

Electronic DC Load

ELA Series

Power 500 Watt



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

ext. programmable I-constant
ext. programmable I-,P- or G- constant
with G-Module installed

Possible Options:

Installed IEEE488.2 (GPIB) / RS232 interface with Lab-View Driver (Series INT2E)
Installed USB Interface with driver software
External CAN Open Interface (on request)
G- Module
Front-End Unit



The ELA 505 series loads are electronic regulated DC loads with power up to 500Watt. They are designed at the latest MOS technology with a DC load range starting at 0.35VDC up to 160VDC.

Suitable for many applications, Zentro DC Loads can be used as a stand alone type or integrated via interface in system applications.

The ELA 505 series offers impressive 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 / etc

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
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
Pulse-generator I, R 100Hz or 1kHz switch-selected, waveform: square-wave, duty cycle 1:1
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
Instruments load current, load voltage: LED digital load current $\leq 50A: 3\text{-digits}$
load current = 100A: 3.5-digits
load voltage $\leq 75V: 3\text{-digits}$
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 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, load voltage
Monitor signal 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)

RS232 - IEEE488 2 - USB - CAN - INTERFACE

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 5.8 kg

Option G-Module: Programming

2 set values each at I-, P-, G-Mode
 ext. voltage 0 - 10V = 0 - I_{max}
 ext. voltage 0 - 10V = 0 - P_{max}
 ext. voltage 0 - 10V = 0 - G_{max}
Load ON function load current $\hat{=}$ setpoint
Load OFF function load current = 0 at any setpoint
Pulse generator I, G 100Hz or 1kHz to be switched, waveform: square-wave, duty cycle 1:1

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-, P-, G-Mode with G-module, 1 set value at I-Mode without G-module
 resolution : 12Bit
 (4000 steps per range)

Monitor signal

accuracy: 0.25% I_{max} (I-Mode)
 load current, load voltage
 resolution: 12 Bit ($I_{max}/4000$; $U_{max}/4000$)
 accuracy: 0.25% I_{max} , U_{max}
 load current $\hat{=}$ setpoint
 load current = 0 at any setpoint
 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 connctor (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	0.025 - 6k	ELA505/75/50
500	0.35 - 75	0 - 100	0.020 - 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)

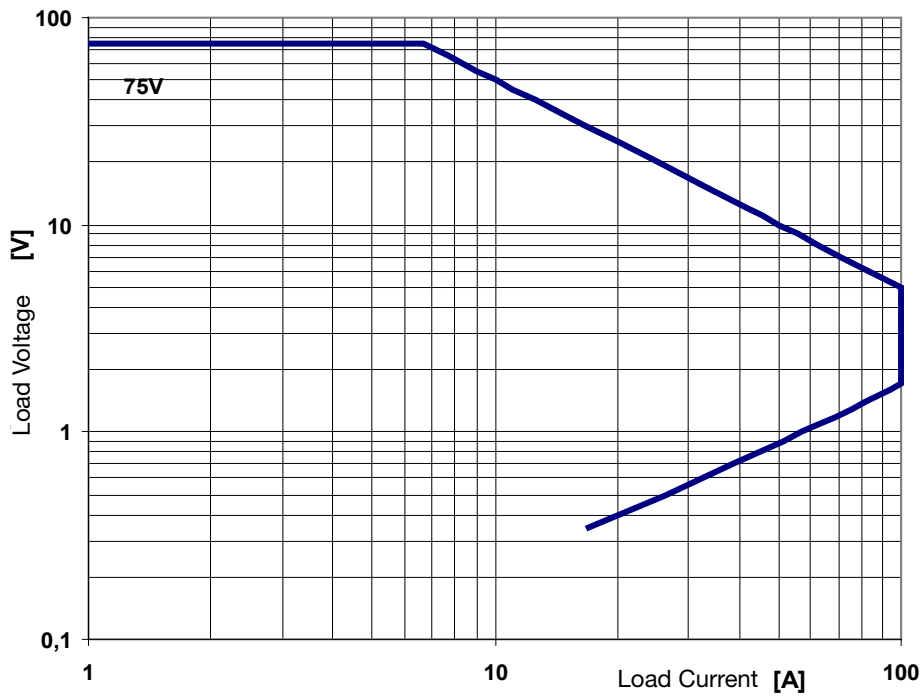
Options:

- 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
- USB interface with driver software *
- 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)
 INT2E with Lab-View driver
- Cable for external stand alone
- interface INT2

