

# ControlWave<sup>®</sup> Micro High-Speed/Low-Speed Counter Input Module

The High-Speed/Low-Speed Counter Input (HSC) module provides the ControlWave Micro with four inputs used for measuring high-speed or low-speed pulse inputs. Each of the four HSC module inputs may be individually configured as either a 10 KHz (high-speed) or 300 Hz (low-speed) input.

Field inputs are internally sourced dry contact inputs, typically from turbine meter and other mechanical contacts. Contact wetting is selectable as 2.2 mA (suitable for most applications) or 200  $\mu$ A (for low power consumption applications). The selection of high-speed or low-speed inputs sets the appropriate input filter to allow high-frequency inputs or to minimize contact bounce from low-frequency mechanical contact inputs.

Inputs may be converted to frequency or totalized counts using the ControlWave Designer High Speed Counter Function Block.

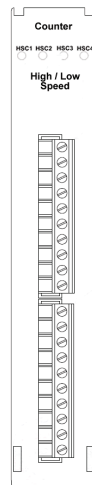
Light-emitting diodes (LEDs) indicate the current status for each channel of the module.

All I/O modules have surge protection that meets C37.90-1978 and IEC 801-5 specifications.

## Local or Remote Terminations

The HSC module is available factory configured for either local terminations that consist of two 10-point terminal block assemblies or remote terminations that consist of two 14-pin mass termination headers. Terminations are pluggable and accept a maximum wire size of 14 AWG (American Wire Gauge).

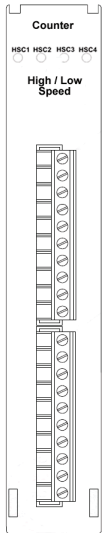
Remote terminations provide a convenient alternative to the standard direct connect termination. Remote terminations allow a concentration of electrical connections from one or more controllers to be located in a single area, such as the rear of a 19-inch cabinet. For more information on remote terminations, refer to *Product Data Sheet CWMICRO*.



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**Field Wiring Terminals**



Terminal Block 1	Definition
1	High-Speed Input 1
2	Ground
3	Low-Speed Input 1
4	Ground
5	Ground
6	High-Speed Input 2
7	Ground
8	Low-Speed Input 2
9	Ground
10	Ground

Terminal Block 2	Definition
1	High-Speed Input 3
2	Ground
3	Low-Speed Input 3
4	Ground
5	Ground
6	High-Speed Input 4
7	Ground
8	Low-Speed Input 4
9	Ground
10	Ground

**Inputs**

Quantity	4 channels
Type	Internally sourced dry contact Individually jumper-selectable input current of 200 $\mu$ A or 2.2 mA at 3.3 Vdc
Input Frequency	10 kHz max or 300 Hz max, jumper selectable
Input filtering	20 $\mu$ s, 1 ms
Surge Suppression	31 Vdc transorb between signal and ground Meets ANSI/IEEE C37.90-1978
On-State Voltage	< 1.21 Vdc
Off-State Voltage	> 2.07 Vdc

**Power**

Consumption	No Active Channels	0.03 W
	Per Active Channel	0.001 W or 0.01 W per Input (ON State)
	Per Active LED	0.009 W

**Physical**

Dimensions	152.4 mm H by 25.4 mm W by 88.9 mm L (6 in. H by 1 in. W by 3.5 in. L)	
Weight	142 g (5 oz)	
Terminations	Local	Two 10-point terminal block assemblies
	Remote	Two 14-pin mass termination headers
Wiring	Up to size 14 AWG at the removable terminal blocks.	
LEDs	4 (one per channel)	

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**Environmental**

Same as the ControlWave Micro in which it is installed.

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**Approvals**

Same as the ControlWave Micro in which it is installed.

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