ES Series

150 WATTS PROGRAMMABLE DC SUPPLY

Features

- **Autoranging input**
- **Small and light**
- **10 turn potentiometer control**
- **Programmable by 0–5V**
- **EMC standard EN61204-3**
- **Short circuit protected**
- **Optional ethernet, RS232 and IEEE488 programming interface.**



Specifications

INPUT

Voltage range	AC 90–265V, 48Hz–62Hz
Inrush current	10A with NTC resistor 30Ω cold resistance.
Power factor	0.99 / 0.83 (110 / 230 Vac)
Isolation	I/P to O/P: 4000Vrms (1 min.), Creepage: 8mm I/P to Case: 2500Vrms, O/P to Case: 600Vdc

OUTPUT

Power	150 watts
Voltage regulation	Load 0%–100%: ES015-10: 15mV, ES030-5: 6mV, ES075-2: 5mV, ES0300-0.45: 10mV (Internal Sensing, optional external sensing available on request). Line, 90-265Vac ES015-10: 0.2mV, ES030-5: 0.5mV, ES075-2: 1mV, ES0300-0.45: 3mV
Current regulation	Load 0%–100%: ES015-10: 3mA, ES030-5: 1mA, ES075-2: 0.5mA, ES0300-0.45: 0.3mA. Line, 90-265Vac ES015-10: 0.5mA, ES030-5: 0.2mA, ES075-2: 0.1mA, ES0300-0.45: 0.05mA.
Voltage/current adjustment	By 10-turn potentiometers, resolution 0.03%
Ripple & noise pk-pk	See table
Overvoltage protection (fixed)	ES015-10: 18V, ES030-5: 40V, ES075-2: 90V, ES0300-0.45: 330V.
Short circuit protection	Yes
Overload protection	Yes
Temperature coefficient	CV: 5x 10^{-5}/°C, CC: 10x 10^{-5}/°C.

ENVIRONMENTAL

Operating temperature	-20°C to +50°C
Storage temperature	-40°C to +85°C
Humidity	max. 95% RH, non condensing, up to 40°C. max. 75% RH, non condensing, up to 50°C.
Derating	Above 50°C, derate linearly to 20% @ 75°C
Cooling	Convection
Thermal protection	Output shuts down in case of insufficient cooling.
MTBF	500,000 hours

OPERATING

Efficiency	83-84%
Impedance	ES015-10: <100mΩ, ES030-5: <200mΩ, ES075-2:< 250mΩ,ES0300-0.45: <5Ω.
Holdup time (230Vac input)	25ms (Vout = 100%, Iout = 100%)
Minimum load	No
Parallel operation	Yes, master/slave operation possible
Series operation	Yes, total voltage must not exceed 600V
Programming	Voltage 0–5V
Programming speed	See table
Remote inhibit	Yes, +5V or relay contact
Meters	Digital 3.5 digits
Indicators	CV, CC

STANDARDS AND APPROVALS

Safety standards	EN61010 / EN60950
EMC standards	EN61204-3, EN61000-6-2
EMI standards	EN61000-6-3 (EN55022B)

MECHANICAL

Mounting	Bench mounting. Rack mounting optional
Case	IP20
Dimensions / Weight	52H x 222W x 202D mm / 1.7kg

Selection Table

MODEL NUMBER	OUTPUT VOLTAGE (0V TO)	OUTPUT CURRENT (0A TO)	RIPPLE & NOISE CV	CC	PROGRAM SPEED
ES015-10	15V	10A	8mV p-p	10mA p-p	7mS
ES030-5	30V	5A	10mV p-p	2mA p-p	15mS
ES075-2	75V	2A	15mV p-p	0.5mA p-p	17mS
ES0300-0.45	300V	0.45A	50mV p-p	0.2mA p-p	10mS

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OPTIONS
Screwdriver adjustment - option P001
Master / slave operation
Increased max. output voltage / current - option P069
Remote sensing / Rear power outlet - option P119 - 122
Internal ethernet power supply controller - option P150
Internal RS232 power suply controller - option P148
External IEEE488 power supply controller - PSC 488 EXT

Technical Illustrations



