A-LAS Series

In Proud Partnership with Sensor Instruments
PAQUIN SENSORS
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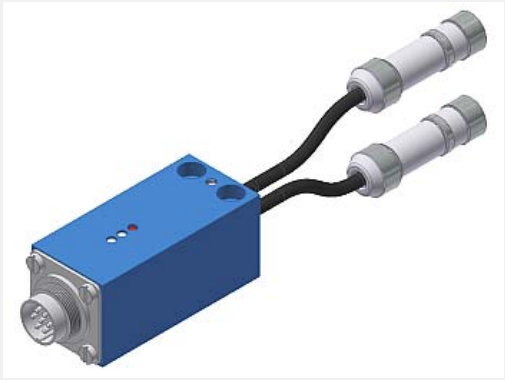
AGL3 Electronic Control Unit

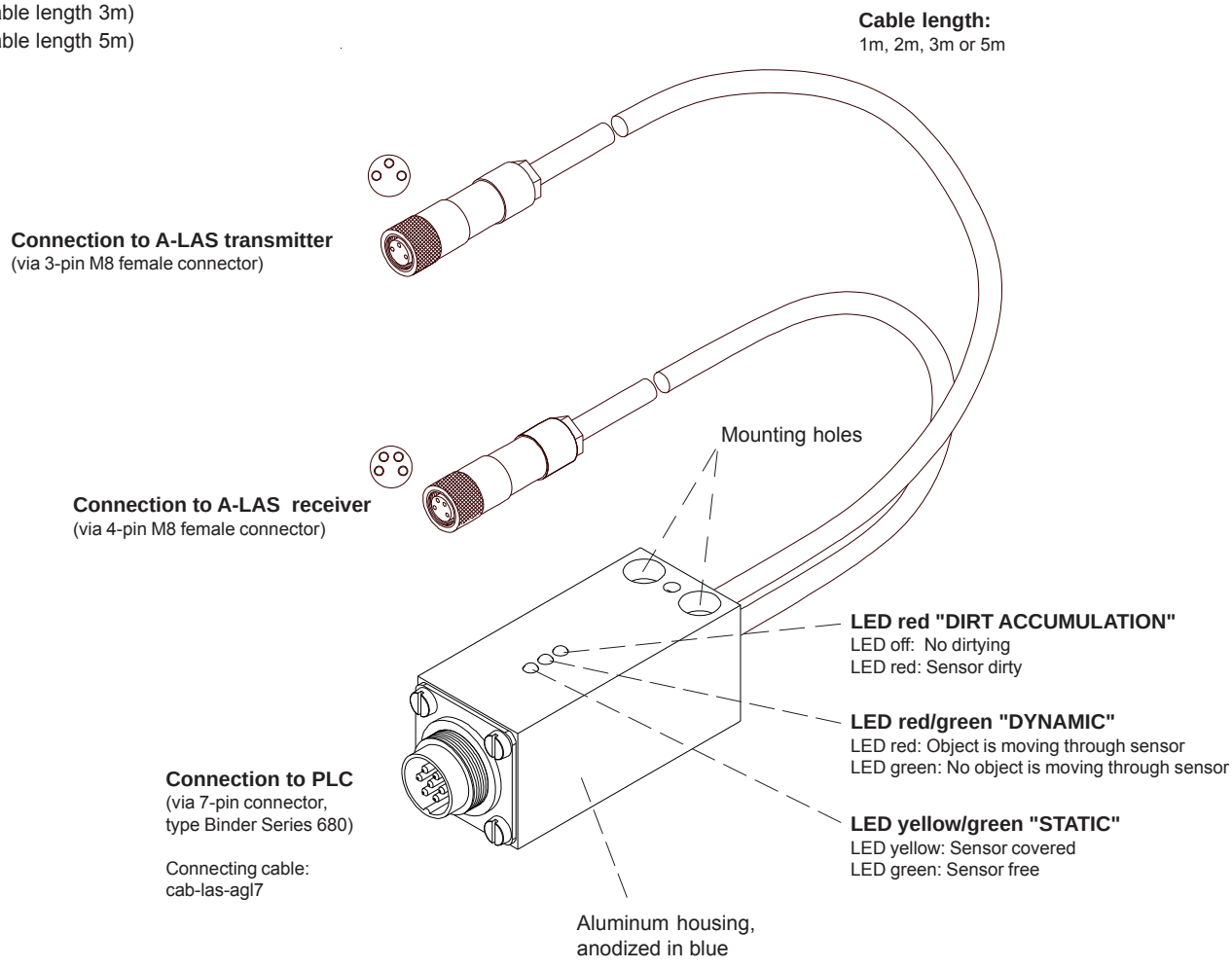
- For control of A-LAS analog laser light barriers
- Digital output static and dynamic (15 ms)
- Threshold correction can be activated via jumper
- High switching frequency (typ. 25 kHz)
- Analog output (0V ... +10V)
- Ultrahigh accuracy triggering (in µm-range)
- Detection of smallest objects (starting from 10 µm)
- Dirt accumulation compensation and indication
- Switching state indication dynamic/static



