

Communications manual

ZGR TOWER PRO

ZGR EFFICIENT RT



ZGR TOWER PRO / EFFICIENT RT

Single-phase online UPS

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1 PRECAUTIONS

1.1 General precautions

For your own safety and that of the unit, you must read and understand the instructions contained in this document before starting work.

Keep these instructions in a place accessible to all the personnel who work with the unit so that they can be consulted.

Only expert and duly authorised personnel may operate our units.



Danger warnings. When handling or accessing the interior of the UPS, please remember that some parts may be live. Pay special attention to soldering points, printed circuits, connecting terminals, relay contacts, etc. Before opening the equipment, disconnect the voltage of all poles (both alternating and direct) and wait at least 5 minutes for the internal condensers to discharge.

Arbitrary modifications are forbidden. The unit must not be subjected to any modification regarding its construction or safety without **ZIGOR's** express consent. Any modification will free **ZIGOR** of any responsibility for any damage caused as a result of the modification. In particular, all repair work, soldering of printed circuit boards and replacing of components, modules and printed circuit boards, without the express authorisation of **ZIGOR**, is forbidden. Should spare parts be used, only **ZIGOR** original parts shall be utilised.

Use the unit for the purpose for which it was designed. The system supplied must be used only for the purpose for which it was designed. Any other use is strictly forbidden. **ZIGOR** cannot accept responsibility for any damage that might result from its use for any other purpose. In such cases, the user shall assume exclusive responsibility for any risk. The use for which the unit was designed is defined in the documentation. The system shall be exposed only to admissible environmental conditions. These are defined in the technical details provided for the equipment.

ZIGOR accepts no responsibility for any inadequate, negligent or incorrect installation of the equipment.



This supply equipment contains a lethal voltage comply with the instructions set out in this manual to avoid any risk of electrical shock.

Please follow the indications set out below to operate under conditions of complete safety:

- The System must be checked once the installation has been completed by a qualified technician and before being put into operation. Should these indications not be adhered to, the warranty shall be considered null and void.

There is a risk of electric shock, do not remove the protective cover of the UPS.

- These units do not contain parts usable for other purposes by the user.
- If any liquid is spilt accidentally on the System, disconnect this and consult **ZIGOR** personnel.
- Should you have any problems with the contents of this manual, you must ask **ZIGOR** for assistance.

1.2 Environmental precautions



Dispose of the packaging in an ecological way: *ZIGOR, based on the exceptions detailed in the First Additional Provision of Law 11/1997 on commercial or industrial packaging, informs that the final holder of the waste of used containers and packaging, as responsible for them, you must deliver them in appropriate conditions for reuse, to an authorized recuperator, recycler or re-valuer.*

The subsets of the system are recyclable products and cannot be treated as household / municipal waste at the end of its useful life.

To preserve the environment, manage them in accordance with current environmental regulations and requirements in each country or community. In case of doubt, consult the manufacturer.

Correct product disposal: This electrical-electronic device (AEE) is marked with the symbol of compliance with the European Directive 2012/19 / EU (WEEE) regarding used electrical and electronic equipment (Waste electrical and electronic equipment WEEE, RD 110/2015).



The Directive provides the general framework valid throughout the European Union for the removal and reuse of waste from EEE.

To dispose of this product and ensure its proper management, follow the current local environmental legislation and regulations. In this way it will contribute to conserve the environment.

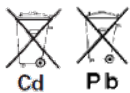
The wheeled bin crossed out on the product, in the documentation or on its packaging, means that the electrical-electronic devices and batteries must be collected separately at the end of their life cycle.

Before the deposit of the RAEE in their collection facilities, the batteries must be removed and deposited separately from the rest of the RAEE for proper management, according to the current local legislation and environmental regulations.

Never dispose of with household waste. In this way it will help preserve the environment.

These symbols are valid in the European Union and in those places where separate collection systems are available.

Correct disposal of batteries: Used batteries are reusable consumer products and a recycling process must be carried out.



Used batteries that do not go through the recycling process must be disposed of according to the instructions regarding special waste, in accordance with the regulations and environmental requirements in force in each country or community. This requirement applies in the European Union and in those places where separate collection systems are available.



In case of doubt, consult the manufacturer.

In this way it will contribute to conserve the environment.

