

for fibre optic transmission

Identification	Part-Number	Drawing	Dimensions in mm
FO transmitter for PBC mounting receptacle (metall) LED 850 nm in F-SMA housing in FH-ST housing LED 660 nm in F-SMA housing in FH-ST housing	20 50 000 1111 20 50 000 1121 20 40 000 1111 20 40 000 1121		F-SMA FH-ST
F-SMA fixing nut	20 80 000 1072		

Technical Details

General data at T = 25°C

		LED 850 nm	LED 660 nm
Analog band-width	BWE :	80 MHz ($I_F = 100$ mA DC)	7 MHz ($I_F = 30$ mA)
Optical wave-length	λ :	850 nm	660 nm
Spektral band-width	$\Delta\lambda$:	50 nm	30 nm
Drive current	$I_{Fmax.}$:	100 mA	70 mA
Forward voltage	U_V :	1.6 ... 1.8 V typ.	1.7 ... 2.0 V
Derating at 25°C	I_F :	0.8 mA/°C	0.93 mA/°C
Reverse voltage	$U_{Rmax.}$:	4 V	4 V
Storage temperature	T_{Str} :	-40 °C ... +100 °C	-35 °C ... +100 °C
		-40 °C ... +100 °C	-30 °C ... + 85 °C

Power coupled into fibre (at $I_F = max.$)

in 50/125 GI	P_S :	12 μ W min.	
in 200/230 SI	P_S :	120 μ W min.	600 μ W min.

The technical specifications for the **SERCOS-Interface** are fulfilled by the LED 660 nm.

SERCOS = SEriell Realtime COmmunication System



Identification	Part-Number	Drawing	Dimensions in mm
FO receiver for PBC mounting receptacle (metall) TTL 5 MBit/s in F-SMA housing in FH-ST housing	20 50 000 2112 20 50 000 2222		The mounted, integrated receivers are suitable for applications in combination with glass fibre as well as polymer fibre. Dimensions of housing see page 23.
Si-PIN Fotodiode* in F-SMA housing in FH-ST housing	20 50 000 2119 20 50 000 2229		

* Technical data on request

Technical Details

General data at T = 25°C

Receiver type	0 ... 5 MBit/s (DC coupled)
Supply voltage	V_{CC} : 4.5 ... 5.5 V DC
Supply current	I_{CC} : 15 mA max.
Opt. power input	: 3 μ W min.
(minimum value)	: 5 μ W min.
Fan out	: 4
Storage temperature	T_{Str} : -65 °C ... +100 °C
Operating temperature	T_{Opr} : -55 °C ... + 70 °C

The technical specifications for the **SERCOS-Interface** are fulfilled by the LED 660 nm and the receiver 5 MBit/s.

SERCOS = SEriell Realtime COmmunication System



in duplex style for short range transmission
with optical fibres ($\lambda = 660 \text{ nm}$)

Description

- Electro-optical converters integrated into D-Sub connector shell housings
- Cost-effective solution for fibre optic duplex links
- Transmission distance up to 60 m
- Standard accessories for D-Sub can be applied
- Suitable for 1 mm $\varnothing$ polymer optical fibres ($\lambda = 660 \text{ nm}$)
- Special housing for heavy duty applications is available

Technical Details

General data at $T = 25^\circ\text{C}$

	LED	Receiver
Operating voltage		5 V DC $\pm 5 \%$
Drive current (max)	70 mA	
Optical power	300 μW (at 20 mA) 600 μW (at 50 mA)	
Dynamic range		4 μW ... 80 μW
Wave-length	660 nm	
Transmission rate		TTL, 5 MBit/s
Storage temperature	-35°C ... $+100^\circ\text{C}$	-55°C ... $+100^\circ\text{C}$
Operating temperature	-30°C ... $+85^\circ\text{C}$	-40°C ... $+85^\circ\text{C}$

Identification	Part-Number	Drawing	Dimensions in mm
FO D-Sub T/E female connector angled straight (Outer dimensions like 9-pin D-Sub female)	20 66 009 3811 20 66 009 3812		
FO D-Sub male connector (Outer dimensions like 9-pin D-Sub male)	20 67 009 3811		Cavities are designed for HARTING POF ²⁾ ferrules.
Ferrule 1 mm POF ²⁾ with cladding gauge 2.2 mm	20 10 001 3232	The mounting/endface-preparation of the ferrule can be achieved by crimping, hot-plate technique or by using adhesive. The ferrules are snap-mounted into the male connector and can be released with aid of removal tool 09 99 000 0052 (see catalogue "Heavy Duty Connectors Han®")	

²⁾ POF = Polymer optical fibre



For short range data transmission with polymer optical fibres ($\lambda = 660 \text{ nm}$). Multipole versions

Description

- Electro-optic converters integrated in multi-mode connectors
- Up to 16 optical lines via one connection
- Cost-effective alternative to conventional connectors
- Compact type
- Suitable for circuit board mounting
- Suitable for 1 mm $\varnothing$ polymer fibres ($\lambda = 660 \text{ nm}$)
- Transmission distance up to 60 m
- Configuration in custom-made application possible

Identification	Part-Number	Drawing	Dimensions in mm
Mounting device 16 cables for 1 mm POF ²⁾ -fibres with HARTING POF ferrules	20 10 016 3211		
Mounting device 16 diodes solder straight with 8 x SFH 756 with 8 x SFH 551	20 40 016 3823		
Mounting device 7 cables for 1 mm POF ²⁾ -fibres with HARTING POF ferrules	20 10 007 3211		
Mounting device 7 diodes angled with 3 x SFH 756 with 3 x SFH 250	20 40 007 3821		

²⁾ POF = Polymer optical fibre



For short range data transmission with polymer optical fibres ($\lambda = 660 \text{ nm}$).
Multiple versions

Identification	Part-Number	Drawing	Dimensions in mm
Mounting device 3 cables for 1 mm POF ²⁾ -fibres with HARTING POF ferrules	20 10 003 3211		
Mounting device 3 diodes angled with 1 x SFH 756 with 2 x SFH 551	20 40 003 3821		
with 2 x SFH 756 with 1 x SFH 551	20 40 003 3822		
Ferrule 1 mm POF ²⁾	20 10 001 3232	see page 25	

²⁾ POF = Polymer optical fibre

Technical Details

Transmitter (LED): SFH 756	Wave-length: 660 nm Switching times: 100 ns Output power (I=10mA): 200 μW (typ.) 100 μW (min.) Drive current max.: 50 mA Forward voltage: 2.1 V Operating temperature: -40 ... +80 °C
Receiver (digital): SFH 551	Wave-length: 600 ... 780 nm Data rate: 5 MBit/s Optical input power: 6 ... 400 μW Electrical output: TTL, open collector Operating voltage: 3 ... 15 V Operating temperature: -55 ... +100 °C
Receiver (photo diode): SFH 250	Wave-length: 400 ... 1100 nm Switching times: 10 ns Photo current: 3 μA (at $\lambda = 660 \text{ nm}$, input power 10 μW , reverse voltage 5 V) Operating temperature: -40 ... + 80 °C