

# ILM-R Industrial Laser Module

## ILM-R DIMENSIONS

	ILM-35-R	ILM-150-R	ILM-500-R	ILM-1200-R
<b>Key dimensions</b>				
A	43 (Fig 1)	43 (Fig 1)	53 (Fig 2)	69 (Fig 3)
B	16 (Fig 1)	16 (Fig 1)	25 (Fig 2)	32 (Fig 3)
C	∅ 18 (Fig 1)	∅ 18 (Fig 1)	∅ 30 (Fig 2)	∅ 46 (Fig 3)
D	116	116	139	147
E	106	106	129	137
F	54	54	83	124
G	∅ 14	∅ 14	∅ 14	∅ 14
<b>Mounting dimensions</b>				
H	46	46	71	Please contact Carlson for dimensions.
I	40	40	43	
J	M4 x 0.7	M4 x 0.7	M6 x 1.0	

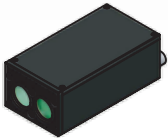
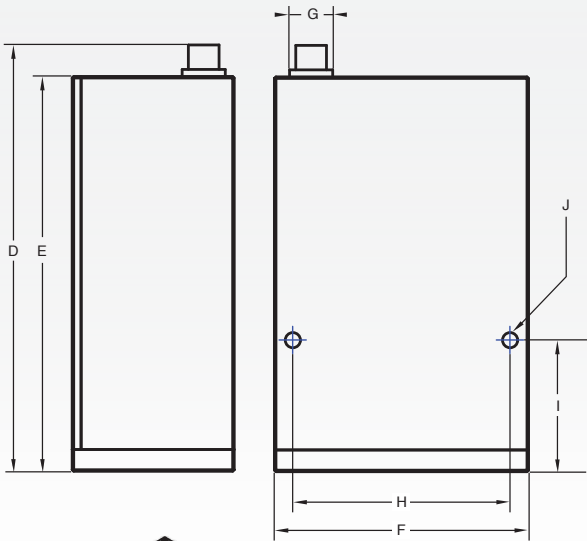
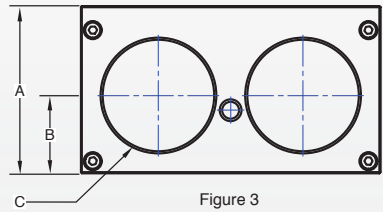
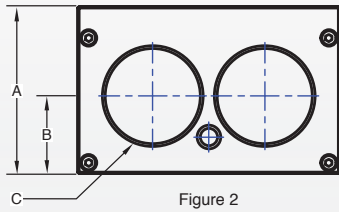
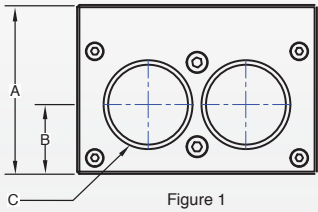
### Electrical connections

- 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.

The pin outs for these connectors are described in the table below.

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

Dimensions given in mm



\*\* 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 enviromental and target parameters. As a result it may vary from the performance figures stated above. It is the customer's responsibility to confirm that laser performance is acceptable for their application. Please discuss with your local Carlson office or distributor for further information. The following clause applies for instruments delivered into the United States: Complies with 24 OFR 1040. 10 and 1040. 11 except for deviations pursuant to Laser Notice 50, dated 24 June 2007.

**CLASS 1 LASER PRODUCT**

**LASER RADIATION DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS CLASS 1M LASER PRODUCT**

	ILM-35-R	ILM-150-R	ILM-500-R	ILM-500-R
<b>Performance</b>				
Max measuring range (90%)*	35 m	150 m	500 m	1200 m
Max measuring range (18%)*	17.5 m	75 m	250 m	600 m
Min measuring range	0.5 m	0.5 m	1 m	10 m
Accuracy**	10 cm	10 cm	10 cm	10 cm
Repeatability**	8 cm	8 cm	8 cm	8 cm
Date rate - output (max)	9 Hz	9 Hz	9 Hz	10 Hz
Resolution	1 cm	1 cm	10 cm	1 cm
<b>Electrical</b>				
Power consumption	< 5 W	< 5 W	< 5 W	< 5 W
Supply voltage	9 tp 24 V dc	9 tp 24 V dc	9 tp 24 V dc	9 tp 24 V dc
<b>Mechanical</b>				
Dimensions (L x W x H)	116 x 54 x 43 mm	116 x 54 x 43 mm	116 x 54 x 43 mm	116 x 54 x 43 mm
Housing materials	Anodised aluminium	Anodised aluminium	Anodised aluminium	Anodised aluminium
Weight	320 g	320 g	710 g	1400 g
<b>Optical</b>				
Laser classification	Class 1	Class 1	Class 1 MM***	Class 1 MM***
Beam divergence	2.45 x 1.50 mrad	2.45 x 1.50 mrad	2.45 x 1.50 mrad	2.45 x 1.50 mrad
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)	2.746 x 1.846 m (1200m)
Wavelength (peak)	905 nm	905 nm	905 nm	905 nm
Max pulse energy	306 nJ	306 nJ	1020 nJ	1100 nJ
Light source	InGaAs Laser diode	InGaAs Laser diode	InGaAs Laser diode	InGaAs Laser diode
<b>Inputs / outputs</b>				
Connection type	Fischer DBEE-102A054-130	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	Fischer to 9-way D-type cable 2 m
I/O	RS232	RS232	RS232	RS232
Baud rate	9600	9600	9600	9600
<b>Environment</b>				
IP degree of protection ****	IP67	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	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	-20 °C to +60 °C
Storage temperature	-20 °C to +90 °C	-20 °C to +90 °C	-20 °C to +90 °C	-20 °C to +90 °C
<b>Tests and approvals</b>				
CE conformity	DoC available	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	BS EN 60825-1:2014
FCC compliance	CFR47 Part 15	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	BS EN 61326-1:2013

For further information and the best possible application and performance support please contact Carlson at [lasermeasurement@carlsonsw.com](mailto:lasermeasurement@carlsonsw.com)