

TDK-Lambda



ZERO-UP 200W/400W/800W Programmable DC Power Supplies

**Built-in RS-232 & RS-485 Interface
with IEEE488 (GPIB) optional.**

- Constant Voltage/Constant Current
- Built-in RS-232 & RS-485 Interface
- An embedded Microprocessor controller
- Digital Encoder Knob
- Software Calibration
- Last Setting Memory
- Parallel Operation (Master/Slave) Active Current Sharing
- External Voltage or Resistance Programming
- Voltage up to 120V, Current up to 132A
- Active Power Factor Correction: 99%
- 85~265Vac Universal Input Voltage
- 19" Rack Mounted ATE and OEM
- Worldwide Safety Agency Approvals
- CE Mark for LVD and EMC Regulation

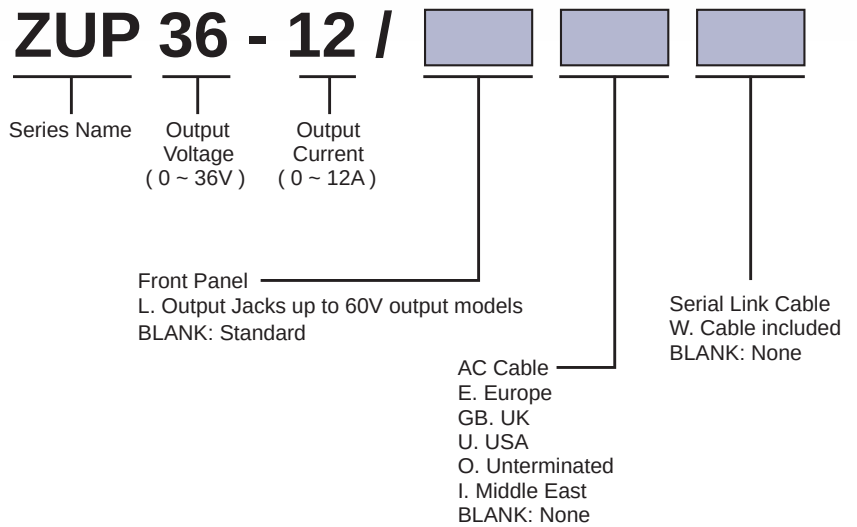


Control Flexibility for Worldwide Applications

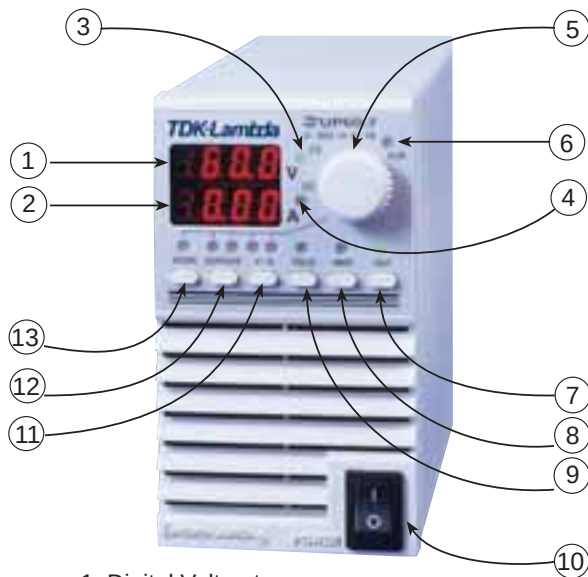
Product Line Up

Model	Output Voltage (VDC)	Output Current (A)	Output Power (W)
ZUP6-33	0 ~ 6 VDC	0 ~ 33	198
ZUP6-66		0 ~ 66	396
ZUP6-132		0 ~ 132	792
ZUP10-20	0 ~ 10VDC	0 ~ 20	200
ZUP10-40		0 ~ 40	400
ZUP10-80		0 ~ 80	800
ZUP20-10	0 ~ 20VDC	0 ~ 10	200
ZUP20-20		0 ~ 20	400
ZUP20-40		0 ~ 40	800
ZUP36-6	0 ~ 36VDC	0 ~ 6	216
ZUP36-12		0 ~ 12	432
ZUP36-24		0 ~ 24	864
ZUP60-3.5	0 ~ 60VDC	0 ~ 3.5	210
ZUP60-7		0 ~ 7	420
ZUP60-14		0 ~ 14	840
ZUP80-2.5	0 ~ 80VDC	0 ~ 2.5	200
ZUP80-5		0 ~ 5	400
ZUP120-1.8	0 ~ 120VDC	0 ~ 1.8	216
ZUP120-3.6		0 ~ 3.6	432

Power Supply Identification / Accessories

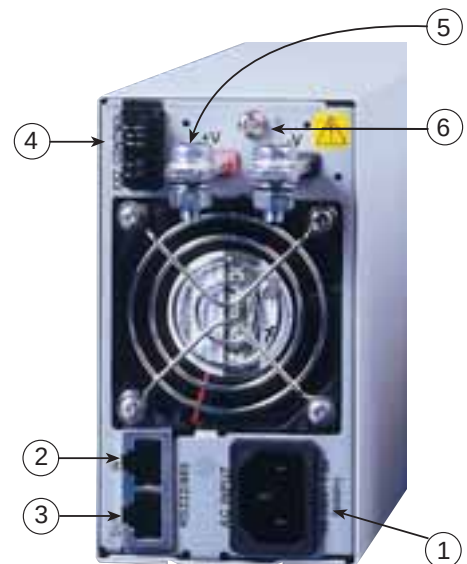


Front Panel



1. Digital Voltmeter
2. Digital Amperemeter
3. Constant Voltage Mode Indicator
4. Constant Current Mode Indicator
5. Voltage/Current, OVP/UV, Address Adjust
6. Alarm (OVP, OTP, FOLD)
7. Output ON/OFF Control
8. Local/Remote Select
9. Foldback Protection Control
10. AC Power Switch
11. Voltage/Current Mode Control
12. Overvoltage/Undervoltage Setting
13. Address Setting

Rear Panel



1. IEC320 AC Input Connectors
2. Remote IN Programming via RS-232/RS-485
3. Remote OUT Via RS-485 Communications Chaining Power Supplies to Serial Communication Bus.
4. External Analog Programming Control Connector
5. Output Bus Bars (6V to 60V) model shown.
80V to 120V models PHOENIX: PSC Plug Connectors
6. Ground Thread

ZUP Configurations

BENCHTOP POWER SUPPLY

Single



Parallel (Master / Slave)

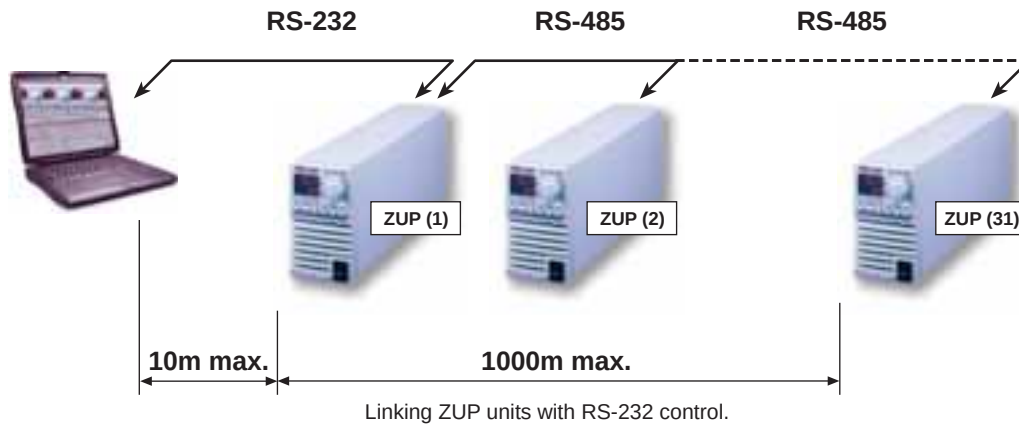


PARALLEL OPERATION

Master - Slave method: Active current sharing up to 5 units.

REMOTE PROGRAMMING VIA RS-232

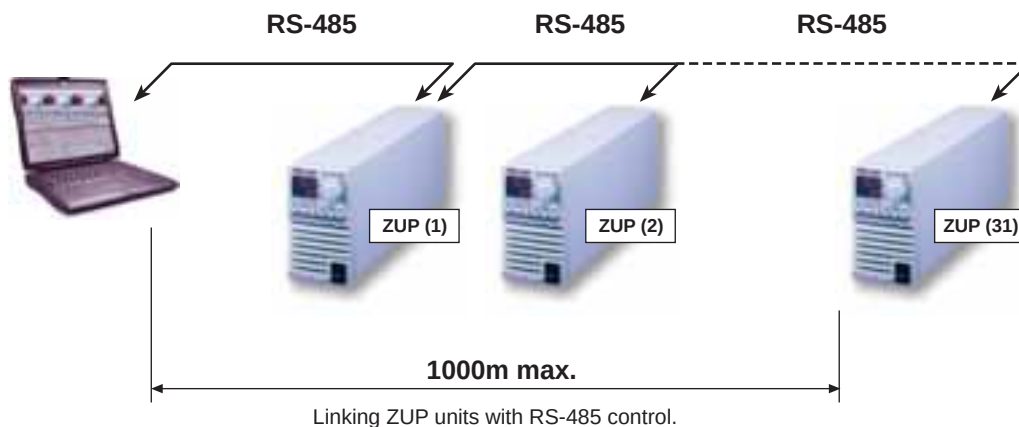
Up to 31 ZUP units can be controlled via RS-232 interface.



REMOTE PROGRAMMING VIA RS-485

Up to 31 ZUP units can be controlled via RS-485 interface

For operation environments that require high noise immunity or long distance communication, it is recommended to use the built-in RS-485 interface.



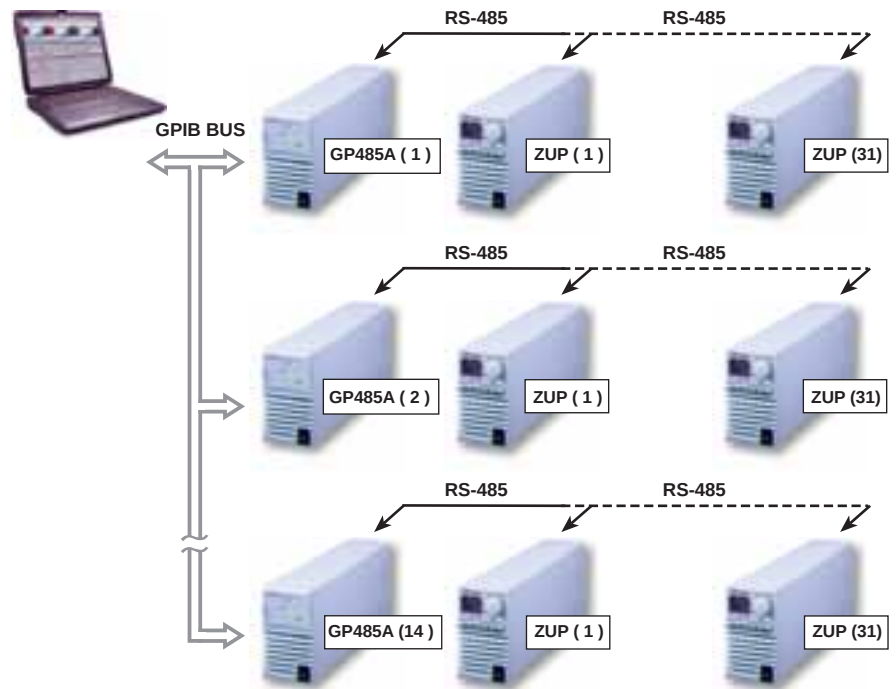
Remote Programming Via GPIB.

GPIB ↔ RS-485 CONTROLLER

The GP485A is a high performance serial to GPIB Interface

It enables a ZUP series with RS-485 port to be a Talker, Listener, or controller on the GPIB

- * Controls up to 31 ZUP units through a single GPIB address.
- * Conforms to all versions of the IEEE488 standard, including IEEE488.2.
- * 19" racking possibility.
- * Application software - LabView, LabWindows.



Rack Mounted ATE and OEM up to 2.4KW

Six units can be assembled into 19-inch rack / 3U high to meet your configuration requirements

Power Modules Table

Module Type	200W	400W	800W
0 ~ 6V	33A	66A	132A
0 ~ 10V	20A	40A	80A
0 ~ 20V	10A	20A	40A
0 ~ 36V	6A	12A	24A
0 ~ 60V	3.5A	7A	14A
0 ~ 80V	2.5A	5A	
0 ~ 120V	1.8A	3.6A	
19"rack width	1 / 6 width	1 / 6 width	2 / 6 width

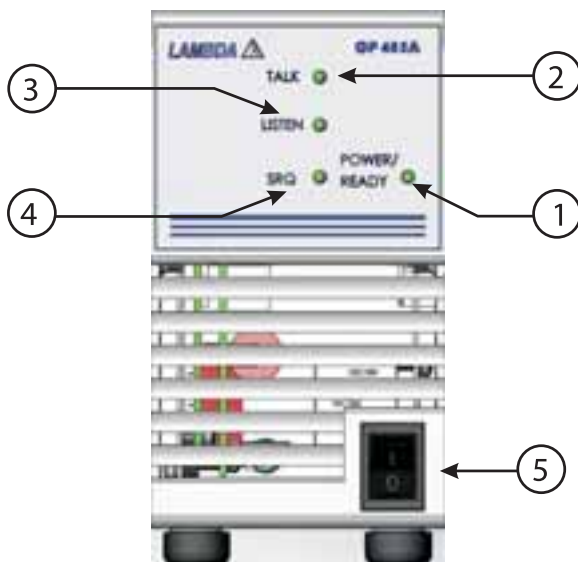


GP485A SPECIFICATIONS

The GP485A has all the software and logic required to implement the physical and electrical Specifications of the IEEE488 and RS-485 standards

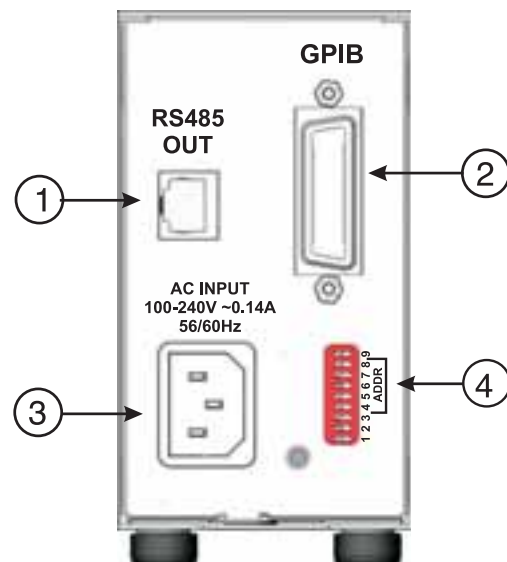
Input Voltage /freq	Vac	85 ~ 265Vac continuous 47 ~ 63 Hz
Input consumption	W	5W
IEEE 488 Capability		SH1,AH1,T6,TE0,L4,LE0,SR1,RL0,PP1,DC1,DT0,C0,E1,E2
Indication LED's		Power /Ready ,Talk ,Listen ,SRQ
Baud rate	bps	Optional 300 , 600 ,1200 , 2400 , 4800 , 9600 Default :9600
Address		1 up to 30 can be set using an address switch
Operating temp	°C	0~ 50
Storage temp	°C	-20 ~ 70
Conducted emission		EN5022B,FCC-B
Radiated emission		EN5022A,FCC-A
Safety standards		UL3111-1 , EN61010-1
EMC standards		EN61326-1, IEC 61326-1, FCC part 15 (class A).
Withstand voltage		Input - Chassis...2.0kVAC 1min, Input - Output...3.0kVac 1 min, Output - Chassis...500VAC 1 min.
Vibration	G	10-55Hz, Amplitude (sweep 1 min) 2G, X, Y, Z, When mounted with mounting screws.
Size (WxHxD)	mm	70x124x350 (GP 485A has all the mechanical specifications & mounting hole as ZUP200W/400W units)
Weight	Kg	1.95

Front Panel



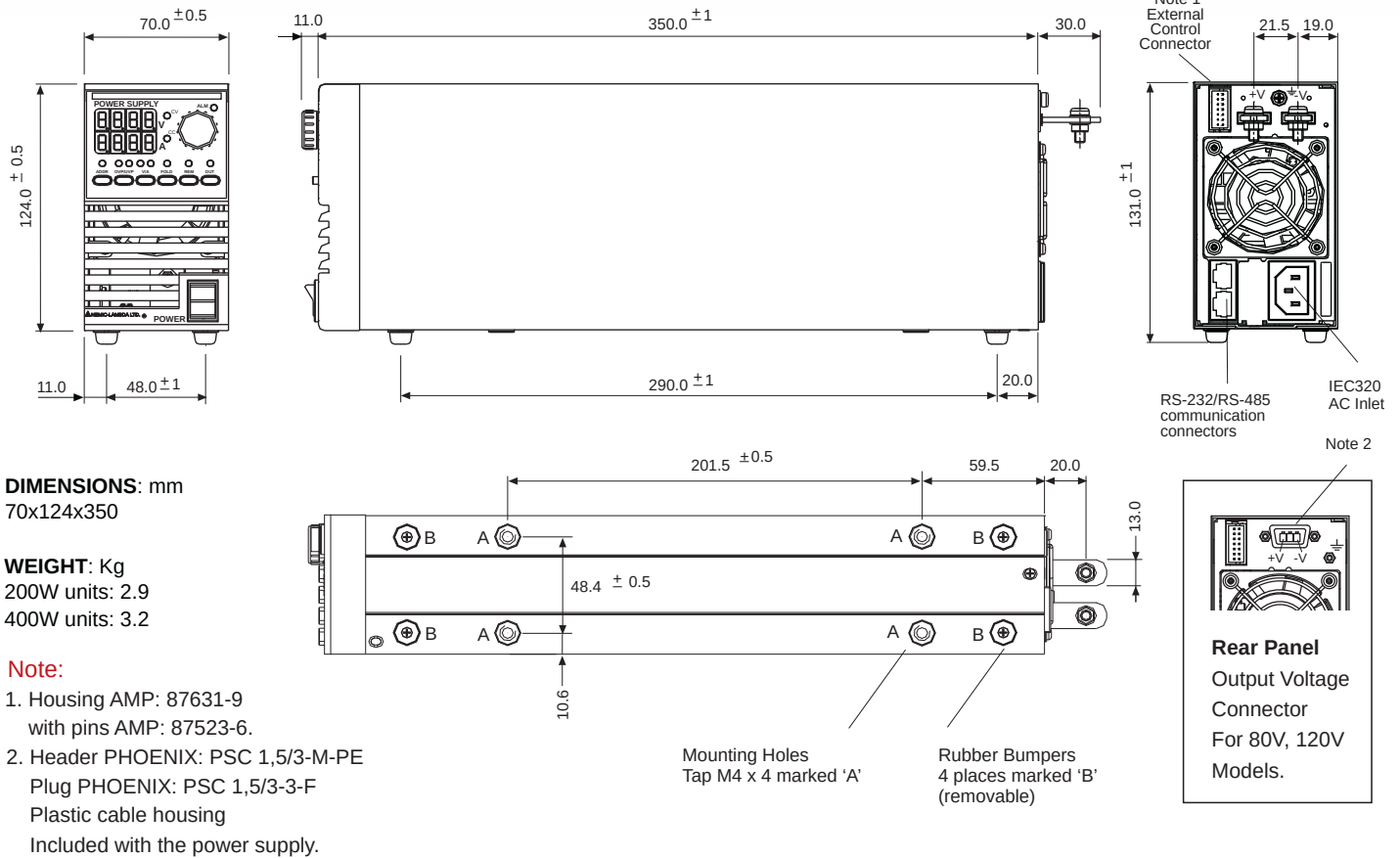
1. Power/Ready: Indicates that the power is "ON" and the self-test has passed successfully. The unit is ready to operate once the LED illuminates.
2. Talk: Indicates that the GP485A is addressed as a GPIB Talker.
3. Listen: Indicates that the GP485A is addressed as a GPIB Listener.
4. SRQ: Indicates that the GP485A signal line SRQ is asserted.
5. AC ON/OFF: Turns AC power On and Off.

