# Beam Expander 1x-8x Motorized

Automated Configuration Setting with Smart BEX

- Motorized magnification and focus change
- Focus compensation in closed loop mode
- Temperature measurement
- Easy integration due to broad coverage of digital interfaces

## Specification

Please take the technical specifications of the optical values from our Beam Expander 1x-8x on the following page.

<table>
<thead>
<tr>
<th>Order Number</th>
<th>1030-1080 nm&lt;sup&gt;1)&lt;/sup&gt;</th>
<th>515-540 nm</th>
<th>355 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>611842</td>
<td></td>
<td>627445</td>
<td>613266</td>
</tr>
</tbody>
</table>

## Mechanical

- Increments for step-less adjustment of magnification: < 0.01
- Time for configuration change: < 3 s (from 1x to 8x<sup>2)</sup>
- Weight: < 1.2 kg
- Outer dimensions: 210 x 74.8 x 98.2 mm

## Optical

- Lens material: Fused silica
- Max. residual divergence of collimated beam: < 1 mrad (input side) at 6 mm beam diameter at input side<sup>2)</sup>
- GDD<sup>3)</sup>: 339 fs² [1030-1080 nm] | 1580 fs² [515-540 nm] | 2810 fs² [355 nm]
- LIDT coating pulsed; CW<sup>4)</sup>: 5.0 J/cm² * (τ/μs)° 0.30; 5.0 MW/cm² [1030-1080 nm]
  2.5 J/cm² * (τ/μs)° 0.30; 2.5 MW/cm² [515-540 nm]
  1.0 J/cm² * (τ/μs)° 0.40; 1.0 MW/cm² [355 nm]
- LIDT system pulsed; CW<sup>4)</sup>: 0.35 J/cm² * (τ/μs)° 0.30; 0.35 MW/cm² [1030-1080 nm]
  0.20 J/cm² * (τ/μs)° 0.30; 0.20 MW/cm² [515-540 nm]
  0.10 J/cm² * (τ/μs)° 0.40; 0.10 MW/cm² [355 nm]
- Transmittance: ≥ 97 %
- Beam pointing stability<sup>5)</sup>: < 0.3 mrad

## Electrical

- Supply voltage<sup>6)</sup>: 24 ± 3 V
- Max. current consumption: < 1.5 A
- Standard control interface: USB, digital interface (5V TTL, high-level 3.7…7 V, configurable) [EtherCAT, EtherNet, Profinet, RS485, RS232]
- Software interface: C, C++, C#, Labview, Excel
- Software protocols: Text protocol, binary protocol

## Ambient conditions

- Operation temperature (measured inside the device): 5°C - 40°C (non-condensing conditions)
- Storage temperature: 0°C - 70°C (non-condensing conditions)

<sup>1)</sup> Other IR wavelengths (e.g. 980 nm) upon request.  
<sup>2)</sup> Compensable residual divergence at input side depends on beam diameter.  
<sup>3)</sup> Group delay dispersion.  
<sup>4)</sup> See technical note.  
<sup>5)</sup> At minimal adjustment error.  
<sup>6)</sup> Power supply unit for 0-264V single phase and 50/60 Hz is included.  
<sup>7)</sup> Magnification value can vary by ± 5% from that specified actual.  

Additional options like mounting brackets, adjusting possibilities, adaptable fiber coupling add-on, adaptable beam deflection units e.g. upon request.

![Diagram](image-url)