Design

Product name:

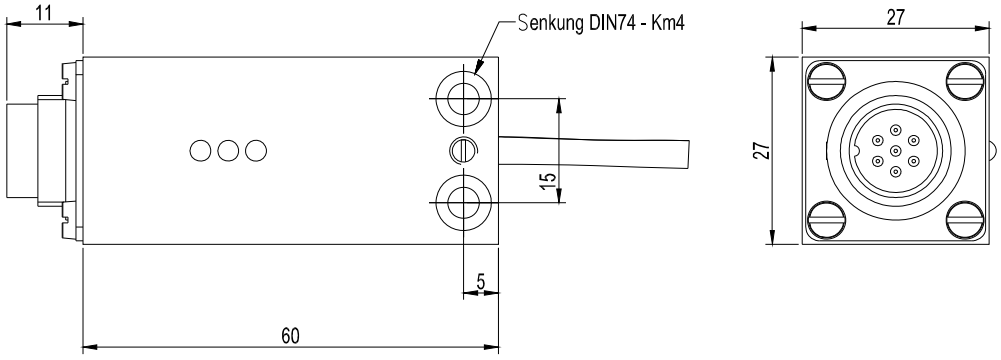
AGL3-1m (cable length 1m)
AGL3-2m (cable length 2m)
AGL3-3m (cable length 3m)
AGL3-5m (cable length 5m)



Technical Data

Model	AGL3
Voltage supply	+24VDC ± 10%, reversed polarity protected, short-circuit protected
Min. detectable object	starting from 10 µm (depends on the aperture used with A-LAS sensor)
Trigger accuracy	< 1 µm (depends on the aperture used with A-LAS sensor, and with threshold correction activated)
Resolution	typ. 0,1% of aperture size of A-LAS sensor
Linearity	depends on the A-LAS Sensor used and its aperture
Current consumption	with A-LAS sensor: typ. 80 mA
Operating temperature range	-20°C ... +60°C
Storage temperature range	-20°C ... +85°C
Housing material	Aluminum, anodized in blue
Housing dimensions	LxWxH approx. 60 mm x 27 mm x 27 mm
Type of protection	IP 64
Threshold correction	adjustable by means of an integrated jumper
Output ANALOG	0V ... +5V
Output DIGITAL STATIC	2x static: Qinv: NPN bright-switching (NPN normally closed) / PNP dark-switching (PNP normally open) Q: NPN dark-switching (NPN normally open) / PNP bright-switching (PNP normally closed)
Output DIGITAL DYNAMIC	2x dynamic (pulse length 15 ms) Qinv: NPN bright-switching (NPN normally closed) / PNP dark-switching (PNP normally open) Q: NPN dark-switching (NPN normally open) / PNP bright-switching (PNP normally closed)
Potentiometer for gain	10-step-potentiometer integrated in the housing
Potentiometer for trigger threshold	10-step-potentiometer integrated in the housing
Dirt accumulation display	LED red
Switching state display STAT	LED yellow/green (yellow = sensor covered, green = sensor free)
Switching state display DYN	LED red/green (red = object is moving through sensor, green = no object is moving through sensor)
Connector type	Connection to PLC: 7-pole connector Binder Series 680 Connection to sensor units: 3-pole or 4-pole M8 female connector via integrated cable
Cable length	alternatively 1m, 2m, 3m or 5m
Switching frequency	typ. 25 kHz
Max. switching current	200 mA, short circuit protected
Band width analog signal	50 kHz (-3dB)
EMC test acc. to	DIN EN 60947-5-2 CE

