

# Type BM Brakes with 24 VDC Control

OPERATING INSTRUCTIONS

09 757 12 US

## GENERAL

SEW-Eurodrive brakes are available for use with a 24 VDC source voltage. A 24 VDC brake system lends itself well to use in process automation systems where other components are controlled by 24 VDC signals. Safety reasons may also dictate the use of a 24 VDC brake system. See the motor nameplate for the required brake voltage.

These operating instructions should be used together with the general operating instructions "Motors and Brakemotors Type BM Brakes." This sheet replaces the section "BRAKE CONNECTION (AC VOLTAGE)" and "BRAKE VOLTAGE SUPPLIED FROM THE MOTOR" in the general operating instructions.

## BRAKE FUNCTION

SEW-Eurodrive fail-safe mechanical brakes are DC voltage controlled. To release the brake and allow the motor to rotate, 24 VDC is applied to the brake system. To set the brake and hold the motor, 24 VDC is removed from the brake system. In the small frame size motors (DT71-DT100) the brake coil can be connected directly to the 24 VDC supply. In the larger frame size motors (DV112-DV225) a brake control module (type BSG) is required to operate the brake. The brake control module BSG can optionally be used with the smaller frame motors (DT71-DT100) and it will improve the brake's performance. The BSG control module with motors sizes (DT71-DT100) will provide faster brake release times allowing the motor to cycle more frequently.

## BRAKE CONNECTION

The general wiring diagrams for the brake type BM controlled by a 24 VDC signal are given on the back side of this sheet. On motor frame sizes DT71-DT100 the brake can be released by applying 24 VDC directly across the brake coil (the red and blue wires). The brake is set by removing the 24 VDC from the brake coil. As standard the brake coil wires are connected to a terminal strip in the motor's conduit box. It is recommended that a varistor be put in parallel across the brake coil to protect the brake coil and the contacts from overvoltage caused by switching the brake on or off. Suitable varistors for this protection are:

Manufacturer	Varistor Type
Siemens	SIO V-S10 K300
GE	V275LA10
Panasonic	ERZ-C10DK471

The BSG brake control module is supplied as standard equipment on motor frame sizes DV112-DV225 and optionally on motor frame sizes DT71-DT100. The BS24 is supplied as a standard on sizes DT71-DT100. To release the brake 24 VDC is applied to terminals 2 and 3 on the BSG control module. To set the brake the 24 VDC power is removed from the brake control module. The BSG unit incorporates overvoltage protection so no external varistor is required.

A common sequence of operation is to apply 24VDC to release the brake at the same time as power is applied to start the motor. Typically power is removed from the brake and motor simultaneously to stop the motor.

Brake Current Draw							
Brake Type	BM05	BM1	BM2	BM4	BM8	BM15	BM30 - BM62
Motor Type (DT/DV)	71 - 80	80	90 - 100	100	112 - 132S	132M - 160M	160L - 225M
Continuous Current (Amps DC)	1.38	1.54	1.77	2.20	2.45	4.15	4.00
Inrush Current (Amps DC)	5.52*	6.16*	7.08*	8.80*	15.4	31.1	34.0

\*The inrush current occurs only if the BSG brake control module is used.



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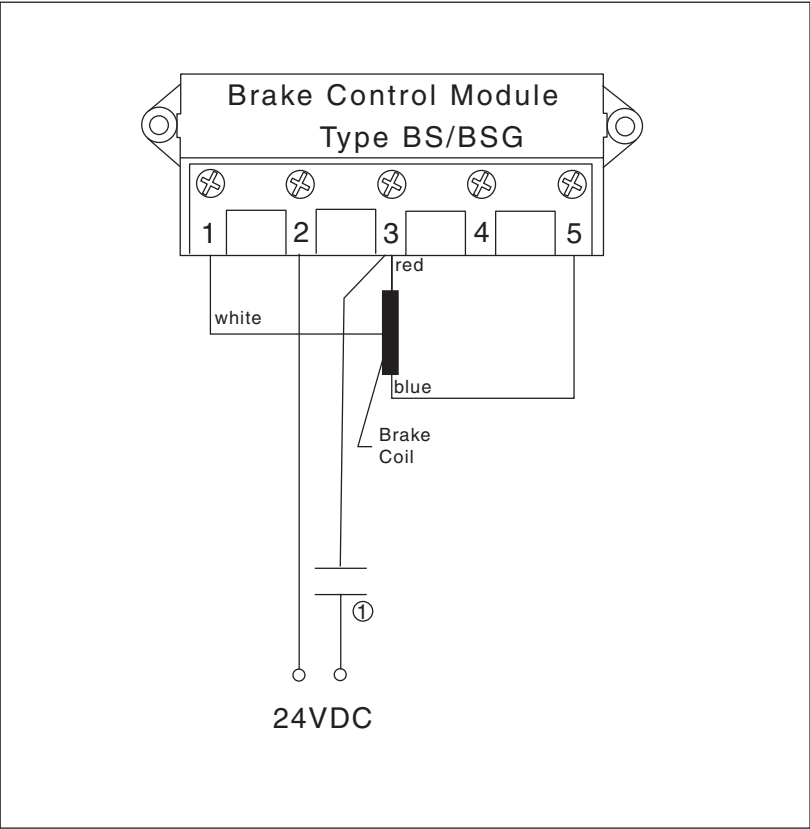
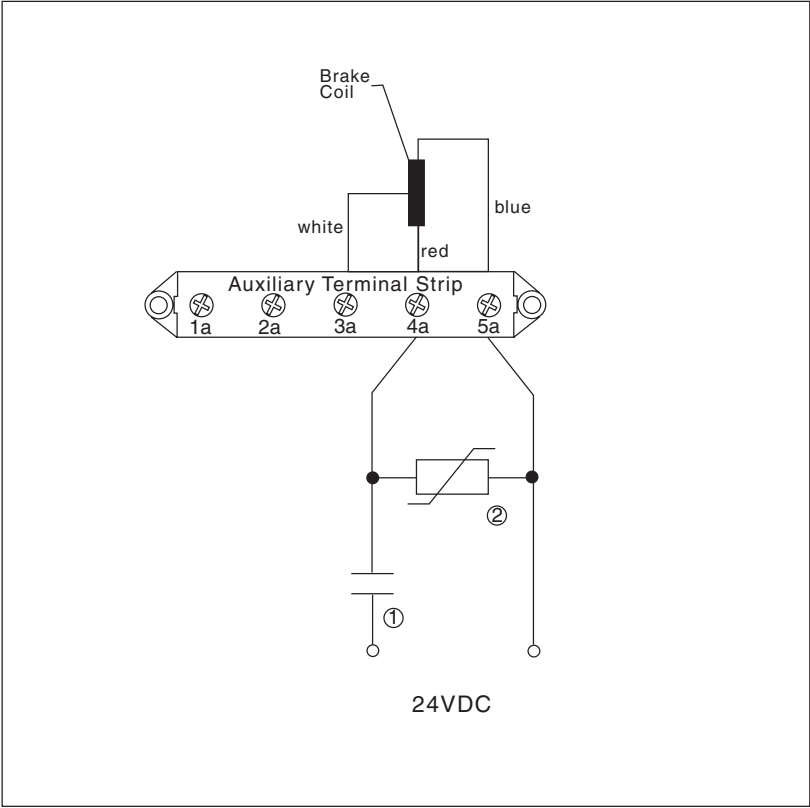
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1) The contacts shown are not SEW-Eurodrive Supplied  
 2) The recommended varistor is not SEW-Eurodrive supplied.

