

DM Dual Head Green Series

DM20/30/40-527-DH

DM50/60-527-DH

DM100-527-DH

DM60-532-DH

DM100-532-DH

DM150-532-DH

DM200-532-DH

PI offers any of its DM Series lasers in a Dual Head (DH) configuration. This combines the output from two identical lasers in an external beam combination box allowing the flexibility for the user to adjust the beams. In addition to short temporal pulse separation, this has the advantage of polarization, energy, and/or alignment independence. The Dual Head enables control of spatial and temporal beam overlap and independent control of energy. In addition, the two lasers can be triggered independently or simultaneously. What is sacrificed in compactness is gained in user flexibility.



Features

- Repetition rate from:
 - Single shot to 10kHz for YLF
 - 1kHz to 30kHz for DM60/100 YAG
 - 1 to 50kHz for DM150/200 YAG
- Reliable diode pumped technology
- Proven industrial 24/7 reliability
- Compact form factor
- Output at 532nm or 527nm
- Excellent energy stability for reduced noise
- Beam profile optimized for homogenous illumination and light sheet generation
- Optimized for PIV performance
- Highest energy per pulse for more illumination
- Comparable pulses for perfect correlation
- Quad Pulse - up to 4 pulses from a single trigger signal.
- Internal attenuator option

System Specifications

| Model | DM20/30/40-527-DH | DM50/60-527-DH | DM100-527-DH |
|---------------------------------------|--|------------------------------|-------------------------|
| Wavelength (nm) | 527 | | |
| Pulse Energy (mJ)* | 40/60/80@1kHz | 100/120@1kHz | 200@1kHz |
| Average Power (W) @ 3kHz* | 60/90/120 | 150/180 | 300 |
| Pulse Width (ns)† | ~170/150/130@1kHz | | ~120@1kHz |
| Repetition Rate | Single shot to 10kHz | | 0.5kHz to 10kHz |
| Pulse to Pulse Stability† | <0.5% rms | | <0.75% rms |
| Beam Diameter (nominal)† | 5.0 mm | | 7.0 mm |
| Beam Divergence† | 8.0 mrad (nominal) | | |
| Beam Circularity† | >85% | | |
| Spatial Mode (M2) † | ~ 13 to 18 | | |
| Beam Pointing Stability† | <25 urad | | |
| Long Term Stability† | 0.5% rms | | |
| Interface | RS 232 / External TTL Triggering / GUI software included | | |
| Warm-up Time | < 5 min from standby or cold start | | |
| Electrical Requirement | 100 - 240 V | 200-240V | 100 - 240 V |
| Line Frequency | 50-60 Hz | | |
| Power Consumption (excluding chiller) | 1.6/2.0/3.2 kW | 3.4/3.6 kW | 4.6 kW |
| Dimensions | Laser Head | 12 in x 26 in x 4.6‡ in | 24 in x 32 in x 4.6‡ in |
| (W x H x L) | Controller | 19 in x 15 in x 5.25 in (3U) | |
| Weight | Laser Head | 85 lbs | 200 lbs |
| | Controller | 20 lbs | |
| Umbilical Length | 3 m | | |
| Ambient Temperature | 15 to 30 °C | | |

* 2 head combined

† Each individual head

‡ Includes height of desiccant (0.35")

Options:

Photonics Industries offers a special PIV electronics twin pulse option on both the single head and dual head DM series models. Use of the twin pulse option with the head DM can yield up to 4 pulses from a single trigger signal.

Internal Attenuator option increases the length from 26 in to 27.5 in

Features:

- Combined pulse energy or power
 - Up to 200mJ at 1kHz(527 nm) – DM100-527-DH
 - Up to 400W at 10kHz(532nm) – DM200-532-DH
- Continuously adjustable pulse separation with nanosecond resolution