Dimensions



All dimensions in mm

Setting

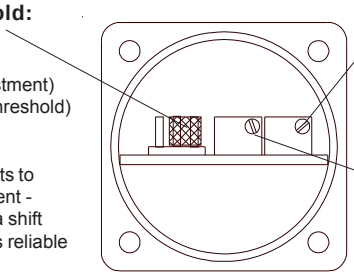
Procedure for the adjustment of potentiometers and jumper:

a) Unscrew the 4 slotted head screws
b) Unscrew the 2 plastic screws (tensile relief of the two cablesl)
c) Carefully pull the electronic unit out of the aluminum housing
d) Carry out setting of potentiometers and of jumper

Jumper for selection of threshold: static or dynamic

Jumper on the right: static (standard adjustment)
Jumper in the left: dynamic (corrected threshold)

Threshold correction:
The adjusted threshold automatically adapts to the current maximum value, this is to prevent - for instance in case of dirt accumulation - a shift of the trigger point. Furthermore this allows reliable detection of smallest objects.



Potentiometer for adjustment of gain factor
Increase of analog signal:
Rotation anticlockwise
(10-step-potentiometer)

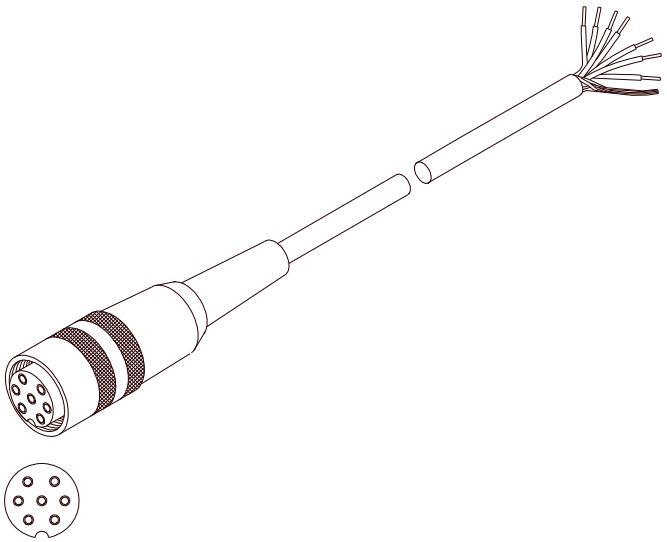
Potentiometer for adjustment of threshold
Increase of sensitivity:
Rotation anticlockwise
(10-step-potentiometer)

Connector Assignment

7-pole connector type Binder Series 680 (connection to PLC):

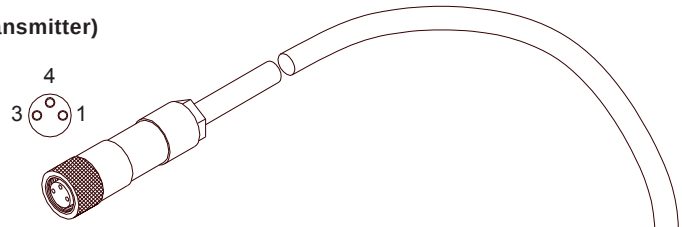
Pin no.:	Wire color:	Assignment:
1	blue	Output ANALOG (0V...+10V)
2	green	Output DIGITAL STATIC INV
3	grey	Output DIGITAL DYNAMIC (15 ms)
4	red	Output DIGITAL DYNAMIC INV (15 ms)
5	brown	+Ub (+24VDC ± 10%)
6	white	GND (0V)
7	yellow	Output DIGITAL STATIC

Connecting cable:
cab-las-agl7-(length)
(standard length: 2m,
also available in length 3m and 5m)



3-pole M8 fem. connector (for connection of A-LAS transmitter)

Pin no.:	Assignment:
1	+5 VDC
3	GND (0V)
4	not connected



4-pole M8 fem. connector (for connection of A-LAS receiver)

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