

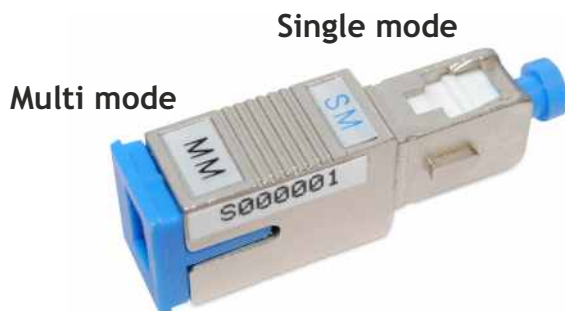


## Passive converter designed for PK-SM-MM hybrid singlemode - multimode transmission

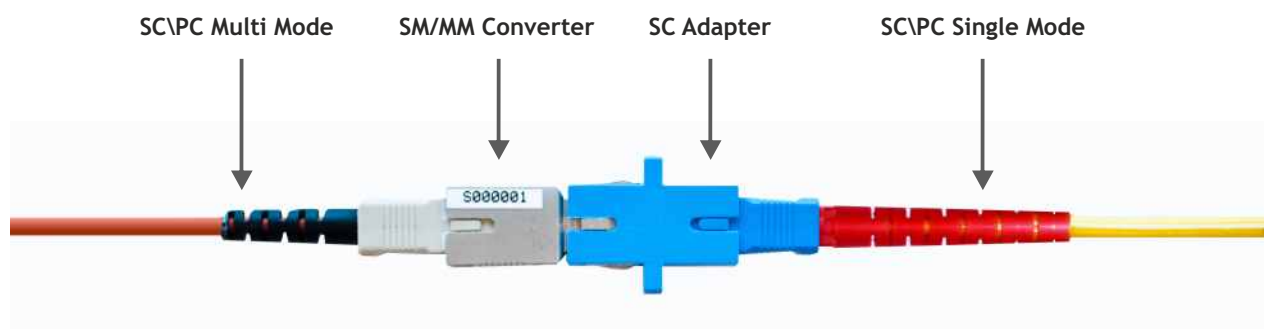
Singlemode and multimode connections, in majority of cases, require the use of OEO active media converters, which quickly detect optical signal coming from one fiber type, and then they regenerate this signal by using a laser. Obviously, it means higher costs of using such solution, and even limits its usage to places where power supply is available. The necessity of using active media converters is caused by various core diameters of singlemode fiber (approx. 9um), and multimode (50 um or 62.5 um), which determine number of ports. In case of singlemode fiber it is obviously one fiber, in case of multimode fiber, the number of modes can reach even a few thousand. Also, it is worth mentioning that number and type of modes can fluctuate in time depending on non-stability light source, mechanical vibrations of a cable, temperature change etc.

Especially in case of converting from singlemode into multimode transmission, which means high and variable optical losses. The attenuation of such connection can reach a few dB to even more than 20dB, depending on applied light source (LED diode, singlemode and multimode laser, VCSEL) or even worse it can influence the rise of attenuation. Consequently, stating adequate power and guarantee of constant transmission is impossible, as even a fiber which seems to be stable for a limited time can promptly loss the transmission.

Fibrain company as the only company in Poland has in its offer passive converters MPC-G1-1-4-35-A-SC-SC designed for hybrid transmission on single and multimode fibers. Thanks to the use of unique photonics fiber optic technology such devices provides the possibility of connecting single and multimode sections and therefore guarantee low-loss and stable transmission. They are available in the same form as optical adapter attenuators in SC PC standard (male connector- on SM side, female connection on MM side).

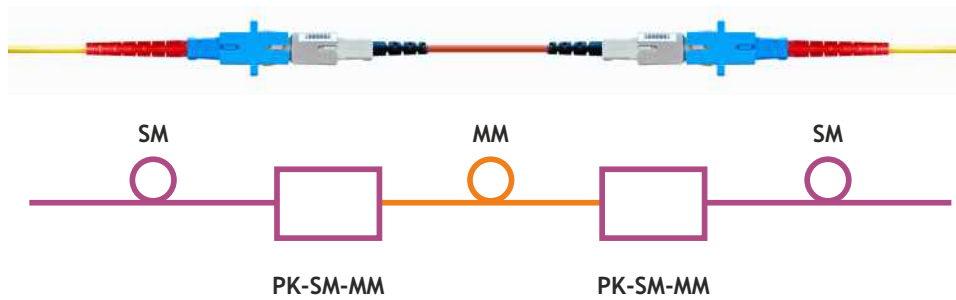


SC/PC Multi Mode Converter SM/MM Adapter SC SC/PC Singlemode. To arrange hybrid SM-MM transmission, it is necessary to use PK-SM-MM converters, so the section of multimode fiber is inside and those two ends are singlemode ( It is enough to use short SM patchcord from the light source up to connection with MM cable, if the connection does not have SM-MM-SM configuration).





## Applications



## Technical specifications

### Optical parameters

	MM->SM	SM->MM
IL	<2.5 dB	<0.5 dB
PDL	<1.0 dB	<0.2 dB
RL	>40 dB	

\* operating windows 1310 nm & 1550 nm

### Characteristics

Operating temperature:	-30 ÷ +50 deg C, TDL < 0.5 dB
Max. section length	Limited power and intermodal dispersion of multimode section. For 1 Gb/s transmission max. section length

MPC - G0 - 1 - 4 - 35 - A - SC - SC	Quality: G0 G1	SM fiber type: 1-G.652 2-G.655LEAF	MM fiber type: 4-50UM	Operating window: 35-1310/1550	Type: A-Adapter I-Inline	Connector type on SM side: SC-connector SC	Connector type on MM side: SC- connector SC
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