. The port is also compliant with MDI-X, allowing either “straight” or “crossed” cables to be used, configuration being automatic.

Optical (BN810S/2/13/LH and BN810S/2/CWDM/xx/WB):

These variants are full duplex, thus the SFP cage is fitted with a dual LC optical module. Standard optical operation is single-mode. Variant BN810S/2/13/LH uses a transmission wavelength of 1310 nm. A transmitter with a laser tuned to a specific CWDM wavelength will be fitted to variant BN810S/2/CWDM/xx/WB: this option will have been specified at the time of order.

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

Optical (BN810S/13/15 and BN810S/15/13):

These variants use different optical wavelengths to transmit and receive on a single fibre, thus the SFP cage is fitted with a single LC optical module. Variant BN810S/13/15 uses a transmission wavelength of 1310 nm, BN810S/15/13 uses 1550 nm.

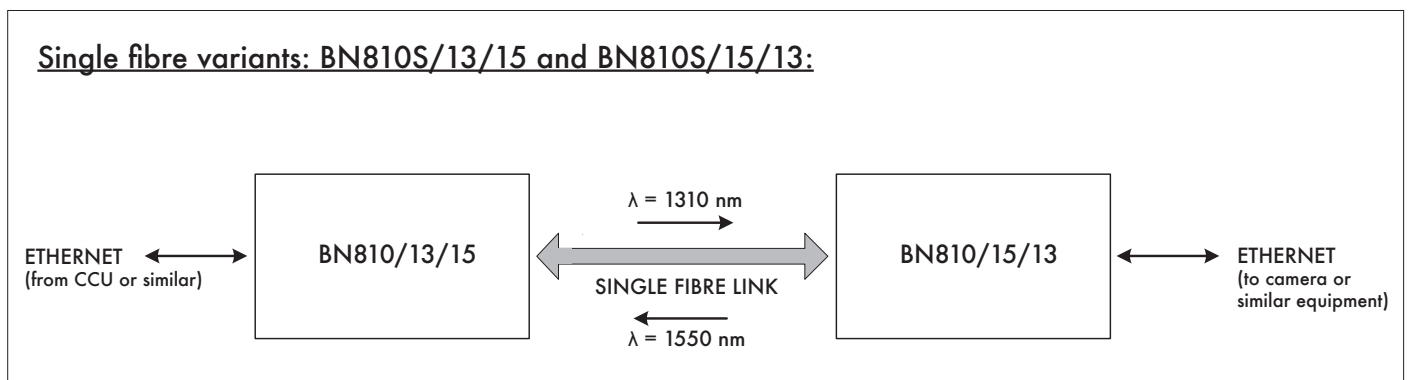
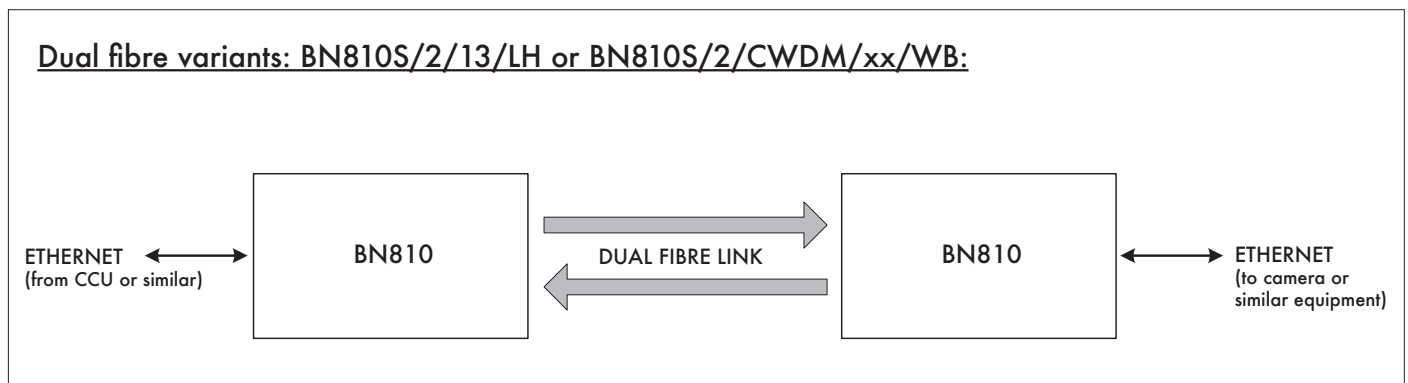
Ethernet data to/from the optical port is at a fixed data rate of 1 Gb/s (1000Base-X).

Optical (BN810):

The BN810 is supplied with an empty SFP cage for users to fit their own SFP modules, and change them as operational needs require. As the interface is an Ethernet device, the SFP module must be an MSA-compliant Gigabit Ethernet transceiver.

Using the BN810 interfaces:

Normally, BN810 interfaces will be used in pairs, typically to control a remote camera or other equipment using Ethernet control data, using either dual fibres or a single fibre, depending on the variants.



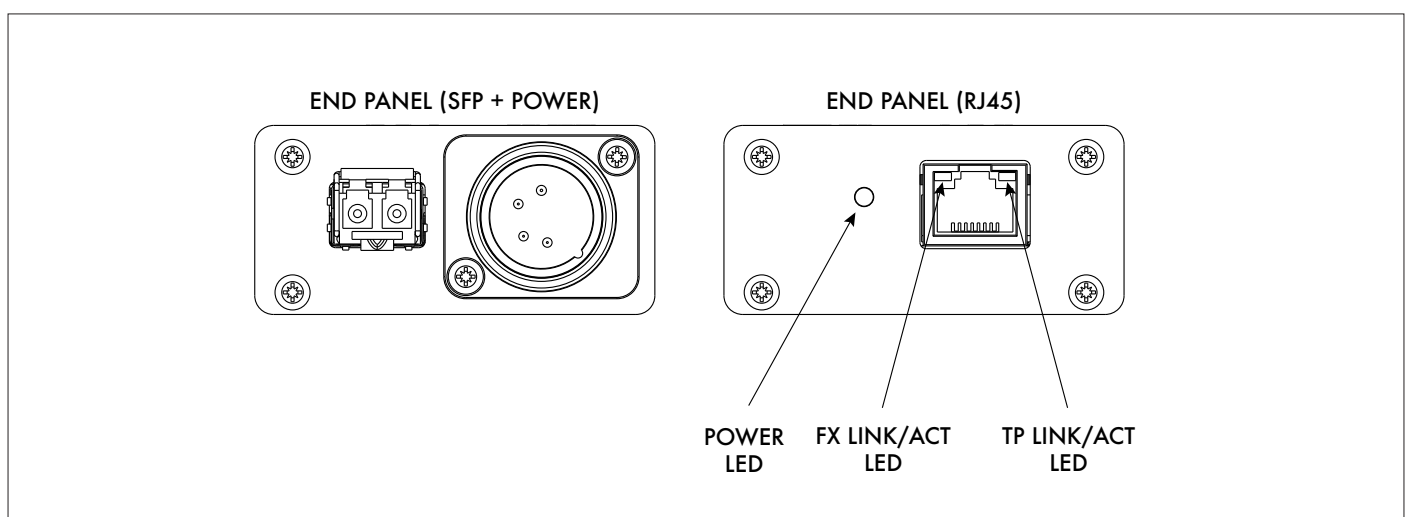
LEDs:

The “copper” end of the interface housing has three LEDs:

- **POWER** – illuminates green when DC power is present and the unit is active.

The other two LEDs are integral with the RJ45 socket:

- **FX LINK/ACT** – yellow LED indicating connectivity and data activity at the optical port(s):
 - LED off – no valid connection
 - LED on (steady) – valid connection, no data
 - LED blinking – data transfer in progress
- **TP LINK/ACT** – green LED indicating connectivity and data activity at the RJ45 connector:
 - LED off – no valid connection
 - LED on (steady) – valid connection, no data
 - LED blinking – data transfer in progress



NOTE: For any technical issues not covered in this Quick Start Guide, please contact Bluebell Opticom.

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