

A-LAS Series

▶ A-LAS-F12

- Analog signal (0...+10V) in connection with an electronic control unit type AGL3, AGL4, AGL4-HS, AGL-DIF, SI-CON11 (without PC connection) or SI-CON4, SI-CON8, SI-CON34, A-LAS-CON1 (with PC connection and software)
 (stand-alone operation of the light barrier is not possible)
- Parallel aligned, visible red laser beam (<0.39 mW, 670 nm), **laser class 1**
- Various apertures and fork sizes available
- Measuring range up to 6.5 mm (depends on aperture used)
- Working range = fork width
- Insensitive to outside light due to interference filter
- Compact design, sturdy metal housing, IP67



Design

Product name:

A-LAS-F12-(aperture)*-(fork size)**

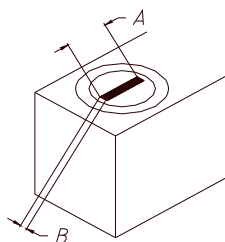
*Available apertures:

Round apertures d... (mm):

d0.15
d0.2
d0.3
d0.5
d0.7
d1.0
d2.0

Rectangular apertures AxB (mm):

0.2x0.5 2x1
0.2x1 2x1.2
0.3x0.5 2x5
0.3x1 3x0.3
0.3x1.5 3x0.5
0.3x3 3x0.75
0.5x0.2 4x0.5
0.5x0.3 4x1
0.5x1 5x2
0.5x4 6x0.8
0.5x6.5 6.5x0.5
0.75x2 6.5x0.8
0.75x3
0.8x6
0.8x6.5
1x0.2
1x0.3
1x0.5
1x1
1x2
1x4
1.2x2
1.5x0.3
2x0.75

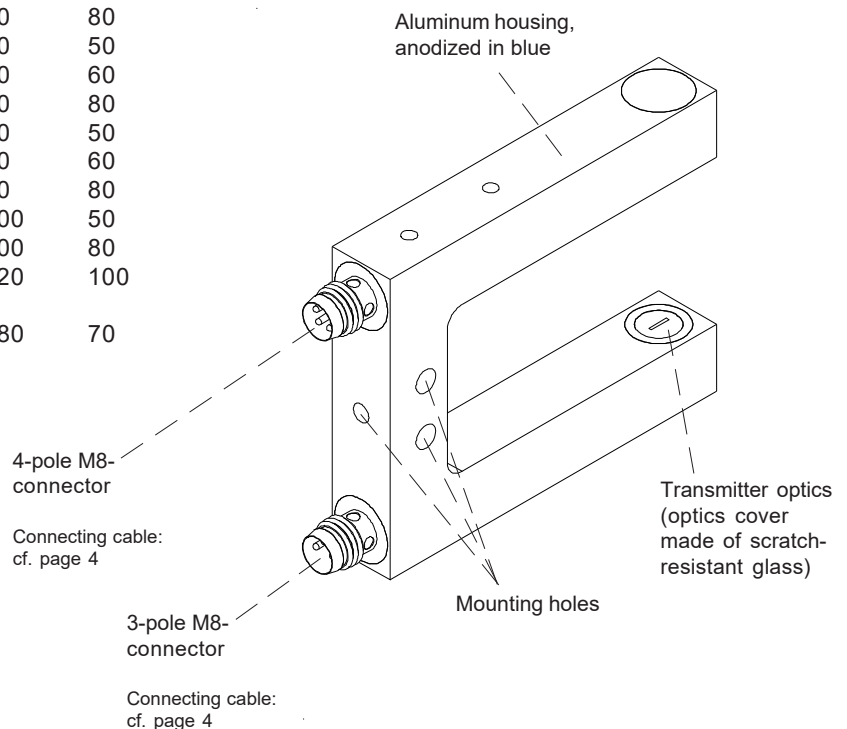


**Available fork sizes:

| Fork size | Fork width (mm) | Fork depth (mm) |
|---------------|-----------------|-----------------|
| 10/50 | 10 | 50 |
| 20/50 | 20 | 50 |
| 20/60 | 20 | 60 |
| 20/80 | 20 | 80 |
| 30/50 | 30 | 50 |
| 30/60 | 30 | 60 |
| 30/80 | 30 | 80 |
| 40/50 | 40 | 50 |
| 40/60 | 40 | 60 |
| 40/80 | 40 | 80 |
| 50/50 | 50 | 50 |
| 50/60 | 50 | 60 |
| 50/80 | 50 | 80 |
| 100/50 | 100 | 50 |
| 100/80 | 100 | 80 |
| 120/100 | 120 | 100 |
| Special size: | | |
| 180/70 | 180 | 70 |


