

# D-LAS Series

## ► D-LAS90-VACU-...

- Suitable for use in the vacuum (HV, UHV)
- Enables precise positioning
- Visible laser beam (<0.4 mW, 670 nm), **laser class 1**
- Parallel laser light with homogeneous light distribution in round or rectangular cross-section detects smallest objects
- Two aperture sizes available (Ø 0.3mm or Ø 0.5 mm)
- Housing made of special steel (V2A)
- Integrated Capton® wires with stainless steel sheath



### Design

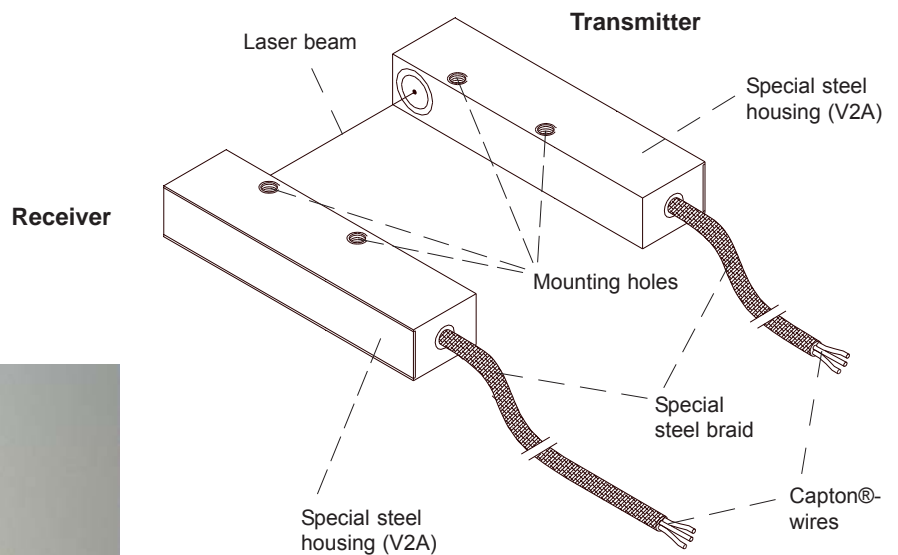
#### Product name:

**Transmitter:** D-LAS90-VACU-(aperture)\*-T-1m (cable length 1m)  
 D-LAS90-VACU-(aperture)\*-T-2m (cable length 2m)

**Receiver:** D-LAS90-VACU-(aperture)\*-R-1m (cable length 1m)  
 D-LAS90-VACU-(aperture)\*-R-2m (cable length 2m)

#### \*Available apertures

d0.3 (circular aperture Ø 0.3 mm)  
 d0.5 (circular aperture Ø 0.5 mm)



D-LAS90-VACU-R with special steel shield and Capton®-wires



**Technical Data**

Type	D-LAS90-VACU
Laser	Solid state laser, 670nm, AC-operation, 0.4 mW max. optical output, laser class 1 acc. to DIN EN60825-1. The use of this laser transmitter therefore requires no additional protective measures.
Max. range	500 mm with aperture d0.3 1000 mm with aperture d0.5
Min. detectable object	0.1mm with aperture d0.3 0.3mm with aperture d0.5
Reproducibility	20µm with aperture d0.3 40µm with aperture d0.5
Optical filter	Interference filter
Voltage supply	+24VDC (± 10%), protected against polarity reversal, overload protected
Feed cable	3x Capton®-cable, special steel braid
Alternating current/ direct current supply	AC operation (100 kHz)
Ambient light	up to 5000 Lux
Max. switching current	100mA, short-circuit-proof
Type of protection	IP67
Operating temperature range	-20°C ... +50°C
Storage temperature range	-20°C ... +85°C
Housing material	Special steel (V2A)
Vacuum suitability	tested up to $1 \times 10^{-7}$ mbar
Aperture size	d0.3 = 0.3 mm in diameter d0.5 = 0.5 mm in diameter
Current control input	0V...+5V: Laser power decreases linearly with increase of voltage
I-Control	+5V...+24V: Laser OFF
Switching frequency	typ. 1 kHz



**Laser Information**

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

**CLASS 1 Laser Product**  
IEC 60825-1: 2008-05  
THIS LASER PRODUCT COMPLIES  
WITH 21 CFR 1040 AS APPLICABLE

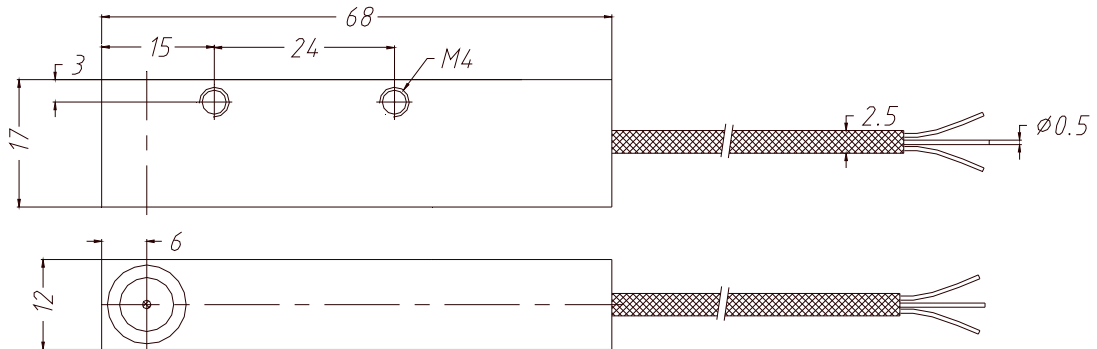




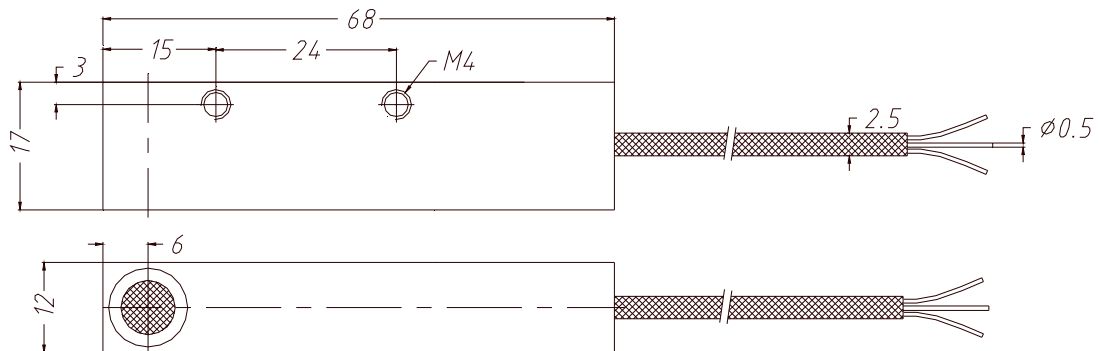
Dimensions

D-LAS90-VACU-T (transmitter):

(All dimensions in mm)



D-LAS90-VACU-R (receiver):



Connector Assignment

D-LAS90-VACU-T (transmitter): 3x Capton® cable:  
 short: +24VDC (± 10%)  
 medium: GND (0V)  
 long: I-CONTROL

D-LAS90-VACU-R (receiver): 3x Capton® cable:  
 short: +24VDC (± 10%)  
 medium: GND (0V)  
 long: OUTPUTQinv  
 npn bright-switching (nnp n.c.)/  
 pnp dark-switching (pnp n.o.)

