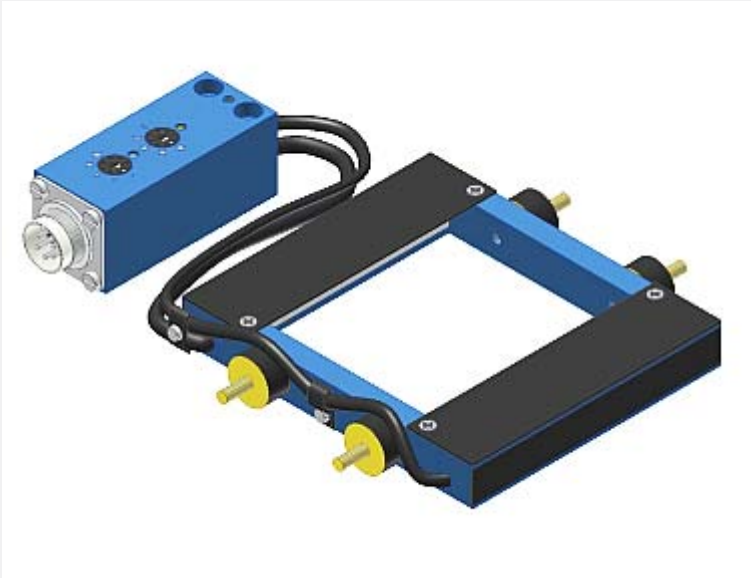
FLB Series

FLB-FR3-...-ANA-HS



- Electronics integrated in tool plug
- High sensitivity (adjustable via 5-step switch)
- Pulse length adjustable via 5-step switch
- 2 dynamic outputs Q and Qinv
- 1 analog output (0 ... +10V)
- High switching frequency (10 kHz)
- Switching state indication by means of a red/green LED
- Dirt accumulation indication by means of a yellow LED
- Various frame sizes available (light curtain 58 mm ... 198 mm)
- Mechanical protection of optics by means of baffle plate
- Sturdy aluminium housing

Design

Product name:

FLB-FR3-(frame size)*-ANA-HS

ANA = Analog output (0...+10V)
HS = High speed (10 kHz)

Available frame sizes A/B (mm):

