Manual
Plastic Fiber Optic Interfaces

Type	**81009**
	81025
	81026
Release	**1.1**

Subject to errors and changes:

Since we can make mistakes, none of our statements should be used without checking. Please let us know of any mistakes or misunderstandings you are aware of, so that we can recognize and eliminate them quickly.

Perform work on and with W&T products only as described here and only if you have read and understood the manual fully. Unauthorized use can result in hazards. We are not liable for the consequences of unauthorized use. When in doubt, check with us or consult you dealer!

Interface RS232 <> Plastic Fiber Optic

The W&T Plastic Fiber Optic Interfaces, type 81009, 81025 and 81026 permit bi-directional transmission of RS232 signals by the means of duplex plastic fiber optic cable.

Function

The Interfaces support one data line in each direction and transmit data over a distance of max. 100 meters (81009: max. 80 meters). The transmission medium is standard duplex plastic fiber optic cable, which is inexpensive and extremely easy to work with and install. The use of fiber optic as a transmission medium ensures perfect galvanic isolation between the connected devices and clean transmission even in noise-prone environments.

The interfaces convert both of the data lines, while the optional handshake lines can be used to carry additional supply voltage for the interface. The converter uses jumper resistors between RTS and CTS as well as DTR and DSR for enabling the connected interface, so that as a rule no additional jumpers are required in the connector.

Power supply

The W&T Fiber Optic Interfaces sources its supply voltage from the connected RS232 lines, and does not require any additional external power supply. Getting sufficient power to the Interfaces requires that the data lines as well as the handshake lines be connected.

Notes for use of the fiber optic interfaces

All specifications for maximum transmission parameters refer to operation of the interfaces on serial ports equipped with type MC1488 RS232 drivers and at a voltage of ±12V. The specifications also presume that the handshake lines of the interface are enabled.

If the interfaces are supplied only from the data lines, and when operating on low-efficiency RS232 ports you must take into account limitations with respect to maximum transmission length, baud rate and temperature range.

Since maintaining of all three parameters is a more or less direct function of the construction of the RS232 port and with it a clean power supply for the ports, and these parameters have a mutual effect, it is not possible to suggest specific values.

Practice has shown that for RS232 ports equipped with MAX232-compatible IC's (presently the standard configuration of RS232 ports), no operating restrictions exist as long as the handshake lines on the port are enabled.

Laptop ports with low output levels are however only in exceptional cases able to provide the fiber optic interfaces with sufficient power.

For short distances, however (up to max. 20 meters), there is a special power-saving version which can be purchased on request for such applications.

When there are power supply problems, it is always however possible to supply the interface converter externally through its handshake inputs with a voltage of up to 9V, or to use fiber optic interfaces with their own power supply (such as our model 81201).

Pinout and connectors

The fiber optic connection for the interface is configured as a self-locking coupling for duplex plastic fiber optic, with the RS232 interface formatted as DB9/DB25 connector. Refer to the following table for connector pin assignments:

Pinout RS232 <> POF interface, type 81009

pin	function
2	data out
3	data in
4	con. to pin 6
5	signal GND
6	con. to pin 4
7	con. to pin 8
8	con. to pin 7

Pinout RS232 <> POF interface, type 81025

pin	function
2	data in
3	data out
4	con. to pin 5
5	con. to pin 4
6	con. to pin 20
7	signal GND
20	con. to pin 6

Pinout RS232 <> POF interface, type 81026

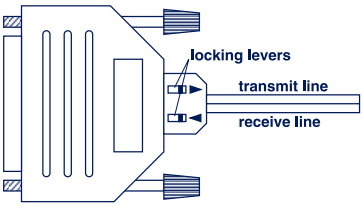
pin	function
2	data out
3	data in
4	con. to pin 5
5	con. to pin 4
6	con. to pin 20
7	signal GND
20	con. to pin 6

Assembly

Connecting the plastic fiber optic cable to the W&T Fiber Optic Interfaces requires no special tools:

- Trim the fiber optic cable to the desired length using a sharp knife and separate the individual duplex conductors back from the cut point to a distance of around 2 cm.
- Pull the locking levers on the fiber optic female connector back towards the module along the upper side of the coupling. At the same time insert the separated end of the fiber optic duplex line into the fiber optic coupling female.
- Releasing the locking levers locks the fiber optic into the coupling.
- To release, pull the two locking levers on the top of the coupling towards the module, and pull the fiber optic cable out of the female.

The arrows on the top side of the coupling show the location of the emitter and receiver lines.



Please note that when connecting two fiber optic components, the emitter of the first must always be connected to the receiver channel of the second component.

A visible red light beam is always sent along with data, so that the sending line can always be easily identified.

Common technical data:

Baud rate:	110..115,200 baud
Data format:	any format
Signal lines:	RxD, TxD (full duplex)
Power supply:	through the RS232 signals
Fiber-optic cable adapter:	integrated socket with automatic interlocking of the fiber-optic cable
Wavelength:	approx. 660 nm
Ambient temperature:	Storage: -40..+70°C Operation: 0..+50°C
Housing:	SUB-D adapter housing
Weight:	approx. 30 g

RS232 <> POF interface, 9-pin, #81009

Transfer distance:	max. 80 m
RS232 adapter:	9-pin SUB-D socket for PC
Delivery:	RS232 <> POF interface, #81009

RS232 <> POF interface, 25-pin, DCE, #81025

Transfer distance:	max. 100 m
RS232 adapter:	25-pin SUB-D socket, DCE pinout
Delivery:	RS232 <> POF interface, #81025 Gender changer, 25-pin, m/m

RS232 <> POF interface, 25-pin, DTE, #81026

Transfer distance:	max. 100 m
RS232 adapter:	25-pin SUB-D plug, DTE pinout
Delivery:	RS232 <> POF interface, #81026 Gender changer, 25-pin, f/f

EC Declarartion of conformity

W&T
www.wut.de

Declaration of conformity
according to paragraph 10.1 of directive 89/336/EWG

Wiesemann & Theis GmbH hereby confirms that the products

RS232 <> POF, 9-pin.	Type 81009
RS232 <> POF, 25-pin. DCE	Type 81025
RS232 <> POF, 25-pin. DTE	Type 81026

fulfill the requirements of the directives / regulations specified below:

1. Emission according to

   1.1. EN 55022-B (1997)
   1.2. EN 61000-3-2 (1996)
   1.3. EN 61000-3-3 (1996)

2. Noise Immunity according to EN 61000-6-2 (1999):

   2.1. EN 61000-4-2 ESD
   2.2. EN 61000-4-3 Radiated Immunity
   2.3. EN 61000-4-4 Burst
   2.4. EN 61000-4-5 Surge
   2.5. EN 61000-4-6 Conducted Immunity
   2.6. EN 61000-4-8 H-Field

Wuppertal, 12/18/2002

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