

# Laboratory Power Supplies

## ZPS Series Single Output

Output power up to 10 kW  
Voltage and current regulated  
Primary switched mode  
Master - slave - operation possible  
Programming current - voltage  
19" rack mounting  
extremely compact and ruggedly designed

Option: Installed Interface Euro Card IEEE 488.2 (GPIB)/RS232 with Lab View Driver INT2E series  
Integrated USB1.1 interface with driver software  
External CAN Open Interface (on request)



### Input:

Input voltage ZPS3: 230 V  $\pm$ 10%  
1 phase 50 / 60 Hz  
ZPS6/ZPS10: 400 V  $\pm$ 10%  
3 phase 50 / 60 Hz  
Inrush current < 5 A  
Power factor ZPS3: 0,99

### Output:

Output voltage (DC) see table  
Output current see table  
Efficiency  $\geq$  80 %

### Regulation:

Line regulation voltage 0,1 %  $U_{out}$   
(AC line change 10%) current 0,1 %  $I_{out}$   
Load regulation voltage 0,1 %  $U_{out}$   
(99 % load change) current 0,1 %  $I_{out}$   
Stability 0,1 %  
after 8 h working time and  
const. ambient temp.  
Dynamic response < 2 ms at  
set in U-const. Mode load change 1 % – 100%,  
nominal value change 1%–100%,  
neg. nominal value change  
100% – 80% (at  $I > 100$  A)

Absolute accuracy 0,5%  $I_{max}, U_{max}$   
Reproducibility 0,1%  
Ripple and noise < 0,5%  $U_{max}$   
Temperature coefficient voltage: 0,05% / K  
current: 0,1%/K

AC-line undervoltage protection shut down

### Protection:

Overload protection short circuit protection  
Thermal protection shut down, auto recover  
Undervoltage protection shut down

### Environmental Conditions:

Operating temperature 0 – + 40°C  
Derating 3,3 % / °K  
from + 40 – + 70°C  
Cooling int. fans, temperature controlled

### Safety:

Safety standard EN60950-1  
Isolation  
input - output:  $U_{out} \leq 200$  V: 3,7 kV<sub>rms</sub>  
input - ground: 2,2 kV<sub>rms</sub>  
output - ground:  $U_{out} \leq 60$  V: 500 V<sub>rms</sub>  
 $U_{out} > 60$  V: 1,35 kV<sub>rms</sub>

### EMC:

Input EMI filter EN61000-6-4  
Input immunity EN61000-6-2

### Operating and Control:

Programming analog voltage and current:  
0 – 10 V  $\pm$  0 – 100 %  $U_{out}, I_{out}$   
Programming digital Contol: U und I  
only with Option INT2 nominal value presetting  
U and I Monitor signals,  
Power ON/OFF,  
isolated Bus - signals and analog  
signals;  
isolation between digital signals;  
SCPI-programmable (IEC625-2);  
programming of analog value with  
absolute values  
max. three same units  
3 units with same  $U_{out}$   
same units  
(total voltage  $\leq 150$  V)  
standard  
voltage and current,  
LED, 3½ digits  
voltage and current  
10 - turn potentiometer

Master - slave - mode  
Parallel operation  
Series operation

Remote sense  
Instruments

Adjustment

### Connectors:

Input Cable (6m) with CEE- Connector  
16A or 32A  
ZPS 3: Cable (6m)  
with schuko connector  
Copper bars rear side

Output

### Physical Specifications:

Dimensions ZPS3/ZPS6: 19", 3 U,  
depth 400 mm  
with connections 450 mm  
ZPS10: 19", 6 U, depth 420 mm  
with connections 470 mm  
Weight ZPS3 19 kg  
ZPS6 21 kg  
ZPS10 32 kg