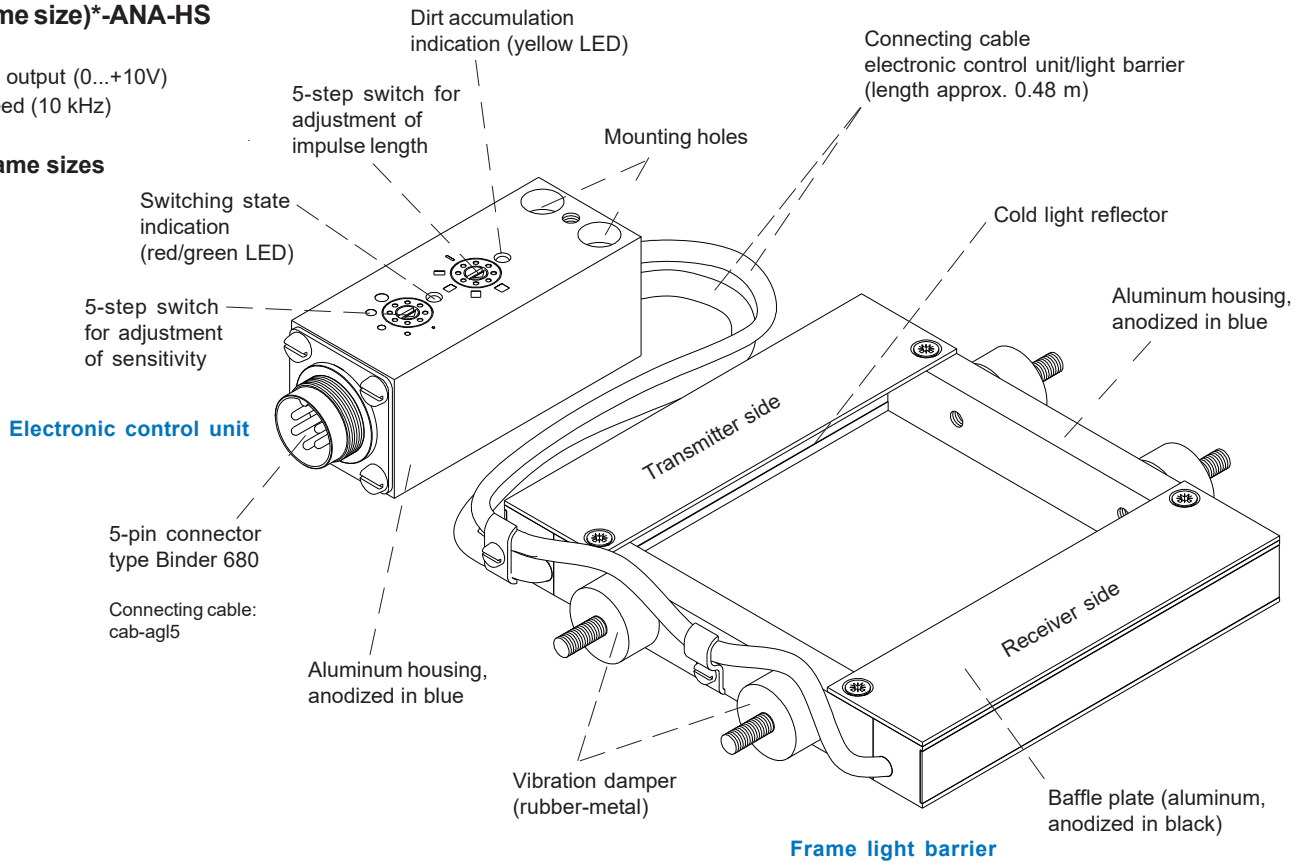
58/60
58/80
58/100
58/160
58/200

78/60
78/80
78/100
78/160
78/200

98/60
98/80
98/100
98/160
98/200

158/60
158/80
158/100
158/160
158/200

198/60
198/80
198/100
198/160
198/200



Frame light barrier

A = 58 / 78 / 98 / 158 / 198 mm (width of cold light reflector)
B = 60 / 80 / 100 / 160 / 200 mm (distance between transmitter and receiver)
(A can be combined with any B)

