

## MicroBasic Scripting

One of the controller's most powerful and innovative features is the ability for the user to write programs that are permanently saved to the EEPROM and run from the controller's flash memory.

This capability is the equivalent of combining the motor controller functionality with a PLC or Single Board Computer directly in the controller.

Scripts can be simple or elaborate and can be used for various purposes:

- Complex sequences to chain motion sequences based on the status of analogue/digital inputs, motor position or other measured parameters.
- Adapt parameters at runtime that can read and write most of the controller's configuration settings.
- Create new functions for adding functions or operating modes that may be needed for a given application.
- Autonomous operations can be fully written and performed.

### Script Structure and Possibilities

Scripts are written in a Basic-Like computer language and because it is literal syntax then it is very close to the every-day written English. The language is very easy to learn and simple scripts can be written in minutes. The MicroBasic scripting language also includes support for structured programming, allowing fairly sophisticated programs to be written. Several shortcuts borrowed from the C++ language are also included in the scripting language and may be used to write shorter programs.

Go to <http://www.motiontech.com.au/wp-content/uploads/2017/11/MT-Scripting-Data-Sheet-241017.pdf> for more complete details.



# MOTION TECHNOLOGIES PTY LTD

## Brushless Motor Controllers

- 12 to 96vDC
- 20 to 500 Amps
- Single or Dual Axis

## Other Motion Tech Products



MTM



MTH



MTS1



### Distributors for Australia & New Zealand

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MTS2



MTF



MTRG

Motion Technologies LV Brushless DC Motor Controllers								
Model number	Nbr axis Channels	Volts DC Supply	Cont. Amps/Ch	Peak Amps/Ch	Sensorless FOC <sup>(1)</sup>	Cooling	Frame	
MTS1330 <sup>(4)</sup>	1	30	20	30	No	Conduction plate	Open	
MTS2330S <sup>(4)</sup>			40	60	Yes			
MTM1330 <sup>(4)</sup>			50	75	No		Heatsink extrusion	Enclosed IP51
MTM1330A <sup>(3)(4)</sup>					Yes			
MTH1630 <sup>(4)</sup>			100	150	No			
MTH1650 <sup>(4)</sup>								
MTS1360		60	20	30	Yes	Conduction plate	Open	
MTS2360S								40
MTF2360S			80	120	No			
MTF2360AS <sup>(2)</sup>					Yes			
MTM1660			100	150	No		Enclosed IP51	
MTM1660A <sup>(3)</sup>								300
MTH1660		72	100	150	No	Heatsink extrusion		
MTRG1860 <sup>(3)</sup>			260	350	Yes	Conduction plate		
MTH1672 <sup>(4)</sup>		96	100	150	No	Heatsink extrusion		
MTRG1872 <sup>(3)(4)</sup>			200	300	Yes	Conduction plate		
MTH1696		30	20	30	Yes	Conduction plate	Open	
MTRG1896 <sup>(3)</sup>								
MTS2330 <sup>(4)</sup>		50	50	75	No	Heatsink extrusion	Enclosed IP51	
MTH2330								
MTH2350 <sup>(4)</sup>	60	20	30	Yes	Conduction plate	Open		
MTS2360								
MTF2360		40	60	Yes				
MTF2360A <sup>(2)</sup>								
MTH2360		72	50	75	No	Heatsink extrusion	Enclosed IP51	
MTH2372 <sup>(4)</sup>								
MTH2396	96							

