

Electronic DC Load

Series ELA Power 500 Watt



Constant I-Mode or G-Mode
Master-Slave Mode

ext. programmable I-constant,
without a G-Module installed
ext. programmable I,U, P- or G- constant
with a G-Module installed

Options a.o.:
Installed IEEE488.2 (GPIB) / RS232* / USB*
interface with Lab-View Driver (Series INT2E)
External CAN Open Interface (on request)
G- Module
Front-End Unit
* selectable RS232 or USB



The Series ELA 505 load are electronic regulated DC loads with power up to 500Watt. It is designed at the latest MOS technologie with a DC load range starting at 0.35VDC up to 160VDC. Everywhere, DC loads are needed as a stand alone type or integrated via interface in any system applications, the ELA 505 series offers most intelligent features such as:
Minimum load voltage 0.35VDC / Load ON/OFF / Remote Control Port (RCP) with additional +15VDC voltage to supply external components / Local-Lockout / U- and I-Monitor outputs buffered / Load-On-Relay at Power-Up / a.m.m.

Input:
Input voltage 230VAC -10% +6%, 50-60Hz
Load voltage see table
Load current see table
Continuous Power see table

Regulation:
Set point accuracy $\leq 0,1\% I_{max}$
(Voltage change $\pm 20\%$)
Rise time (at 10-90%
nominal value change I-Mode)
ELA505/75/50, ELA505/75/100 $U_L > 3V \leq 150\mu s$
 $U_L < 3V \leq 500\mu s$
ELA505/160/50 $U_L > 6V \leq 150\mu s$
 $U_L < 6V \leq 500\mu s$
Temperature coefficient
(after 15 min. working time,
const. $T_{ambient.}$ and U_{mains}) $\leq 0.01\%/^{\circ}C I_{max}$

Protection:
Overload protection power limit, current limit protection
Overvoltage protection power shutdown $U_{max} +6\%$
Thermal protection power shutdown, auto recovery
Reverse polarity wattless current diode and fuse

Environmental Condition:
Operating temperature 0 - +40°C (not condensing)
Cooling int. fans, temperature controlled

Safety:
Safety standard EN 61010-1
Isolation
AC input - load input $2.3kV_{eff}$
AC input - protective ground $1.35kV_{eff}$
Load input - protective ground $U_L \leq 75V: 500V_{eff}$
 $U_L = 160V: 1kV_{eff}$

EMC:
EMC emission EN61000-6-3
EMC immunity EN61000-6-1

Control, operation and instruments:
Local operation current and resistance 2 set values each (A and B) for 2 channels selectable with a coarse and fine potentiometer each per channel 100Hz or 1kHz switch-selected, waveform: square-wave, duty cycle 1:1
Pulse-generator I, R
Load ON/OFF-function load to be switched at high impedance state
Load ON function load current \approx setpoint
Load OFF function load current ≈ 0 at any setpoint
Instruments load current, load voltage: LED digital load current $\leq 50A:3$ -digits load current = 100A:3.5-digits load voltage $\leq 75V: 3$ -digits load voltage 160V: 3.5-digits accuracy: 0.2% $\pm 1d$
Error indication LED red: over temperature or over voltage LED yellow: current limiting or power limiting
Parallel operation same units possible

Programming Interface (Remote Control Port):
jack RJ45
ext. control voltage 0 - 10V = 0 - I_{max}
any waveform, bandwidth: (-3dB): 0 - 2.6kHz accuracy: 0.2% I_{max}
Load ON/OFF function Load to be switched at high impedance state
Load ON function load current \approx setpoint
Load OFF function load current ≈ 0 at any setpoint
Monitor signal Load current, load voltage accuracy 0.2% I_{max}, U_{max}
Error signal composit failure (active low) (OR-link at following failures: over temperature, over voltage, power limiting, current limiting)

Units for Laboratory and Test

Electrical Connections:

Input voltage Euro-plug with switch, rear side
 Load jack 4mmØ ≤ 40A
 high current jack 6mmØ ≤ 100A
 ID/S6AR-N-S

Dimensions and weight:

Dimensions
 wxhxd without option INT2E: 130x220x340mm
 with option INT2E: 155x220x340mm
 Weight 5.2 kg without option INT2E
 5.8 kg with option INT2E

Option G-Module:

Programming 2 set values each at I-, U-, P-, G-Mode
 ext. voltage 0 - 10V = 0 - I_{max}
 ext. voltage 0 - 10V = 0 - P_{max}
 ext. voltage 0 - 10V = 0 - G_{max}
 ext. voltage 0 - 10V = 0 - U_{max}
 Load ON function load current ≙ setpoint
 Load OFF function load current = 0 at any setpoint
 Pulse generator I, G 1Hz, 10Hz, 100Hz or 1kHz*
 to be switched,
 waveform: square-wave,
 duty cycle 1:1
 * 1kHz not available in U-mode
 Monitor signal load current, load voltage (0 -10V)
 Error signals accuracy: 0.2% I_{max}, U_{max}
 signal: composit failure (active low)
 signal: over temperature, over voltage
 signal: power limiting, current limitation
 signal: under voltage
 Connector 25 pol. Sub D jack