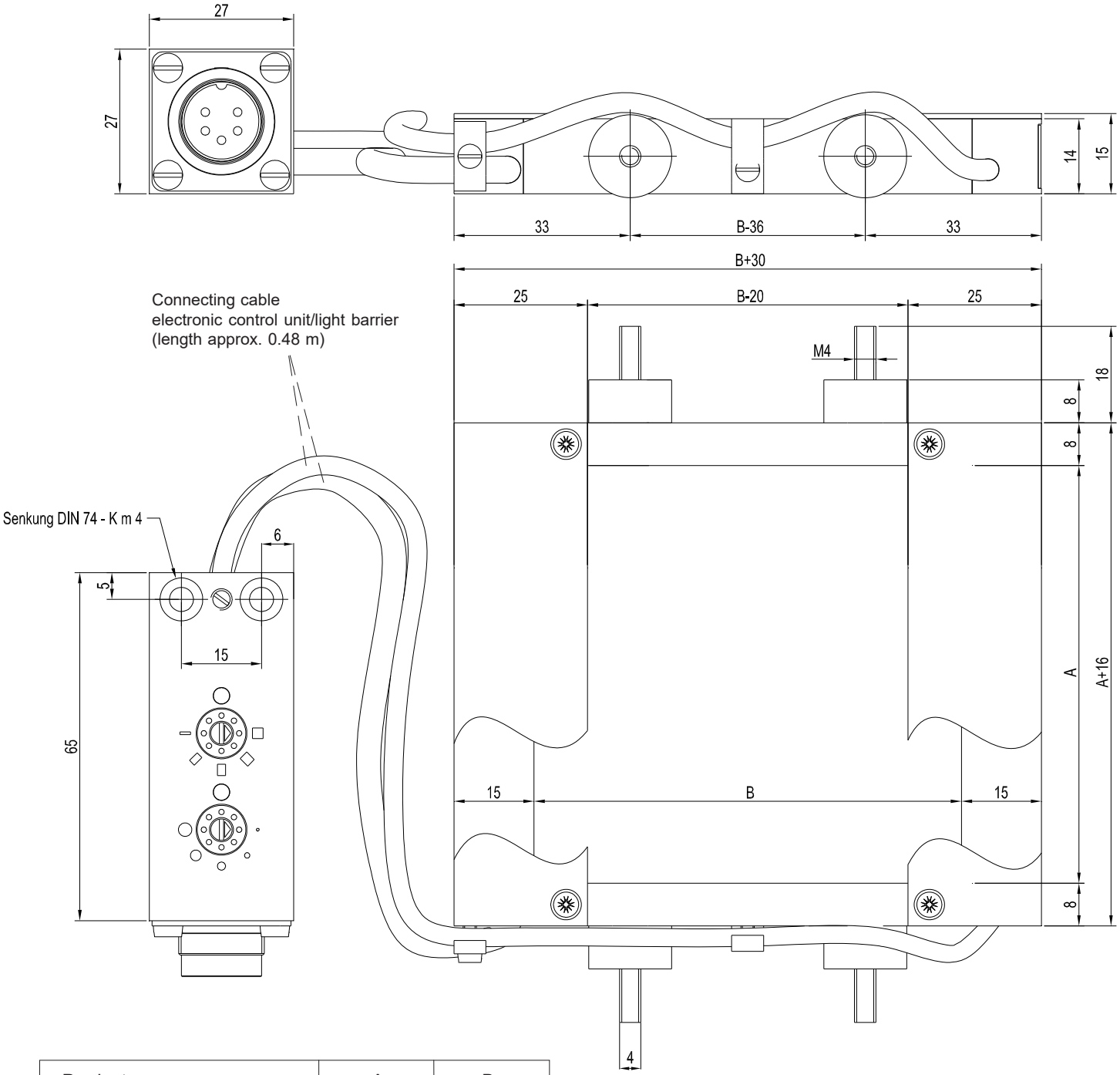
100 % reparierbar/ reparable*
* ausgenommen Totalschaden/ excluding total loss

Technical Data

Model	**FLB-FR3-...-ANA-HS**
Max. transmitter/receiver distance (fork width)	200 mm
Min. detectable object	with dim. A = 58, 78, 98 mm: typ. 0.3 mm with dim. A = 158 mm: typ. 0.5 mm with dim. A = 198 mm: typ. 0.7 mm
Digital outputs	1x DYN (Q), 1x INV DYN (Qinv)
Analog output	1x analog voltage output (0 ... +10V)
Optical filter	Cold-light reflector
Light type	Infrared
Voltage supply	+12VDC ... +32VDC, protected against polarity reversal, overload protected
Pulsating light operation	approx. 5 kHz
Ambient light	up to 5000 Lux
Type of protection	IP67
Current consumption	200 mA
EMC test acc. to	DIN EN 60947-5-2 CE
Connector type	5-pole connector, Binder Series 680
Connecting cable control unit/light barrier	length approx. 0.48 m
Operating temperature range	-20°C ... +60°C
Storage temperature range	-20°C ... +85°C
Housing	Aluminum, anodized in blue
Max. switching current	200 mA, short-circuit-proof
Switching frequency	typ. 10 kHz
Sensitivity setting	in 5 steps by means of step switch
Pulse lengthening	in 5 steps by means of step switch (20 ms ... 300 ms)
Dirt accumulation display	By means of yellow LED
Switching state display	By means of bi-color LED: RED (object passes light curtain) / GREEN (light curtain free, or no change)

Dimensions

FLB-FR3-(frame size A/B)-ANA-HS:



Product name	A	B
FLB-FR3-58/B-ANA-HS	58	B*
FLB-FR3-78/B-ANA-HS	78	
FLB-FR3-98/B-ANA-HS	98	
FLB-FR3-158/B-ANA-HS	158	
FLB-FR3-198/B-ANA-HS	198	

