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TECHNOLOGY GROUP

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Find the *Aerotech MXH* at our website: ***Click HERE***

MXH Series

High Resolution Encoder Signal Multiplier

- Multiplication to x2000
- High-speed 32 MHz output clock rate
- Compact, with standard D-type connectors
- Compatible with linear and rotary encoders with amplified sine-wave output
- Custom multiplication factors available



**U.S. Patent Nos. 6,356,219 and 6,501,403*

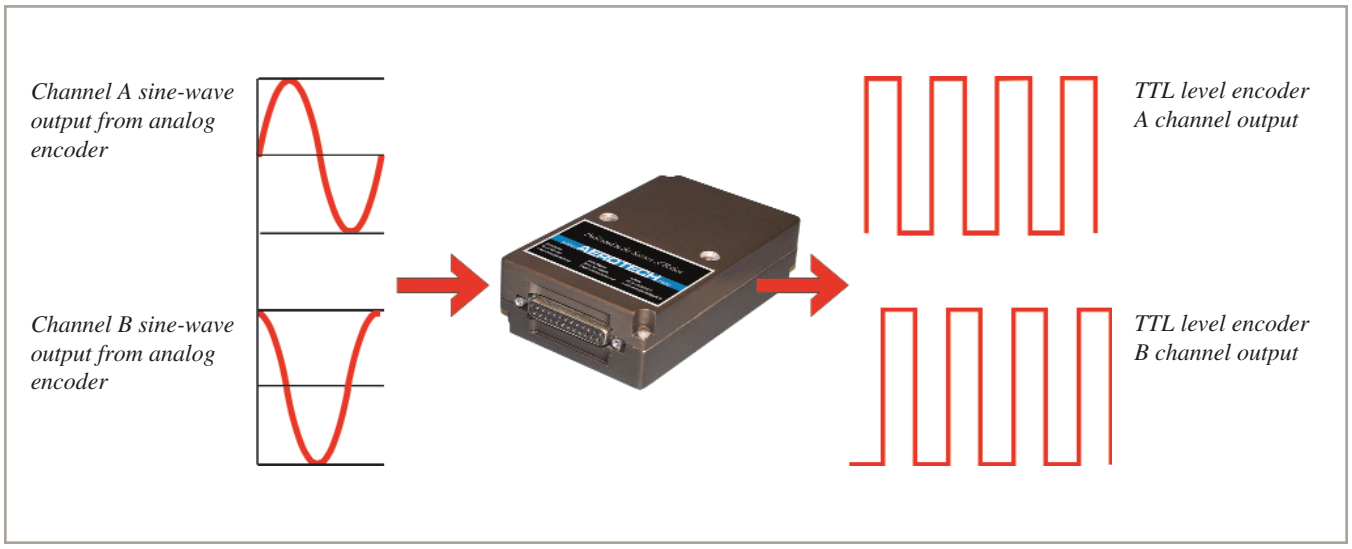
Aerotech's MXH series multipliers are the ideal solution for high-resolution system requirements. The MXH series utilizes high-performance interpolation electronics to increase resolution by up to x2000.

The MXH model offers multiplication factors up to x2000. A linear encoder with a 4 µm grating period can have resolution as fine as 2 nm.

Unlike most multiplication devices, the MXH doesn't sacrifice speed. A 32 MHz clock assures high speed and high resolution. For example, with a resolution as fine as 8 nm, speeds of over 250 mm/s are achievable.

Aerotech's *Dedication to the Science of Motion* is reflected in some of the unique features of the MXH series. Not only does the MXH boast industry-leading data rates, but for atypical resolution requirements, Aerotech can create custom multiplication factors. This level of flexibility is unmatched by the competition and is a result of our years of experience in the high-accuracy positioning market.

The MXH interface utilizes standard 25-pin D-type connectors, eliminating the need for expensive and hard to find connectors. Limit switch and Hall-effect signals pass through the MXH, resulting in a more efficient cabling scheme.



