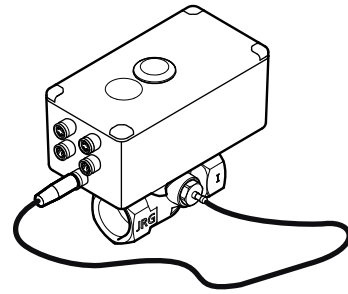


# GF Hycleen Balance Modbus register



IC0000120

SD0000445

## GF Hycleen Balance Modbus

Description	Value
Physical Interface	RS485
Protocol	Modbus RTU
Baud rate/ data bits/parity	stop bits 19200 (possible: 9600, 28800, 38400, 57600) / 8 / even / 1
Max. scanning rate	50 ms
Modbus version	1.2

## GF Hycleen Balance Modbus (v 1.2) register mapping

Modbus Address (hex)	Description	Length in 16B word	Object type	Unit	Values	Access *	Format examples	Comments
<b>System configuration</b>								
0x00	Valve serial number	16	CharacterString Value	—	—	R	E0000123	Serial number of the valve
0x10	Valve name	16	CharacterString Value	—	—	RW	Main valve	Name of the valve
0x28	SW version	8	CharacterString Value	—	—	R	2.05.05	Software version of the valve controller
0x30	Device location	16	CharacterString Value	—	—	RW	Boiler room	Building name
0x40	Device type	16	CharacterString Value	—	—	R	Hydraulic balancing	Hydraulic balancing
0x50	Valve dimension	8	CharacterString Value	mm	15, 20	R	15	Size of the valve (DN)
0x58	Modbus ID	1	uint8_t	—	1..247	RW	1	Modbus address of the valve
<b>General valve access</b>								
0x60	Current position	1	uint16_t	%	0...100	R	471 = 47,1	Opening degree of the valve
0x61	Set position / Setting this	1	uint_t	%	5...95	RW	471 = 47,1	Set the opening position of the valve. If BMS want full control of valve disable hydraulic balancing (0x85)
0x62	Current temperature	1	uint16_t	°C	0...100	R	471 = 47,1	Temperature of the temperature sensor
0x63	Current 1st 4-20 mA signal	1	uint16_t	mA	4...20	R	10721 = 10,721	Value of external sensor connected to sensor port 1

Modbus Address (hex)	Description	Length in 16B word	Object type	Unit	Values	Access *	Format examples	Comments
0x64	Current 2nd 4-20 mA signal	1	uint16_t	mA	4...20	R	10721 = 10,721	Value of external sensor connected to sensor port 2
0x65	Value	1	uint16_t	l/min	1...60	R	471 = 47,1	Value of the flow sensor
0x66	Current temperature of external sensor	1	uint16_t	°C	0...100	R	471 = 47,1	Current value of the external temperature sensor
0x67	Current level sensor state	1	uint16_t	1: triggered 2: not triggered	0,1	R	1	Value of the drainage surveillance sensor
0x68	Valve max position	1	uint16_t	%	0...100	RW	471 = 47,1	Define the min. position to which the hydraulic balancing can automatically move. Modify only when necessary.
0x69	Valve min. position	1	uint16_t	%	0...100	RW	471 = 47,1	Define the max. position to which the hydraulic balancing can automatically move. Modify only when necessary.
0x6A	Valve alarm	1	Multi-state value	1: ok 0: not ok	0,1	R	If you have alarm: 0	Gather alarm
0x6B	Last alarm in the system	2	uint32_t	—	Number of alarm ID	R	Word 1 in Modbus: 4 Word 2: 37859 = 300003	Last alarm
0x6D	Timestamp for the last alarm in the system	2	uint32_t	—	Epoch time	R	Word 1 in Modbus: 26613 Word 2: 20538 = 1744130106	Timestamp for the last alarm in the system
0x6F	Cycle count value	2	uint32_t	—	0...42949 67295	R	5230	Number of valve cycle
<b>Hydraulic balancing application</b>								
0x80	Hydraulic balancing application target temperature	1	uint16	°C	0...90	RW	471 = 47,1	Hydraulic balancing temperature
0x81	Hydraulic balancing application max. temperature	1	uint16	°C	HA_minTemp...90	RW	471 = 47,1	Hydraulic balancing max. temperature need for alarm.
0x82	Hydraulic balancing application min. temperature	1	uint16	°C	0...HA_maxTemp	RW	471 = 47,1	Hydraulic balancing min. temperature need for alarm.
0x85	Hydraulic balancing activation/deactivation	1	Multi-state value	1: active 2: not active	—	RW	1	Start/stop automatic hydraulic balancing. It does not stop the weekly maintenance.
<b>Application maintenance</b>								
0x90	Maintenance process day	1	Multi-state value	1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday	—	RW	1	On which day the weekly maintenance will take place
0x91	Maintenance process start time	1	uint16	—	—	RW	0x1834 0 = 18:34 or 6:34	Start time of the weekly maintenance
<b>Thermal disinfection (TD)</b>								
0x92	Thermal disinfection activation	1	Multi-state value	0: not active 1: active	—	RW	0	Activate/deactivate the thermal disinfection process availability
0x93	TD trigger temperature	1	uint16	°C x10 protocol	—	RW	471 = 47,1	Start temperature of thermal disinfection