Option INT2E:

Programming 2 set values each at I-, U-, P-, G-Mode with G-module, (1 set value at I-Mode without G-module)
 resolution : 12Bit (4000 steps per range)
 accuracy: 0.25% I_{max} (I-Mode)
 Pulse generator 1Hz, 10Hz, 100Hz or 1kHz*
 to be switched,
 waveform: square wave,
 duty cycle 1:1
 * 1kHz not available in U-mode
 Monitor signal load current, load voltage
 resolution: 12 Bit (I_{max}/4000; U_{max}/4000)
 accuracy: 0.25% I_{max}, U_{max}
 Load ON function load current ≙ setpoint
 Load OFF function load current = 0 at any setpoint
 Function Local Lockout in remote the operation instruments at the front panel are not active
 Error signal signal: composit failure
 signal: over temperature, over voltage
 signal: power limiting, current limiting
 signal: under voltage
 Connectors 9 pole Sub D connecetor (RS232)
 24 pole IEEE488/GPIB-jack
 USB-jack type B

Output-power (W)	DC load-voltage (V)	Load-current (A)	Load-resistance (Ohm)	Model-Number
500	0.35 - 75	0 - 50	0.017 - 6k	ELA505/75/50
500	0.35 - 75	0 - 100	0.017 - 3k	ELA505/75/100
500	0.35 - 160	0 - 50	0.020 - 12.8k	ELA505/160/50

Pin assignment RCP-Interface (Remote Control Port):

RCP	SIGNAL (RJ45)
Pin8	Analog-GND
Pin7	Control Voltage 0-10V
Pin6	Actual load current 0-10V
Pin5	Actual load voltage 0-10V
Pin4	Signal composit failure
Pin3	Command Load ON/OFF
Pin2	Digital-GND
Pin1	Auxiliary voltage +15V (max. 20mA load capacity)

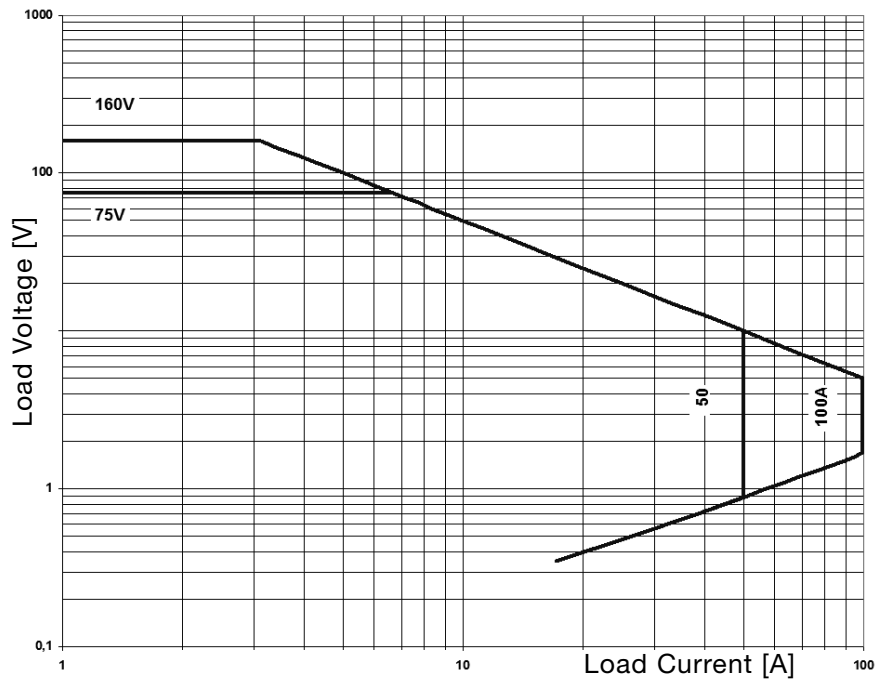
Options:

- Sub front panel
 colour AL nature anodized
 ELA 505 without INT2E: 6U, 28T
 ELA 505 with INT2E: 6U, 33T
- Front-End unit without operation instruments
- CAN Open interface (on request)
- G-Module
- RJ45 jack for ELA 505 (with option G-module at ELA 505 ...: Sub D connector is a standard)
- Integrated Interface IEEE488.2 (GPIB)/RS232*/USB*
 INT2E with Lab-View driver
- Cable for external stand alone
- IEEE488/GPIB-cable
- zero modem cable
- USB cable