Accessories: (cf. page 5)

ABL-A-LAS-F12 (air blow top part)





Technical Data

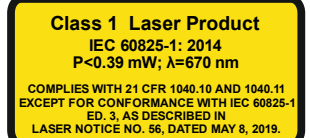
| Type | A-LAS-F12 |
|---|---|
| Shape | Laser light barrier in fork shape with 12 mm thick housing. Various round or rectangular apertures are available. |
| Laser | Solid-state laser, 670 nm, DC-operation, 0.39 mW max. opt. power, laser class 1 acc. to DIN EN 60825-1. The use of these laser transmitter therefore requires no additional protective measures. |
| Available aperture sizes | Cf. page 1 |
| Measuring range | Up to 6.5 mm (depends on the aperture used) |
| Working range | Working range = fork width |
| Min. detectable object | Typ. 0.8% of aperture size |
| Reproducibility | Typ. 0.8% of aperture size, with threshold correction (via electronic control unit): typ. 0.1% of aperture size |
| Threshold correction | Can be activated via a software-controlled electronics of type A-LAS-CON1, SI-CON4, SI-CON8, or SI-CON34 |
| Optical filters | Red light filter RG 630 and interference filter |
| Voltage supply | Transmitter: +5VDC, receiver: +5VDC |
| Ambient light (outside light) | With 5000 Lux ambient light around optical receiver unit typ. < 300mV influence on analog signal (0...+10V) |
| Analog output | 0 ... +10V (in connection with any electronic control unit of A-LAS Series) |
| Band width analog signal | 100 kHz (-3 dB) |
| Current control input (I-CONTROL) | 0V ... 5V, laser power decreases linear to increase of voltage: 0V: full power, 5V: laser off |
| Sensitivity setting (switching threshold) | Via software (with control electronics A-LAS-CON1, SI-CON4, SI-CON34, or SI-CON8) or via potentiometer (with control electronics AGL4 or AGL4-HS) |
| Gain (analog signal) | Via software (with control electronics A-LAS-CON1, SI-CON4, SI-CON34, or SI-CON8) or via potentiometer (with control electronics AGL4, AGL4-HS, AGL-DIF, or SI-CON11) |
| Current consumption | Transmitter: typ. 50 mA, receiver typ. 20 mA |
| Operating temperature range | 0°C ... +50°C |
| Storage temperature range | -20°C ... +85°C |
| Type of connector | Transmitter: 3-pole M8-connector, receiver: 4-pole M8-connector |
| Housing material | Aluminum, anodized in blue |
| Housing dimensions | Cf. page 3 |
| Enclosure rating | IP67 |
| EMC test acc. to | DIN EN 60947-5-2  |



Laser Information

The laser transmitters of A-LAS series comply with laser class 1 according to EN 60825-1. Under reasonably foreseeable conditions a class 1 laser is safe. The reasonably foreseeable conditions are kept during specified normal operation. The use of these laser transmitters therefore requires no additional protective measures.

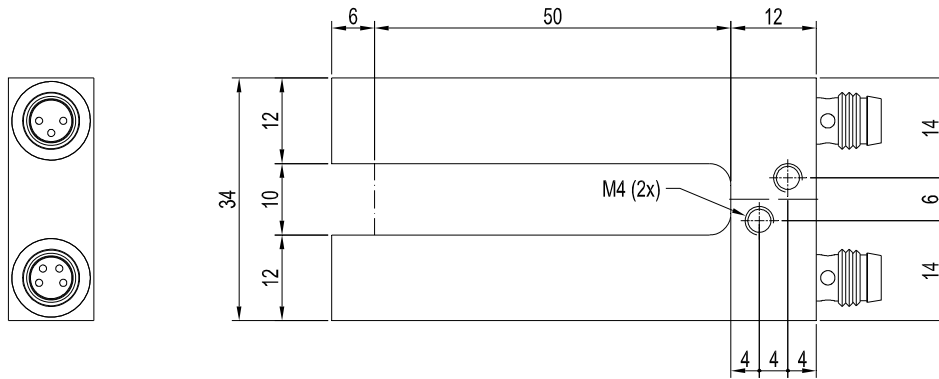
The laser transmitters of A-LAS series series are supplied with an information label „CLASS 1 Laser Product“.





