

# ZMI 7722 Delivery Module

P/N's	DESCRIPTION
8070-0351-02	10 mm beam diameter
8070-0268-02	6 mm beam diameter

PHYSICAL CHARACTERISTICS	
Dimensions	See Figure
Weight	2.5 Kg
Nom. Cable Clearance	135 mm
Materials	Delivery Module frame – Ni-plated Al, Mounting flange – 303 Stainless Steel, Cover – 304 Stainless Steel

ELECTRICAL	
Power Requirements	Supplied from Laser Module
Heat Dissipation	< 20 mW

LASER BEAM CHARACTERISTICS	
Type	Helium-Neon, continuous wave, heterodyne
Frequency Difference	20 MHz $\pm$ 1600 Hz, F1 > F2
F1	vertical polarization (parallel to plane defined by optical axis and polarization pin):
F2	horizontal polarization (perpendicular to plane defined by optical axis and polarization pin)
Maximum Power Difference Between Polarizations	5% of total power
Polarization Orientation Tolerance	$\pm 0.3^\circ$ :
Efficiency	$\geq 75\%$
Heterodyne Mixing Efficiency	$\geq 95\%$

LASER BEAM CHARACTERISTICS CONTINUED	
Polarization Mixing (1)	0.25 nm
Beam Pointing Stability	<1 $\mu$ rad per $^\circ$ C ambient temperature change
Beam Position (2)	$\pm 250 \mu$ m
Beam Pointing (2)	$\pm 250 \mu$ rad
Beam Pointing Change with Fiber Exchange	$\leq 5 \mu$ rad
Offset of f1 and f2 beams at aperture	< 0.20 mm
Wavefront Irregularity	$\leq \lambda/50$ rms
DHHS Laser Safety Classification	Class IIIa, conforms to NCDRH regulations
IEC Laser Safety Classification	3R

ENVIRONMENTAL	
Operating Temperature	20 to 23 $^\circ$ C
Temperature Variation in User Process	$\pm 1^\circ$ C
Maximum Rate of Ambient Temperature Change	0.033 $^\circ$ C per minute
Humidity	0 to 70% (non-condensing)
Shock	11 milliseconds 40G shock on each of three orthogonal axes

1. The extinction of the heterodyne frequency using a Glan-Thompson prism (oriented at 0.00 $^\circ$  or 90.00 $^\circ$ ) with an extinction ratio of < 10<sup>-5</sup>, will be less than 100 parts per million of the maximum signal (prism oriented at 45.00  $^\circ$ )
2. Static beam specifications are in reference to a line which (a) is normal to the plane defined by the three mounting pads of the flange and (b) passes through the center of the circle defined by the outside diameter of the flange pilot.

