

A-LAS Series

▶ A-LAS-08-...

- 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 (<math><0.39\text{ mW}</math>, 670 nm), **laser class 1**
- Various apertures available
- Measuring range up to 3 mm (depends on aperture used)
- Working range max. 10 m (depends on aperture used)
- Insensitive to outside light due to interference filter
- Compact design, sturdy metal housing, IP67



Design

Product name:

A-LAS-08-(aperture)*-T (Transmitter)

A-LAS-08-(aperture)*-R (Receiver)

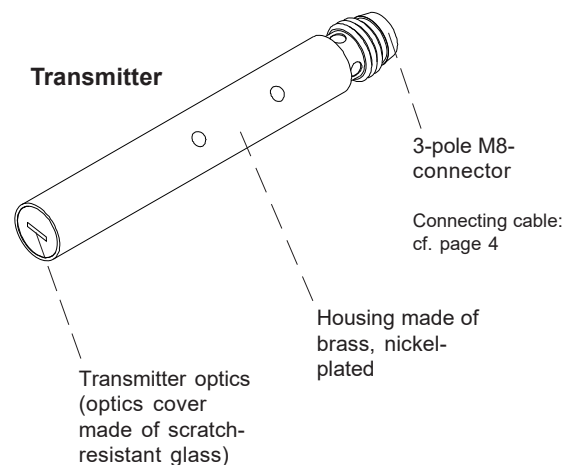
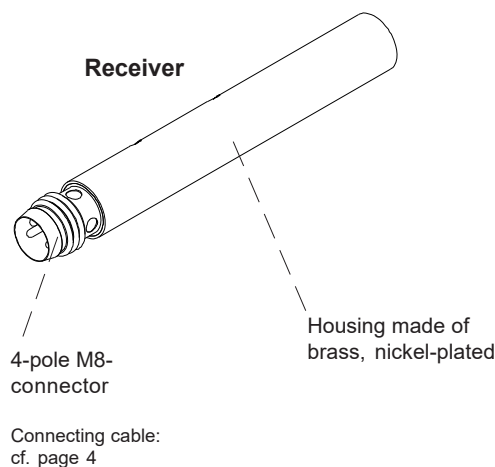
*Available apertures:

Round apertures d... (mm):

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

Rectangular apertures AxB (mm):

0.1x1 (= 1x0.1)
0.1x2 (= 2x0.1)
0.2x0.5 (= 0.5x0.2)
0.2x1 (= 1x0.2)
0.2x2 (= 2x0.2)
0.3x0.5 (= 0.5x0.3)
0.3x0.8 (= 0.8x0.3)
0.3x1 (= 1.0x0.3)
0.3x1.5 (= 1.5x0.3)
0.3x3 (= 3x0.3)
0.5x1 (= 1x0.5)
0.5x1.5 (= 1.5x0.5)
0.5x3 (= 3x0.5)
0.75x2 (= 2x0.75)
0.75x3 (= 3x0.75)
1x1
1x1.2 (= 1.2x1)
1x2 (= 2x1.0)
1.2x2 (= 2x1.2)



Accessories: (cf. page 3)


MOUNT-LS08

MOUNT-LS08/2

(Mounting angles)



Technical Data

Type	A-LAS-08
Shape	Laser light barrier in cylindrical shape. 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 3 mm (depends on the aperture used)
Working range	Max. 10 m (depends on the aperture used)
Min. detectable object	Typ. 1% of aperture size
Reproducibility	Typ. 1% 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	Brass, nickel-plated
Housing dimensions	Transmitter and receiver: each LxØ approx. 52 mm x Ø 8 mm (without connector M8)
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.

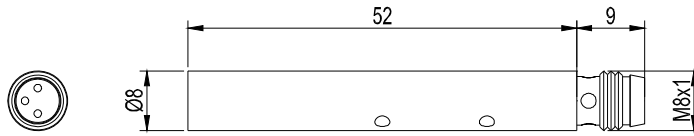
The laser transmitters of A-LAS series series are supplied with an information label „CLASS 1 Laser Product“.



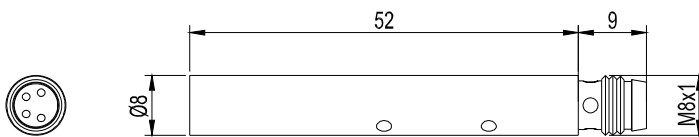
Class 1 Laser Product
IEC 60825-1: 2014
P<0.39 mW; λ=670 nm
COMPLIES WITH 21 CFR 1040.10 AND 1040.11
EXCEPT FOR CONFORMANCE WITH IEC 60825-1
ED. 3, AS DESCRIBED IN
LASER NOTICE NO. 56, DATED MAY 8, 2019.

Dimensions

A-LAS-08-T



A-LAS-08-R



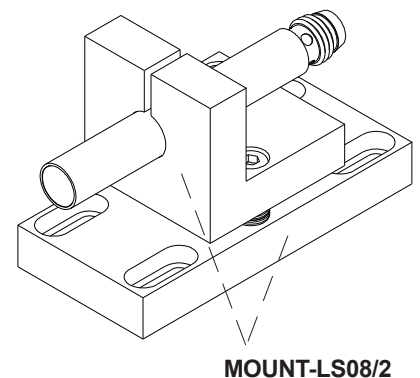
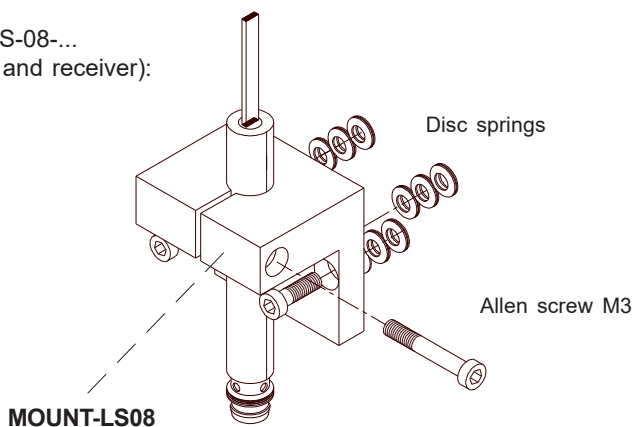
All dimensions in mm

Mounting Accessories

Mounting angle for A-LAS-08-...
(suitable for transmitter and receiver):
(please order separately)

MOUNT-LS08
(aluminum, anodized)

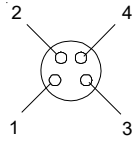
MOUNT-LS08/2
(aluminum, anodized)



Connector Assignment

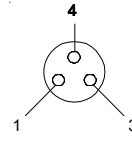
Receiver: 4-pole M8-connector

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:

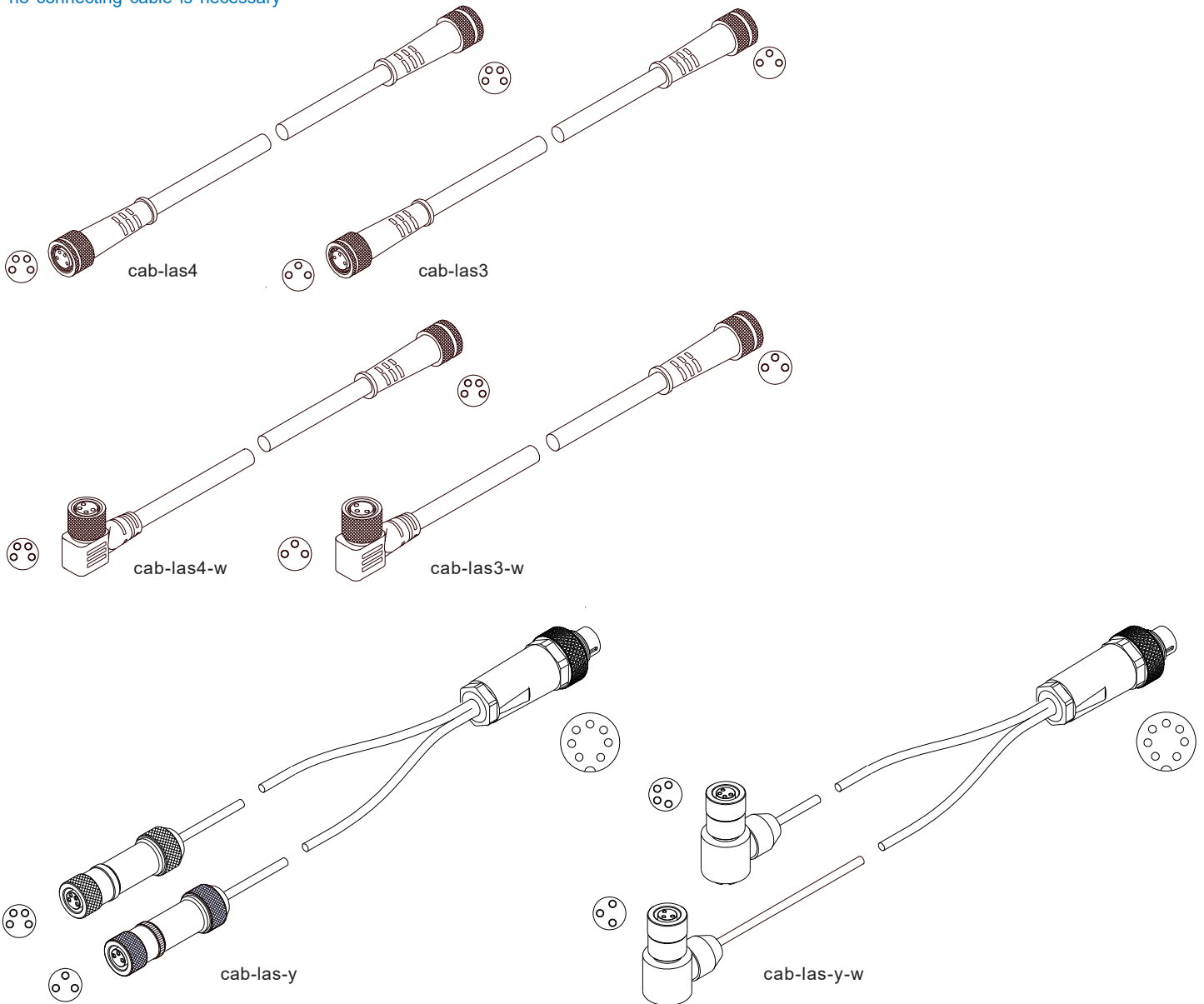
cab-las3-(length) or cab-las3-w-(length) für transmitter
 cab-las4-(length) or cab-las4-w-(length) für receiver
 (standard length each 1m, also available lengths: 2m, 3m, or 5m)

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:

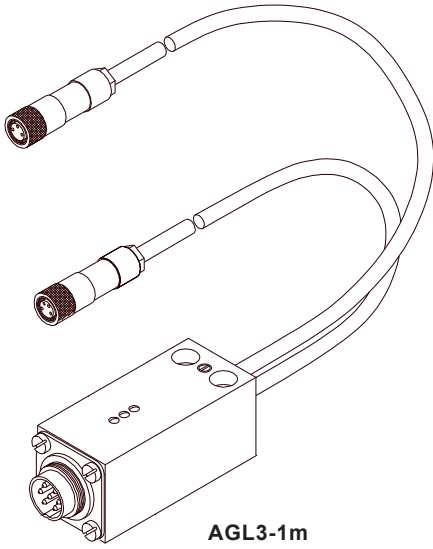
no connecting cable is necessary



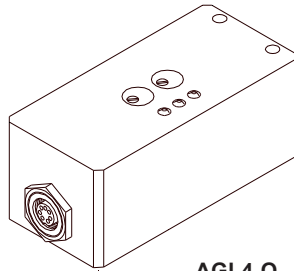


Electronic Control Units

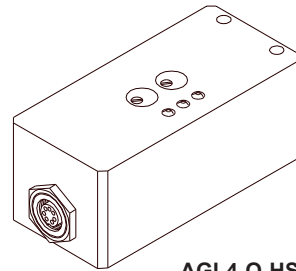
Suitable electronic control units:



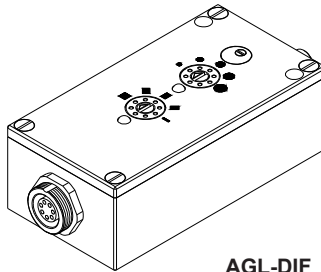
AGL3-1m
AGL3-2m
AGL3-3m
AGL3-4m
AGL3-5m



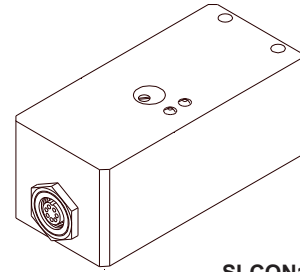
AGL4-Q
AGL4-Qinv
AGL4-Qinv-200ms



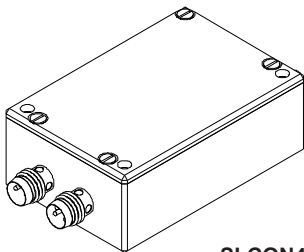
AGL4-Q-HS-500kHz-24V_LED
AGL4-Qinv-HS-500kHz-24V_LED



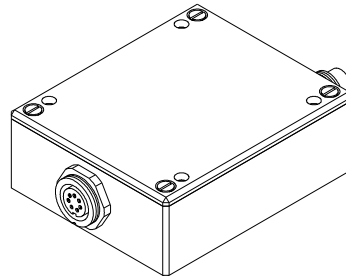
AGL-DIF



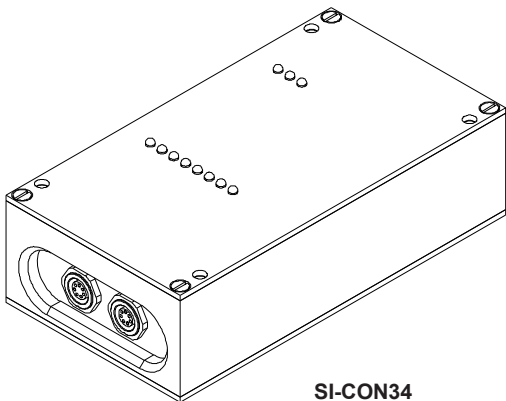
SI-CON11-0/20
SI-CON11-0/20-5V
SI-CON11-0/20-IC
SI-CON11-4/20
SI-CON11-4/20-IC
SI-CON11-5/25
SI-CON11-5/25-IC



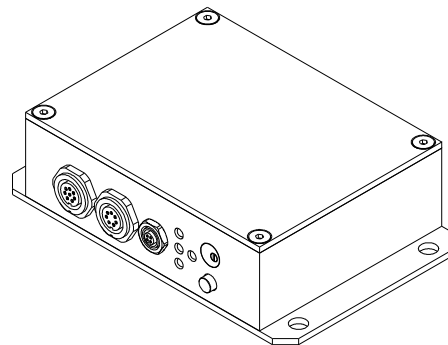
SI-CON4
 (incl. Windows® PC software
 A-LAS-Scope)



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)



Application Example

100% inspection of plug contacts

The quality of plug contacts must be checked during the production of punched parts. What is measured in this process in the "gap size" (plug gap), the width and height of the contact.

Measurement is performed with an A-LAS-08 in a transmitted-light process; the amount of laser light that is covered by the plug contact is proportional to the decrease of analog voltage. The analog signal must be picked up at the right time (an FIA-FE light barrier provides an exact trigger signal).