*B = 60/80/100/160/200

(All dimensions in mm)

Connector Assignment

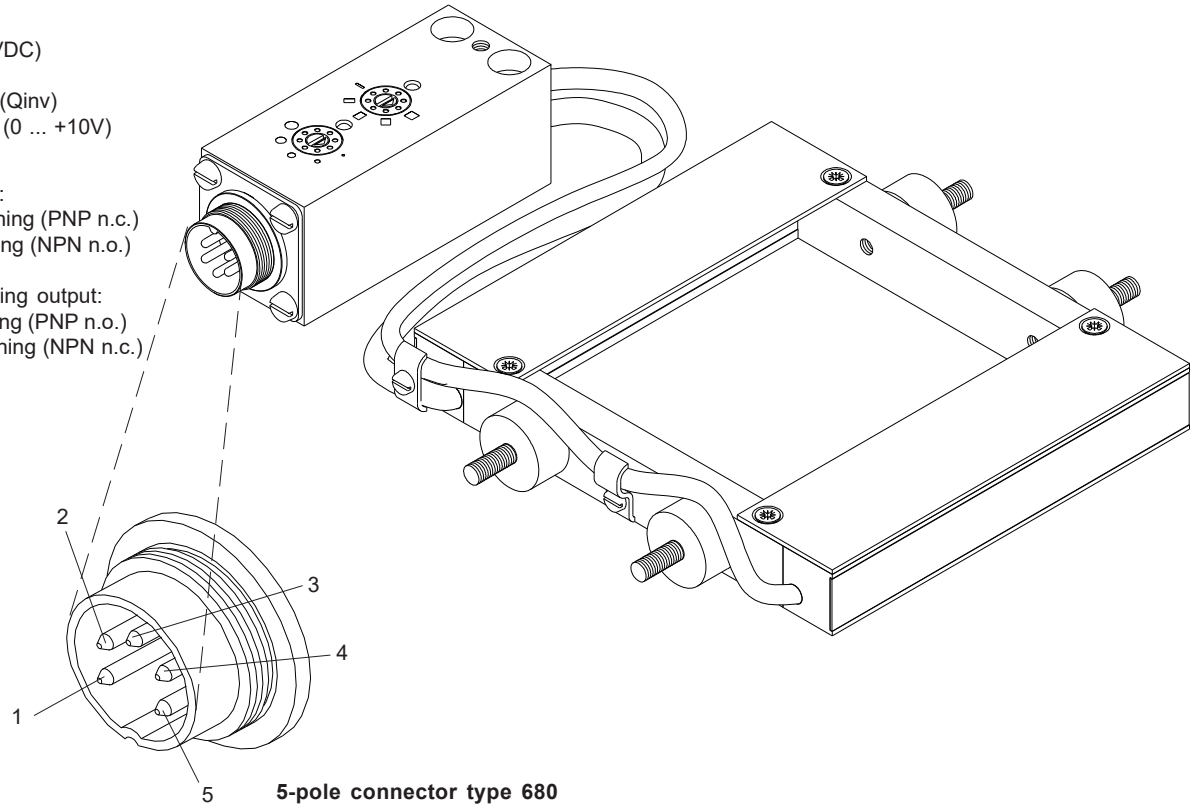
Connector assignment FLB-FR3-...-ANA-HS:

Assignment of 5-pole connector type Binder 680

Pin No.:	Assignment:
1	GND (0V)
2	+UB (+12 ... +32VDC)
3	Output DYN (Q)
4	Output INV DYN (Qinv)
5	Output ANALOG (0 ... +10V)

Q = Switching output:
PNP bright-switching (PNP n.c.)
NPN dark-switching (NPN n.o.)

