

# ZMI 2400 Measurement Board

P/N	DESCRIPTION
8020-0104-01	1 axis, VME 6U board
8020-0104-05	1 axis, VME 6U board with Ethernet
8020-0104-02	2 axes, VME 6U board
8020-0104-06	2 axes, VME 6U board with Ethernet
8020-0104-03	4 axes, VME 9U board

## GENERAL

Maximum Number of Boards in a System	7; there may also be limits due to VME or P2 population
Reference Inputs	ST fiber optic or HSSDC electrical, 20.0 MHz
Reference Outputs (1 per board)	HSSDC electrical, 20.0 MHz
Measure Inputs (1 per axis)	ST fiber optic, 20.0 ± 13.3 MHz
Signal Strength Test Points (1 per axis)	RJ-11 connector
Status Indicators (LEDs)	Green – meas present (1 per axis), ref present, User LED Amber – meas error (1 per axis), ref error, Config.
Minimum Optical Power at measurement board receiver	> 1.9 µW AC
Minimum Reference Optical Power receiver	> 8 µW AC

## POWER REQUIREMENTS

2401	5 VDC +0.25V/-0.125V @ 3.5A (max)
2402	5 VDC +0.25V/-0.125V @ 5A (max)
2404	5 VDC +0.25V/-0.125V @ 3A (max), +12 VDC-10% to +15 VDC+10% @ 2.5A (max)

## COOLING REQUIREMENTS

10 to 40° C	60 linear fpm (2401, 2402) 120 linear fpm (2404)
40 to 55° C	120 linear fpm (2401, 2402) 250 linear fpm (2404)

## COMPLIANCE

VME	VMEbus specification ANSI/VITA 1-1994 Addressing: A16 or A24 Data Transfer: D16 or D32 D08 (O) Interrupt Acknowledge Cycle
Other	UL94V0, CE Mark (Emissions EN 55011A, Immunity EN 50082-1, Low Voltage Directive EN 61010-1, tested inside CE Mark compliant chassis)

## PERFORMANCE

Position Resolution <sup>(1)</sup>	$\lambda/2048$ (0.31 nm)
Position Range <sup>(1)</sup>	± 10.6 m
Position Format	36 bit - 2's complement
Time Resolution	25 nanoseconds
Time Range	107.4 seconds
Time Format	32 bit - positive integer
Velocity Resolution	18 to 22 bits (function of the digital filter gains Kp and Kv)
Velocity Range <sup>(1)</sup>	± 2.1 m/sec
Velocity Format	32 bit - 2's complement
Maximum Acceleration	100 g (10 g max. during reset)
Data Age (P2 output)	1 µs typical
Data Age Uncertainty, Compensated	± 1.2 ns (3 boards)
Electronic Accuracy <sup>(1)</sup>	≤1.2 LSB at ± 0.1 m/sec ≤1.4 LSB at ± 1.0 m/sec ≤1.6 LSB at ± 2.1 m/sec

## ENVIRONMENTAL

Operating Temperature	10 to 55°C
Operating Humidity	0 to 90%, noncondensing
Operating Pressure	Standard 1 atmosphere (700-800 mmHg), non-vacuum applications

(1) Based on double pass interferometer.