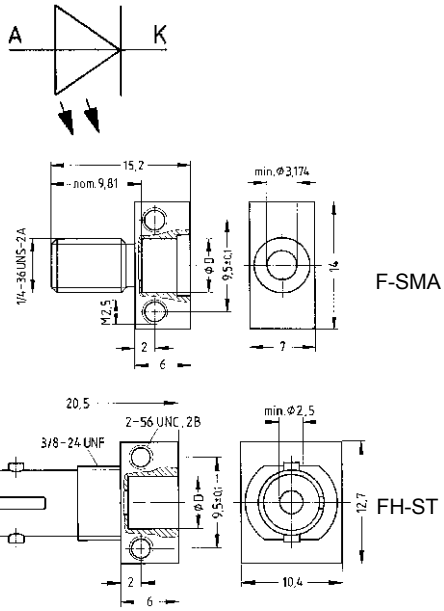
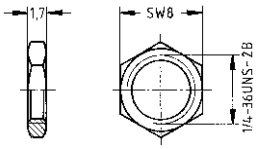
for fibre optic transmission

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 fixing nut	20 80 000 1072		

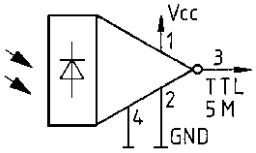
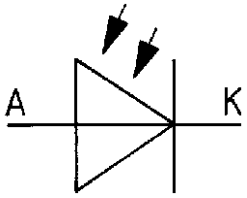
Technical Details

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 -40 °C ... +100 °C	-35 °C ... +100 °C -30 °C ... + 85 °C
Power coupled into fibre (at I_F = max.)				
in 50/125 GI	P_S	:	12 µW min.	
in 200/230 SI	P_S	:	120 µW min.	600 µW min.

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

SERCOS = **SE**riell **R**ealtime **CO**mmunication **S**ystem

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 µW min.
(minimum value)		:	5 µW 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 = **SE**riell **R**ealtime **CO**mmunication **S**ystem

Electro-Optic Converters

in duplex style for short range transmission with optical fibres (λ = 660 nm)

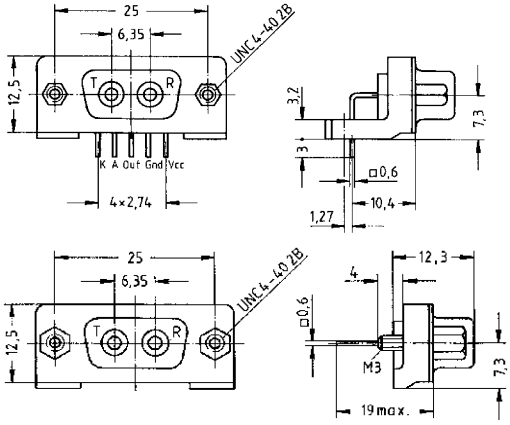
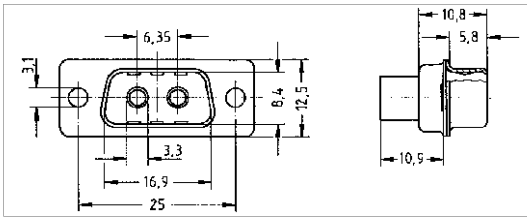
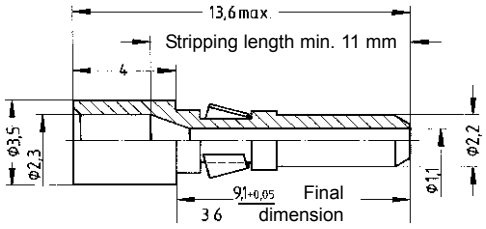
Description

- 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-S ub can be applied
- Suitable for 1 mm Ø polymer optical fibres (λ = 660 nm)
- Special housing for heavy duty applications is available

Technical Details

General data at T = 25°C

	LED	Receiver
Operating voltage		5 V DC ± 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 °C	-55 °C ... +100 °C
Operating temperature	-30 °C ... + 85 °C	-40 °C ... + 85 °C

Identification	Part-Number	Drawing	Dimensions in mm
FO D-Sub T/E female connector angled	20 66 009 3811		
straight	20 66 009 3812		
(Outer dimensions like 9-pin D-Sub female)			
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

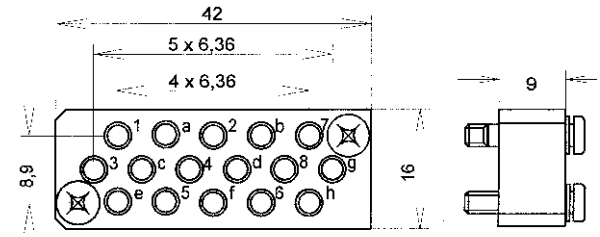
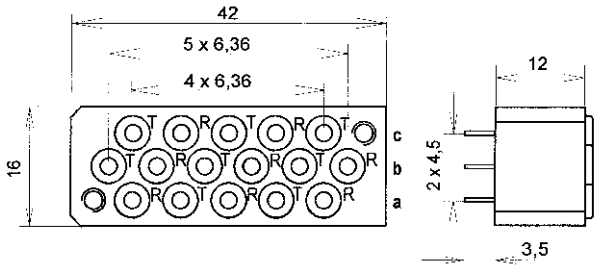
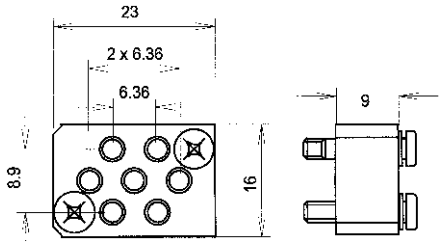
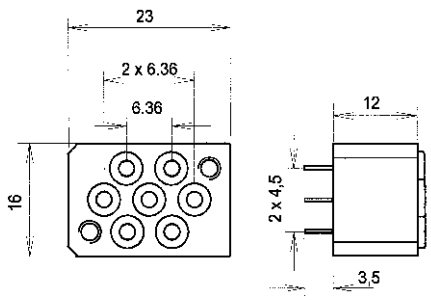
Electro-Optic Converters




For short range data transmission with polymer optical fibres (λ = 660 nm). Multipole versions

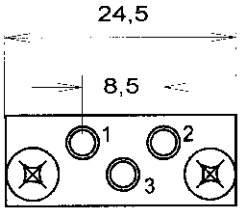
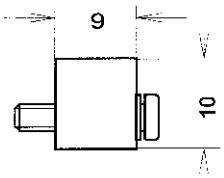
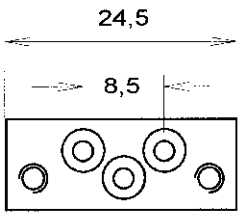
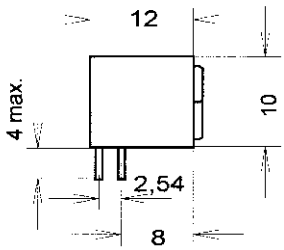
Description

- Electro-optic converters integrated in multi-mode connectors
- Up to 16 optical lines via one connection
- Cost-effictive alternative to conventional connectors
- Compact type
- Suitable for circuit board mounting
- Suitable for 1 mm Ø polymer fibres (λ = 660nm)
- 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 (λ = 660 nm).
Multipole 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 with 2 x SFH 756 with 1 x SFH 551	20 40 003 3821 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 λ = 660 nm, input power 10 µW, reverse voltage 5 V)
	Operating temperature:	-40 ... + 80 °C