Rear Panel

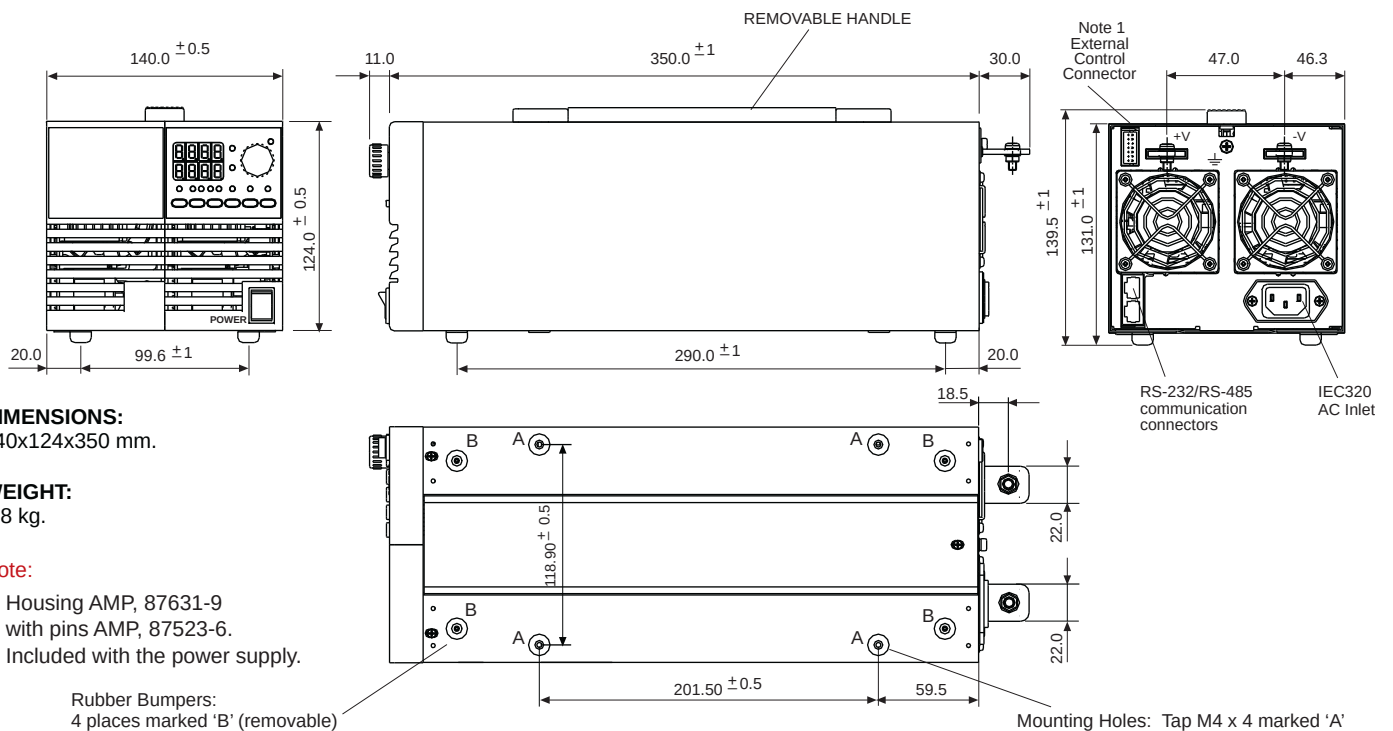


1. RS-485 OUT: EIA-568A shielded type connector, used for RS-485 communication with ZUP power supplies.
2. GPIB: Shielded 24-pin Champ female connector, with metric screwlock. Used for GPIB communication with the GPIB controller.
3. AC Input: IEC type appliance inlet.
4. Address setting Dip switch.

Outline Drawings ZUP 200W/400W Units



Outline Drawings ZUP 800W Unit



Accessories

1. AC Cord Sets

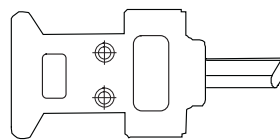
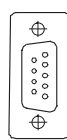
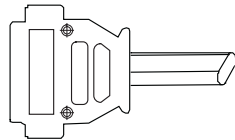
Five optional cords are possible according to order:

Region	Europe	United Kingdom	Japan	Middle East	North America
Output Power	850W	850W	850W	850W	850W
AC Cords	10A/250Vac L=2m	10A/250Vac L=2m	13A/125Vac L=2m	10A/250Vac L=2m	13A/125Vac L=2m
Wall Plug	INT'L 7/VII	BS1363		SI-32	NEMA 5-15P
Power Supply Connector	IEC320-C13	IEC320-C13	IEC320-C13	IEC320-C13	IEC320-C13
Part Number	P/N: ZUP/E	P/N: ZUP/GB	P/N: ZUP/J	P/N: ZUP/I	P/N : ZUP/U