Modbus Address (hex)	Description	Length in 16B word	Object type	Unit	Values	Access *	Format examples	Comments
0x94	TD duration	1	uint8	Minutes (> 1 minute)	—	RW	3	Duration of the thermal disinfection (how long the valve will open)
0x95	TD lock time	1	uint	Hours (> 1 hour)	—	RW	24	For how many hours the thermal disinfection will pause after the last one (suggestion: 24)

\* R: read only / RW: read and write

## GF Hycleen Balance alarm IDs

### Categories

Error	10xxxx
Notification/Information	30xxxx
ChangeLog	60xxxx

### Use cases

System	xx0xxx
Network	xx1xxx
Configuration	xx2xxx
Update	xx5xxx
Hydraulic blancing application	xx8xxx

ID	Description	Category
<b>xx0xxx</b>	<b>System</b>	
300001	Initialisation required	Information
300002	Initialisation of device started	Notification
300003	Initialisation of device finished	Notification
100006	Communication error controller	Error
100008	PT 1000 not connected	Error
200009	Drive defect	fatal error
100011	Unknown error —> restart valve	Error
300013	Memory nearly full	Information
300014	Memory full, oldest data deleted	Information
100015	Sensor 1 (4 – 20 mA) not connected	Error
10016	Sensor 2 (4 – 20 mA) not connected	Error
<b>xx1xxx</b>	<b>Network</b>	
301002	Bluetooth connection established	Information
301003	Bluetooth disconnected	Information
<b>xx2xxx</b>	<b>Configuration</b>	
602001	Max. position changed	ChangeLog
602004	Min. position changed	ChangeLog
302039	Calibration started	Information
102040	Calibration failed	Error
302041	Calibration done	Information
<b>xx5xxx</b>	<b>Update</b>	
305003	SW update started	Information
105004	SW update download failed	Error
305005	SW update downloaded	Notification
405006	SW update in progress	Wait
305008	SW update successful	Information
105007	SW update failed	Error
305001	SW version current	Information
305002	FW version current	Information
<b>xx6xxx</b>	<b>Maintenance</b>	

ID	Description	Category
606001	Maintenance day changed	ChangeLog
606002	Maintenance start time changed	ChangeLog
306003	Maintenance process started	Notification
306004	Maintenance process done	Notification
306020	Lifecycle 55000 reached	Information
306021	Lifecycle 60000 reached, please change device	Information
<b>xx8xxx</b>	<b>Hydraulic blancing application</b>	
608001	HB target temperature	ChangeLog
608002	HB min. temperature	ChangeLog
608003	HB max. temperature	ChangeLog
608005	HB time avarage	ChangeLog
608006	HB start time	ChangeLog
608007	HB stop time	ChangeLog
308010	Tmin (mean value) underrun for 24 h	Information
308011	Tmax (mean value)exceeded for 20 h	Information
309010	Thermal disinfection started	Information
309011	Thermal disinfection done	Information

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1188039 v1\_03\_2026  
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