

SOFTWARE FAMILY:
PRIMEAW,
44

SOFTWARE RELEASE:
25.5

PARAMETERS DESCRIPTOR(EZ):
23.0

Revision:
0.0 2023/09/21

GENERAL RULES

CRC calculation: standard modulus 810 CRC

Bitrate: 9600

Data Length: 8

Parity: none

Stop bit: 1

Minimum TimeOut: 60ms

ANALOG INPUT

Reading function code: 0x 03

Writing function code: 0x 10

(The data received must be added to "Offset" and then multiplied by "Gain".
The result can have "Dec" decimal digit)

Example:

sent ADDR-FUNCTION CODE = 0100001+CRC

received ADDR=0300289+CRC
where 0x0289 = 697(dec) $(697 \div 0) \times 0.1 = 69.7\text{ }^{\circ}\text{C}$ Probe 1

sent ADDR-FUNCTION CODE = 01090001+CRC

received ADDR=0300222+CRC
where 0x0222 = 546(dec) $(546 \div 0) \times 0.1 = 54.6\text{ }^{\circ}\text{C}$ Probe 2

Name	Unit	HEX Read Register	HEX Num. Elements Read	HEX Write Register	HEX Num. Elements Write	Gain	Dec	Offset	Byte ORDER	Format	R / W
Probe 1	par "CF"	010C	0001	\	\	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0	H-L	16 bit Signed	R
Probe 2	par "CF"	010D	0001	\	\	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0	H-L	16 bit Signed	R
Probe 3	par "CF"	010E	0001	\	\	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0	H-L	16 bit Signed	R
Probe 4	par "CF"	010F	0001	\	\	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0	H-L	16 bit Signed	R
Regulation probe	par "CF"	0100	0001	\	\	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0	H-L	16 bit Signed	R
Real time speed VSC1	RPM	1602	0001	\	\	1	0	0	H-L	16 bit Unsigned	R
Real time speed VSC2	RPM	1601	0001	\	\	1	0	0	H-L	16 bit Unsigned	R

SET POINT

Reading function code: 0x 03

Writing function code: 0x 10

(The data received must be added to "Offset" and then multiplied by "Gain".
The result can have "Dec" decimal digit)

Example:

sent ADDR-FUNCTION CODE = 1003760001+CRC

received ADDR=0300246+CRC
where 0x0246 = 678(dec) $(678 \div 0) \times 0.1 = 67.8\text{ }^{\circ}\text{C}$ SetPoint reading value

sent ADDR=1003760001+02-01E7+CRC

received ADDR=1003760001+CRC
where 0x01E7 = 487(dec) $(487 \div 0) \times 0.1 = 48.7\text{ }^{\circ}\text{C}$ SetPoint written value

Name	Unit	HEX Read Register	HEX Num. Elements Read	HEX Write Register	HEX Num. Elements Write	Gain	Dec	Offset	Byte ORDER	Format	R / W
SetPoint VSC	par "CF"	03E2	0001	03E2	0001	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0.1	H-L	16 bit Signed	R/W
SetPoint On/Off	par "CF"	0303	0001	0303	0001	par "RES-de" -> 0, 1/ par "RES-in" -> 1	par "CF=C": par "RES-deC" -> 1/ par "RES-in"=1 -> 0 par "CF=C": 0	0.1	H-L	16 bit Signed	R/W

DIGITAL INPUT

Reading function code: 0x 01

Meaning single element:
ON = 0x 0001
OFF = 0x 0000

Name	HEX Read Register	HEX Num. Elements Read	R / W
Digital input 1 status	020D	0001	R
Digital input 2 status	020E	0001	R

DIGITAL OUTPUT

Reading function code: 0x 01

Meaning single element:
ON = 0x 0001
OFF = 0x 0000

Name	HEX Read Register	HEX Num. Elements Read	R / W
OnOff output status	0206	0001	R
Defrost 1 output status	0205	0001	R
Defrost 2 output status	022D	0001	R
Alarm output status	0207	0001	R
Light output status	0208	0001	R/W
Fan output status	0209	0001	R
Aux output status	020C	0001	R/W
Boat band output status	020B	0001	R
Compressor 1 output status	0204	0001	R
Compressor 2 output status	022C	0001	R
Buzzer status	0230	0001	R
Condenser fan output status	020A	0001	R
Heaters output status	022F	0001	R

Device Status

Reading function code: 0x 01

Meaning single element:
ON = 0x 0001
OFF = 0x 0000

Name	HEX Read Register	HEX Num. Elements Read	R / W
Device ON	0200	0001	R
Defrost status	0201	0001	R/W
Pull down status	022B	0001	R/W
Keyboard lock/unlock	021B	0001	R
Alarm muling	0227	0001	R/W
Energy saving status	0202	0001	R/W
Holiday status	022A	0001	R/W
Test mode set point used	0231	0001	R

ALARMS

Reading function code: 0x 01

Meaning single element:
ON = 0x 0001
OFF = 0x 0000

Name	HEX Read Register	HEX Num. Elements Read	R / W
Probe 1 error	0223	0001	R
Probe 2 error	0224	0001	R
Probe 3 error	0225	0001	R
Probe 4 error	0226	0001	R
High temperature alarm	0219	0001	R
Low temperature alarm	021A	0001	R
Condense high temperature alarm	021B	0001	R

Condenser low temperature alarm	0210	0001									R
External warning Alarm	021D	0001									R
Lock alarm	021E	0001									R
Door open alarm	0220	0001									R
ESP/NOI failure	0222	0001									R
Pressure switch alarm	021F	0001									R
Real time clock configuration error	0221	0001									R
Embraco compressor Error	0232	0001									R
Secop compressor Error	0233	0001									R
Compressor 1: communication alarm	0234	0001									R
Compressor 2: communication alarm	0235	0001									R

SERIAL OUTPUT											
Reading function code: 0x 03 Writing function code: 0x 70											

Name	HEX		Name	Element's Read							R / W
	Read Register										
VSC Communication Alarm	1401	0001									R
VSC 1: Voltage	1403	0001									R
VSC 1: Power	1404	0001									R
VSC 1: Temperature	1405	0001									R
VSC 1: Alarm Code	1406	0001									R
VSC 2: Voltage	1408	0001									R
VSC 2: Power	1409	0001									R
VSC 2: Temperature	140A	0001									R
VSC 2: Alarm Code	140B	0001									R
VSF G1 Requested Speed	1700	0001									R
VSF G2 Requested Speed	1701	0001									R
VSF G1-1 Speed	1702	0001									R
VSF G1-2 Speed	1703	0001									R
VSF G2-1 Speed	1704	0001									R
VSF G2-2 Speed	1705	0001									R
VSF G1-1 Error	1706	0001									R
VSF G1-2 Error	1707	0001									R
VSF G2-1 Error	1708	0001									R
VSF G2-2 Error	1709	0001									R
VSF G1-1 Alarm	170A	0001									R
VSF G1-2 Alarm	170B	0001									R
VSF G2-1 Alarm	170C	0001									R
VSF G2-2 Alarm	170D	0001									R

COMMANDS											
Writing function code: 0x 05 Reading single element: ON = 0x FF00 OFF = 0x 0000											

Name	HEX		Modbus Command								R / W
	Register	Value									
Device ON	0200	FF00	0200FF00								W
Device OFF	0200	0000	02000000								W
Defrost ON	0201	FF00	0201FF00								W
Pull Down ON	022B	FF00	022BFF00								W
Pull Down OFF	022B	0000	022B0000								W
Alarm Muting	0227	FF00	0227FF00								W
Energy saving ON	0202	FF00	0202FF00								W
Energy saving OFF	0202	0000	02020000								W
Light ON	0208	FF00	0208FF00								W
Light OFF	0208	0000	02080000								W
Aux ON	020C	FF00	020CFF00								W
Aux OFF	020C	0000	020C0000								W
Holiday ON	022A	FF00	022AFF00								W
Holiday OFF	022A	0000	022A0000								W