



## Manual Installation for the Optospider™ Start Set:

### Optospider™ 650nm Simplex (POF Fast Ethernet Mediaconverter 100BaseTX/100BaseFX)

#### 1. Contents

The Start Set comprises:

- 2 Mediaconverter Optospider™ 650nm simplex with external power supply
- 30m Simplex Standard POF (Polymer Optical Fiber)
- 1 POF- cutting tool
- Manual Instruction

The Start Set is intended to realize a Fast Ethernet LAN via POF. Private inhouse networks and small office LAN are the main applications. Due to the connection technique without connectors the POF is very easy to install. Installation is enhanced further by the small simplex fiber cable diameter of 2,2mm only. In full duplex operation mode this cable transmits the data signal simultaneously in both directions. Special transceiver modules with very low cross talk splitters allow this directivity multiplex operation with one system wavelength only.

Every Mediaconverter is connected with the terminal by a CAT5 patchcable (Computer, Switch, ...). From one patchcable to the next the transmission system isn't different to a continuous electric patchcable. That means that furthermore software isn't necessary while you connect the converter to the terminal.

The system is transparent and independent from the operating system (Windows, Linux, MAC OS). For an optimal function of the optical data transfer it's necessary to prepare the POF-endface carefully. To avoid coupling losses the special POF-cutting tool allows quality cuts of the POF-endface.

#### 2. Installation

The following text describes the installation of our simplex transmission system step by step. During the installation it's helpful to check the status of the Mediaconverter LED after every step. For this purpose shows the Optospider™ CS-110 Mediaconverter the electrical status of the tool with its 8 status LED (look down at the picture). All 8 status LED making it possible for the specialist to have a detailed compilation of the current mediaconverterstatus.

As long as the internal preset configurations of the Mediaconverter are unchanged, it's sufficient for the standard installation, to attend only 3 of the 8 LEDs. (Look at the three marked status LED 3, 4 and 7 in the picture!)



This three status LED have the following meaning:

- status LED3 provides informations about the availability and activity of the optical fiber-connection
- status LED4 provides informations about the availability of the power supply
- status LED7 provides informations about the availability and activity of the electrical connection to the terminal network connection (Computer, Switch, ...).

#### Installation instructions:

##### 1. Step:

| Picture | Status  | Status LED |
|---------|---|------------|
|         | No connection – all status LED are off.<br>The LED, which are not relevant for the simple installation, are grey marked in the illustration right beside. |            |

##### 2. Step:

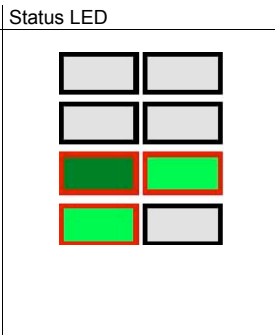
| Picture | Status  | Status LED |
|---------|---|------------|
|         | The external power supply is connected.<br>Status LED 4 shines as soon as the mediaconverter gets current.<br>On the POF-connector is the red signal in view. |            |

**3. Step:**  
Picture



**Status**

The Mediaconverter is connected by a wire to the network-compatible terminal. As soon as the terminal is activated, the status LED will shine (Look at the Picture!)



**Step 1 till 3 must be conducted on both sides of the transfer line.**

**4. Step:**  
Picture



**Status**

The 30m POF cable, which is enhanced in the Start Set, has mechanical polished endfaces. This quality isn't achievable by a simple cut. Is the 30m cable too long for the planned installation, it could be reduced with the attached POF-cutting tool.



**Status LED**

The attained quality of the endface is a little bit worse to the quality of the mechanical polish. The pictures showing how the POF cable must be cut appart. You need a flat base and you must cut it in right angle. Then you get optimal optical endfaces.

→ For Start Sets with Bare Fiber look at page 5!

**5. Step:**  
Picture



**Status**

After the cable laying (and if it's necessary according to step 4) you must put at first the POF cable till the end in the plug-in connector of one Mediaconverter.

Before that, the knorled screw must be open as much as it's necessary. Now the POF can put in till the end. Thereafter the knorled screw should be screwed down, namely the POF can't come to loose.



As soon as the POF is fixed in one of the Mediaconverters, this one radiates an optical signal in the POF, which is viewable as a red light on the other side of the POF cable. (Look at the Photo!)

**6. Step:**  
Picture

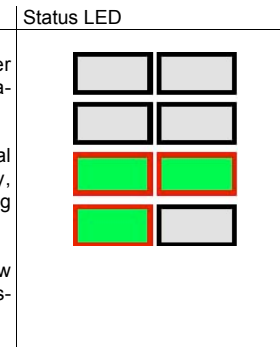


**Status**

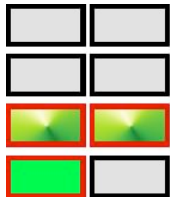
The second Mediaconverter is connected to the POF cable, too.

If the optical received signal has got enough capacity, then Status LED 3 is shining on both Mediaconverters.

The system installation is now completed an the data transfer can begin.



**7. Step:**

| Status  | Status LED  |
|---|---|
| <p>The ethernet connection between both terminals is transparent and independent. The details depending on the operating system (Windows, Linux, MAC OS).<br/>As soon as the system transfer begins, Status LED 3 and 7 are blinking.</p> |  |

For Start Sets, which contains Bare Fiber, it's necessary to look at the following characteristics:

**Install Bare Fiber:**

| Picture  | Status  |
|--|---|
|  | <p>Opposed to the coated POF with 2,2mm outer diameter is the non-coated POF only 1mm thick and lucent. Because of this it's able to relay it much more unflashy then the coated POF – over and even below the wallpaper.<br/>To plug the POF into the Mediaconverter, the Bare Fiber connector must be amplified in it's outer diameter. Therefore the Start Sets containing pieces of cable sheaths.</p> <p>The Start Set contains 30m Bare Fiber with polished endfaces and cable sheaths. If you need less than 30m cable, the POF should be reduced with the cutting-tool. Then you get optimal optical endfaces. (Look at Step 4!)<br/>The cable sheath is taken away from the not required POF and will be delayed completely on the new end. Adjoining the POF-end can be insert in the POF-connector of the Mediaconverter (analogical to Step 5).</p> |



**Advice:** When it's difficult to insert the Bare Fiber in the cable sheath, you could take a drop of dish-soap for the simplification.

**Attention:**

**Tight turnings (small radius of curvature) lead on to intensified, optical damage and therewith to reduced coverage!**