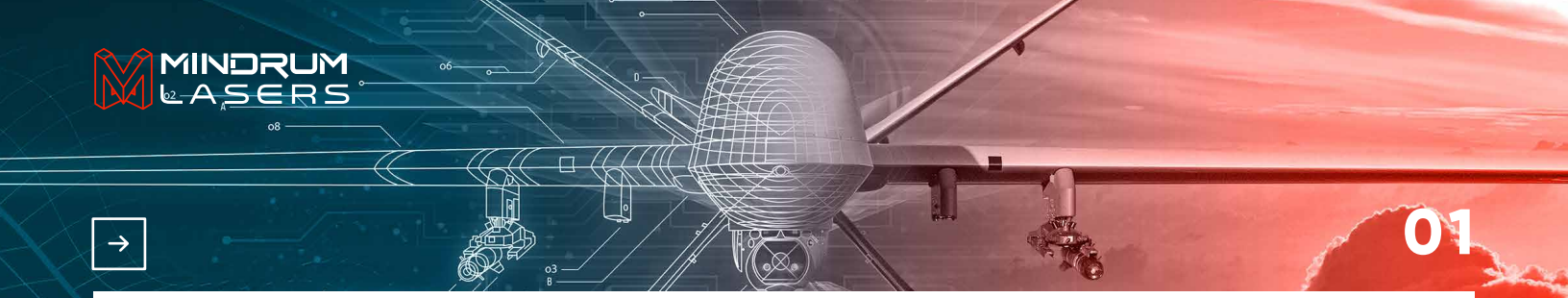


01

# ILM Industrial Laser Module

## HR VARIANT - HIGH REPETITION

This high-end measurement system is designed for constant use, when the reliability and dependability of your data is of the utmost importance. Measurement outputs include distance, or detection triggers, or can be customized to include any combination of these three elements.

02

## KEY DIMENSIONS (MM)

| | ILM-35 | ILM-150 | ILM-500 |
|---|---|---|---|
| A | 38 | 38 | 53 |
| B | 16 | 16 | 25 |
| C | ⌀ 18 | ⌀ 18 | ⌀ 30 |
| D | 113 | 113 | 139 |
| E | 103 | 103 | 129 |
| F | 54 | 54 | 83 |
| G | ⌀ 14 | ⌀ 14 | ⌀ 14 |

## MOUNTING DIMENSIONS (MM)

| | | | |
|---|---|---|---|
| H | 46 | 46 | 71 |
| I | 40 | 40 | 43 |
| J | M4 x 0.7 | M4 x 0.7 | M6 x 1.0 |

ILM-35/150

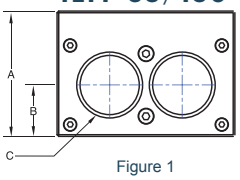



Figure 1

ILM-500

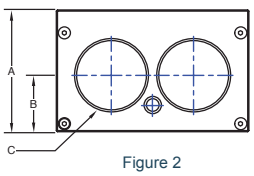
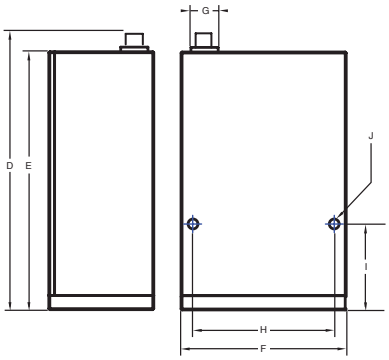



Figure 2

Figure 3




## ELECTRICAL CONNECTIONS

- Fischer DBEE-102A054-130 is located on the rear of the ILM unit.
- A standard 2 m adaptor cable is available with each unit, which converts the Fischer connector to a 9-way D-type and two flying leads for power.

| FUNCTION | FISCHER PIN NUMBER | 9-WAY D-TYPE PIN NUMBER |
|---|---|---|
| GND (0 V) | 1 | 5 |
| +9 V to 24 V dc | 2 | Not connected |
| Data out | 3 | 2 |
| Data in | 4 | 3 |
| Trigger out | 5 | Not connected |

** Max measuring ranges are recorded against Kodak white card (90% reflectivity) and grey card (18% reflectivity).

** Completed to Kodak white card, statistical error of 1σ. Both specifications are tested under standard Carlson test conditions. *** Viewing the laser output with certain optical instruments designed for use at distance (for example, telescopes and binoculars) may pose an eye hazard.

**** Environmental compability requirements of EN 60529:1992+A1:2002.

**Please note :** Observed performance is application specific and dependent on a number of environmental and target parameters, which may result in variations from the performance figures stated above. It is the customer's responsibility to confirm that laser performance is acceptable for their application. Please contact Mindrum with any related questions, and we will be happy to assist you. Complies with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice 56, dated May 8 2019.

# Specifications

| PERFORMANCE | ILM-35-HR | ILM-150-HR | ILM-500-HR |
|---|---|---|---|
| MAX MEASURING RANGE (90%)* | 35 m | 150 m | 500 m |
| MAX MEASURING RANGE (18%)* | 17.5 m | 75 m | 250 m |
| MIN MEASURING RANGE | 0.5 m | 0.5 m | 1m |
| ACCURACY** | 10 cm | 10 cm | 10 cm |
| REPEATABILITY** | 10 cm | 10 cm | 10 cm |
| DATE RATE - OUTPUT (MAX) | 400 Hz | 400 Hz | 400 Hz |
| RESOLUTION | 1 cm | 1 cm | 1 cm |
| **ELECTRICAL** | | | |
| POWER CONSUMPTION | < 5 W | < 5 W | < 5 W |
| SUPPLY VOLTAGE | 9 tp 24 V dc | 9 tp 24 V dc | 9 tp 24 V dc |
| **MECHANICAL** | | | |
| DIMENSIONS (L X W X H) | 116 x 54 x 43 mm | 116 x 54 x 43 mm | 139 x 129 x 83 mm |
| HOUSING MATERIALS | Anodised aluminium | Anodised aluminium | Anodised aluminium |
| WEIGHT | 320 g | 320 g | 710 g |
| **OPTICAL** | | | |
| LASER CLASSIFICATION | Class 1 M | Class 1 M | Class 1 M |
| BEAM DIVERGENCE | 2.45 x 1.50 mrads | 2.45 x 1.50 mrads | 2.45 x 1.50 mrads |
| TYPICAL SPOT SIZE AT DISTANCE | 0.104 x 0.071 m (35m) | 0.386 x 0.243 m (150m) | 1.028 x 0.767 m (500m) |
| WAVELENGTH (PEAK) | 905 nm | 905 nm | 905 nm |
| MAX PULSE ENERGY | 306 nJ | 306 nJ | 1020 nJ |
| LIGHT SOURCE | InGaAs Laser diode | InGaAs Laser diode | InGaAs Laser diode |
| **INPUTS/OUTPUTS** | | | |
| CONNECTION TYPE | Fischer DBEE- 102A054-130 | Fischer DBEE- 102A054-130 | Fischer DBEE- 102A054-130 |
| STANDARD ADAPTOR CABLE | Fischer to 9-way D-type cable 2 m | Fischer to 9-way D-type cable 2 m | Fischer to 9-way D-type cable 2 m |
| I/O | RS232 | RS232 | RS232 |
| BAUD RATE | 38400 | 38400 | 38400 |
| **ENVIRONMENT** | | | |
| IP DEGREE OF PREOTECTION **** | IP67 | IP67 | IP67 |
| VIBRATION RESISTANCE | BS EN 60068-2-6:2008 TR2130C-5-1:2002 | BS EN 60068-2-6:2008 TR2130C-5-1:2002 | BS EN 60068-2-6:2008 TR2130C-5-1:2002 |
| OPERATING TEMPERATURE RANGE | -20 °C to +60 °C | -20 °C to +60 °C | -20 °C to +60 °C |
| STORAGE TEMPERATURE | -20 °C to +90 °C | -20 °C to +90 °C | -20 °C to +90 °C |
| **TESTS & APPROVALS** | | | |
| CE CONFORMITY | DoC available | DoC available | DoC available |
| SAFETY OF LASER PRODUCTS | BS EN 60825-1:2014 | BS EN 60825-1:2014 | BS EN 60825-1:2014 |
| FCC COMPLIANCE | CFR47 Part 15 | CFR47 Part 15 | CFR47 Part 15 |
| EMC | BS EN 61326-1:2013 | BS EN 61326-1:2013 | BS EN 61326-1:2013 |