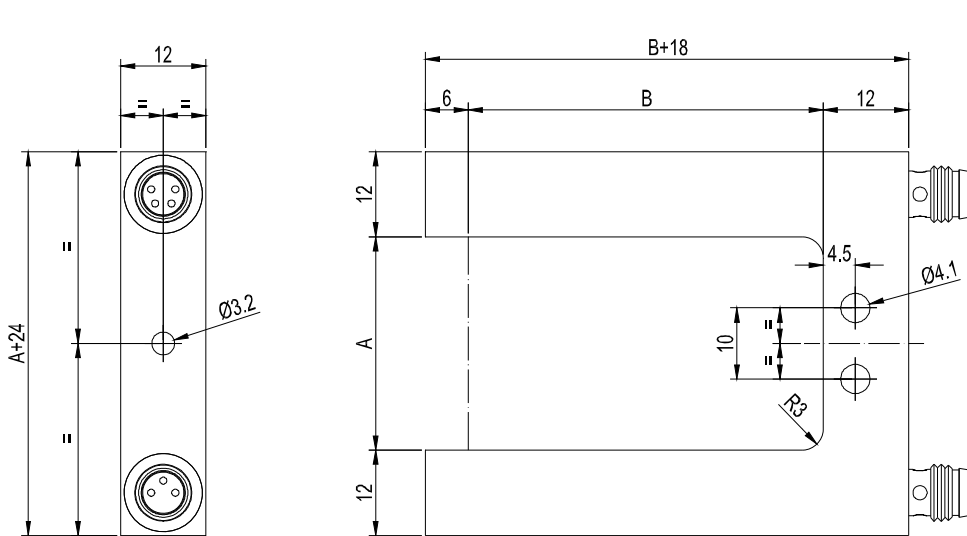
Dimensions

A-LAS-F12-... with fork size 10/50:



| Size | Fork width (mm) | Fork depth (mm) |
|-------|-----------------|-----------------|
| 10/50 | 10 | 50 |

A-LAS-F12-... from fork size 20/50:



A = Fork width
B = Fork depth

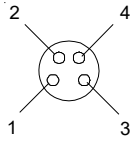
| Size | Fork width A (mm) | Fork depth B (mm) |
|---------|-------------------|-------------------|
| 20/50 | 20 | 50 |
| 20/60 | 20 | 60 |
| 20/80 | 20 | 80 |
| 30/50 | 30 | 50 |
| 30/60 | 30 | 60 |
| 30/80 | 30 | 80 |
| 40/50 | 40 | 50 |
| 40/60 | 40 | 60 |
| 40/80 | 40 | 80 |
| 50/50 | 50 | 50 |
| 50/60 | 50 | 60 |
| 50/80 | 50 | 80 |
| 100/50 | 100 | 50 |
| 100/80 | 100 | 80 |
| 120/100 | 120 | 100 |
| 180/70 | 180 | 70 |

All dimensions in mm

Connector Assignment

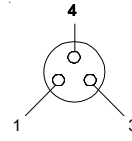
Receiver: 4-pole M8-connector

| Pin No.: | Assignment: |
|----------|-------------|
| 1 | +5 VDC |
| 2 | GND (0V) |
| 3 | SHIELD |
| 4 | ANALOG |



Transmitter: 3-pole M8-connector

| Pin No.: | Assignment: |
|----------|----------------------|
| 1 | +5 VDC |
| 3 | GND (0V) |
| 4 | I-CONTROL (0V...+5V) |



Connecting cables:

For use with SI-CON4:

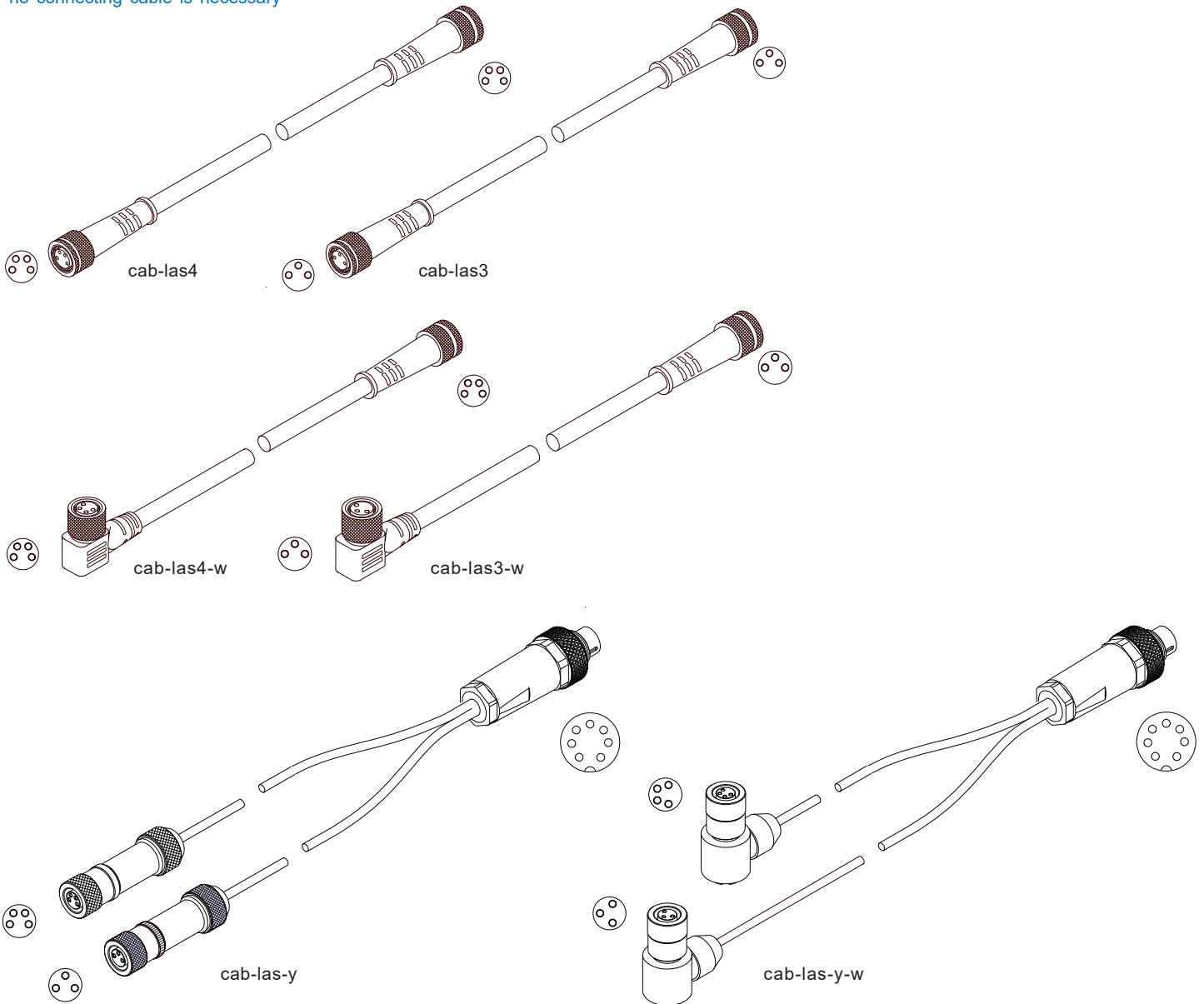
cab-las3-(length) or cab-las3-w-(length) für transmitter
 cab-las4-(length) or cab-las4-w-(length) für receiver
 (standard length each 1m, also available lengths: 2m, 3m, or 5m)

For use with AGL4, AGL4-HS, AGL-DIF, SI-CON11, SI-CON8, SI-CON34, A-LAS-CON1:

cab-las-y-(length) or
 cab-las-y-w-(length)
 (standard length each 1m, also available lengths: 2m, 3m, or 5m)

For use with AGL3:

no connecting cable is necessary





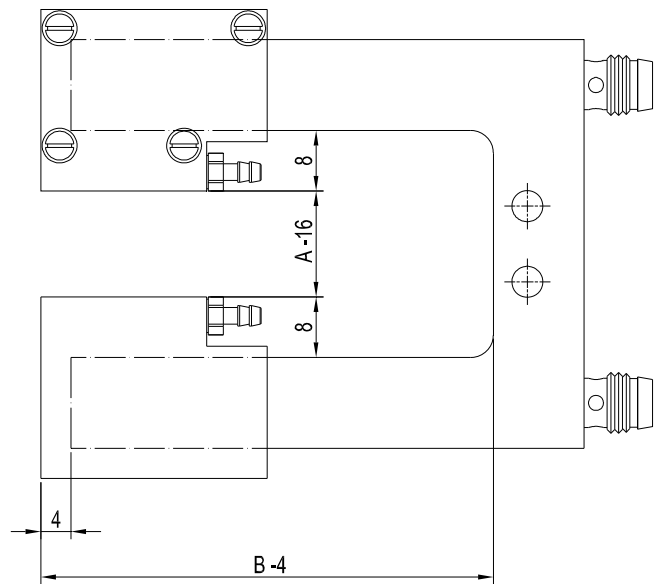
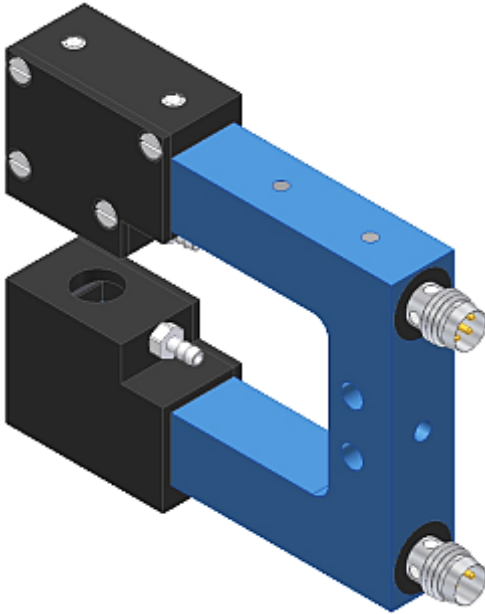
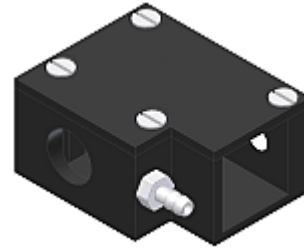
Accessories

ABL-A-LAS-F12 air blow top part

Suitable for transmitter and receiver optics of A-LAS-F12 light barriers (except of fork size 10/50).

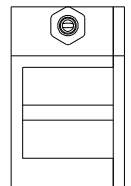
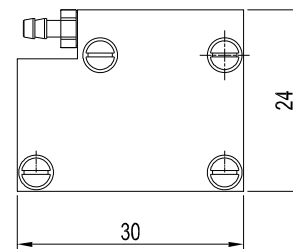
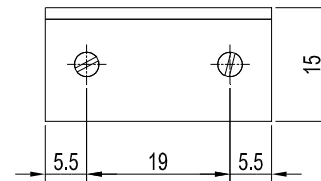
Please order the air blow top parts separately:

For one A-LAS-F12 light barrier two pcs. ABL-A-LAS-F12 are necessary.



The air blow top part ABL-A-LAS-F12 is suitable for the following fork sizes:

| Size | Fork width | | Fork depth | |
|---------|------------|--------|------------|--------|
| | A (mm) | B (mm) | A (mm) | B (mm) |
| 20/50 | 20 | 50 | | |
| 20/60 | 20 | 60 | | |
| 20/80 | 20 | 80 | | |
| 30/50 | 30 | 50 | | |
| 30/60 | 30 | 60 | | |
| 30/80 | 30 | 80 | | |
| 40/50 | 40 | 50 | | |
| 40/60 | 40 | 60 | | |
| 40/80 | 40 | 80 | | |
| 50/50 | 50 | 50 | | |
| 50/60 | 50 | 60 | | |
| 50/80 | 50 | 80 | | |
| 100/50 | 100 | 50 | | |
| 100/80 | 100 | 80 | | |
| 120/100 | 120 | 100 | | |
| 180/70 | 180 | 70 | | |