System Specifications

| Model | DM60-532-DH | DM100-532-DH | DM150-532-DH | DM200-532-DH |
|---------------------------------------|--|------------------------------|--------------|-------------------------|
| Wavelength (nm) | 532 | | | |
| Average Power @ 10kHz* | 120 | 200 | 300 | 400 |
| Pulse Energy (mJ) @ 10kHz* | 12 | 20 | 30 | 40 |
| Pulse Width (ns) @ 10 kHz (nominal)† | ~190 | ~130 | ~200 | ~110 |
| Repetition Rate | 1 to 30 kHz | | 1 to 50 kHz | |
| Pulse to Pulse Stability† | < 1% rms | | | |
| Beam Diameter (nominal)† | 3 mm | | 4.5 mm | |
| Beam Divergence† | < 9 mrad | | 10 mrad | |
| Beam Circularity† | > 85% | | | |
| Spatial Mode (M2)† | ~ 15 | ~ 20 to 25** | ~ 15 | |
| Beam Pointing Stability† | < 25 urad | | | |
| Long Term Stability† | <0.5% rms | | | |
| Interface | RS 232/External TTL Triggering/GUI Software Included | | | |
| Warm-up Time | < 5 min from standby or cold start | | | |
| Electrical Requirement | 100-240V | 200-240V | | |
| Line Frequency | 50-60 Hz | | | |
| Power Consumption (excluding chiller) | 3 kW | 3.5 kW | 4.5 kW | 5 kW |
| Dimensions | Laser Head | 12 in x 26 in x 4.6‡ in | | 24 in x 32 in x 4.6‡ in |
| (W x H x L) | Controller | 19 in x 15 in x 5.25 in (3U) | | |
| Weight | Laser Head | 85 lbs | | 200 lbs |
| | Controller | | 20 lbs | |
| Umbilical Length | 3 m | | | |
| Ambient Temperature | 15 to 30 °C | | | |

* 2 head combined

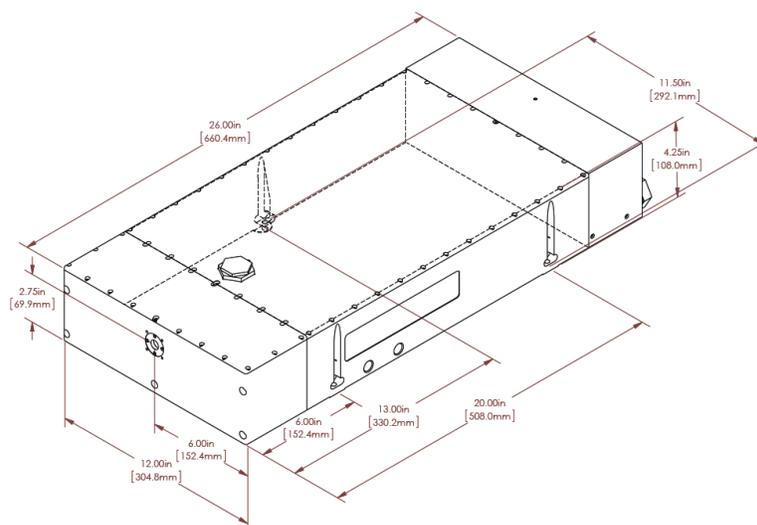
† Each individual head

‡ Includes height of desiccant (0.35")

