# 455nm 5W

PRODUCT SPECIFICATION SHEET



## SPECIFICATIONS

| | |
|---|---|
| ***Module series:*** | Single Diode |
| ***Model Nr.:*** | M-455LM-5k |
| ***Optical power:*** | 5 W |
| ***Laser class according to IEC 60825-1 standard:*** | 4 |
| ***Center wavelength:*** | 455 nm |
| ***Center wavelength tolerance:*** | ± 5 nm |
| ***Spectral width:*** | < 2 nm |
| ***Center wavelength thermal drift:*** | 0.8 nm / 10°C |
| ***Beam size (1/e²):*** | TBD |
| ***Beam divergence (full angle):*** | TBD |
| ***Linear polarization:*** | Y |
| ***Polarization ratio:*** | 100:1 |
| ***Polarization azimuth tolerance:*** | ± 5° |
| ***Mode structure:*** | Multi-mode |
| ***M² (horizontal/vertical):*** | TBD |
| ***Power stability (over 1 hour, CW operation, after warm-up and ±3°C):*** | < 0.5 % |
| ***Pointing stability (over 1 hour, CW operation, after warm-up and ±3°C):*** | < ±100 µrad |
| ***Output window beam centering:*** | < ±1 mm |
| ***Beam perpendicularity:*** | < ±1° |
| ***Warm-up time:*** | < 5 min |
| ***Laser power control modes:*** | Analog, TTL, USB, potentiometer |
| ***Analog input signal:*** | 0–5V (0.5–4.5V with TCCO on) |
| ***TTL input signal:*** | 0–0.8V: low; 2–5V: high |
| ***Bandwidth (analog input, 3 dB cut-off frequency):*** | 240 kHz (252 kHz TCCO off) |

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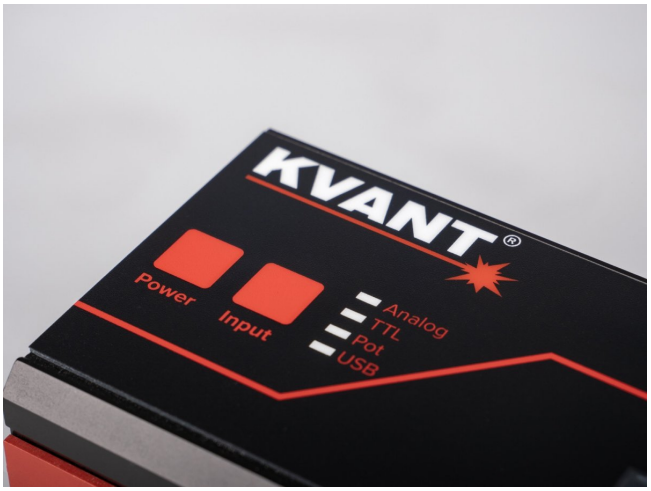
| | |
|---|---|
| ***Rise time (10% - 90%):*** | 700–900 ns |
| ***Fall time (90% - 10%):*** | 1–2 µs |
| ***Phase shift:*** | 0.6–4 µs |
| ***Analog/TTL input impedance:*** | 5 kΩ |
| ***Connection cable (laser head to control box):*** | HDMI 1.4+, max 1m |
| ***Communication with PC:*** | USB-C (control box only) |
| ***Interlock:*** | Shorted: enabled (3.3V, 10kΩ);<br>Opened: disabled |
| ***Operating base plate temperature range:*** | < 50°C |
| ***Operating ambient temperature range:*** | 5–40°C (heat sink dep.) |
| ***Storage temperature range:*** | (-10)–80°C |
| ***Ingress protection (laser head only):*** | IP64 |
| ***Power consumption:*** | typ. 20W; max. 50W |
| ***Input voltage:*** | min. 20V (Type PD) |
| ***Input voltage connector type:*** | USB-C (laser head) |
| ***Laser head dimensions (LxWxH):*** | 70(84) × 120 × 46 mm |
| ***Laser head weight:*** | 0.7 kg |
| ***Control box dimensions (LxWxH):*** | 53 × 29 × 36 (w/o connectors) |
| ***Control box weight:*** | 40 g |
| ***Expected lifetime:*** | > 10 000 h |

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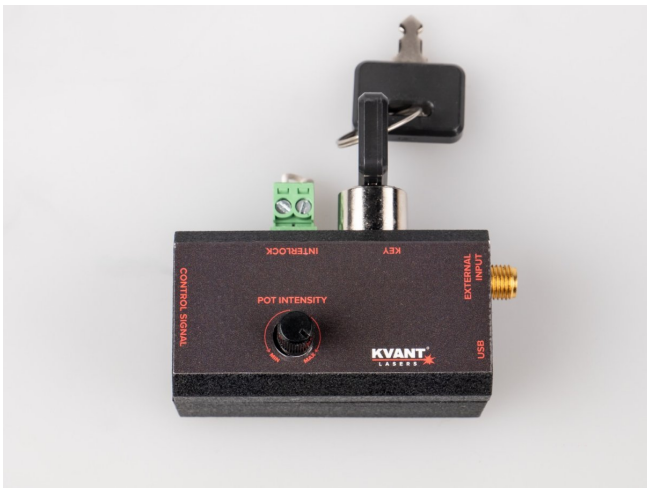
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## GALLERY








## DIMENSIONS (mm)

