DC Variable-Speed Drives

TP 8015-7



Equipment Set TP 8015-7

220 – 240 V, 50 Hz	**8223528**

The most important components at a glance:

1x Permanent Magnet DC Machine	8100085
1x 48 V Lead-Acid Battery Pack	8174051
1x IGBT Chopper/Inverter	8167609
1x 24V AC Power Supply (Wall Mount)	793290
1x Four-Quadrant Power Supply and Dynamometer Controller	595028
1x Four-Quadrant Dynamometer Motor	595062
1x Data Acquisition and Control Interface DACI-2 (note 1)	594499
1x Protective Guard – Side-by-side	794195
1x Timing Belt 62 Tooth (for side-by-side mounting)	8106423

Notes:
(1) The Chopper/Inverter function set must also be activated (sold separately, order no. 581453)

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.

Use IGBT-based power electronics and PWM techniques to precisely control the speed and torque of DC motors.

This training package provides practical experience with DC drives and PWM DC motor drives.

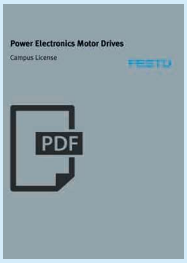
The training package contains the necessary equipment to perform the practical learning activities of the “DC Motor Drives” course available on Festo LX (subscription required) or as a campus license (sold separately).

Learners connect modules by following step-by-step instructions to study topics such as PWM DC motor drives, bi-directional PWM DC motors with regenerative braking, speed feedback, current control, and more.

The four-quadrant power supply and dynamometer controller manage the mechanical load applied to the permanent magnet DC motor, while the lead-acid battery supplies power to the IGBT-based DC input. The IGBT chopper/inverter uses either a buck or buck-boost converter to supply the required voltage to the permanent magnet DC motor. The Data Acquisition and Control Interface (DACI) enables users to monitor and adjust parameters for the chopper/inverter functions.

Recommended Learning Material

Workbooks (→ page 162)



Campus license:

en	8228874

Notes: The campus license “Power Electronics Motor Drives” includes the student and instructor manuals of the following workbooks: “Three-Phase Motor Drives”, “DC Motor Drives”, and “Three-Phase Induction Motor Starters”, Printed workbooks are available upon request.

Courses on Festo LX:

- → Three-Phase Motor Drives
- → DC Motor Drives
- → Three-Phase Induction Motor Starters