

## Multi Counter Module CMO10



CMO10 Multi Counter Module is a counter module for use with JVL Motor Controllers that are equipped with a module interface. This Module is primarily intended for use as a universal counter with a facility for connection to an incremental encoder or other pulse source whose output signal is to be counted. A typical application of the Module is for monitoring a step motor to ensure that it does not lose its positioning (for example because of overload) and to take corrective action.

The Module contains a counter whose value can be read by the overall Controller. Furthermore, the Module provides an additional 8 inputs and 4 outputs which are all optically isolated.

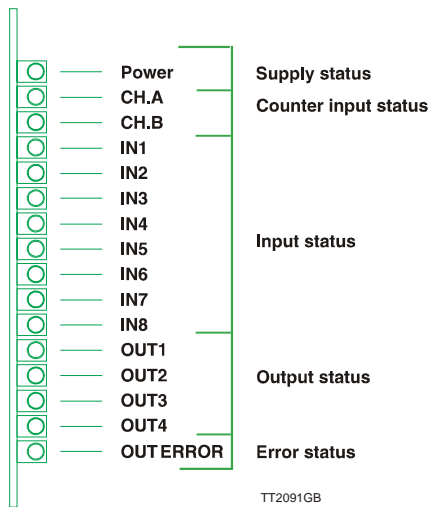
Via the Controller's extended command set, it is possible to activate or deactivate the individual outputs, or set all outputs up to a certain binary pattern. In addition, control of program flow is possible by reading individual inputs or simultaneously reading all 16 inputs into the Controller.

- Contains rapid counter which can count up and down from 0 to 65535. The counter can be read by the overall Controller and thus control program execution
- The counter can count up at 3MHz and has an encoder mode up to 1.2 MHz. Can count up/down to 100kHz

- 8 inputs (5-30VDC). Galvanically isolated
- 4 outputs (5-30VDC/500mA). Galvanically isolated and short-circuit protected
- Status output for error indication
- Connection of overall Controller via built-in RS485 interface using simple 2-core cable enables long communication lines.
- Up to 31 units can be connected to the same interface bus
- Non-critical power supply, 12-45VDC

# Multi Counter Module CM010

## LED-Indicators



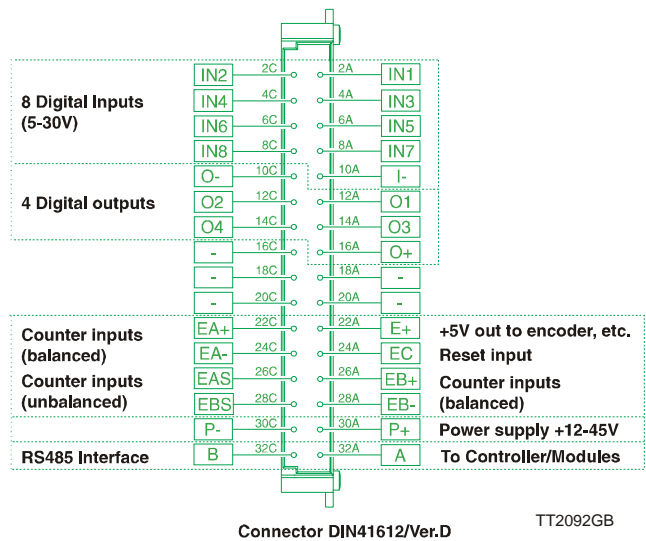
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The Module front panel is equipped with a total of 16 LEDs which indicate the status of inputs/outputs, power supply, errors, as well as the 2 counter inputs' actual levels. These LEDs provide continuous information on the operation of the Module, facilitating the set-up of a control system with the Multi Counter Module and also greatly aiding troubleshooting.

## Technical Data

	Min.	Typ.	Max.	Units
<b>Power Supply:</b>				
Supply Voltage	12		45	VDC
Power Consumption		1.6		W
<b>Module Interface (RS485):</b>				
Communication rate		50		kbit/s
Communication length		100		m
<b>User Inputs:</b>				
Input Voltage	0		30	V
<b>User Outputs:</b>				
Voltage supply	6		28	VDC
Current load per output			500	mADC
<b>Counter Frequency:</b>				
Up:			5	MHz
Up - Down			100	kHz
Encoder			1.2	MHz
<b>Counter inputs (balanced)</b>	0		5	V
<b>Counter inputs (unbal.)</b>	0		5	V
<b>Reset input</b>	0		5	V
<b>Various:</b>				
Operating Temperature	0		50	°C

## Connections



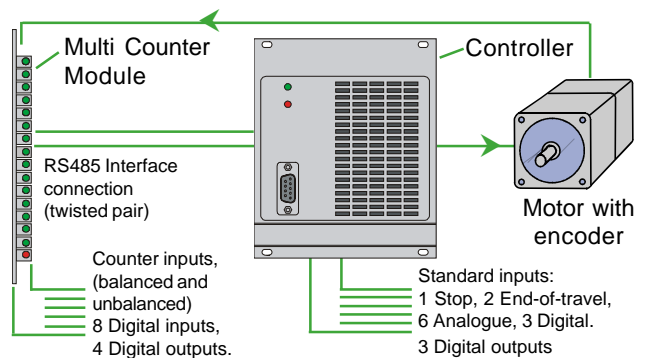
Connector DIN41612/Ver.D

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All connections to and from the Module are made via the multi-connector on the rear panel. All inputs and outputs (except to the counter), are optically isolated from other terminals to ensure immunity from spurious noise. All the Module's functions are controlled via the RS485 Interface.

## System Configuration

The Multi Counter Module is used in systems where there is a requirement to count a signal, e.g. from an encoder, for accurate position or velocity determination. The Module additionally increases the number of inputs and outputs for various control signals. Connection to the Controller is made via a simple 2-core interface cable.



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