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# FLB Series

- ▶ **FLB-F-...**
- FLB-H-...**
- FLB-V-...**

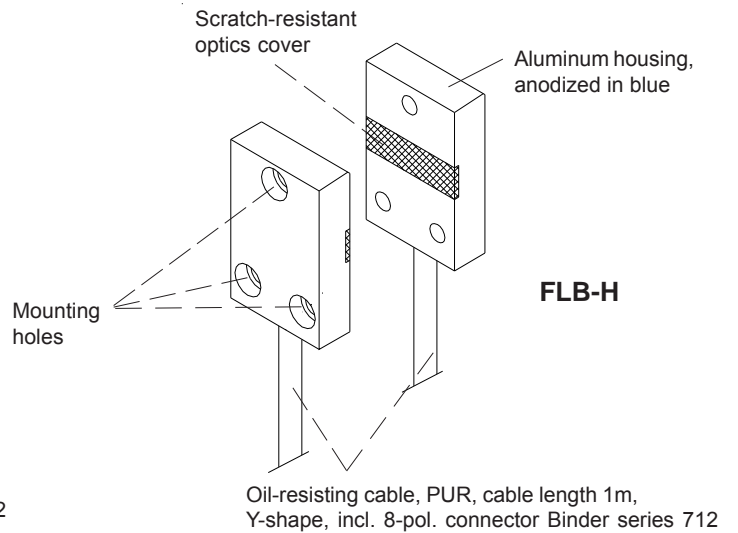
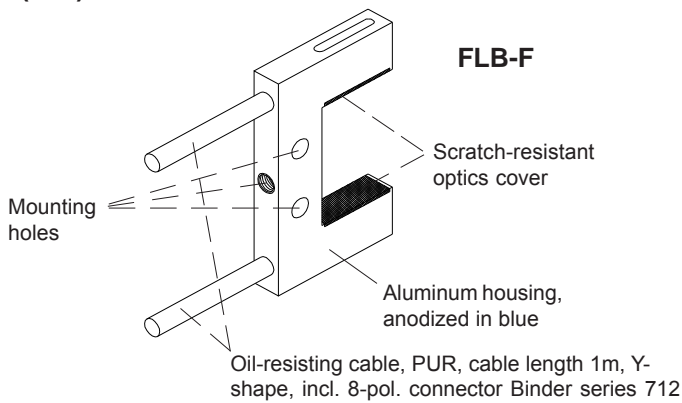
- Homogeneous light distribution (IR light curtain)
- Various sizes available (5 mm up to 100 mm)
- High sensitivity (part sizes starting from Ø 50 µm)
- For connection to electronic control unit either FLB-CON1 or FLB-CON8
- Scratch-resistant optics cover
- Oil-resisting cable and housing (IP67)
- Sturdy aluminum housing



## Design

### Product name:

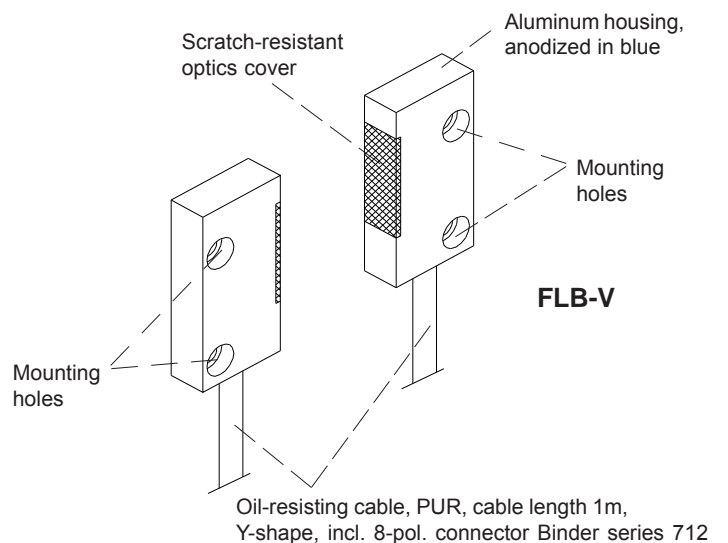
- FLB-F-(size)\***
- FLB-H-(size)\***
- FLB-V-(size)\***



**\*Available sizes:** (dimensions cf. page 3 and 4):

Standard sizes:	Standard sizes:	Standard sizes:
FLB-F-05/20	FLB-H-05	FLB-V-05
FLB-F-10/20	FLB-H-10	FLB-V-10
FLB-F-15/20	FLB-H-15	FLB-V-15
FLB-F-20/20	FLB-H-20	FLB-V-20
FLB-F-25/20	FLB-H-25	FLB-V-25
FLB-F-30/20	FLB-H-30	FLB-V-30
FLB-F-40/20	FLB-H-40	FLB-V-40
FLB-F-50/20	FLB-H-50	FLB-V-50
Special sizes:		FLB-V-60
FLB-F-20/40		FLB-V-100
FLB-F-30/10		
FLB-F-40/25		
FLB-F-40/40		
FLB-F-40/100		
FLB-F-50/40		
FLB-F-50/50		
FLB-F-60/60		
FLB-F-100/100		

**Please note:**  
**FLB-F-50/..., FLB-F-60/60, FLB-F-100/100,**  
**FLB-H-50, FLB-V-50, FLB-V-60, FLB-V-100**  
**not suitable for use with FLB-CON1**





**Technical Data**

Type	FLB-F	FLB-H	FLB-V
Max. distance transmitter/receiver	= fork width (depends on fork size)	FLB-H* + FLB-CON1: max. 50 mm *) possible size max. FLB-H-40  FLB-H + FLB-CON8: max. 50 mm	FLB-V* + FLB-CON1: max. 50 mm *) possible size max. FLB-V-40  up to FLB-V-60 + FLB-CON8: max. 50 mm FLB-V-100 + FLB-CON8: to be defined yet
Min. detectable object	typ. 0.2 mm (depends on the sensor size and type of electronic control unit used)		
Optical filter	IR filter RG715		
Illuminant	Infrared light		
Power supply	+12VDC ... +32VDC, reversed-polarity protected, overcurrent protected		
Ambient light	up to 5000 Lux (with AC-operation)		
Enclosure rating	IP67		
Current consumption	200 mA		
EMC test acc. to	DIN EN 60947-5-2		
Type of connector	FLB-F-..., FLB-H-..., FLB-V-... (without FLB-F-50/..., FLB-F-60/60, FLB-F-100/100, FLB-H-50, FLB-V-50, FLB-V-60, FLB-V-100): 8-pole connector Binder Series 712 for connection to FLB-CON1  FLB-F-..., FLB-H-..., FLB-V-... (all sizes): 8-pole connector Binder Series 712 for connection to FLB-CON8		
Operating temperature range	-20°C ... +60°C		
Storage temperature range	-20°C ... +60°C		
Housing material	Aluminium, anodized in blue		
Housing dimensions	cf. page 3	cf. page 3	cf. pages 4+5



**Dimensions**

**Available sizes for FLB-F:**

Standard sizes:

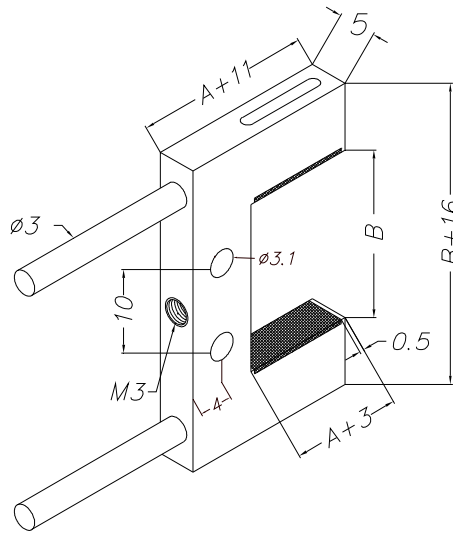
(A = active measuring range, B = fork width)

- FLB-F-05/20 (A = 5 mm, B = 20 mm)
- FLB-F-10/20 (A = 10 mm, B = 20 mm)
- FLB-F-15/20 (A = 15 mm, B = 20 mm)
- FLB-F-20/20 (A = 20 mm, B = 20 mm)
- FLB-F-25/20 (A = 25 mm, B = 20 mm)
- FLB-F-30/20 (A = 30 mm, B = 20 mm)
- FLB-F-40/20 (A = 40 mm, B = 20 mm)
- FLB-F-50/20 (A = 50 mm, B = 20 mm)

