BPM SERIES
BRAKE POWER MODULE

FEATURES

- For use with Magtrol Hysteresis Brakes and Clutches

- Power supply: 20 ... 35 VDC

- Current control: up to 1A (model BPM 101)
  up to 3A (model BPM 103)

- Pulse Width Modulation (PWM) switching frequency: 5 kHz

- Compact design (width 22.5 mm)

- Polyamide housing with snap-on DIN-Rail (EN 50022) mounting
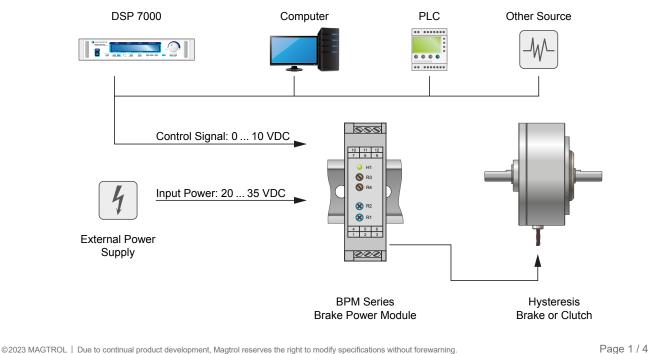
- Cost effective solution

Fig. 1: BPM 103 | Brake Power Module

DESCRIPTION

The BPM Series Brake Power Module is widely used to supply and control the current (up to 3A) of Magtrol Hysteresis Brakes and Clutches. This compact component is easy to mount (DIN-Rail snap-on) and recommended for easily controlling a wide range of brakes and clutches.

The analog input of the Brake Power Module is designed for 0-10 VDC signals. At the maximum set value of 10 VDC, the output current is adjustable 0 ... 100 %. With the use of adjustable potentiometers, the zero point can be shifted 0 ... 20 %.
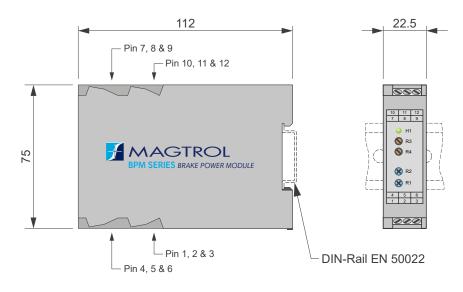
SYSTEM CONFIGURATION

SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

Supply Voltage (U_V)	20...35 VDC (ripple ±5%)
Power Consumption	70 mA + load current
Power Output I_{max} / V_{max}	BPM 101: up to 1A / U_V minus 2V BPM 103: up to 3A / U_V minus 2V
Current Regulation	±1% full scale
Type of Load	Inductive loads only
Current Adjustment	0...100%
Zero Displacement	0...20%
Pulse Width Modulation (PWM) Switching Frequency	5 kHz
Reference Value Input	0...+10V (R_{in} = 100 kΩ)
Wiring Diagram	

ENVIRONMENT

Service Temperature Range	0°C...+50°C

MECHANICAL CHARACTERISTICS

Housing Material	Gray polyamide insulation material
Device Mounting	DIN-Rail Snap-on (EN 50022)
Weight	115 g
Terminals	Screw-type for cables 2.5 mm^2

NOTE: When used with Magtrol Hysteresis Brakes, the maximum torque available depends on the brake's operating temperature. Please contact Magtrol Sales Services for more information.
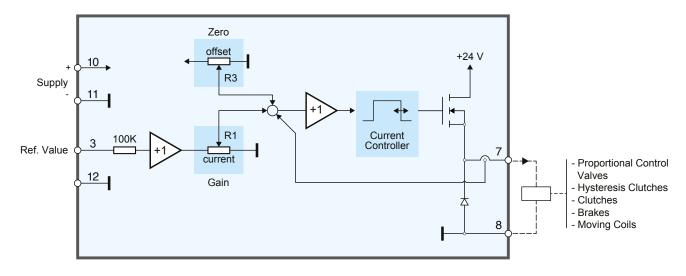
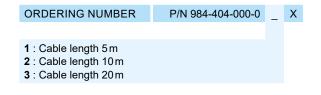# DIMENSIONS

ELECTRICAL DIAGRAM

NOTE: This Brake Power Module includes other functionalities. However, only the functions presented above are fully supported by Magtrol. Magtrol advises against any other non described uses. Magtrol will not offer any technical support on these functions and can not be held responsible for any inappropriate uses.