2. Communication Cable

RS-232/RS-485 cable is used to connect the power supply to the PC controller

Mode	RS-232	RS-485	RS-232	RS-485
PC Connector	DB-9F	DB-9F	DB-25F	DB-25F
Communication Cable	Shield Ground L=1m	Shield Ground L=1m	Shield Ground L=1m	Shield Ground L=1m
Power Supply Connector	EIA/TIA-568A (RJ-45)	EIA/TIA-568A (RJ-45)	EIA/TIA-568A (RJ-45)	EIA/TIA-568A (RJ-45)
P/N	ZUP/NC401	ZUP/NC402	ZUP/NC403	ZUP/NC404



DB-25F (female connector)

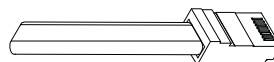
DB-9F (female connector)

EIA/TIA (RJ-45)

3. ZUP serial link cable

Used to chain Power Supply to Power Supply from a serial communication bus

Mode	Communication cable	Power Supply Connector Remote IN /OUT	P/N
RS 485	Shield Ground , L=50cm	EIA /TIA -568 A (RJ-45)	ZUP/ W

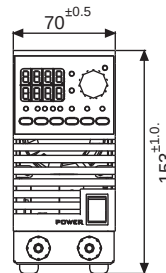


Options (200W, 400W, 800W Models)

1. FRONT PANEL OUTPUT JACKS

Up to 60V output models

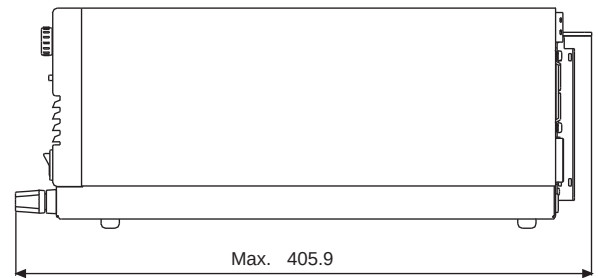
P/N: ZUP / L



Outline Drawing: Physical Dimensions in mm.

ZUP 200W/400W Units: 70x153x405.9

ZUP 800W Units: 140x153x405.9

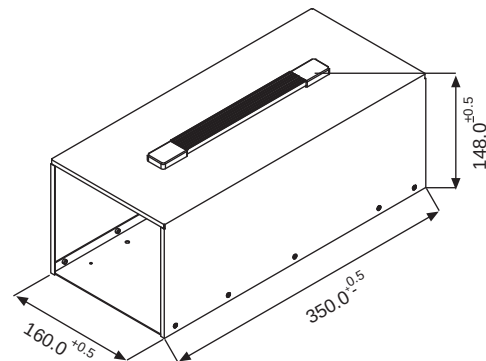


Up to 20A output current via front panel jacks.

2. ZUP ASSEMBLIES

Dual Output Packing 200W/400W models

P/N: NL200

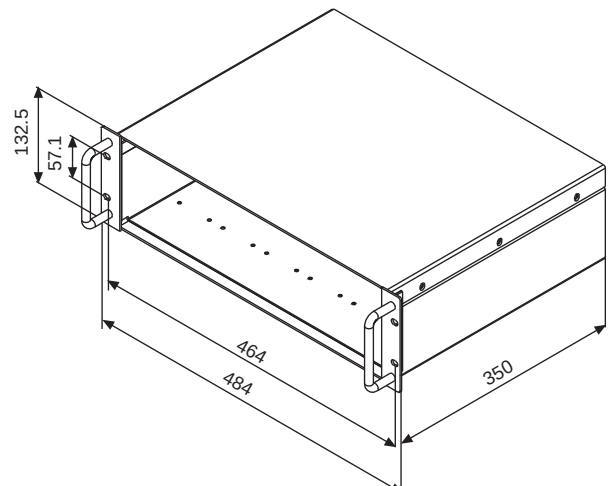


3. 19" RACK MOUNTED ATE AND OEM UP TO 2.4 KW

Up to six power units can be assembled into a 19", 3U rack, kit P/N: NL100.

In cases where the entire rack is not occupied with power units, P/N: NL101 blank panels can be installed.

P/N: NL100



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