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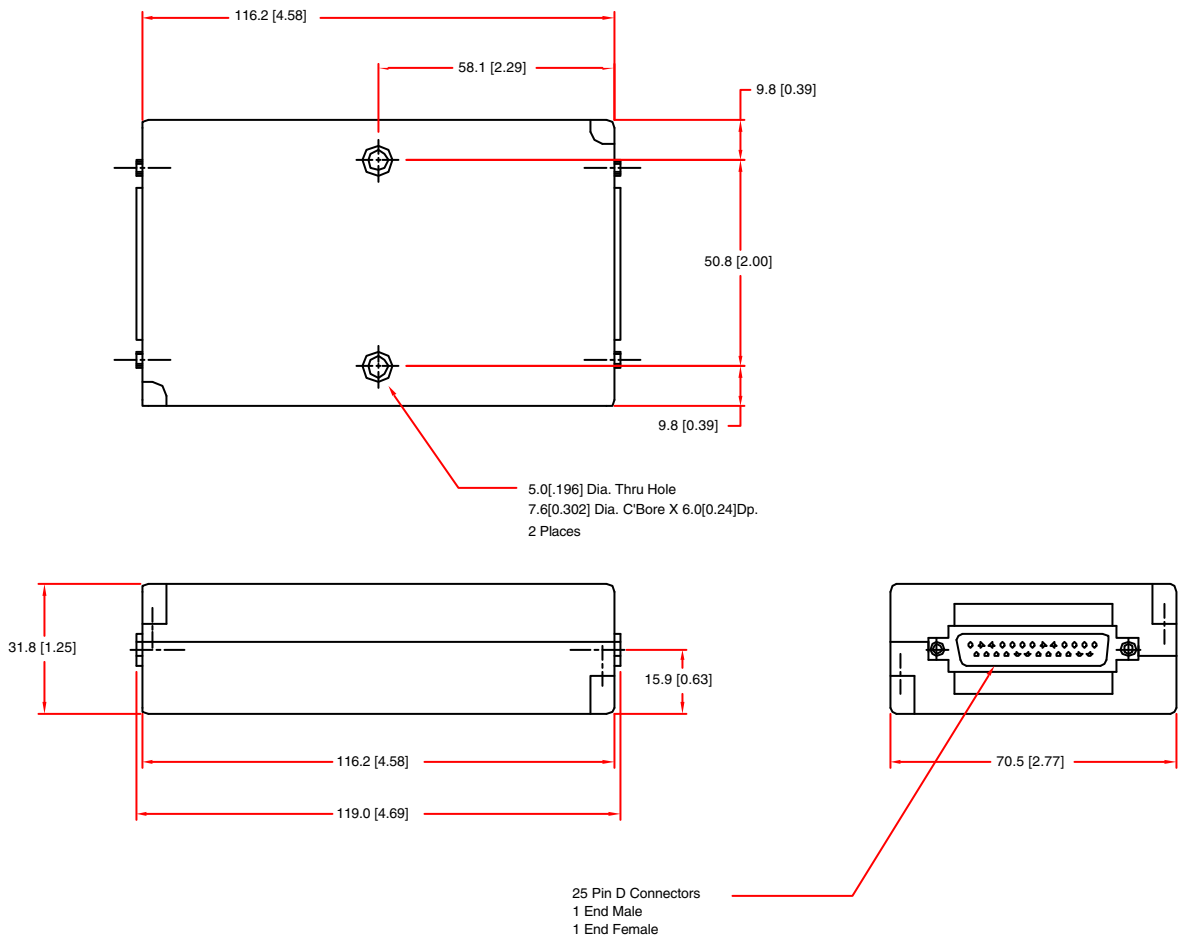
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MXH Series SPECIFICATIONS and DIMENSIONS

Model	MXH50	MXH100	MXH200	MXH250	MXH500
Interpolation (after quadrature)	x200	x400	x800	x1000	x2000
Clock Frequency	32 MHz				
Maximum Input Frequency	160 kHz	80 kHz	40 kHz	32 kHz	16 kHz
Minimum Edge Separation	0.03125 µs				
Minimum Pulse Width	0.03125 µs				
Input Signal	$1V_{p-p}$				
Output Signal	Square wave, RS-422, TTL-compatible				
Power Supply	5 V ±5%				
Current Consumption (without encoder; typical)	320 mA				

MXH Series Multiplier Box

MX Multiplier Box



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MXH Series ORDERING INFORMATION

Ordering Example

MXH	-250	-D	-32M
Multiplier Series	**Multiplier**	**Input Signal**	**Output Frequency**
MXH	50, 100, 200, 250, 500, n	-D	-2M, -4M, -8M, -16M, -32M

MXH Series Multiplier

MXH50	External 50-times (net 200-times interpolation with quadrature) multiplier
MXH100	External 100-times (net 400-times interpolation with quadrature) multiplier
MXH200	External 200-times (net 800-times interpolation with quadrature) multiplier
MXH250	External 250-times (net 1000-times interpolation with quadrature) multiplier
MXH500	External 500-times (net 2000-times interpolation with quadrature) multiplier
MXHn-D	External “n”-times custom resolution. Consult factory

Input Signal

-D	1 Vpp input signal

Output Data Rate

-2M	2 MHz output signal
-4M	4 MHz output signal
-8M	8 MHz output signal
-16M	16 MHz output signal
-32M	32 MHz output signal

Note: MXH multipliers are available in -A and -B versions as factory supplied configurations. Multiplication selections are possible in 0.25 increments up to MXH256, which multiplies into an integer after x4 (i.e. 0.25 or 0.5, 1.25, 33, etc. Unacceptable values are 1.7, 2.4, etc.). From MXH256 to MXH512, multiplication selections are possible in x1.0 increments.

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