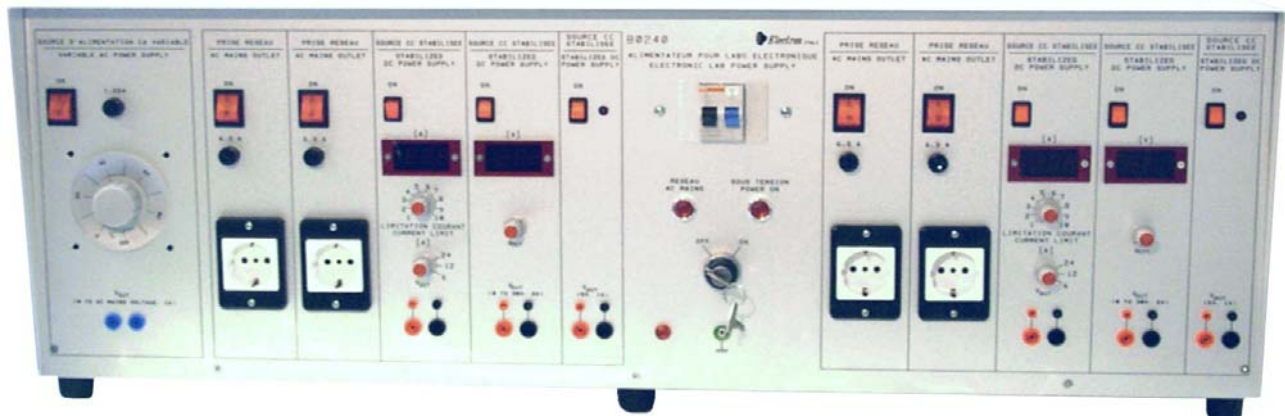


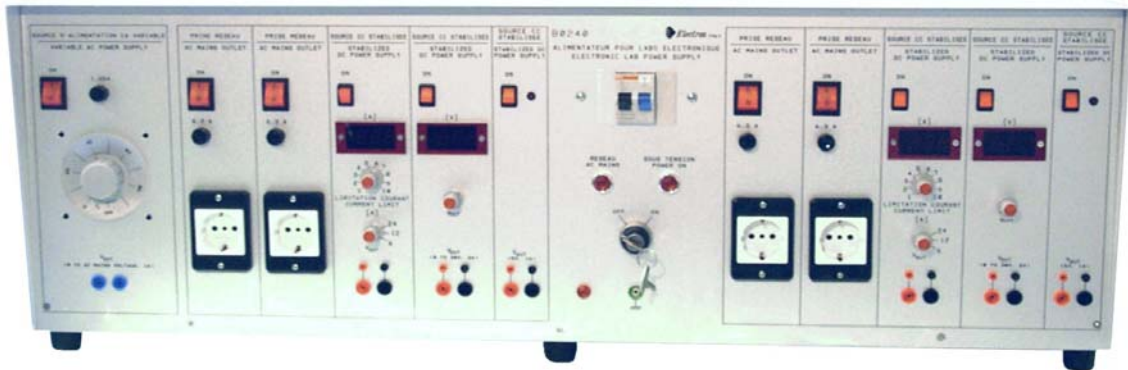
Electron S.R.L.

Design
Production &
Trading of
Educational
Equipment

A12 – ELECTRICAL INSTRUMENTS SUPPLIES, ACCESSORIES



A12-B0240 POWER SUPPLY FOR ELECTRONICS LABORATORY



This unit is designed to be equipped to Laboratory desks in order to provide safe and handy voltage supply sources. The unit consists of a metallic case of approx 350 x 390 x 1000 mm size (H x D x W) with clear silkprinting indication of controls, output voltages and ratings.

The module includes:

- magneto-thermic differential AC mains breaker, with lamp "ON" indication and emergency "OFF" button
- 4 AC mains output socket, SHUKO standard, 6A each
- 1 adjustable AC output source 0-220 V (or 240 V depending on local AC mains voltage), current rating 1 A, fuse-protected
- 2 stabilized DC sources 0-30 V, separately variables and independent,

in such a manner that they can be connected in series to make a 0-60 V source or a dual source 0 to +/- 30 V. Current rating is 2 A on each output, short-circuit proof.

- 2 stabilized DC sources at selectable and fixed voltages 6, 12, 24 V, with adjustable current limiting 0.5 to 10A.
- 2 stabilized DC sources at 5 V, with short-circuit protection at 1 A.

