

EP4 SERIAL COMMUNICATION

Communication Protocol: DNP3

Transmission Rate: 1,200 to 57,600 (Auto Baud Rate)

Data Bites: 8

Stop bits: 1

Parity: None

Address MODBUS	Reading Range	Bits Index	State	Description/Point Name	Writing/Reading	Scale
1	0 – 2000	-	-	Sensor alarm temperature 1;	E / L	1:10
2	0 – 2000	-	-	Sensor alarm temperature 2;	E / L	1:10
3	0 – 2000	-	-	Sensor alarm temperature 3;	E / L	1:10
4	0 – 2000	-	-	Sensor alarm temperature 4 (Ambient);	E / L	1:10
9	0 – 100	-	-	Alarm Hysteresis Value.	E / L	1:10
10	0 – 2000	-	-	Sensor shutdown temperature 1;	E / L	1:10
11	0 – 2000	-	-	Sensor shutdown temperature 2;	E / L	1:10
12	0 – 2000	-	-	Sensor shutdown temperature 3;	E / L	1:10
13	0 – 2000	-	-	Sensor shutdown temperature 4 (Environment);	E / L	1:10
18	0 – 20	-	-	Delay time for shutdown in minutes.	E / L	1:1
28	-	-		Registrar – Commands:	-	
		0	1	Reset of Maximum Temperatures;	L / E	-
		1	1	Reset da CPU;	L / E	-
29	0 – 2000	-	-	Temperature measured by sensor 1;	L	1:10
30	0 – 2000	-	-	Temperature measured by sensor 2;	L	1:10
31	0-2000	-	-	Temperature measured by sensor 3;	L	1:10
32	0-2000	-	-	Temperature measured by sensor 4 (Environment);	L	1:10
37	0-2000	-	-	Maximum Temperature reached by Sensor 1;	L	1:10
38	0-2000	-	-	Maximum Temperature reached by Sensor 2;	L	1:10
39	0-2000	-	-	Maximum Temperature reached by Sensor 3;	L	1:10

CONTINUATION OF EP4 SERIAL COMMUNICATION TABLE

Address MODBUS	Reading Range	Bits Index	State	Description Point Name	Written Reading	Scale
42	-	-		Recorder – Status of Sensors:	-	
		0	0	Sensor 1 disabled;	L / E	-
			1	Sensor 1 enabled;	L / E	-
		1	0	Sensor 2 disabled;	L / E	-
			1	Sensor 2 enabled;	L / E	-
		2	0	Sensor 3 disabled;	L / E	-
			1	Sensor 3 enabled;	L / E	-
		3	0	Sensor 4 Disabled (Environment);	L / E	-
			1	Sensor 4 enabled (ambient);	L / E	-
43	-	-		Logs – Alarm Return Logic:	-	
		0	0	Relay Logic 1 Normal (Alarm);	L	-
			1	Relay Logic 1 Inverse (Alarm);	L	-
		1	0	Relay Logic 2 Normal (Shutdown);	L	-
			1	Relay Logic 2 Inverse (Shutdown);	L	-
		2	0	Normal Relay Logic 3 (Failure);	L	-
			1	Relay Logic 3 Inverse (Failure);	L	-
		3	0	Normal Relay Logic 4 (Ventilation);	L	-
			1	Normal Relay Logic 4 (Ventilation);	L	-
45	-	-		Logs – Alarm Situations:	-	
		0	1	High Temperature Alarm on sensor 1;	L	-
		1	1	High Temperature Alarm on sensor 2;	L	-
		2	1	High Temperature Alarm on sensor 3;	L	-
		8	1	Count of time for Shutdown triggered;	L	-
46	-	-		Registered – Status of Shutdowns:	-	

		0	1	High Temperature Shutdown Count Sensor 1	L	-
		1	1	High Temperature Shutdown Count Sensor 2	L	-
		2	1	High Temperature Shutdown Count Sensor 3	L	-
		3	1	High Temperature Shutdown Count Sensor 4 (environment);	L	-
47			-	Registered – Shutdown Status:		-
	-	0	1	High Temperature Shutdown Sensor 1	L	-
		1	1	High Temperature Shutdown Sensor 2	L	-
		2	1	High Temperature Shutdown Sensor 3	L	-
		3	1	Shutdown by High Temperature Sensor 4 (ambient);	L	-
		8	1	High Temperature Shutdown triggered;	L	-

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Address MODBUS	Reading Range	Bits Index	State	Description Point Name	Written Reading	Scale
48	-			Records – Refrigerator Status:	L	-
		0	1	Refrigerator driven by Sensor 1;	L	-
		1	1	Refrigerator driven by Sensor 2;	L	-
		2	1	Refrigerator driven by Sensor 3;	L	-
		3	1	Refrigerator driven by Sensor 4 (Environment);	L	-
		4	1	Refrigerator driven by forced ventilation;	L	-
	-	5	1	Refrigerator triggered by the ventilation exercise;	L	-
		8	1	Powered refrigerator	L	-
49	-			Registrar – Failure Status:	L	-
		0	1	Reading Failure on Sensor 1;	L	-
		1	1	Sensor 2 Reading Failure;	L	-
		2	1	Sensor 3 Reading Failure;	L	-
		3	1	Reading Failure in Sensor 4 (Environment);	L	-

		8	1	Sensor Failure triggered;	L	-
50	1-254	-	-	Serial Network Address	L	-
51	0 - 1	-	0	Ventilation Exercise Off;	L	-
		-	1	Ventilation Exercise, On;	L	-
54	0 - 2	-		Recorder – Type of analog output;	L	-
		-	0	Analog output from 0 to 10mA;	L	-
			1	Analog output from 0 to 20mA;	L	-
			2	Analog output from 4 to 20mA	L	-
55	0 - 5	-		Recorder – Analog output mirroring sensor:	L / E	-
		-	0	Analog output disabled;	L / E	-
			1	Analog output fixed on Sensor 1;	L / E	-
			2	Analog output fixed on Sensor 2;	L / E	-
			3	Analog output fixed on Sensor 3;	L / E	-
			4	Fixed analog output on Sensor 4;	L / E	-
56	0 – 2	-		Registrar - Display Presentation Mode:	L / E	-
		-	0	Fixed display at the highest temperature;	L / E	-
		-	1	Sets the display to SCAN mode;	L / E	-
		-	2	Sets the display to Manual mode;	L / E	-
60	1-31	-	-	Calibration Day;	L	-
61	1-12	-	-	Calibration Month;	L	-
62	2017-2099	-	-	Year of Calibration;	L	-
63	0-65535	-	-	Equipment Serial Number – LSB;	L	-