Permanent Magnet DC Motors

TP 8016-2



Equipment Set TP 8016-2

220 – 240 V, 50 Hz	**8223531**

The most important components at a glance:

1x Permanent Magnet DC Machine	8100085
1x 48 V Lead-Acid Battery Pack	8174051
1x Data Acquisition and Control Interface DACI-2	594499
1x 24V AC Power Supply (Wall Mount)	793290
1x Four-Quadrant Dynamometer Motor	595062
1x Four-Quadrant Power Supply and Dynamometer Controller	595028
1x Timing Belt	793141
1x Protective Guard – Side-by-side	794195

Necessary accessories, also order:

1x Connection Lead Set and Grounding Kit	595916
1x Three-Phase AC Power Supply and Safety Unit	594826
1x Mobile Frameline, complete model without energy duct **or**	8075133
1x Tabletop Workstation (DIN A4) **or**	8153360
1x Tabletop Double-Sided Workstation	8158409

Note: A computer with a Windows 7/8/10 operating system is also required.

Gain valuable insights into the design, operation, and control of energy-efficient motors and performant advanced systems.

This training package provides practical experience with the operating principles and characteristics of permanent magnet DC motor operation.

The training solution includes the necessary equipment to conduct practical learning activities for the "Permanent Magnet DC Machines" course available on Festo LX (subscription required) or through a campus license (sold separately).

Learners connect modules according to step-by-step instructions to study topics such as prime mover and brake, as well as the operation of the motor and generator.

The permanent magnet DC motor is powered by a lead-acid battery. The four-quadrant power supply and dynamometer controller monitor and control the torque and speed of the permanent magnet DC motor. The Data Acquisition and Control Interface (DACI) allows users to monitor and adjust parameters for the chopper and inverter functions.

Recommended Learning Material

Workbooks (→ page 162)



Campus license:

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Notes: The campus license "Fundamentals of AC and DC Rotating Machines" includes the student and instructor manuals of the following workbooks: "Three-Phase Rotating Machines", "Permanent Magnet DC Machines", and "Power Factor Correction". Printed workbooks are available upon request.

Courses on Festo LX:

- → Three-Phase Rotating Machines
- → Permanent Magnet DC Machines
- → Power Factor Correction