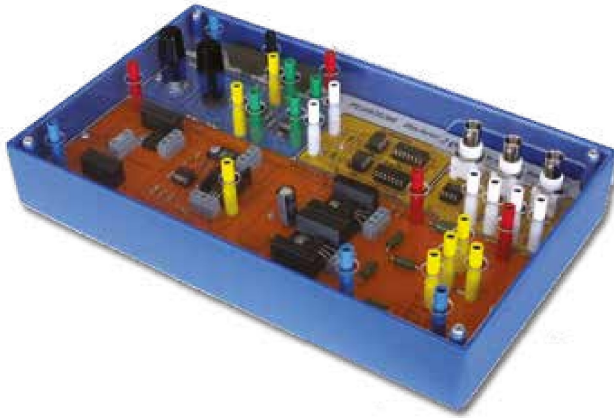




2-quadrant transistorized chopper, 5 A



Highlights

- Voltage and current probes with galvanic insulation
- Shunts in each branch allow the visualization of the currents.

Studied topics

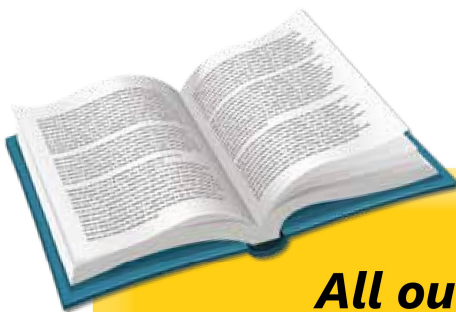
- Subvoltage chopper.
- Chopper with energy recovery.
- **Experiments supplied with the module**

Technical characteristics - PED 020 200 - 2-quadrant transistorized chopper, 5 A

Studied Functions	Step-down voltage chopper, step-down voltage chopper with current control, chopper with voltage recovery
Duty cycle control	A feedback loop enables the study with control current with an external +/- 10 V control unit
Insulation	Galvanic insulation is achieved through optocoupler device
Visualization of the current	Shunts in each branch allow the visualization of the currents (5 A max at 30 V).
Insulation of the measures	Differential probes are used for the visualization of the voltage and of the current on an oscilloscope.

PED 020 200 : 2-quadrant transistorized chopper, 5 A

Reference	Description	Quantity
PED 020 200	2-quadrant transistorized chopper, 5 A.	1



All our modules are supplied with manuals of experiments, written by teachers we are working with.

120-W machines group



Highlights

- 2x 120-W DC machines.
- Built-in tachymetric generator.
- 2 embedded loads (12 Ohms)

Studied topics

- Operative unit for the study of :
 - Energy static converters,
 - Speed servo systems
- **Compatible with the SELV power electronics range**
 - **EPS130B page 85**
 - **EPS210B page 87**
 - **EPS230B page 89**

Technical characteristics - ELD 037 480 - 120-W machine bench

Motors	Motors with separate excitation				
Nominal power	120 watts	R	0.68 Ohm	Pa	120 W
Nominal voltage	24 Vdc	L	2 mH	Pem	103 W
Nominal current of the motor	5 A	J	$1,38310^{-4}$ kg.m ²	Pu	95 W
Nominal excitation current	0.6 A	Tem	0.33 Nm	Pm	8 W (mechanical losses)
Nominal speed	3100 rpm	Tn	0.29 Nm		
Tachymetric generator	Synchronous generator with 12 pairs of poles, gain : $n = 5 \times f$ (n in rpm).				

ELD 037 480 : 120-W machine bench

Package ELD 3748 C : Experiments in power electronics, 120-W range

Reference	Description	Quantity
ELD 037 480	120-W DC motors bench	1
PED 020 200	2-quadrant transistorized chopper, 5 A, current reversible	1
EPD 037 340	Self Inductance : 1, 2, 4, 6, 8 mH, 5 A	1
PMM 064 000	Rheostat 320 W, 10 Ohms, 5,7 A	1
PED 020 300	PID corrector monitor	1
PMM 062 830	Adjustable power supply, with digital display: 0/30 Vdc, 0/5 A	2
PMM 062 180	Symmetrical power supply, +/-15 V, 1 A	1
ELD 100 200	Set of 52 safety stackable patching cords diam 4 mm (25, 50, 100, 200 cm)	1

(We suggest the composition of the package, for special configuration, please ask)