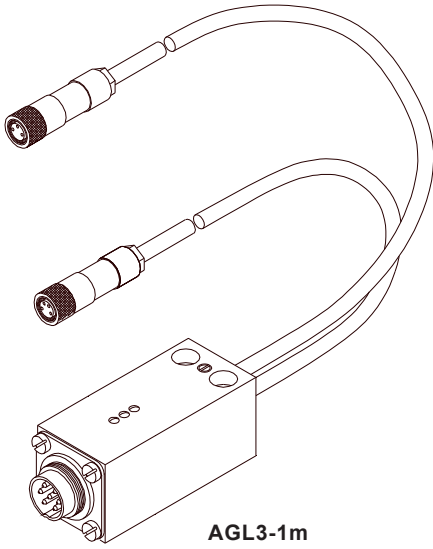


All dimensions in mm

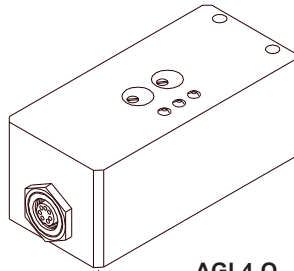


Electronic Control Units

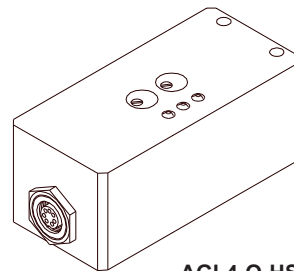
Suitable electronic control units:



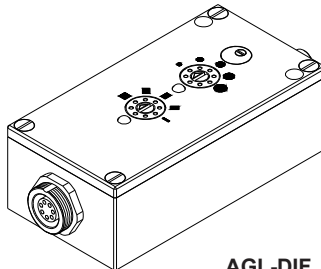
AGL3-1m
AGL3-2m
AGL3-3m
AGL3-4m
AGL3-5m



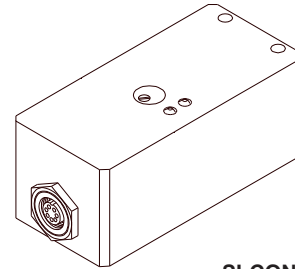
AGL4-Q
AGL4-Qinv
AGL4-Qinv-200ms



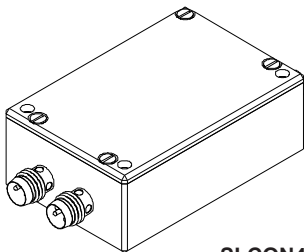
AGL4-Q-HS-500kHz-24V_LED
AGL4-Qinv-HS-500kHz-24V_LED



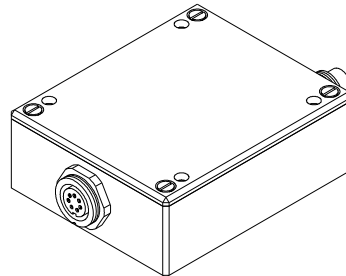
AGL-DIF



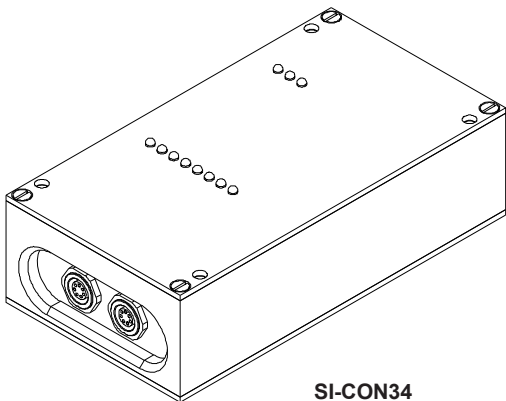
SI-CON11-0/20
SI-CON11-0/20-5V
SI-CON11-0/20-IC
SI-CON11-4/20
SI-CON11-4/20-IC
SI-CON11-5/25
SI-CON11-5/25-IC



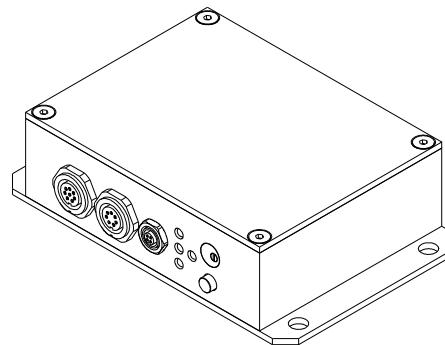
SI-CON4
 (incl. Windows® PC software
 A-LAS-Scope)



SI-CON8
 (incl. Windows® PC software
 SI-CON8-Scope)



SI-CON34
 (incl. Windows® PC software
 SCOPE34)



A-LAS-CON1
 (incl. Windows® PC software
 A-LAS-CON1-Scope)