



Meinberg Radio Clocks

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FO CONVERTER: Fiber Optic Converter

The MEINBERG fiber optic modules convert an electrical input signal (TTL or RS-422) into one or more FO (fiber optical) output signals or an FO input signal in one or more electrical output signals. The FO modules are suitable to spread signals like IRIG (AM / DCLS), PPS or RS232 over wide distances.

Key Features

- for distances of up to 2,000m (Multimode) or 10,000m (Singlemode)
- for IRIG Time Codes (AM / DCLS), PPS, 10MHz, RS232 serial interface
- interference immunity of the FO connection

Description

Multimode Converter

The following fiber optic converters have been designed for the distribution of electrical signals over distances of up to 2,000mtrs. The optical ST connectors are linked via an optical G150/125µm or G162.5/125µm multimode fiber (wave length: 850nm). The launchable optical output power is typ. 20µW per output, the minimum optical input level is 3µW. The electrical inputs and outputs are provided via female BNC connectors or 9pin. SubD connectors. If necessary, the output signals of the digital modules can be inverted against the respective input signal by a jumper inside the aluminium profile housing (71mm x 84mm x 24mm / width x depth x height).

The required supply voltage can be provided with an optional available AC-DC adapter (100 - 240 V ACIN; 24 V DCOUT). All converter variants are equipped with a fixing clamp for 35mm DIN mounting rails.



CON/TTL/FO

The fiber optic module CON/TTL/FO converts an TTL input signal into one or more FO (fiber optical) output signals.

Standard variants (PPS, PPM, 10MHz, IRIG-B DCLS, TxD):

CON/TTL/FO: TTL In (BNC) to 1 x FO Out

Option: up to 4 x FO Out CON/.../FO-x /Output

Infosheet FO Converter CON/TTL/FO



CON/FO/TTL

The fiber optic module CON/FO/TTL converts a FO (fiber optical) input signal into one or more electrical output signals (TTL or RS-422).

Standard variants (PPS, PPM, IRIG-B DCLS, TxD):

CON/FO/TTL: FO In to 2 x TTL Out (BNC)

CON/FO/422: FO In to 1 x RS-422 Out (DB9 female)

CON/FO/TTL/422: FO In to 1 x RS-422 and 1 x TTL Out

Infosheet FO Converter CON/FO/TTL



CON/FO/FO

The fiber optic converter CON/FO/FO distributes a single optical input signal to multiple optical outputs.

Variants up to 10MHz:

CON/FO/FO/10M: single ST input via FO receiver (e.g. IRIG-B DCLS / 10MHz)

Option:

CON/FO/FO-x/10M: FO In into 4 x FO Out

up to 4 x 850nm Multimode FO outputs via ST connectors.

Infosheet LWL Converter CON/TTL/FO



CON/232/FO

The fiber optic module CON/232/FO converts a RS232 signal (TxD and RxD) into optical signals.

Standard variants (for RxD and TxD):

CON/232/FO: RS232 (DB9 male connector) to 1 x FO In and 1 x FO Out

Optional up to 4 x FO Out: CON/.../FO-x /Output

Infosheet FO Converter CON/232/FO



CON/422/FO

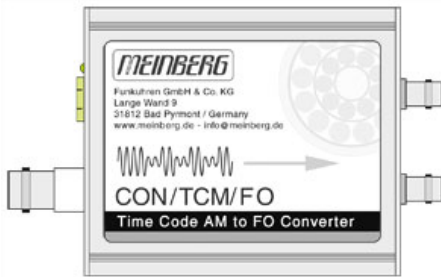
This Fiber Optic device converts an RS422 signal into an optical signal.

Standard Variant:

CON/422/FO: RS422 (DB9 male connector) to 1 x FO Out

Option: Up to 4 X FO outputs

Infosheet LWL Converter CON/422/FO



CON/TCM/FO and CON/FO/TCM

These fiber optic modules carry an amplitude modulated Time Code AM signal over an optical fiber. Signal delay: 60µs

Variant to convert a Time Code AM signal to FO:

CON/TCM/FO: Time Code In (BNC) to 2 x FO Out

Variant to back-convert the FO signal to Time Code AM:

CON/FO/TCM: FO In to 2 x Time Code Out (BNC)

Infosheet FO Converter CON/TCM/FO

Infosheet FO Converter CON/FO/TCM

Optional for all Variants:

CON/.../DC: 20 V - 60 V DC (no plug-in power supply included)

Singlemode Converter

Multimode converters are unsuitable to bridge distances over 2,000m. The following singlemode converters were developed to distribute electrical signals over distances of up to 10 kilometers. The optical ST plug connectors are wired via an E9/125µm mono-mode fiber (wave-length: 1310nm). The optical output power is typ. -15dBm per output and the optical input has a susceptibility of -30dBm. The electrical in- and outputs are led out via a BNC socket or a D-Sub 9 connector.

Even with these modules, the output signal can be inverted against the input signal, if necessary.



CON/TTL/FOS

The fiber optic converter module CON/TTL/FOS for singlemode fibers converts an input signal (TTL, RS422 or FO) into one or more fiber optical output signals.

The following options are possible:

CON/TTL/FOS-x:

TTL input (BNC) to one or -x (2 - 4) FOS outputs

CON/422/FOS-x:

RS422 input (DSub9) to one or -x (2 - 4) FOS outputs

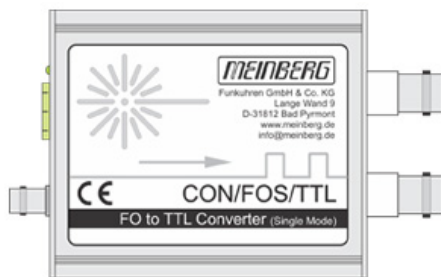
CON/FOS/FOS-x:

FOS input (ST) to one or -x (2 - 4) FOS outputs

CON/FO/FOS-x:

FO (multimode) input (ST) to one or -x (2 - 4) FOS outputs

Infosheet FO Converter CON/TTL/FOS



CON/FOS/TTL

The fiber optic converter module CON/FOS/TTL for singlemode fibers converts an optical input signal into one or more electrical output signals (TTL or RS422).

The following options are possible:

CON/FOS/TTL: two TTL outputs via BNC female connectors

CON/FOS/422: one RS422 output via DSub9 female connector

The maximum distance between transmitter and receiver comes up to 10 kilometers with our singlemode converters.

Infosheet FO Converter CON/FOS/TTL

Characteristics

Optical Outputs	<p>Multimode FO outputs via ST connectors (for GI 50/125µm or GI 62,5/125µm gradient fiber) For signals up to 10kHz (standard model) or optional up to 10MHz Launchable optical output power: typ. 15µW per output (into GI 62,5/125µm fiber) wave length: 850nm</p> <p>Singlemode FOS outputs via ST connectors for E9/125</p>
Optical Inputs	<p>One multimode FO input via ST connector (for GI 50/125µm or GI 62,5/125µm gradient fiber), for signals up to 10kHz (standard model) or optional up to 10MHz, optical input level: min. 3µW, wave length: 850nm</p> <p>One FOS singlemode FO signal via ST connector (for E9/125)</p>
Physical dimensions	Aluminium profile case, 84mm x 71mm x 24mm
Electrical connectors	<p>TTL signal via female BNC connector or RS232 Signal via male 9pin.-DSub connector (Pin 2: TxD IN, Pin 3: RxD OUT, Pin 5: GND) RS422 signal via male 9pin.-DSub connector (Pin 8: +IN, Pin 7: -IN) Time Code AM signal via BNC female connector Supply voltage via 3-pin. DFK connector</p>
Power supply	The required supply voltage (20 - 60 V DC) is provided by a power adapter (VIN: 100 - 240 V AC; VOUT: 24 V DC) which is optionally included in the scope of supply.
Ambient temperature	0 ... 50°C / 32 ... 122°F
Humidity	Max. 85%
Warranty	Three-Year Warranty
RoHS-Status of the product	This product is fully RoHS compliant
WEEE status of the product	This product is handled as a B2B category product. In order to secure a WEEE compliant waste disposal it has to be returned to the manufacturer. Any transportation expenses for returning this product (at its end of life) have to be incurred by the end user, whereas Meinberg will bear the costs for the waste disposal itself.

Manual

The english manual is available as a PDF file: [1][Download \(PDF\)](https://www.meinbergglobal.com/download/docs/manuals/english/fo-fos-converter.pdf)

Links:

[1] <https://www.meinbergglobal.com/download/docs/manuals/english/fo-fos-converter.pdf>