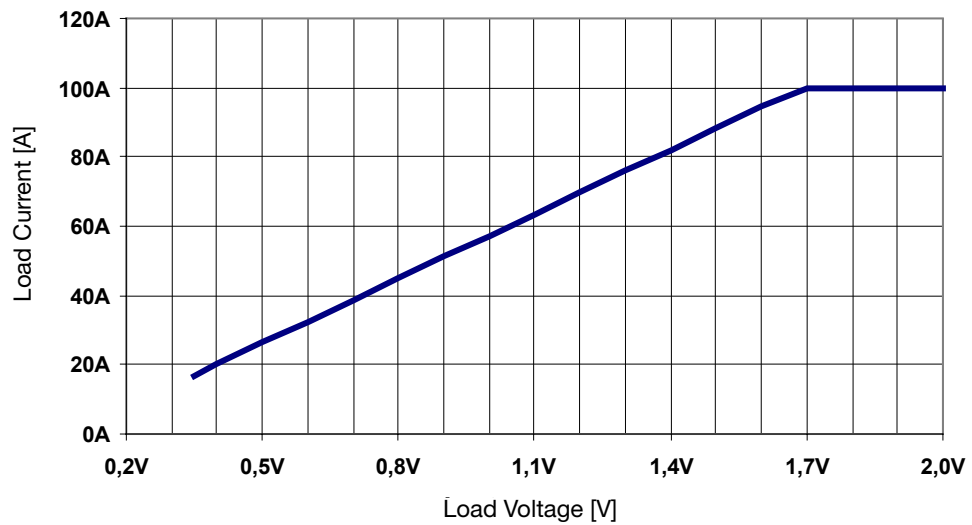
* RS232 or USB selectable

Electronic DC Load

Operating Range ELA505:

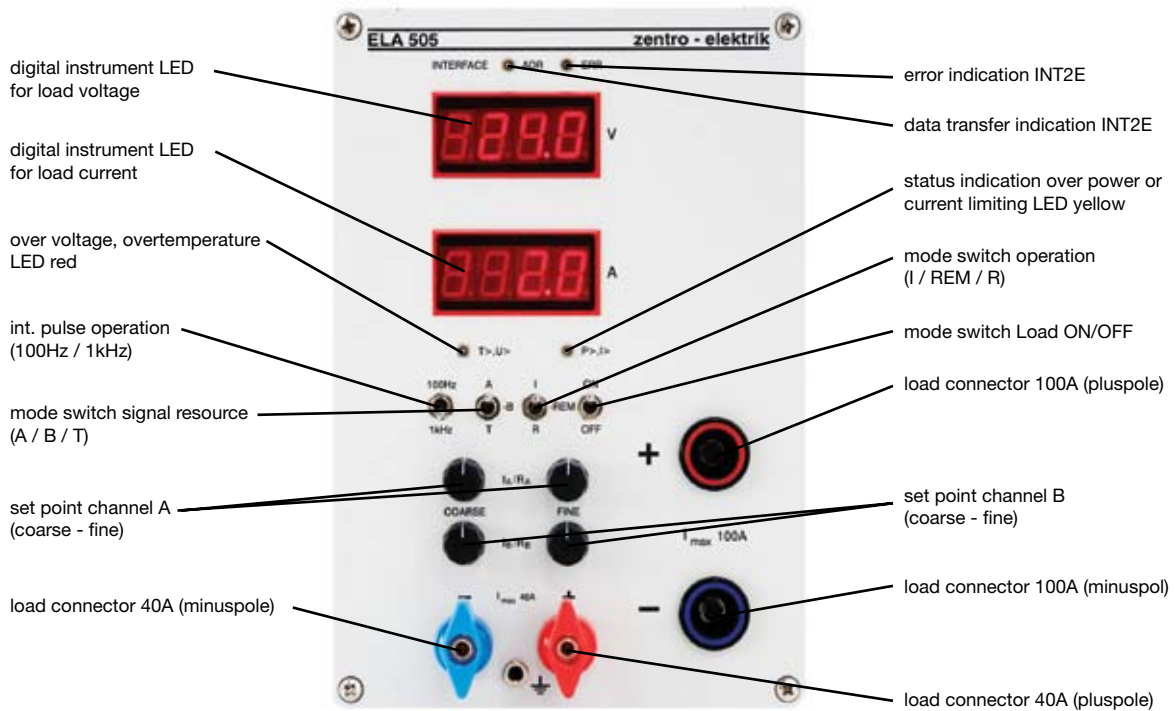


Minimum Voltage ELA505:



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Front View ELA 505 with INT2E:



Rear View ELA 505 with INT2E:

