

ODU300 user manual



Thank you for choosing ODU300 ozone cell driver!

- ODU300 is a driver unit that fits most ozone generators in the range 5-40g.
- Power can be set from zero to 400W (500-600W possible if verified to your load).
- ODU300 is fully protected against both short circuit and open circuit.
- Built in an aluminium housing with internal fan to handle rough environment.
- Internally the board is coated with protective coating to not be damaged by ozone.
- The unit can be controlled from multiple sources, as 4-20mA, RS485 communication and USB.
- External signals for run indication and alarm available.
- Can be customized, ask us.

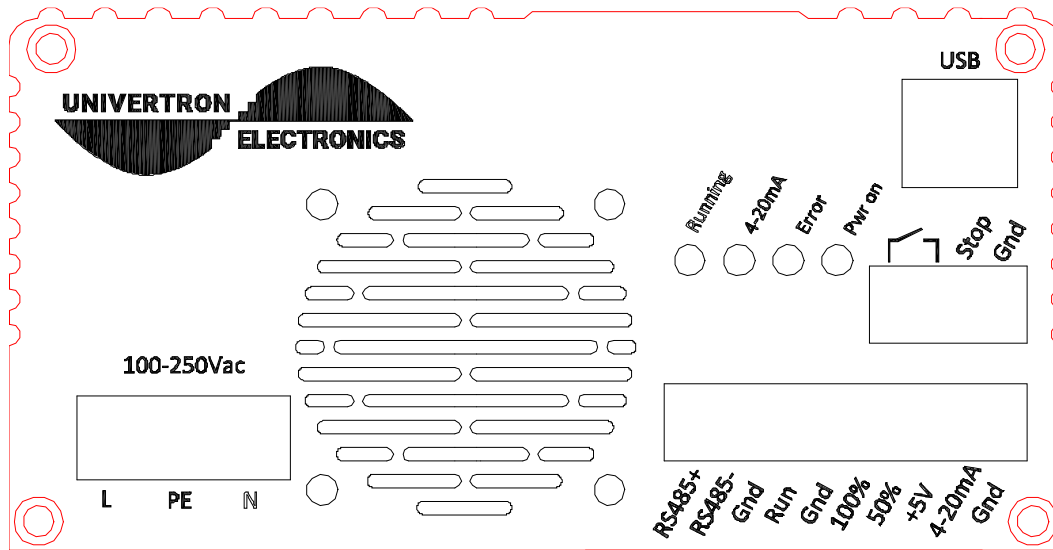


WARNING! This unit generate hazardous Voltage!

Univertron AB
Hjärsås 3166
289 90 Knislinge

Phone:
+46 40 485 232

E-mail:
info@univertron.com



Indicators:

- “Running” will flash when resonance is running and power is delivered to load.
- “4-20mA” will lit when control current in is more than approximately 2mA.
- “Error” will lit when a short circuit or open circuit is detected.
- “Power on” Will lit when power is applied and micro controller has started up.

I/O:s

- 4-20mA input. Apply 4-20mA between input and Gnd for external power control. 4mA is zero power, at 20mA it runs at set power.
- 50/100%. Input for selecting set power level. Connect +5V to 50% for 50% operation, +5V to 100% for operating at full power
- Run signal. A Mosfet transistor output with pullup to 5V. Meant to be used as running indicator but could be used for other purposes (CPU control). LED can be directly connected without series resistor.
- RS485. General RS485 multidrop hardware interface, any suitable protocol could be implemented.
- Relay output NC. Shorted in normal operation, if any fault it goes to open state. Load up to 24V 250mA.
- Stop. Connection between stop and Gnd stop the generator (can be inverted in software)

4-20mA functionality:

Below 1,5-2mA the input is disabled and the module runs at it set power.

2-4mA gives 0% of set power

20mA gives 100% of set power

50/100% has priority, so if set at 50%, 20mA means running at the 50% level.

General:

ODU300 has the ozone cell ground connected to chassis. So chassis of ODU300 must be connected to the same ground as the cell. Even if the chassis is connected to protective earth, it is recommended to have a separate ground connection directly to the cell.

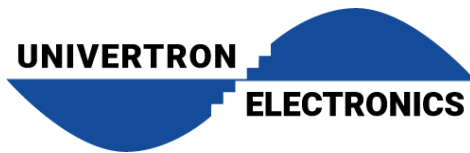
(can be ordered with separate high voltage ground cable if needed).

Connect red cable to ceramic cell high voltage input.

At power on, Power on LED will light up, after a few seconds the fan starts.

Running LED will start flashing and power will slowly increase up to set power.

If any error, the output will stop and the red Error LED will light up, Running LED will go off. After a few seconds a new start up sequence will start.



Set power can be set by connecting USB to a computer.

Note: High voltage output shall always be seen as dangerous as long as power is applied. Even if running indicator is off or set power is zero.

Output can be considered as safe 5 seconds after power off.

Inside box residual voltage can be present for a few minutes.

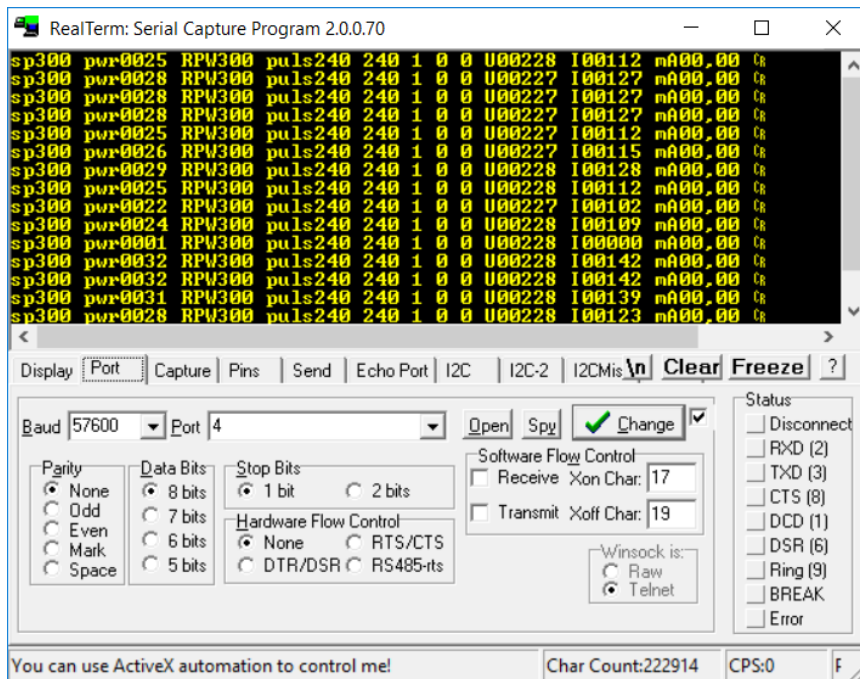
USB functionality:

Connection to a Windows 10 computer normally don't need any driver installation, older version will probably need separate driver installation. You can find driver here: <http://www.univertron.com/drivers/>

Start up a terminal program, for example Realterm <https://sourceforge.net/projects/realterm/>

Choose correct port, check in device manager under COM ports if needed. Baud setting doesn't matter.

When connected the module start to send user and debug data.



Explanation column by column:

SP300 = Show Set power 300W

pwr0xxx = Show actual power

RPW300 = Regulated set power. Mean that if 4-20mA is applied this value will change otherwise it is same as SP pulse240 = Length of pulse to the resonance circuit (debug)

240 = Read back of pulse length from primary processor (debug)

1 = status byte number 1 read from primary. 0 = not running, 1 = running

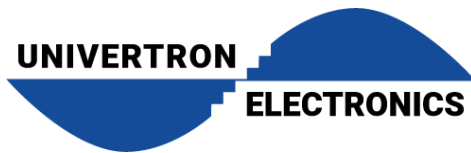
0 = status byte number 2 read from primary. Not used at the moment

0 = status byte number 3 read from primary. 0 = ok, 2 = error

U00228 = Read mains voltage. (can show a bit too high in idle)

I00112 = Read mains current in mA.

mA00,00 = Reading of 4-20mA input



How to set power:

Put the marker in the terminal window.

Type pwr200 and then enter to set power to 200W (all commands end with enter)

Note that you always have to type three digits! To set 50W type pwr050 and enter

You will immediately see that SP will change, if not, try again.

Setting 000 will turn of resonance and turn off the running LED.

Specification:

Specifications:	Value:	Notes:
Input Voltage	100-265Vac	
Power	Adjustable 0-400W	For higher power contact us
Power factor	~0.97 Active power factor correction	
Mains frequency	50-60Hz	
Output voltage	2000-5000	Depends on the load
Output frequency	18-30kHz	Depends on the load
Power connection	7,62mm pluggable terminal block	Phoenix / WE /weidmüller compatible
Controller connection	3,81mm pluggable terminal block	
USB connection	USB B	
Output connection	4mm safety banana plug	
Dimensions LxWxH	164mm x 120mm x 62mm	With flanges 148mm
Weight	1253g	