Special sizes:

(A = active measuring range, B = fork width)

- FLB-F-20/40 (A = 20 mm, B = 40 mm)
- FLB-F-30/10 (A = 30 mm, B = 10 mm)
- FLB-F-40/25 (A = 40 mm, B = 25 mm)
- FLB-F-40/40 (A = 40 mm, B = 40 mm)
- FLB-F-40/100 (A = 40 mm, B = 100 mm)
- FLB-F-50/40 (A = 50 mm, B = 40 mm)
- FLB-F-50/50 (A = 50 mm, B = 50 mm)
- FLB-F-60/60 (A = 60 mm, B = 60 mm)
- FLB-F-100/100 (A = 100 mm, B = 100 mm)



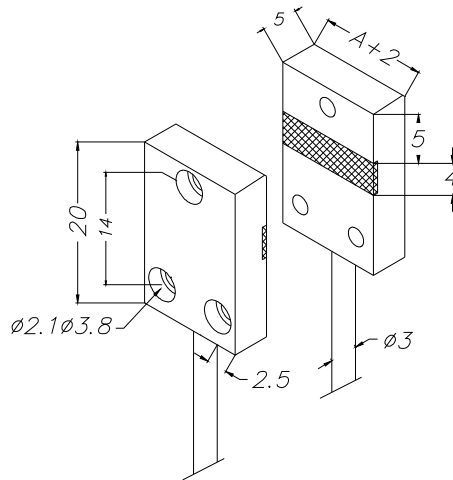
**Dimension A** = length of active measuring range

**Dimension B** = fork width = distance transmitter/receiver

**Available sizes for FLB-H:**

Standard sizes: A = active measuring range

- FLB-H-05 (A = 5 mm)
- FLB-H-10 (A = 10 mm)
- FLB-H-15 (A = 15 mm)
- FLB-H-20 (A = 20 mm)
- FLB-H-25 (A = 25 mm)
- FLB-H-30 (A = 30 mm)
- FLB-H-40 (A = 40 mm)
- FLB-H-50 (A = 50 mm)



**Dimension A** (length of active measuring range):

- 5 mm
- 10 mm
- 15 mm
- 20 mm
- 25 mm
- 30 mm
- 40 mm
- 50 mm

**Please note:**

**FLB-F-50/..., FLB-F-60/60, FLB-F-100/100, FLB-H-50, FLB-V-50, FLB-V-60, FLB-V-100 not suitable for use with FLB-CON1**

(All dimensions in mm)



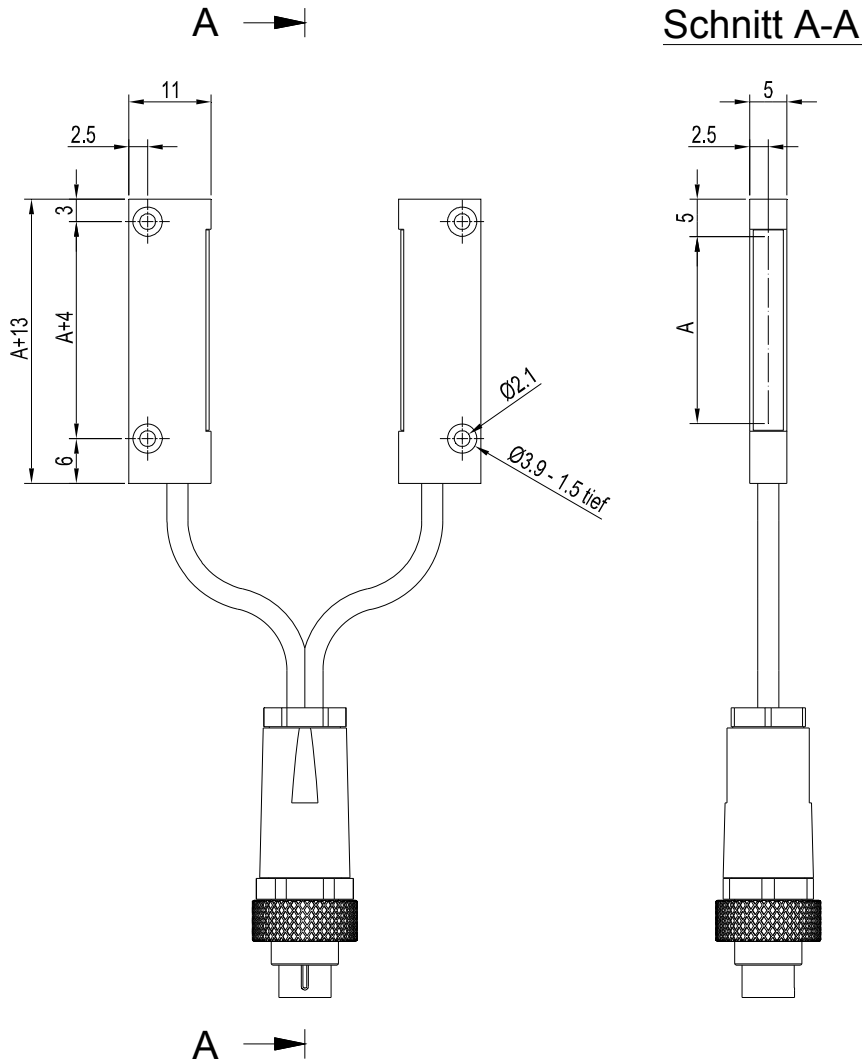
**Dimensions**

**Available sizes for FLB-V:**

Standard sizes: A = active measuring range

FLB-V-05	(A = 5 mm)
FLB-V-10	(A = 10 mm)
FLB-V-15	(A = 15 mm)
FLB-V-20	(A = 20 mm)
FLB-V-25	(A = 25 mm)
FLB-V-30	(A = 30 mm)
FLB-V-40	(A = 40 mm)
FLB-V-50	(A = 50 mm)
FLB-V-60	(A = 60 mm)
FLB-V-100	(cf. page 5)

**Please note:**  
**FLB-F-50/..., FLB-F-60/60, FLB-F-100/100,**  
**FLB-H-50, FLB-V-50, FLB-V-60, FLB-V-100**  
**not suitable for use with FLB-CON1**



Dimension A  
 (length of active  
 measuring range):

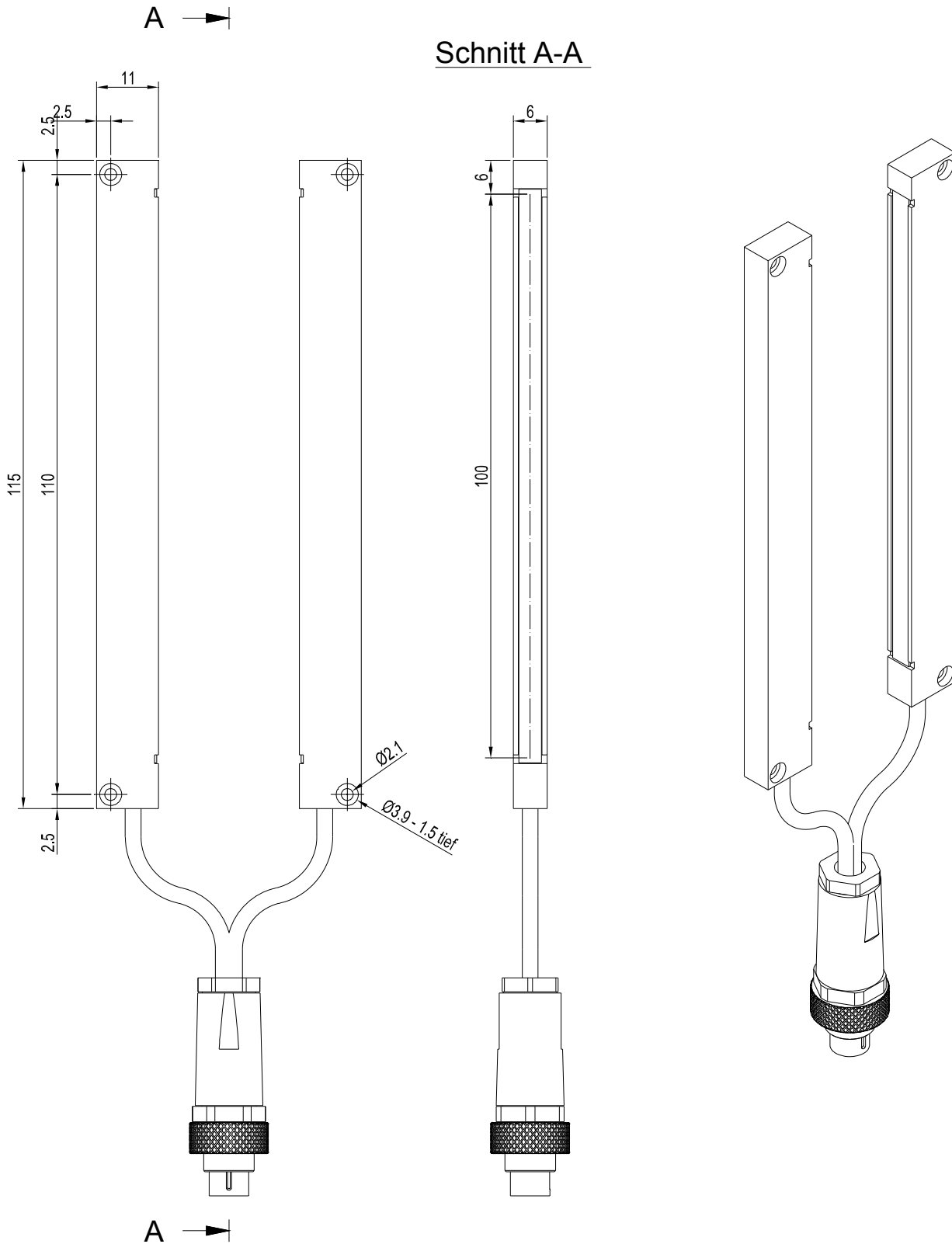
- 5 mm
- 10 mm
- 15 mm
- 20 mm
- 25 mm
- 30 mm
- 40 mm
- 50 mm
- 60 mm