ACCESSORIES

To allow the connection between the DPS 7000 High speed Programmable Dynamometer Controller and the BPM Series Brake Power Module, Magtrol offers, an optional dedicated cable.

In this configuration the DSP 7000 can control the Brake Power Module and so regulate the brake or clutch.

WH: 0-10 VDC
GN: GND

ORDERING NUMBER	P/N 984-404-000-0 _ X

1 : Cable length 5 m
2 : Cable length 10 m
3 : Cable length 20 m

ORDERING INFORMATION

ORDERING NUMBER	P/N 957-50-01-000 _

3 : BPM 103
5 : BPM 101

Example: BPM 103 Brake Power Module would be ordered
as: **P/N 957-50-01-0003**.

SYSTEM OPTIONS & ACCESSORIES

TORQUE TRANSDUCERS TM & TS SERIES

Magtrol's In-Line Torque Transducers provide extremely accurate torque and speed measurement over a very broad range. These products are very reliable, providing high overload protection, excellent long term stability and high noise immunity.

To provide customers with several price/performance options, Magtrol offers whole range of torque transducer models: latest generation **TS Series**, basic **TMB Series**, high accuracy **TM Series** and high speed with high accuracy **TMHS Series**.

Fig. 2: TM 311 | In-line Torque Transducer

Fig. 3: TS 102 | Latest generation of Torque Sensor

«TORQUE» SOFTWARE

Magtrol's TORQUE Software is an easy-to-use LabVIEW™ executable program, used to automatically collect torque, speed and mechanical power data. The data can be printed, displayed graphically or quickly saved as a Microsoft® Excel spreadsheet. Standard features of TORQUE include: peak torque capture, multi-axes graphing, measured parameter vs. time, adjustable sampling rates and polynomial curve fitting.

COUPLINGS

Magtrol provides a wide range of couplings suitable for torque measurement applications and can assist you in choosing the right coupling for your transducer.

Fig. 4: MIC-6 | Single element coupling

DSP 7000 | DYNAMOMETER CONTROLLERS

Magtrol's Model DSP 7000 Programmable Dynamometer Controller employs state-of-the-art Digital Signal Processing Technology to provide superior motor testing capabilities. Designed for use with any Magtrol Hysteresis, Eddy-Current or Powder Brake Dynamometer, Magtrol In-Line Torque Transducer or auxiliary instrumentation, the DSP 7000 can provide complete PC control via the USB or optional IEEE-488 interface. With up to 500 readings per second, the DSP 7000 is ideally suited for both the test lab and the production line.

Fig. 5: DSP 7000 | High-Speed Dynamometer Controller

AHB SERIES | COMPRESSED-AIR-COOLED HYSTERESIS BRAKES

When torque control/torque measurement must be performed at the highest possible power, Magtrol AHB Series Hysteresis Brakes are ideal. Passages running through the brake enables compressed air cooling providing excellent heat dissipation. This design allows for continuous power ratings up to 3 000 W (5 300 W intermittent). Use of pre-loaded bearings in the AHB Series Hysteresis Brakes allows operation at speeds of up to 25 000 rpm for extended durations. AHB Series Brakes are conveniently base mounted. Base mounting, with integral barrier type terminal strip, provides easy mounting and wiring.

Fig. 6: AHB-3 | Compressed-Air-Cooled Hysteresis Brakes