

Brushed DC-Motor Controller

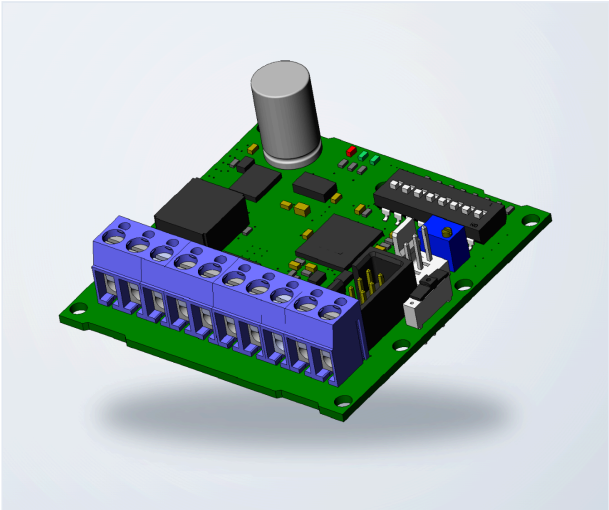
MB002412

The **MB002412** is a 24 VDC controller/driver card for brushed DC motors, well suited to conveyor, material-handling, and general motion-control applications. It drives brushed DC motors up to **45 W** with stepless or two-step speed control, adjustable output current limiting, and configurable acceleration / deceleration ramps.

Control uses positive logic driven from a PLC. Speed can be set from the on-board trimmer, an external potentiometer, or a pulse input for two-speed operation.

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Over-current protected: if the load exceeds **2 A** the output shuts off and the red alarm LED blinks. The controller retries automatically after 1 second once the current drops.



ELECTRICAL

Operating voltage	20 – 30 V DC
Motor type	Brushed DC, ≤ 45 W
Nominal output current	1.5 A
Maximum output current	2 A (with shutoff)
Idle current	35 mA
PWM frequency	16 kHz
Control logic	Positive
Compliance	Lead-free · RoHS

PINOUT — J1 SCREW TERMINAL

1	+24 VDC (VIN+)	6	0 VDC
2	0 VDC (VIN-)	7	Run forward
3	Motor (-)	8	Control voltage from pot.
4	Motor (+)	9	2-speed on / pulse in
5	Reverse	10	10 VDC ref. for pot.

Speed 1 is adjusted from J1 pin 8; if unused, tie pin 8 to pin 10. Speed 2 is set by trimmer R43 or the pot on J3.

CONTROLS & SETTINGS

Current limit (DIP S1/1–4)	0.2 – 1.9 A
Accel / decel ramp (S1/5–7)	0 – 1.5 s
Braking (S1/8)	Ramp / short-circuit
Speed control	Stepless / 2-step
Speed source (S2)	Trimmer R43 / ext. pot
Pulse speed input (pin 9)	4 – 50 Hz, 50%
Ext. speed connector	J3
Programming (ICE)	J2, Molex 6-pin

INDICATOR LEDS

- Left — HW alarm**
Short circuit or motor over-current.
- Middle — status**
Idle 700 / 700 ms, running 150 / 150 ms, current-limit 10 / 10 ms. Pulse mode: idle 50 / 1000 ms, running 50 / 250 ms.
- Right — power OK**
Internal +5 V regulator is providing voltage.

3D CAD models available on request via sales@bluelec.com