Technical characteristics of DC stabilizers (all types)

- output ripple at rated load: better than 50 mV rms
- voltage change from 10% load to 90% load: better than 1.5%

ORDERING CODE

B0240

A12-BTP2- POWER SUPPLY



This unit is designed to be mounted on a two-student work desk, to provide safe and handy voltage sources for the experimental work

The unit consists of a metallic case of approx. 1000 x 360 x 320mm (W x D x H), with clear silk-screen printed indication of the controls, outputs, voltages and ratings.

Technical characteristics:

- Magneto-thermal residual-current circuit breaker for the AC mains, with light indicators and a key-lockable switch to prevent unauthorized use.
- 1 variable AC supply, rated at 0 to 250V AC, 1A (Fuse protected)
- 1 variable AC supply, rated at 0 to 24V AC, 5A (Fuse protected)

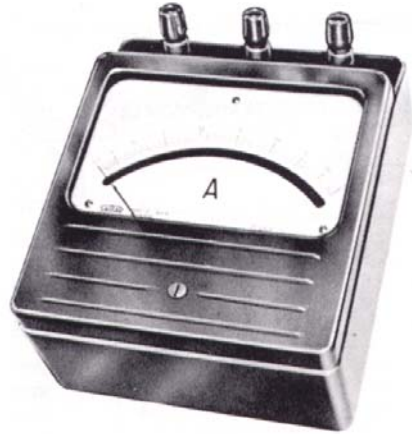
- 4 AC mains output sockets, SHUKO standard, 6A each. The mains outlets are provided with an illuminated ON/OFF switch.
- 1 variable stabilized DC source 1.2 to 30V DC approx, with variable current limitation in the range of 0 to 2A approx.
- The unit is provided with a 3-digit digital Voltmeter with high visibility displays
- DC output sources at the fixed voltages of +12, -12 DC with electronic current limitation at 0.5A.
- 1 stabilized DC source at 5V DC, with electronic short-circuit protection at 2A.

ORDERING CODE

BTP2

A12-SL150RV– MOVING IRON VOLTMETER

- Portable moving-iron voltmeters, suitable for both DC and AC measurements.
- Class 0.5 AC
- Class 1 DC
- 4 ranges



A12-SL150RA – MOVING IRON AMMETER

- Portable moving-iron ammeter, suitable for both DC and AC measurements.
- Class 0.5 AC
- Class 1 DC
- 2 ranges

A12-SL150ED – SINGLE PHASE WATTMETER

- Portable electrodynamic instruments used equally well for both DC and AC measurements up to 100 Hz.
- Class 0.5
- Two current ranges
- Four voltage ranges



A12-SL150Φ – SINGLE PHASE COSΦ METER

- Suitable for power factor ($\cos\phi$) measurements.
- Scale $0.2_{IND} - 1 - 0.8_{CAP}$
 $0.5_{IND} - 1 - 0.5_{CAP}$ on request
 $0_{IND} - 1$ on request
- Two current ranges
- Two voltage ranges



A12-680G – ANALOGUE AVO METER

- DC current $50\mu\text{A} \div 5\text{A}$
- AC current $250\mu\text{A} \div 2.5\text{A}$
- DC voltage $100\text{mV} \div 1000\text{V}$
- AC voltage $2\text{V} \div 1000\text{V}$
- Resistance $\times 1 \div \times 10000$
- Sensitivity $20.000 \Omega/\text{V}_{\text{DC}} \quad 4.000 \Omega/\text{V}_{\text{AC}}$



A12-PW-E/G WHEATSTONE BRIDGE

- For measurement of resistance from 0.1 to $10 \text{ M}\Omega$ with the accuracy of 0.5%
- Completed with electronic galvanometer, scale 30-0-30 sensitivity $1 \mu\text{A}/\text{div}$.
- Two pair of terminals for connecting the unknown resistance and battery.



A12-PMS-D/1 MAXWELL DE SAUTY BRIDGE

- For measurement of inductance from 1 mH to 100H.
- For measurement of capacitance from 1 nF to $100\mu\text{F}$
- Measuring range in 3 digit reading.
- Accuracy $\pm 1\%$ of the range ($50 \div 60 \text{ Hz}$)



A12-TA 0,6/5 - CURRENT TRANSFORMER

Class 0.5, primary current $10 \div 25 \div 50\text{A}$, secondary current 5A, 5VA



A12-TV 0,6/20 – VOLTAGE TRANSFORMER

Class 0.5 – primary voltage $500 \div 1000\text{V}$, secondary voltage 100V, 20VA



A12-SH – SHUNT FOR DC CURRENT

Class 1, 60mV, 500A max



A12-RH – SET OF LINEAR RHEOSTATS

- 4 types from 100 to 5000 Ω , 1 to 2A.
- Supplied with scale and metal protective cover equipped with rubber feet.
- Values: 100 Ω /1.25A 500 Ω /0.36A
500 Ω /1.1A, 1000 Ω /0.57A



A12-CI/1B+CI/2B SWITCHES

Switch and Reversing Switch.
For general use in measuring circuits.
All the live parts are shielded.



A12-SLD-E/G GALVANOMETER

Scale 30-0-30, 1 μ A/div, internal resistance 400 Ω .



A12-SLD-E/VCC – MILLIVOLTMETER

60mV, Class 1



A12-C50 – SWITCH DECADE CAPACITORS



Photo of a similar
4 dials model

Switch decade capacitances boxes suitable for general use in electric and electronic laboratories.

TECHNICAL SPECIFICATIONS

- 5 dials
- Range from 10x100 pF up to 10x1 μ F
- Capacitor tolerance 2%
- Dimensions (mm) 420 x 80 x 60
- All capacitors are plastic film, non-polarized
- Safety connectors
- Plastic box, panel with terminals, control knobs and indications
- Double insulated
- Max working voltage: 100 V
- Temperature drift: 80 ppm / °C

A12-L40 – SWITCH DECADE INDUCTORS



DIAL	Range	D.c. max current
1	10 x 1 mH	100 mA
2	10 x 10 mH	70 mA
3	10 x 100 mH	50 mA
4	10 x 1 H	40 mA

- The decade box complies with Standards CEI1010-1 Cat III pol 2
- Working voltage : 250 V
- Accuracy : 3% on decades 10x1 mH and 10x10 mH, 10% on decade 10x100 mH and 10x1 H
- Output on safety terminals : \varnothing 4 mm
- Working temperature : -10 °C + 55 °C
- Relative humidity : 20% <RH <96%
- Pass band : 2 KHz
- Coils made on ferrite with central hole.

A12-CR – SWITCH DECADE RESISTORS



Switch decade boxes designed for general use in laboratory.
Various models which are different for product, precision, number of decades are available. Use in d.c. or a.c.

TYPE	No.of dials	SECTIONS	Total resistance Ω
A12-CR-B/8DC0	8	$10 \times (0.1 + 1 + 10 + 100 + 1K + 10K + 100K + 1M) \Omega$	11,111,111
A12-R80	8	$10 \times (0.1 + 1 + 10 + 100 + 1K + 10K + 100K + 1M) \Omega$	11,111,111
A12-R70-E	7	$10 \times (1 + 10 + 100 + 1K + 10K + 100K + 1M) \Omega$	11,111,110
A12-CR-B/7DC0	7	$10 \times (0.1 + 1 + 10 + 100 + 1K + 10K + 100K) \Omega$	1,111.11
A12-R60-E	6	$10 \times (1 + 10 + 100 + 1K + 10K + 100K) \Omega$	1,111,110
A12-R50	5	$10 \times (1 + 10 + 100 + 1K + 10K)$	111,110
A12-CR-B/6DC2	6	$10 \times (10 + 100 + 1K + 10K + 100K + 1M) \Omega$	11,111,100
A12-CR-B/5DC1	5	$10 \times (1 + 10 + 100 + 1K + 10K) \Omega$	111,110
A12-CR-B/5DC2	5	$10 \times (10 + 100 + 1K + 10K + 100K) \Omega$	1,111,100
A12-CR-B/5DC3	5	$10 \times (100 + 1K + 10K + 100K + 1M) \Omega$	11,111,000
A12-CR-B/4DC1	4	$10 \times (1 + 10 + 100 + 1K) \Omega$	11,110
A12-CR-B/4DC2	4	$10 \times (10 + 100 + 1K + 10K) \Omega$	111,100
A12-CR-B/4DC3	4	$10 \times (100 + 1K + 10K + 100K) \Omega$	1,111,000
A12-CR-B/4DC4	4	$10 \times (1K + 10K + 100k + 1M) \Omega$	11,110,000
A12-CR-B/3DC1	3	$10 \times (1 + 10 + 100) \Omega$	1,110
A12-CR-B/3DC2	3	$10 \times (10 + 100 + 1K) \Omega$	11,100
A12-CR-B/3DC3	3	$10 \times (100 + 1K + 10K) \Omega$	111,000
A12-CR-B/3DC4	3	$10 \times (1K + 10K + 100k) \Omega$	1,110,000
A12-CR-B/3DC5	3	$10 \times (10K + 100K + 1M) \Omega$	11,100,000

Max current dissipation 0.5 W for dial

The CR-B/DC resistor elements are of metal film with low temperature coefficient and long term stability

Calibration accuracy: $\pm 0.5\%$ at terminals dc and ac up to 1MH

The switches have a contact resistance less than 0.01 Ω stable with time.