

# A-LAS Series

## ▶ A-LAS-N-F12-FOC-...-C

- High-precision triggering and detection of filaments
- Analog signal (0...+10V or 4...20mA) in connection with an electronic control unit type SPECTRO-1-CONLAS (contrast measurement) or SPECTRO-2-CONLAS (stand-alone operation of the light barrier is not possible, i.e. operation without electronic control unit is not possible)
- Focused, visible red laser beam (<0.39 mW, 670 nm), **laser class 1**
- Various fork sizes available
- Working range = fork width
- Insensitive to outside light due to interference filter
- Compact design, sturdy metal housing, IP67



### Design

#### Product name:

A-LAS-N-F12-FOC-(aperture)\*-(fork size)\*\*-C-2m

#### \* Available apertures:

Round apertures d... (Ø in mm):

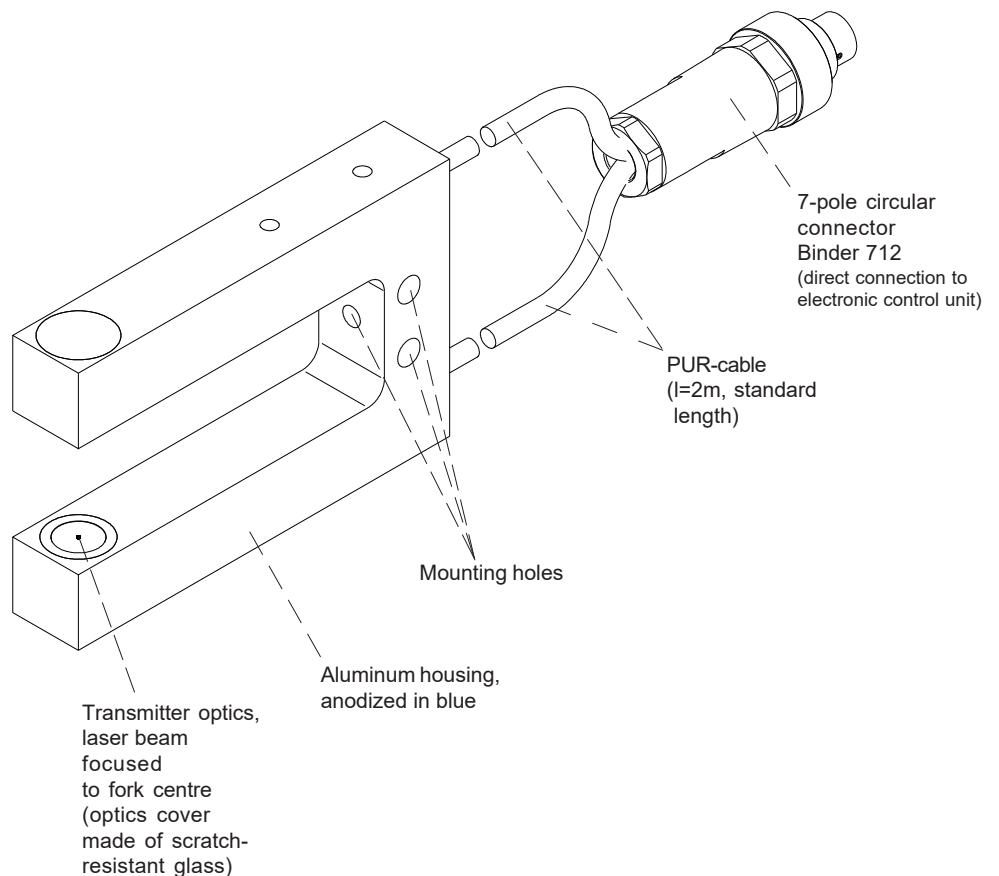
d0.5  
d1.0

#### \*\* Available fork sizes:

Fork size	Fork width (mm)	Fork depth (mm)
20/50	20	50
20/60	20	60
20/80	20	80
30/30	30	30
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

Special size:

120/100    120    100

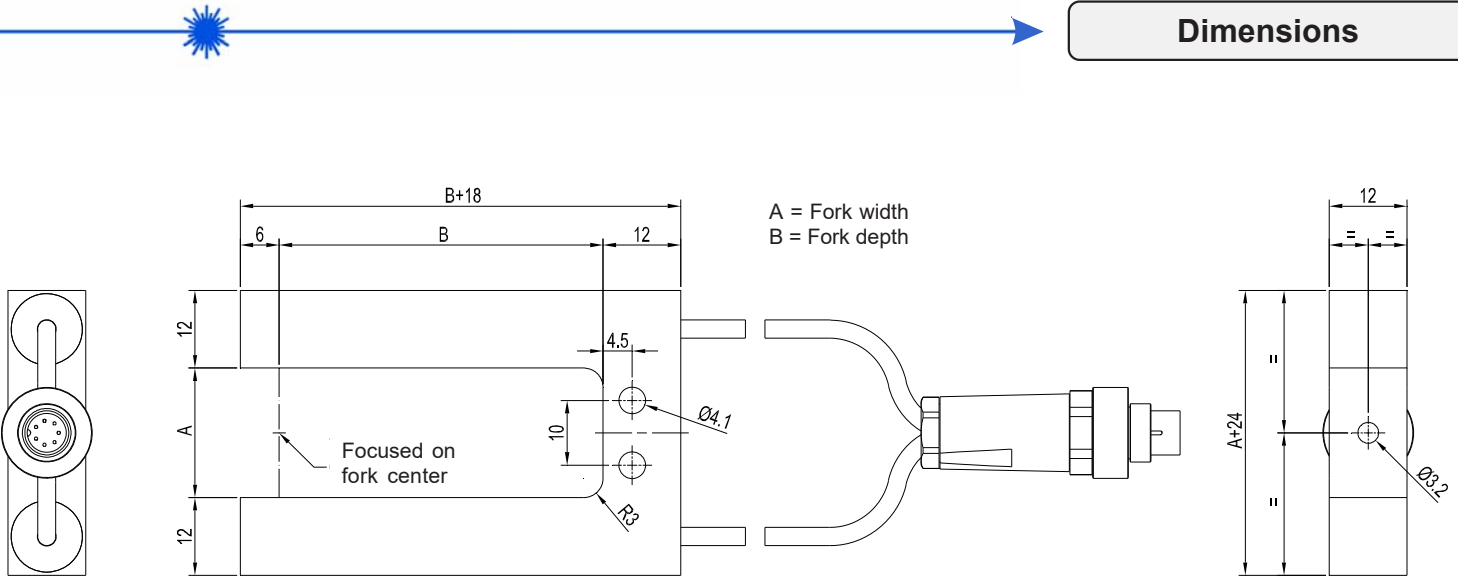




**Technical Data**

Type	A-LAS-N-F12-FOC-...-C
Shape	Laser light barrier in fork shape with 12 mm thick housing. Various round apertures are available.
Laser	Solid-state laser, focused, 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
Working range	working range = fork width
Min. detectable object	typ. 0,1% of aperture size
Reproducibility	typ. 0.8% of aperture size, with threshold correction (via electronic control unit SPECTRO-1-CONLAS or SPECTRO-2-CONLAS): typ. 0.1% of aperture size
Threshold correction	can be activated via a software-controlled electronics of type SPECTRO-1-CONLAS or SPECTRO-2-CONLAS
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 (1x)	voltage 0 ... +10V or current 4...20mA in connection with an electronic control unit SPECTRO-1-CONLAS or SPECTRO-2-CONLAS
Band width analog signal	100 kHz (-3 dB)
Sensitivity setting (switching threshold)	via software-controlled electronics of type SPECTRO-1-CONLAS or SPECTRO-2-CONLAS
Gain (analog signal)	via software-controlled electronics of type SPECTRO-1-CONLAS or SPECTRO-2-CONLAS
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	7-pole circular connector Binder Series 712
Cable length	max. 5m
Housing material	aluminum, anodized in blue
Housing dimensions	cf. page 3
Enclosure rating	IP67
EMC test acc. to	DIN EN 60947-5-2

Dimensions



All dimensions in mm

Fork size (A/B):

Fork size	Fork width (mm)	Fork depth (mm)
20/50	20	50
20/60	20	60
20/80	20	80
30/30	30	30
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

Special size:

120/100	120	100
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Laser Information

The following applies to the use of laser sensor front ends of the A-LAS-N-...-C series in conjunction with the SPECTRO-1-CONLAS or SPECTRO-2-CONLAS electronic control unit:

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



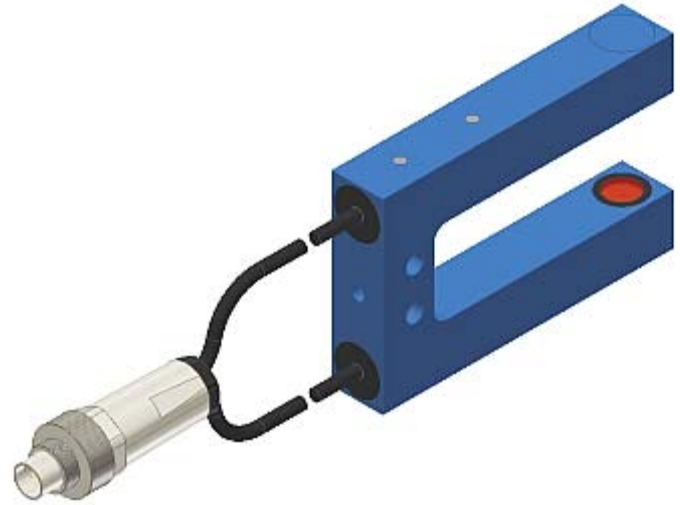
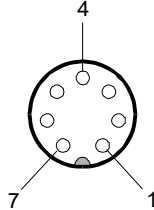
**Class 1 Laser Product**  
 IEC 60825-1: 2014  
 P<0.39 mW; λ=670 nm  
 COMPLIES WITH 21 CFR 1040.10 AND 1040.11  
 EXCEPT FOR CONFORMANCE WITH IEC 60825-1  
 ED. 3, AS DESCRIBED IN  
 LASER NOTICE NO. 56, DATED MAY 8, 2019.



**Connector Assignment**

**Connection to electronic control unit  
SPECTRO-1-CONLAS or SPECTRO-2-CONLAS  
by means of a 7-pole circular connector Binder 712:**

Pin No.:	Assignment:
1	GND (0V)
2	+5V
3	Intensity
4	+5V
5	ANALOG
6	Clock
7	GND (0V)



Connection directly to an electronic control unit of type SPECTRO-1-CONLAS bzw. SPECTRO-2-CONLAS

Available optionally  
Extension cable  
cab-las7/712-fem-male-...  
(cable length 1m, 2m, 3m, 4m)  
Please note:  
Max. total length of the cable (A-LAS-N-...-C + extension cable) is 5m

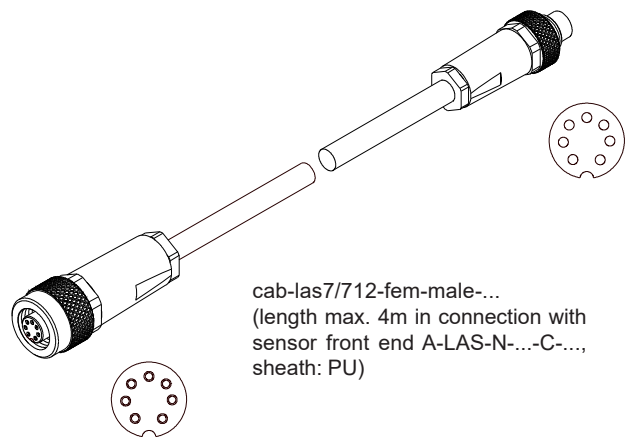


**Extension Cable**

**Available optionally:  
Extension cable for sensor frontends of the A-LAS-N-...-C series  
cab-las7/712-fem-male-(cable length)\***

**7-pole circular connector Binder 712:**

Pin No.:	Assignment:
1	0V (GND)
2	+5V
3	Intensity
4	+5V
5	ANALOG
6	Clock
7	0V (GND)



cab-las7/712-fem-male-...  
(length max. 4m in connection with sensor front end A-LAS-N-...-C-..., sheath: PU)

Serves to extend the integrated connection cable of an already existing sensor front end of the type A-LAS-N-...-C series to the control electronics control electronics SPECTRO-1-CONLAS or SPECTRO-2-CONLAS  
\*Cable length 1m, 2m, 3m, 4m

Please note:  
The total cable length of A-LAS-N-...-C + extension cable must not exceed 5m:

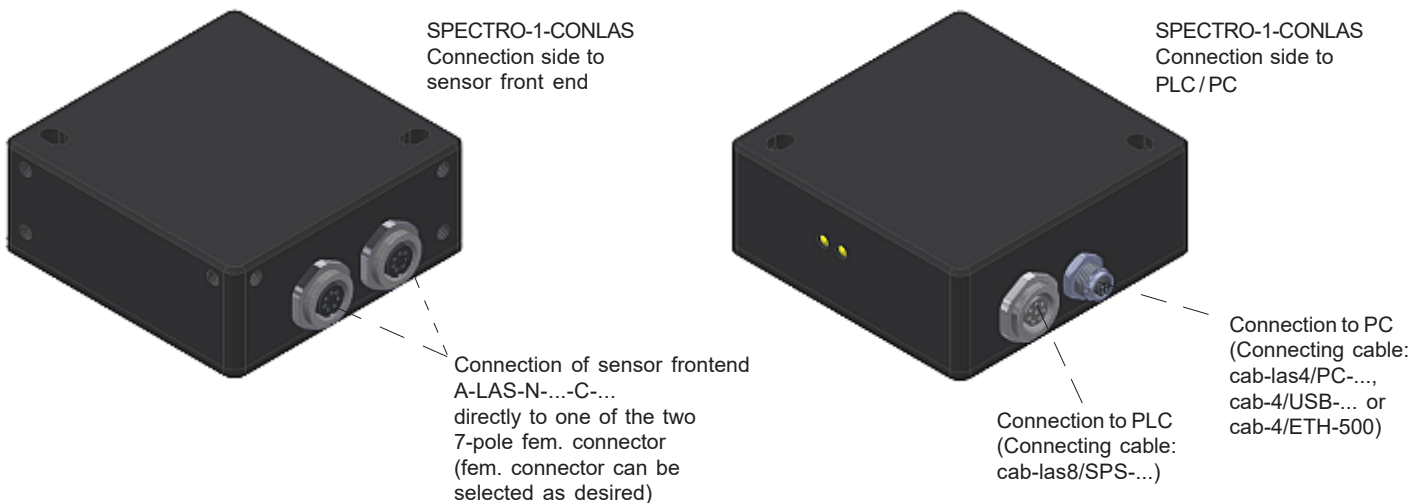
- A-LAS-N-...-C-1m (= length 1m) + cab-las7/712-fem-male-(...) length max. 4m
- A-LAS-N-...-C-2m (= length 2m) + cab-las7/712-fem-male-(...) length max. 3m
- A-LAS-N-...-C-3m (= length 3m) + cab-las7/712-fem-male-(...) length max. 2m
- A-LAS-N-...-C-4m (= length 4m) + cab-las7/712-fem-male-(...) length max. 1m
- A-LAS-N-...-C-5m (= length 5m) // no extension cable cab-las7/712-fem-male-(...) permitted



Electronic Control Unit

**Electronic control unit SPECTRO-1-CONLAS with Windows® software SPECTRO1-Scope**

- Electronic control unit for control of laser sensor frontends of A-LAS-N-...-C Series or FK-...-LAS-IR Series
- High scan frequency
- Gray scale detection (12-bit resolution)
- Insensitive to outside light (in AC-operation)
- Brightness correction can be activated (STAT/DYN)
- Averaging can be activated (from 1 up to over 32000 values)
- Teach via PC or PLC
- 2 digital inputs (0V/+Ub)
- 2 digital outputs (max. 60 kHz switching frequency)
- 1 analog output (0V...+10V or 4...20mA), selectable via software
- Switching state indication by means of 2 yellow LEDs
- RS232 interface (USB or ETHERNET converter available)
- Parameterizable via Windows® software, scope function
- Temperature compensated (from 0°C to 60°C)
- Automatic threshold correction can be activated
- Switching threshold can be parameterized relative or absolute
- Various switching threshold functions (window, upper/lower threshold)





**Electronic Control Unit**

**Electronic control unit SPECTRO-2-CONLAS with Windows® software SPECTRO2-Scope**

- Electronic control unit for controlling up to two laser sensor frontends of the A-LAS-N-...-C series or FK-...-LAS-IR Series
- Wide range of applications
- Various evaluation modes available:  
Distance measurement (BICONE),  
contrast comparison (NORM),  
2-channel contrast control
- Fast evaluation methods in DC-operation available  
(up to 130kHz)
- Insensitive to outside light (in AC-operation)
- Parameterizable via Windows® software
- RS232 interface (RS232/Ethernet converter and  
RS232/USB converter available)
- Suitable for use in hazardous areas (fiber optics)
- 1 analog output (0V... +10V or 4mA...20mA), selectable via software
- 2 digital outputs (0V/+24V)
- External trigger input and teach input
- Linearization by means of an editable linearization curve