Output Voltage / Current (V) / (A)	Power (kW)	Input Voltage (V) / Phase	Model Number
0 - 20 / 0 - 150	3	230 / 1	ZPS3/20/150
0 - 25 / 0 - 400	10	400 / 3	ZPS10/25/400
0 - 36 / 0 - 85	3	230 / 1	ZPS3/36/85
0 - 36 / 0 - 160	6	400 / 3	ZPS6/36/160
0 - 36 / 0 - 280	10	400 / 3	ZPS10/36/280
0 - 48 / 0 - 65	3	230 / 1	ZPS3/48/65
0 - 48 / 0 - 120	6	400 / 3	ZPS6/48/120
0 - 48 / 0 - 210	10	400 / 3	ZPS10/48/210
0 - 52 / 0 - 115	6	400 / 3	ZPS6/52/115
0 - 52 / 0 - 190	10	400 / 3	ZPS10/52/190
0 - 72 / 0 - 45	3	230 / 1	ZPS3/72/45
0 - 72 / 0 - 80	6	400 / 3	ZPS6/72/80
0 - 72 / 0 - 140	10	400 / 3	ZPS10/72/140
0 - 96 / 0 - 35	3	230 / 1	ZPS3/96/35
0 - 96 / 0 - 60	6	400 / 3	ZPS6/96/60
0 - 96 / 0 - 105	10	400 / 3	ZPS10/96/105
0 - 120 / 0 - 50	6	400 / 3	ZPS6/120/50
0 - 140 / 0 - 25	3	230 / 1	ZPS3/140/25
0 - 140 / 0 - 42	6	400 / 3	ZPS6/140/42
0 - 140 / 0 - 72	10	400 / 3	ZPS10/140/72
0 - 150 / 0 - 50	7,5	400 / 3	ZPS10/150/50
0 - 300 / 0 - 10	3	230 / 1	ZPS3/300/10
0 - 400 / 0 - 25	10	400 / 3	ZPS10/400/25

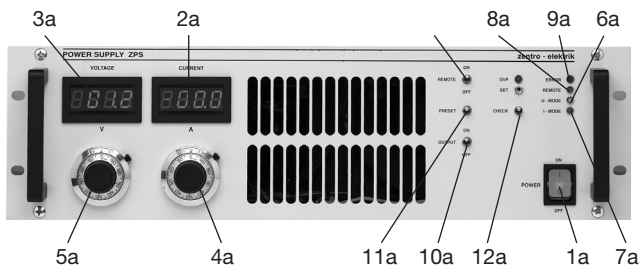
#### Options:

Installed IEEE 488.2 Interface Euro - Card  
INT2E with Lab View Driver

Power 4 KW contact factory

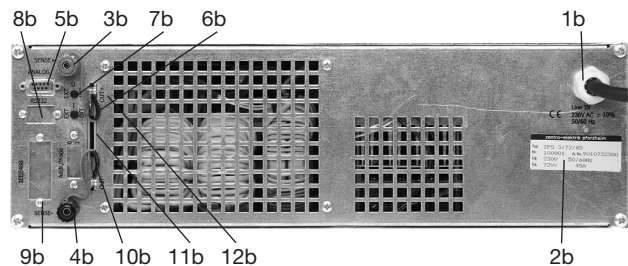
For more technical data concerning digital programming see datasheet INT2/INT2E

#### Unit front view:



- 1a Mains switch with lamp "ON"
- 2a Ampermeter (3 1/2 digits, LED display)
- 3a Voltmeter (3 1/2 digits, LED display)
- 4a Setpoint adjustment "Current"
- 5a Setpoint adjustment "Voltage"
- 6a LED-display "U-MODE"
- 7a LED-display "I-MODE"
- 8a LED-display "REMOTE"
- 9a LED-display "ERROR"
- 10a Output ON/OFF
- 11a Preset
- 12a OVP "Overvoltage Protection"
- 13a Remote ON/OFF

#### Unit rear view:



- 1b Power cord (6m-cable)
- 2b Nameplate
- 3b Sense jack (Sense +)
- 4b Sense jack (Sense -)
- 5b Analog interface (Sub-D-connector 9 pol.)
- 6b Toggle switch „Current adjustment internal/external“
- 7b Toggle switch „Voltage adjustment internal/external“
- 8b RS232 – interface (Option)
- 9b IEEE488.2 – interface (Option)
- 10b „Addr. / Mode“-switch (Option)
- 11b Output terminal „ OUT-„ (screw terminal M8)
- 12b Output terminal „ OUT+„ (screw terminal M8)