

**NEW Versions**

# LINOS Motorized Beam Expanders 1x-4x and 2x-8x

The motorized variable beam expander is a sophisticated model of the existing variable LINOS beam expander. It allows an adaption of the focus diameter, the focal position as well as the spot quality.

Its motorization contributes to considerably reduced set-up times and higher repetition accuracy. The external control allows for universal and flexible use of the laser light in production processes, with the need of different beam diameters and defocusing of the laser.

## Features

- Continuous variable magnification 1x ... 4x and 2x ...8x for wavelength 340-360 nm, 515-540 nm or 1030-1080 nm
- Fused-silica designs
- Expansion and divergence adjustable
- Control via serial interface commands (e.g. terminal program)
- Software running on the Windows™ platform (Win10)
- Reduce machine setup times by automatic change of magnification
- Maintains laser protection class during readjustment of the beam expander
- All-in-one design, controller integrated
- CE and ROHS conform
- IP 20

## Technical Data

- Max. entrance-beam diameter up to 8 mm, max. exit-beam diameter 31 mm
- 10 individual pre-sets for magnification and divergence
- Pointing stability < 0.5 mrad
- Fast adjustment from 2x to 8x up to 7 sec
- Includes interchangeable protective glasses
- Mechanical dimensions: length 167 mm (1x-4x), 203 mm (2x-8x), width 58 mm, height 55.5 mm
- Mechanical interface via high-precision holes 6<sup>H7</sup>
- Different electronic interfaces: SubD9/RS232, Phoenix Contact/RS232
- Baud rate: 9600 bit/sec
- Power input 7-12 V, Phoenix Contact 7-24 V



Beam Expander 1x-4x  
for 340-360 nm

## LINOS Motorized Beam Expander 1x-4x - fused silica

**NEW**  
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Wavelength * (nm)	Max. entrance-beam diameter at 1/e <sup>2</sup> (mm)	PC Interface	Part No.
340 - 360	8	SubD9/ RS232	4401-596-000-20
340 - 360	8	Phoenix Contact/ RS232	4401-596-000-21
515 - 540	8	SubD9/ RS232	4401-597-000-20
515 - 540	8	Phoenix Contact/ RS232	4401-597-000-21
1030 - 1080	8	SubD9/ RS232	4401-598-000-20
1030 - 1080	8	Phoenix Contact/ RS232	4401-598-000-21

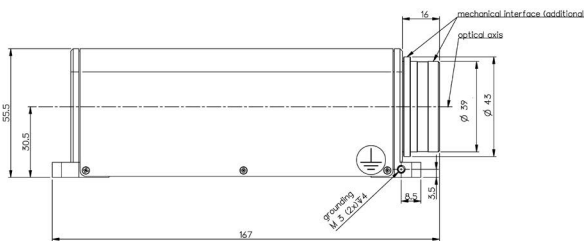
## LINOS Motorized Beam Expander 2x-8x - fused silica

Wavelength * (nm)	Max. entrance-beam diameter at 1/e <sup>2</sup> (mm)	PC Interface	Part No.
340 - 360	6	SubD9/ RS232	4401-634-000-20
340 - 360	6	Phoenix Contact/ RS232	4401-634-000-21
515 - 540	8	SubD9/ RS232	4401-515-000-20
515 - 540	8	Phoenix Contact/ RS232	4401-515-000-21
1030 - 1080	8	SubD9/ RS232	4401-514-000-20
1030 - 1080	8	Phoenix Contact/ RS232	4401-514-000-21

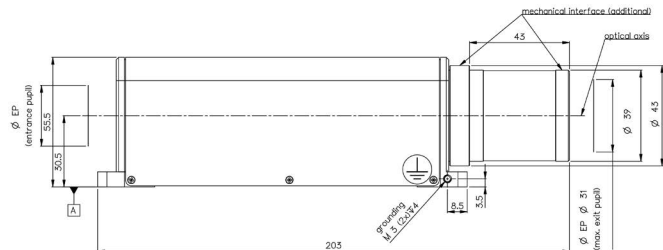
\* Damage thresholds: a) 4 J/cm<sup>2</sup> @355 nm with 6 ns pulse length, 100 Hz and 0.4 J/cm<sup>2</sup> @343 nm with 200 fs pulse length, 1 kHz  
 b) 20 J/cm<sup>2</sup> @532 nm with 8 ns pulse length, 100 Hz and 0.6 J/cm<sup>2</sup> @515 nm with 204 fs pulse length, 50 kHz  
 c) 40 J/cm<sup>2</sup> @1064 nm with 12 ns pulse length, 100 Hz and 0.9 J/cm<sup>2</sup> @1030 nm with 291 fs pulse length, 5 kHz

Entrance-beam diameter max. = 31 mm / zoom factor

### Mechanical dimensions



1x-4x



2x-8x

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