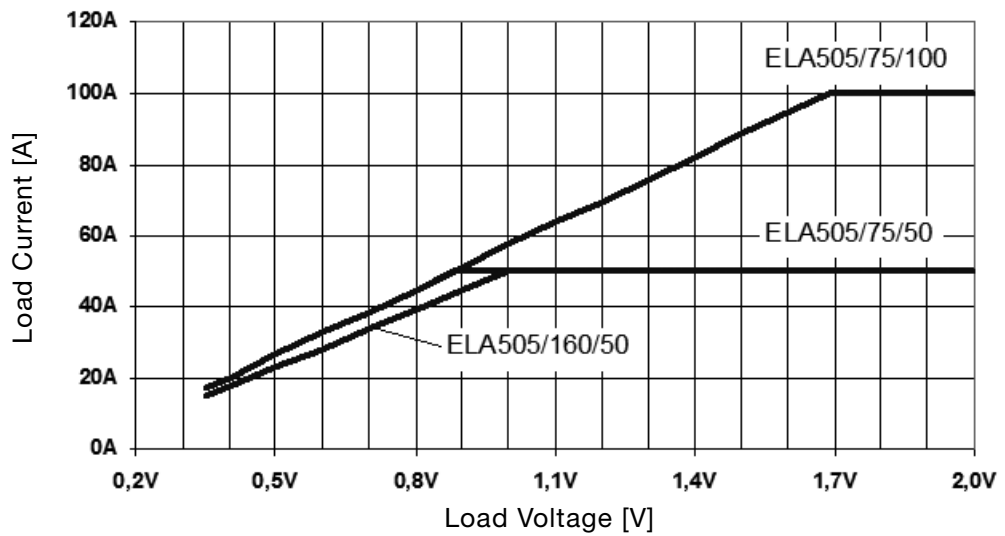
* RS232 or USB selectable

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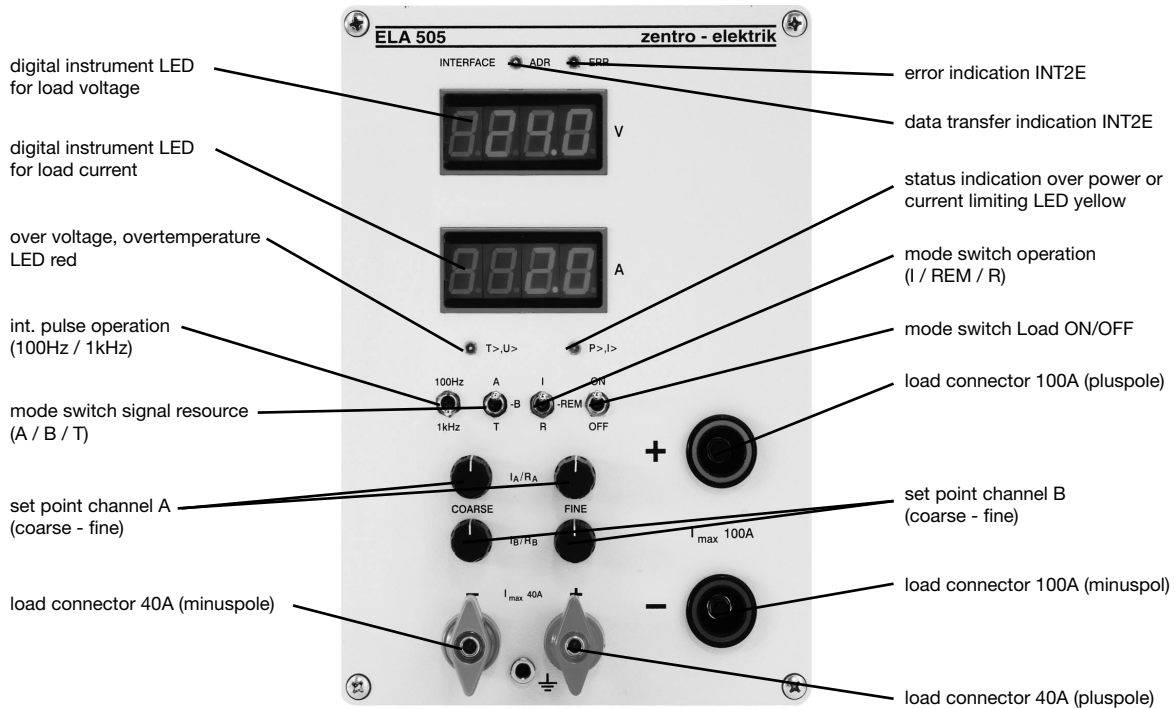
Operating Range ELA505:



Minimum Voltage ELA505:



Front View ELA 505 with INT2E:



Rear View ELA 505 with INT2E:

