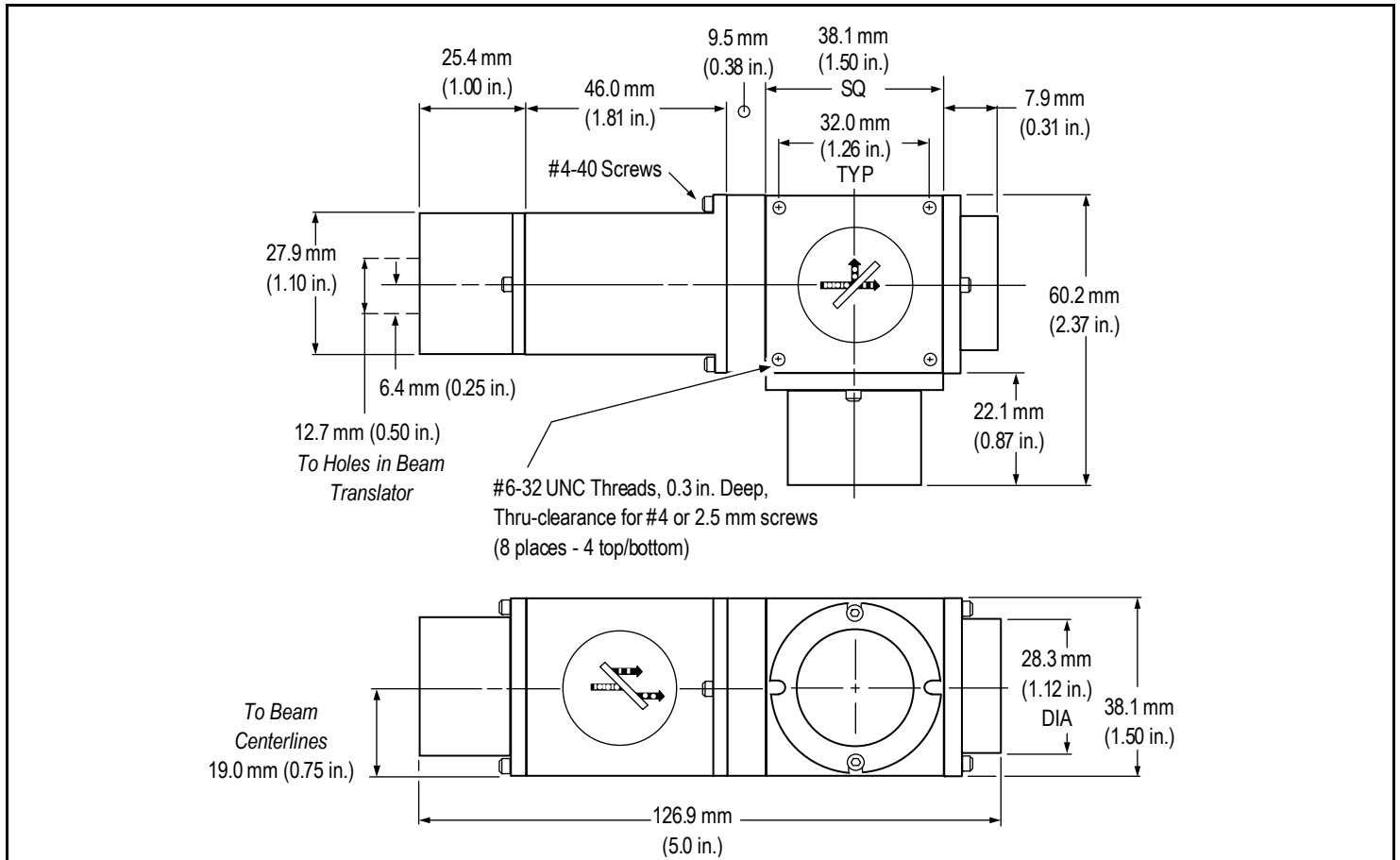
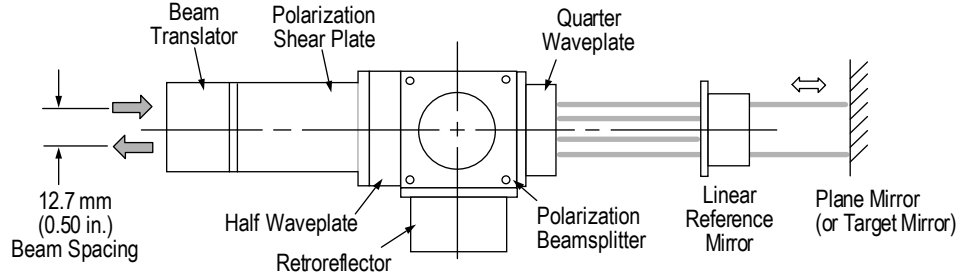


# ZMI Differential Plane Mirror Interferometer (DPMI)

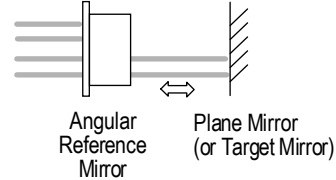
P/N	DESCRIPTION	OPTICAL	
6191-0188-02	Differential plane mirror interferometer	Linear displacement resolution (nominal)	0.31 nm (ZMI 2000) 0.15 nm (ZMI 4000)
PHYSICAL CHARACTERISTICS		Angular displacement resolution (nominal)	0.014 arc sec (ZMI 2000) 0.007 arc sec (ZMI 4000)
Dimensions	See Figure	Out-of-parallelism of transmitted beam to input beam	≤11 arc min
Weight	528 grams (18.6 oz)	Maximum error due to tolerances in polarizing optical elements	± 2 nm (0.08 μin)
Materials	Housing- magnetic stainless steel Optics- BK7, crystalline quartz, Zerodur Adhesives- vacuum grade, low volatility	Thermal drift coefficient (typical) (change of indicated distance per degree C temperature change)	< 0.01 micrometer/degree C ( < 0.4 microinch/degree C)
COMPONENTS		Signal Efficiency	>52% with plane mirror having 99% reflectance at 633 nm at normal incidence
Included	Polarization Beamsplitter, Retroreflector, Quartz Waveplate, Half Waveplate, Beam Translator, Polarization Shear Plate		
Not Included	Reference Plane Mirror, Target Plane Mirror, Fiber Optic Pickup		
Note: this interferometer does not perform optical differencing.			



## Measuring Linear Displacement



## Measuring Angular Displacement



## DPMI MIRRORS

P/N	DESCRIPTION
6191-0437-01	Linear reference mirror
6191-0437-02	Angular reference mirror
6191-0437-03	Target mirror
6191-0437-04	Reverse linear reference mirror
6191-0437-05	Reverse target mirror

### PHYSICAL CHARACTERISTICS

Dimensions	See Figure
Weight	≈42 grams (1.5 oz)
Materials	Housing- magnetic stainless steel Optics- Zerodur Adhesives- vacuum grade, low volatility

### OPTICAL

Signal Efficiency (typical)	>99%
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