

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



Units for Laboratory and Test

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 $\leq 0.01\%/^{\circ}C I_{max}$
(after 15 min. working time, const. $T_{ambient.}$ and U_{mains})

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 to be switched at high impedance state
Load ON/OFF-function load current $\hat{=}$ setpoint
Load ON function load current $\hat{=}$ 0 at any setpoint
Load OFF function load current $\hat{=}$ 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 $\hat{=}$ setpoint
Load OFF function load current $\hat{=}$ 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)

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)
 accuracy: 0.2% I_{max}, U_{max}
 Error signals 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)
 1Hz, 10Hz, 100Hz or 1kHz*
 to be switched,
 waveform: square wave,
 duty cycle 1:1
 * 1kHz not available in U-mode
 Pulse generator 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)

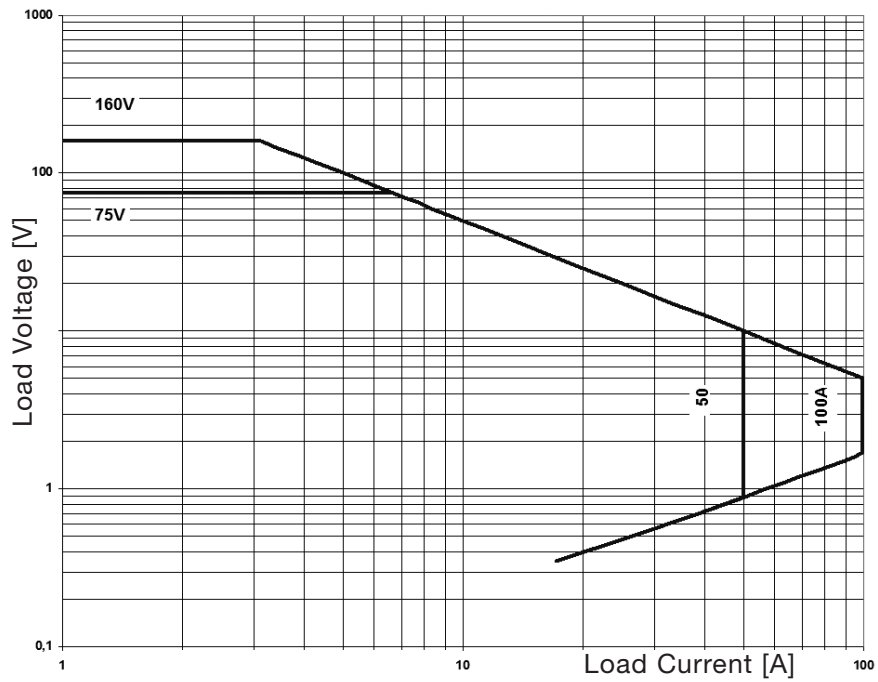
Options:

- 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

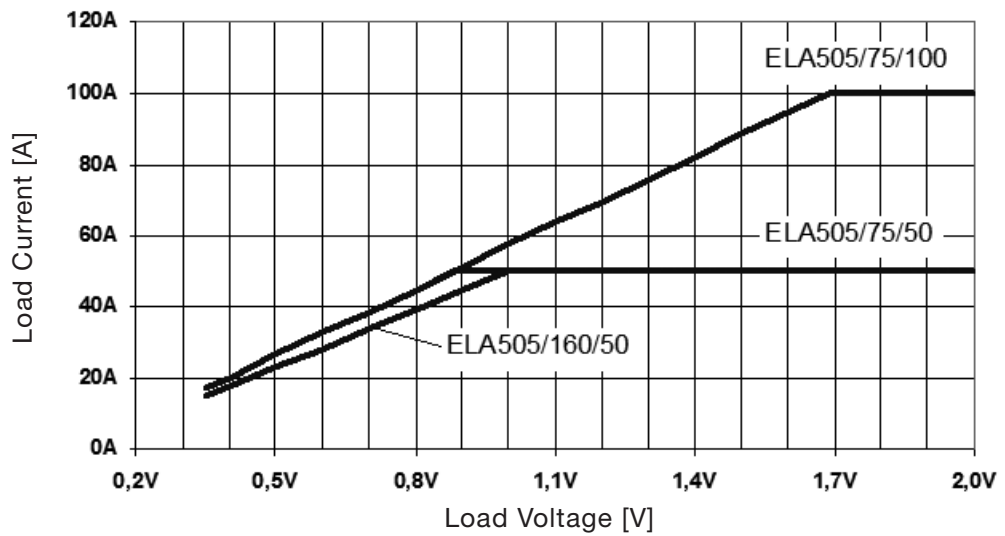
Electronic DC Load

Operating Range ELA505:

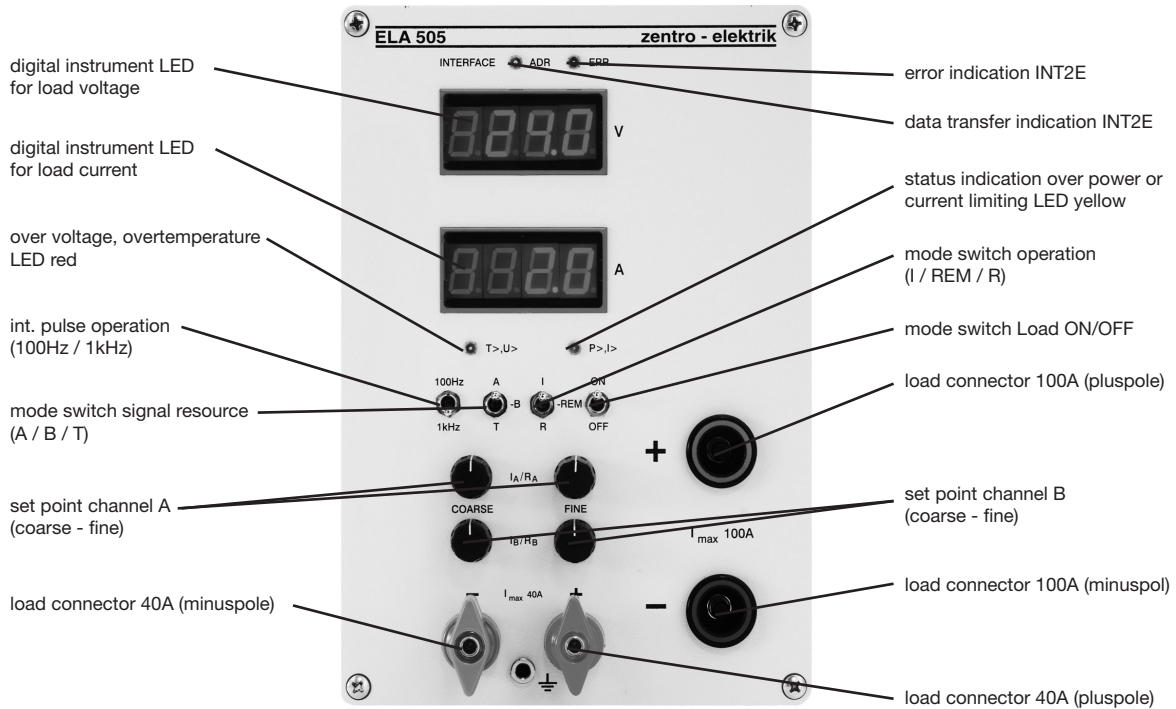


Units for Laboratory and Test

Minimum Voltage ELA505:



Front View ELA 505 with INT2E:



Rear View ELA 505 with INT2E:

