
DWF

Guide Modbus interface

Table of contents

1. Revision history.....	3
2. Introduction.....	3
3. Abbreviations / Glossary.....	3
4. Communication settings.....	3
5. Modbus functions.....	3
6. Maps.....	4
Read holding register table.....	4
Read input register table.....	6

1. Revision history

Date	Vers.	Description	Autor
07/03/2025	0.1	Document creation	Serafin
21/03/2025	0.2	Removed the ventilation request which was incorrectly introduced	Serafin

2. Introduction

This document contains the mapping of DWF family dehumidifier variables for Modbus communication and interfacing mode.

3. Abbreviations / Glossary

Abbrev.	Name	Description

4. Communication settings

It is possible to set:

- Modbus address;
- Baud rate;
- Stop bit.

Baud rate and stop bits must be set before the electronic board is powered up (a change in the baud rate or in the stop bits won't be accepted by the software after startup).

Dip switch 2	Description	Value	Default
1	Modbus address	1 ¹ – 63 (default 12)	12
2			
3			
4			
5			
6			
7	Baud rate	0: 19200 1: 9600	0: 19200
8	Stop bit	0: 2 Bit stop 1: 1 Bit stop	0: 2 Bit Stop

Default address is 12 according with the factory setting of the DIP switch; it is possible to change the Modbus address of the device adjusting dip switch SW.

5. Modbus functions

Modbus function implemented are:

Code	Description
03	Read holding register
04	Read input register
06	Write single register

¹ The Modbus address must be set by selecting the first 6 DIP switches; if none of the first six DIP switches are in the ON position, the board is assigned Modbus address 0, an invalid value that is interpreted as deactivation of Modbus communication.

6. Maps

Abbreviations:

Tipo	
Reg.	Register
Bit	Bit of register
R	Read only
W	Write only
R/W	Read and write

Read holding register table

Reg.	Bit	Function	Type	Min	Max	U.M.	Format
2	-	FW version	R				
3	-	FW release	R				
7	-	Time out communication	R/W	180	900	sec	XXX
10	-	Water temperature	R			°C x 10	±XX,X
12	-	Evaporator temperature	R			°C x 10	±XX,X
13	-	Condensation temperature	R			°C x 10	±XX,X
40	0	Status DI 0 – Dehumidification	R	0	1	0: - 1: Request active	
	1	Status DI 1 – Integration		0	1	0: - 1: Request active	
	2	Status DI 2					
	3	Status DI 3					
	4	Status DI 4					
	5	Status DI 5					
	6	Status DI 6					
	7	Status DI 7					
45	0	Status DO 0 – Compressor	R	0	1	0: Off 1: On	
	1	Status DO 1 – Fan request		0	1	0: Off 1: On	
	2	Status DO 2 – Integration valve		0	1	0: Off 1: On	
	3	Status DO 3 – Pump		0	1	0: Off 1: On	
	4	Status DO 4 – Alarm		0	1	0: Off 1: On	
	5	Status DO 5					
50	0	-	R				
	1	Evaporator probe error		0	1	0: not active 1: active	
	2	-					
	3	-					
	4	-					
	5	Water probe error		0	1	0: not active 1: active	
	6	-					
	7	-					

	8	Condenser probe error		0	1	0: not active 1: active	
	9	-					
	10	-					
	11	-					
	12	-					
	13	-					
	14	-					
	15	-					
51	0		R				
	1	High pressure alarm ²		0	1	0: not active 1: active	
	2	High evaporation temp. alarm ³		0	1	0: not active 1: active	
	3	Defrost alarm		0	1	0: not active 1: active	
	4						
	5						
	6	-					
	7	-					
	8	-					
	9	-					
	10	-					
	11	-					
	12	Block unit		0	1	0: not active 1: active	
	13	-					
	14	-					
	15	-					
55	0	Set season	R/W	0	1	0: Winter 1: Summer	
	1	Dehumidification request		0	1	0: not active 1: active	
	2						
	3						
	4						
	5						
	6						
	7	Integration request		0	1	0: not active 1: active	
	8						
	9						
	10						
	11	Reserved					
	12						
	13						
	14						
	15						
56	0	Actual season	R			0: Winter 1: Summer	
	1	Dehumidification status				0: not active 1: active	
	2						
	3						
	4						
	5						
	6						

2 After 5 stops for T.Condensation > 55°C

3 Difference between condensation temperature and evaporation temperature less than 10°C

	7	Integration status				0: not active 1: active	
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
57	0	Warning Defrosting process	R	0	1	0: not active 1: in progress	
	1	Warning Water high temperature		0	1	0: not active 1: in progress	
	2	Warning High pressure		0	1	0: not active 1: in progress	
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						
81	-	Alarm reset ⁴	R/W	0	1	0: not active 1: active	

Read input register table

Reg	Bit	Function	Min	Max	U.M.	Format
0	-	Unit model 12: DWF 250 13: DWF 250 I 14: DWF 350 15: DWF 350 I 16: DWF 500 17: DWF 500 I			-	-
240	-	Minimum air flow			m ³ /h	
241	-	Maximum air flow			m ³ /h	
242	-	Minimum air temperature			°C x 10	±XX,X
243	-	Maximum air temperature			°C x 10	±XX,X
244	-	Minimum water temperature			°C x 10	±XX,X
245	-	Maximum water temperature			°C x 10	±XX,X

⁴ Write 1 to activate the alarm reset procedure.