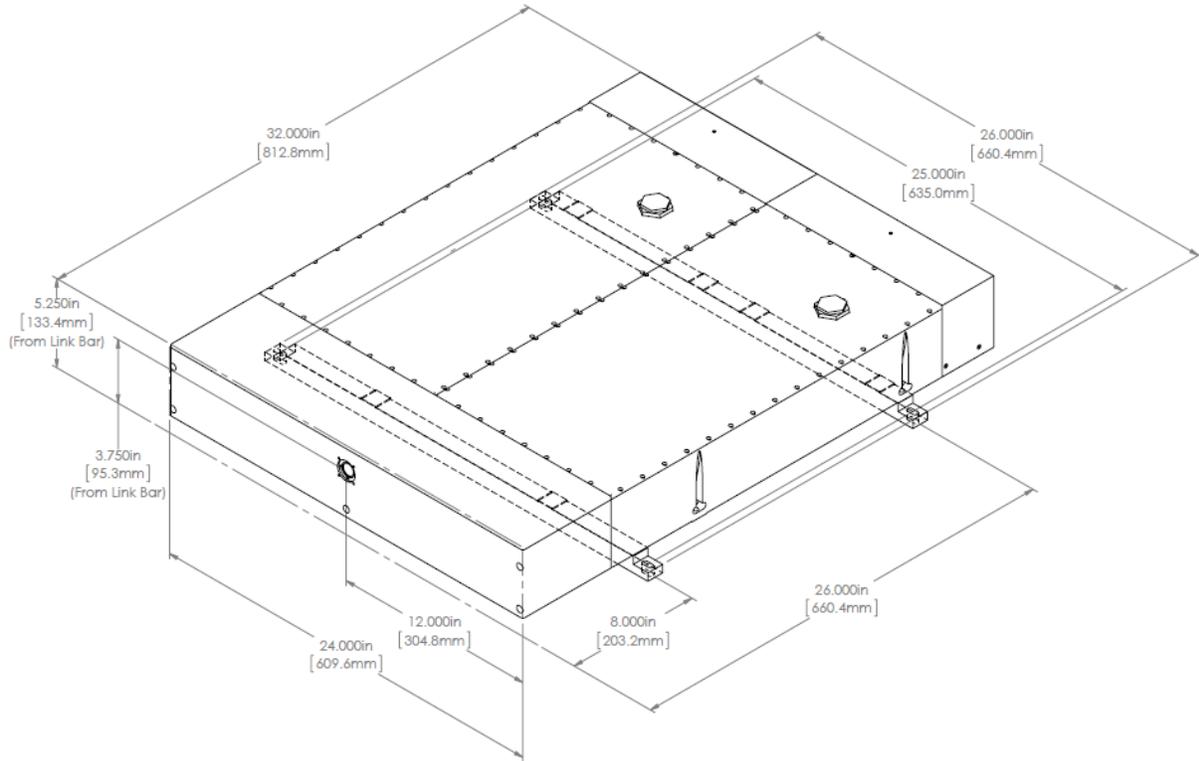
** M2 ~ 15 option is available

Dimensional Drawings

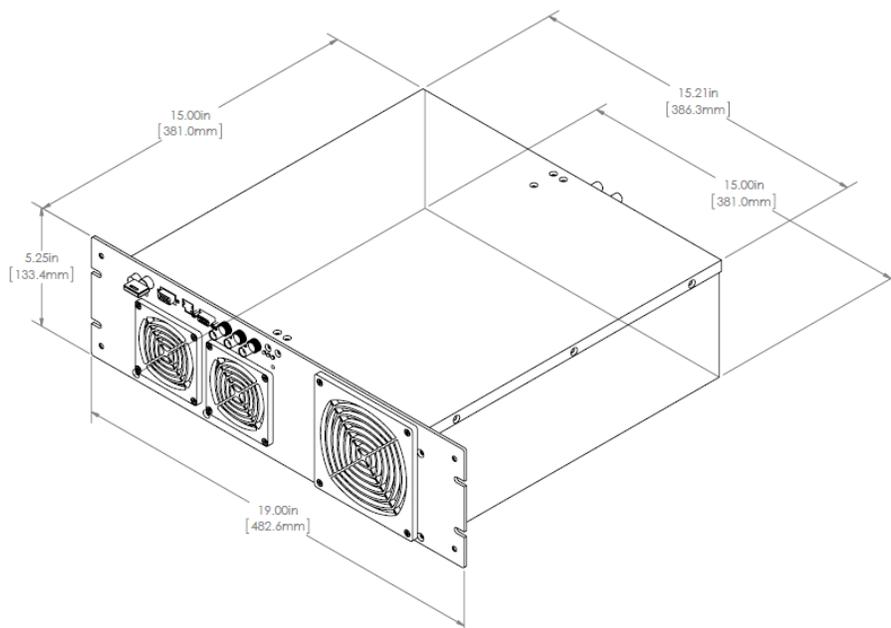
DM Dual Head Green Series Laser Head (w/o internal attenuator option)



DM100-527-DH Laser Head
DM150-532-DH Laser Head
DM200-532-DH Laser Head



DM Dual Head Series Controller



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