(All dimensions in mm)

Dimensions

Size FLB-V-100:

Please note:  
FLB-V-100 is not suitable  
for use with FLB-CON1



(All dimensions in mm)



**Connection to FLB-CON1**

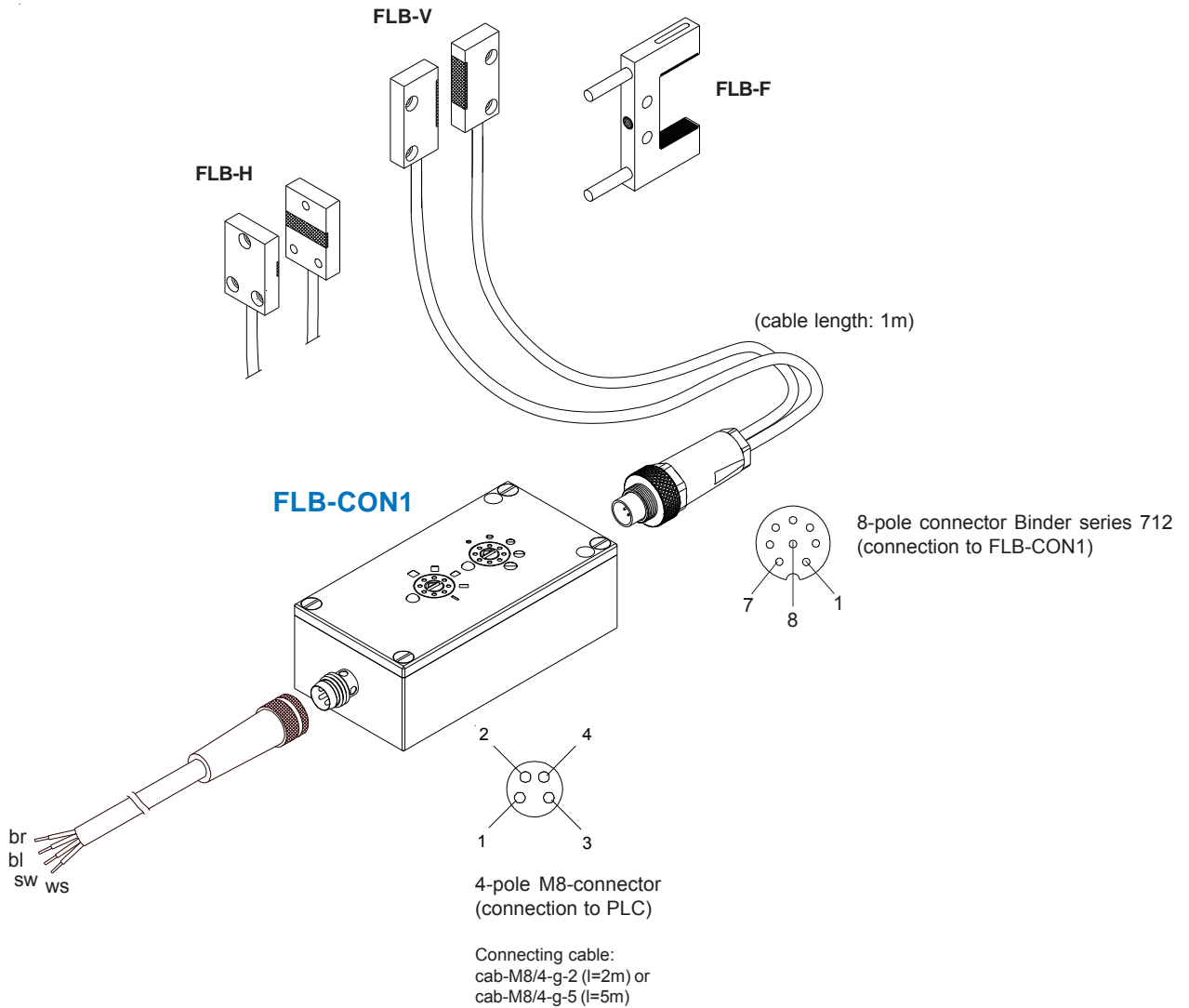
**Connection FLB-F, FLB-H, FLB-V to FLB-CON1:  
8-pole connector Binder Series 712**

Pin No.:	Assignment:
1	Shield
2	Shield
3	Transmitter anode
4	Phototransistor collector
5	Transmitter cathode 1
6	Phototransistor emitter
7	Transmitter cathode 2
8	n.c.

**Please note:**  
**FLB-F-50/..., FLB-F-60/60, FLB-F-100/100,**  
**FLB-H-50, FLB-V-50, FLB-V-60, FLB-V-100**  
**not suitable for use with FLB-CON1**

**Connection FLB-CON1 to PLC:  
4-pole M8 connector**

Pin No.:	Assignment:	Color:
1	+Ub (+12VDC ... +32VDC)	brown
2	with FLB-CON1-Q: n.c. with FLB-CON1-Qinv: n.c. with FLB-CON1-Q-ANA: ANALOG (0V ... +10V) with FLB-CON1-Qinv-ANA: ANALOG (0V ... +10V)	white
3	GND (0V)	blue
4	with FLB-CON1-Q: Output DYN with FLB-CON1-Qinv: Output INV DYN with FLB-CON1-Q-ANA: Output DYN with FLB-CON1-Qinv-ANA: Output INV DYN	black



**Connection to FLB-CON8**

**Connection FLB-F, FLB-H, FLB-V to FLB-CON8:  
8-pole connector Binder Series 712:**

Pin No.:	Assignment:
1	Shield
2	Shield
3	Transmitter anode
4	Phototransistor collector
5	Transmitter cathode 1
6	Phototransistor emitter
7	Transmitter cathode 2
8	Transmitter cathode 3

**Connection FLB-CON8 to PLC:  
8-pole connector Binder Series 712**

Pin No.:	Assignment:	Color:
1	GND (0V)	white
2	+Ub (+24VDC ± 10%)	brown
3	INO	green
4	OUT0 (Digital 0: Type 0 ... 1V, Digital 1: Type +Ub - 10%)	yellow
5	OUT1 (Digital 0: Type 0 ... 1V, Digital 1: Type +Ub - 10%)	grey
6	ANALOG (0V ... +10V)	pink
7	not connected	blue
8	not connected	red

**Anschluss FLB-CON8 an PC:  
5-pole fem. connector Binder Series 712**

Pin No.:	Assignment:
1	GND (0V)
2	TxD
3	RxD
4	+24VDC (+Ub, OUT)
5	n.c.