Motion Technologies LV Brushless DC Motor Controllers							
Analogue Inputs	Digital Inputs	G.P. Outputs	Pulse Inputs	Dimensions, mm	Weight, grams	Abs. encoder support <sup>(5)</sup>	Model number
6	6	2 @ 1.5A	4	70x70x27	60	None	MTS1330 <sup>(4)</sup>
8	10	4 @ 1.5A	8	123x83x25	100	sin/cos anal., SSI digital	MTS2330S <sup>(4)</sup>
4	6	2 @ 1.5A	5	140x113x29	380		MTM1330 <sup>(4)</sup>
11	19	8 @ 1.0A	6	228x140x40	1500	None	MTM1330A <sup>(3)(4)</sup>
						None	MTH1630 <sup>(4)</sup>
6	6	2 @ 1.5A	4	70x70x27	60	None	MTS1360
8	10	4 @ 1.5A	6	123x83x25	100	sin/cos anal., SSI digital	MTS2360S
				140x140x25	460	sin/cos anal., SPI digital	MTF2360S
4	6	2 @ 1.5A	5	140x113x29	380	sin/cos anal., SSI digital	MTM1660
							MTM1660A <sup>(3)</sup>
11	19	8 @ 1.0A	6	228x140x40	1500	None	MTH1660
8	10	6 @ 1.0A	8	190x200x58	3000	sin/cos anal., SPI digital	MTRG1860 <sup>(3)</sup>
11	19	8 @ 1.0A	6	228x140x40	1500	None	MTH1672 <sup>(4)</sup>
8	10	6 @ 1.0A	8	190x200x58	3000	sin/cos anal., SPI digital	MTRG1872 <sup>(3)(4)</sup>
11	19	8 @ 1.0A	6	228x140x40	1500	None	MTH1696
8	10	6 @ 1.0A	8	140x200x58	2300	sin/cos anal., SPI digital	MTRG1896 <sup>(3)</sup>
		4 @ 1.5A		123x83x25	100	sin/cos anal., SSI digital	MTS2330 <sup>(4)</sup>
11	19	8 @ 1.0A	4	228x140x40	1500	None	MTH2330
8	10	4 @ 1.5A	8	123x83x25	100	sin/cos anal., SSI digital	MTS2360
				6	140x140x25	460	sin/cos anal., SPI digital
11	19	8 @ 1.0A	4	228x140x40	1500	None	MTF2360A <sup>(2)</sup>
							MTH2360
11	19	8 @ 1.0A	4	228x140x40	1500	None	MTH2372 <sup>(4)</sup>
							MTH2396

**Notes:**

- 1) Field Orientated Control (aka Vector Drive), see technical note here: <http://www.motiontech.com.au/wp-content/uploads/2017/11/MT-Scripting-Data-Sheet-241017.pdf>
- 2) Resolver feedback for sinusoidal commutation with latest B ver 2.4 hardware which includes header for Ethernet & Bluetooth
- 3) Resolver feedback support
- 4) OEM product only, subject to 11 pcs min. order quantity.
- 5) SSI is differential, simplex, non-multiplexed.  
SPI is single-ended, duplex, multiplexed.

**Optional Extras:**

25-pin to RC Radio Cable	USB-isolator
DSUB 9pin cable (male/female)	RS232-Isolator
Hall and comms cables	Data Logger
Break-out boards	48-24V DC-DC converter
Battery management systems	I/O extender, AGV support

- For medium duty low cost controllers, see <http://www.motiontech.com.au/wp-content/uploads/2017/11/MT-Electromen-Brushless-DC-Motor-Speed-Controllers-111017-1.pdf>
- Available for low voltage DC brushed motors, contact us for details.
- Available for low voltage AC induction motors, 60 & 96V, up to 500A, contact us for details.

**Common features for all models:**

- 1) Hall feedback (motors must have hall devices)
- 2) CAN bus networking at 1 Mbit/s
- 3) Encoder input, dual, 32 bit counters
- 4) Bi-directional forward/reverse control
- 5) Regenerative Braking
- 6) Max. amps = 150% of continuous
- 7) Free setup software
- 8) Multiple operation modes
- 9) Battery voltage and temperature sensors
- 10) Remote control pulse input
- 11) MicroBasic scripting (see details over)
- 12) 32 bit processor with 1ms control loop
- 13) 5v to 14v DC power supply output (for encoders, etc)
- 14) RS232 and USB communications
- 15) Under and Over voltage protection
- 16) Short circuit protection (selectable sensitivity)
- 17) Fan cooling not usually required
- 18) Over-temperature protection
- 19) Incremental encoder input compatability
- 20) Remote control for radio, joystick, wireless modem or microcomputer