

ASR110/120/130 - MODBUS Registers



Serial Settings: 9600 N 8 1

Supported Commands: 03 (Read Multiple Registers)
16 (Write Multiple Registers)

Slave Address: Set by DIP-SWITCH 3-4

DIP 3	DIP 4	Slave Addr
Down	Down	100
Up	Down	101
Down	Up	102
Up	Up	103

Register Definitions

Register Address	Type	Access	Name	Description	Units
0	WORD	R	VP	Panel Voltage	1 unità = 0.01V
1	WORD	R	VB	Battery Voltage	1 unità = 0.01V
2	WORD	R	IB	Charge Current	1 unità = 0.01A
3	WORD	R	IC	Discharge Current	1 unità = 0.01A
4	WORD	R	EC	Charging energy counter	1 unità = 1Wh
5	WORD	R	ES	Discharge energy counter	1 unità = 1Wh
6	WORD	RW	ZERO	Reset energy counters (write value != 0 -> reset)	n.a.
7	WORD	R	TEMP	Battery Temperature (only with ASR500/T)	1 unità = 0.01°C
8	WORD	R	TEMPREG	Internal Regulator Temperature	1 unità = 0.01°C
9	WORD	R	LOAD	Load output status (1=ON, 0=OFF)	n.a.
10	WORD	R	LOADMGMT	Load output management mode	n.a.
11	WORD		Reserved		n.a.
12	WORD		Reserved		n.a.
13	WORD	R	ADDR	Slave address	n.a.
14	WORD		Reserved		n.a.
15	WORD		Reserved		n.a.
16	WORD		Reserved		n.a.
17	WORD		Reserved		n.a.
18	WORD		Reserved		n.a.
19	WORD		Reserved		n.a.
20	WORD	R	VBREG	End-of-charge voltage	1 unità = 0.01V
21	WORD		Reserved		n.a.
22	WORD		Reserved		n.a.
23	WORD		Reserved		n.a.
24	WORD		Reserved		n.a.
25	WORD	RW	MODE	Load output management setup register	n.a.
26	WORD	RW	MODELOCK	Load output management setup register LOCK	n.a.
27	WORD	RW	ORENIGHT	Night-mode on-time hours	1 unità = 1h
28	WORD	RW	LOADSET	Load status override (1=ON, 0=OFF)	n.a.
29	WORD	RW	VBC_EQU	Equalization cell-voltage setting	1 unità = 0.01V
30	WORD	RW	VBC_EQU_LCK	Equalization cell-voltage setting LOCK	n.a.
31	WORD	RW	VBC_TMP	Float cell-voltage	1 unità = 0.01V
32	WORD	RW	VBC_TMP_LCK	Float cell-voltage LOCK	n.a.
33	WORD	RW	VBC_MIN	Load-Disconnect minimum cell-voltage	1 unità = 0.01V
34	WORD	RW	VBC_MIN_LCK	Load-Disconnect minimum cell-voltage LOCK	n.a.
35	WORD	RW	VBC_TRG	Load-Reconnect trigger cell-voltage	1 unità = 0.01V
36	WORD	RW	VBC_TRG_LCK	Load-Reconnect trigger cell-voltage LOCK	n.a.

Notes

Reset Energy-Counters:

To reset the energy counters you need to set the ZERO register to a non-zero value. The EC and ES registers will be reset. The ZERO register will return to zero automatically.

Modo di funzionamento uscita carico

The LOADMGMT register can show the following values:

- 0 Load always ON, load cannot be controlled by modbus.
- 1 Load always ON, load status can be overridden by the LOADSET register.
- 2 Night-mode load control, load status can be overridden by the LOADSET register.

By default, the LOADMGMT register will show the load-control mode set by DIP-SWITCHES

Impostazione modo di funzionamento uscita carico

To set the load-output control mode, you need to write to the MODE register one of the following values:

- 0 Load-output control mode set by DIP-SWITCHES **
- 1 Load-output always ON, load cannot be controlled by modbus
- 2 Load-output always ON, load can be overridden by the LOADSET register
- 3 Night-mode load control, load status can be overridden by the LOADSET register.

** Mode '0' is the default operating mode. In this way the load control mode is set by switches

** without the need of a modbus controller

In case the MODE '3' is set, the controller will turn ON the load-output when the panel voltage will be lower than the battery voltage and will stay ON according to the hours set in the ORENIGHT register.

To save in flash memory the values you need to write the '12345' value to the register MODELOCK.

Cell Voltages set-up

It's possible to change the default cell voltages by writing in the appropriate registers (VBC_EQU, VBC_TMP, VBC_MIN, VBC_TRG)

To save in flash memory the values you need to write the '12345' value to the corresponding '_LCK' register.