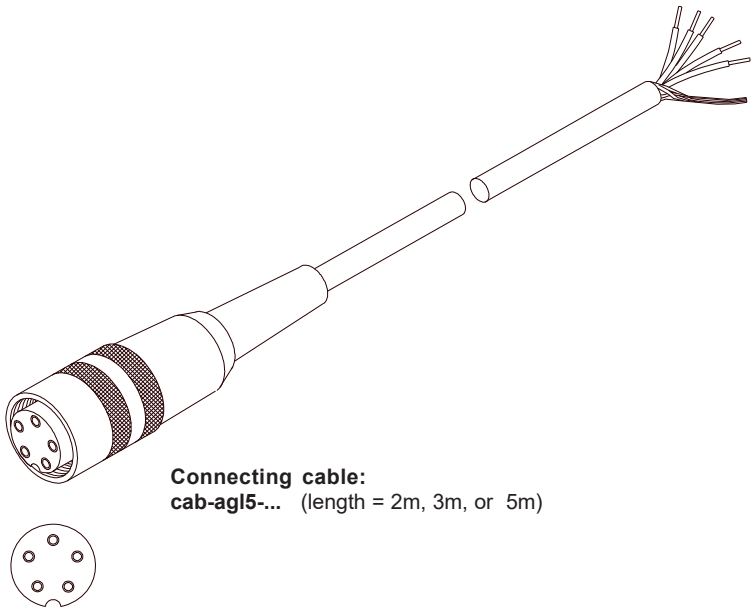
Qinv = Additional switching output:
PNP dark-switching (PNP n.o.)
NPN bright-switching (NPN n.c.)



5-pole connector type 680

Connecting cable cab-agl5-(*length*)

Pin No.:	Color:	Assignment:
1	blue	GND (0V)
2	brown	+UB (+12 ... +32VDC)
3	white	Output DYN (Q)
4	black	Output INV DYN (Qinv)
5	red	Output ANALOG (0 ... +10V)

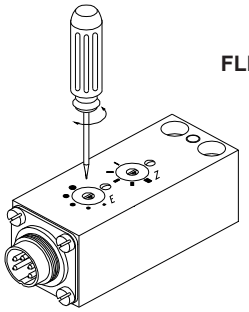


Connecting cable:
cab-agl5-... (length = 2m, 3m, or 5m)

Setting

Sensitivity setting (step-switch „E“):

Sensitivity can be adjusted by means of a step-switch.
The term ‘sensitivity’ defines the minimum detectable part size.
The sensitivity can be adjusted in 5 steps.

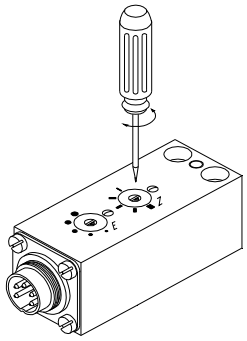


FLB-FR3

Step	Part size (dyn.)	Part size (stat.)
1	>= 0.5 mm	>= 2 mm
2	>= 0.7 mm	>= 3 mm
3	>= 1.3 mm	>= 5 mm
4	>= 1.7 mm	>= 7 mm
5	>= 2.5 mm	>= 10 mm

Adjustment of pulse lengthening (step-switch „Z“):

The pulse length of the dynamic output can be adjusted by means of a step-switch. 5 pulse lengths are available.

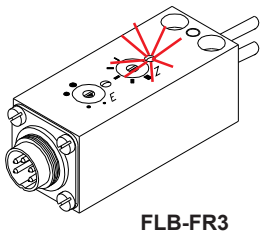


FLB-FR3

Step	Pulse length
1	300 ms
2	200 ms
3	100 ms
4	50 ms
5	20 ms

Dirt accumulation display (yellow LED):

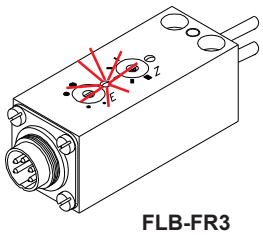
In addition to a digital dirt accumulation output the user is informed about the dirt accumulation status by means of a yellow LED.
If this yellow LED lights up, the transmitter or receiver side should be checked for dirtying.



FLB-FR3

Switching state display (red/green LED):

The switching state is indicated by a red/green LED. In case that a measuring object is detected, the LED changes from GREEN to RED.
The two-color-LED is coupled to the dynamic output, i.e. after pulse end the LED returns to its starting state = GREEN.



FLB-FR3