2 GENERAL MODBUS TCP TABLE

Function Code 03 - Read holding Registers

Battery Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40026	0025	UWORD	Battery Status	Integer Value: (1) unknown (2) battery Normal (3) battery Low
40027	0026	UWORD	Seconds on Battery	Seconds
40028	0027	UWORD	Battery Capacity	0-100%
40029	0028	UWORD	Battery Voltage	x0.01 V
40030	0029	UWORD	Battery Temperature	x0.1 °C
40031	0030	UWORD	Battery Current	x0.1 A
40032	0031	UWORD	Total Battery Voltage	x0.01 V

Input Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40040	0039	UWORD	Input Line Voltage	x0.1 VAC
40041	0040	UWORD	Input Max Line Voltage	x0.1 VAC
40042	0041	UWORD	Input Min Line Voltage	x0.1 VAC
40043	0042	UWORD	Input Frequency	x0.1 Hz
40044	0043	UWORD	Input Current	x0.1 A
40045	0044	UWORD	Input True Power	Watts

Output Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40050	0049	UWORD	Output Status	Integer Value: (1) unknown (2) onLine (3) onBattery (4) onBoost (5) sleeping (6) onBypass (7) rebooting (8) standBy (9) onBuck
40051	0050	UWORD	Output Voltage	x0.1 VAC
40052	0051	UWORD	Output Frequency	x0.1 Hz
40053	0052	UWORD	Output Load	0-100%

40054	0053	UWORD	Output Current	x0.1 A
40055	0054	UWORD	Output True Power	Watts

Rating Group

REGISTER	QUERY ADDR	SIZE	MEASUREMENT	NOTES
40060	0059	UWORD	Rating Voltage	x0.1 VAC
40061	0060	UWORD	Rating Power	VA
40062	0061	UWORD	Rating Battery Voltage	x0.01 V
40063	0062	UWORD	Rating Frequency	x0.1 Hz

Alarm Group

REGISTER	QUERY ADDR	SIZE	MEASUREMENT	NOTES
40064	0063	UWORD	Utility Fail	Integer Value: (1) Yes (2) No
40065	0064	UWORD	UPS Failed	Integer Value: (1) Yes (2) No
40066	0065	UWORD	Test in Progress	Integer Value: (1) Yes (2) No
40067	0066	UWORD	Shutdown Active	Integer Value: (1) Yes (2) No
40068	0067	UWORD	Beeper On	Integer Value: (1) Yes (2) No

FUNCTION CODE 03 - READ HOLDING REGISTERS.

REGISTER	QUERY ADDR	SIZE	MEASUREMENT	NOTES
40091	0090	UWORD	Test Diagnostics Results	Integer Value: (1) ok (2) failed (3) invalidTest (4) testInProgress

Function Code 06 - Write Single Register

Function Code 16 - Write Multiple Registers

Config Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40070	0069	UWORD	Config ups Shut off Delay	The delay in seconds the UPS remains ON after set to turn off. Allowed values are 12, 18, 24, 30, 36, 42, 48, 54, 60, 120, 180, 240, 300, 360, 420, 480, 540 and 600 seconds.
40071	070	UWORD	Config Ups Sleep Time	Integer Value: 1 - 9999

Control Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40080	0079	UWORD	Control UPS Off	Integer Value: (2) turnUpsOff
40081	0080	UWORD	Control Reboot Ups	Integer Value: (2) rebootUps
40082	0081	UWORD	Control UPS Sleep	Integer Value: (1) backUpsToNormal (2) setUpsToSleep
40083	0082	UWORD	Control Simulate Power Fail	Integer Value: (2) simulatePowerFailure
40084	0083	UWORD	Control Flash And Beep	Integer Value: (2) flashAndBeep
40085	0084	UWORD	Control Turn On UPS Load	Integer Value: (2) TurnOnUpsLoad

Test Group

REGISTER	QUERY ADDRS	SIZE	MEASUREMENT	NOTES
40090	0089	UWORD	Test Diagnostics	Integer Value: (2) testDiagnostics

3 HOW TO DISCOVER YOUR SNMP/MODBUS TCP CARD IP

- Run Netility software with Administrator privileges.
- It will search your network for compatible cards.
- You will see detected cards info, firmware version and DHCP assigned IP.



4 How to set device Modbus ID

- Access to SNMP/Modbus TCP webpage through your preferred Internet browser.
- Follow to CONFIGURATION / Network setting.
- Under Ethernet tab set your desired Modbus ID.
- You can check communication with your preferred software/SCADA using standard TCP 502 port.





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