

## ■ RS485 ModBus RTU Mode

### 1. Function 03H (Read Holding Registers)

Request Data Frame; EX: Read the data of display value(0000H starts from 1 Word)

SLAVE Address	FUNCTION	Starting Address Hi	Starting Address Lo	No. of Word Hi	No. of Word Lo	CRC Lo	CRC Hi
01H	03H	00H	00H	00H	01H	84H	0AH

Response Data Frame; EX: The response value is "0"

SLAVE Address	FUNCTION	Byte count	Data Hi	Data Lo	CRC Lo	CRC Hi
01H	03H	02H	00H	00H	B8H	44H

Request Data Frame (EX: Continue to request the data of 10 points)

SLAVE Address	FUNCTION	Starting Address Hi	Starting Address Lo	No. of Word Hi	No. of Word Lo	CRC Lo	CRC Hi
01H	03H	00H	00H	00H	0AH	C5H	CDH

Response Data Frame

SLAVE Address	FUNCTION	Byte count	Data(1) Hi	Data(1) Lo	...	...	Data(10) Hi	Data(10) Lo	CRC Lo	CRC Hi
01H	03H	14H	00H	00H	...	...	01H	00H	--	--

### 2. Writing Command by Function 06H (Preset Single Register)

Request Data Frame

SLAVE Address	FUNCTION Code	Starting Address Hi	Starting Address Lo	Preset DATA Hi	Preset DATA Lo	CRC Lo	CRC Hi
01H	06H	00H	00H	00H	02H	08H	0BH

Response Data Frame

SLAVE Address	FUNCTION Code	Starting Address Hi	Starting Address Lo	Preset DATA Hi	Preset DATA Lo	CRC Lo	CRC Hi
01H	06H	00H	00H	00H	02H	08H	0BH

## ■ ADDRESS TABLE \*\*Address number are **Hexadecimal**

### ➤ **USER LEVEL**

Name	Address	Range	Explanation	Initial	Write/Read	Note
<b>PV</b>	0000h	-19999~29999	Present Value		R	
	0001h	-19999~29999	Relay1 Set Point	10000	R/W	
<span style="color:red">r425P</span>	0002h	-19999~29999	Relay2 Set Point	10000	R/W	
<span style="color:red">r435P</span>	0003h	-19999~29999	Relay3 Set Point	10000	R/W	
<span style="color:red">r445P</span>	0004h	-19999~29999	Relay4 Set Point	10000	R/W	
<b>RELAY STATUS</b>	0005h	0~1	RELAY STATUS <b>bit0~bit3:</b> relay1~relay4; <b>0</b> =Relay off <b>1</b> =Relay on		R/W	
<b>ECI STATUS</b>	0006h	0~1	ECI STATUS <b>bit0~bit2:</b> ECI.1~ECI.3; <b>0</b> =untriged <b>1</b> :triged		R	
<b>PV.HLD</b>	0007h		PV Hold		R	
<span style="color:red">r41n</span>	0008h	-19999~29999	The Minimum of PV	0	R	
<span style="color:red">r4R4</span>	0009h	-19999~29999	The Maximum of PV	0	R	
<b>SYSTEM STATUS</b>	000Ah		SYSTEM STATUS <b>bit0</b> =1 EEP fail; <b>bit1</b> =1 Input calibration fail; <b>bit2</b> =1 Input calibration NG; <b>bit3</b> =1 Analogue Output calibration fail; <b>bit4</b> =1 Analogue Output calibration NG		R	
<span style="color:red">r45E</span>	000Bh	0~1	Reset Maximum & Minimum Value <b>0</b> :No <b>1</b> :Yes	1	R/W	
<span style="color:red">r5485</span>	000Ch	-19999~29999	PV showing from RS485 command(data)	0.00%	R/W	

## ➤ Engineer Level

【Input Group】						
Name	Address	Range	Explanation	Initial	Write/Read	Note
<b>RESERVED</b>	000Dh		No use unless DP2-PR	0	R/W	
<b>A.tYP</b>		0~5	<b>The address is for DP2-PR only</b> Analogue Input Type 0:0~10V 1:0~5V 2:1~5V 3:0~20mA 4:4~20mA 5:0~10mA			
<b>A.Lo</b>	000Eh	0.00~100.00%	Input Low	0.00%	R/W	
<b>A.Hi</b>	000Fh	0.00~100.00%	Input High	100.0%	R/W	
<b>PuDP</b>	0010h	0~4	PV Decimal Point 0: 00000 1: 0000.0 2: 000.00 3: 00.000 4: 0.0000	0	R/W	
<b>LoSC</b>	0011h	-19999~29999	Low Scale	0	R/W	
<b>HiSC</b>	0012h	-19999~29999	High Scale	19999	R/W	
<b>PuZro</b>	0013h	-19999~29999	PV ZERO	0	R/W	
<b>PuSPn</b>	0014h	-19999~29999	PV SPAN	0	R/W	
<b>P.SrSt</b>	0015h	0~3	The clear of PV_ZERO and PV_SPAN 0:None 1:PV_ZERO 2:PV_SPAN 3: Both	3	R/W	
<b>dSPLY</b>	0016h	0~3	Display Mode 0:PV 1: Minimum Hold 2: Maximum Hold 3: RS485	2	R/W	
<b>LoCtE</b>	0017h	-19999~19999	Low Cut	0	R/W	
<b>Avg</b>	0018h	1~99	Average	1	R/W	
<b>dFilt</b>	0019h	0~99	Digital Filter	0	R/W	
<b>P.CoDE</b>	001Ah	0000~9999	Pass Code	1000	R/W	
<b>F.LoCK</b>	001Bh	0~3	Function Lock 0: none 1: User Level 2: Engineer Level 3: All	3	R/W	

【Relay Group】						
Name	Address	Range	Explanation	Initial	Write/Read	Note
<b>rYsb</b>	001Ch	0000~9999	Start Band of Relay	0	R/W	
<b>rYsd</b>	001Dh	0000~5999 (0.1second)	Start Delay Time of Relay	0	R/W	
<b>rY1nd</b>	001Eh	0~5	Relay1 Energized Mode 0: <b>oFF</b> (no use); 1: <b>Lo</b> (Low Energized); 2: <b>Hi</b> (High Energized) 3: <b>Lo Hold</b> (Low Energized Hold) 4: <b>High Hold</b> (High Energized Hold) 5: <b>DO</b> (Digital Output);	1	R/W	
<b>rY1HY</b>	001Fh	0000~5000	Hysteresis of Relay1	0	R/W	
<b>rY1rd</b>	0020h	0000~5999 (0.1second)	Energized Delay Time of Relay1	0	R/W	
<b>rY1Fd</b>	0021h	0000~5999 (0.1second)	De-Energized Delay Time of Relay1	0	R/W	
<b>rY2nd</b>	0022h	0~5	Relay2 Energized Mode 0: <b>oFF</b> (no use); 1: <b>Lo</b> (Low Energized); 2: <b>Hi</b> (High Energized) 3: <b>Lo Hold</b> (Low Energized Hold) 4: <b>High Hold</b> (High Energized Hold) 5: <b>DO</b> (Digital Output);	1	R/W	
<b>rY2HY</b>	0023h	0000~5000	Hysteresis of Relay2	0	R/W	
<b>rY2rd</b>	0024h	0000~5999	Energized Delay Time of Relay2	0	R/W	

		(0.1second)				
r42Fd	0025h	0000~5999 (0.1second)	De-Energized Delay Time of Relay2	0	R/W	
r43Ad	0026h	0~5	Relay3 Energized Mode <b>0: oFF</b> (no use); <b>1: Lo</b> (Low Energized) <b>2: Hi</b> (High Energized) <b>3: Lo Hold</b> (Low Energized Hold) <b>4: High Hold</b> (High Energized Hold) <b>5: DO</b> (Digital Output);	2	R/W	
r43HY	0027h	0000~5000	Hysteresis of Relay3	0	R/W	
r43Fd	0028h	0000~5999 (0.1second)	Energized Delay Time of Relay3	0	R/W	
r43Fd	0029h	0000~5999 (0.1second)	De-Energized Delay Time of Relay3	0	R/W	
r44Ad	002Ah	0~5	Relay4 Energized Mode <b>0: oFF</b> (no use); <b>1: Lo</b> (Low Energized); <b>2: Hi</b> (High Energized) <b>3: Lo Hold</b> (Low Energized Hold) <b>4: High Hold</b> (High Energized Hold) <b>5: DO</b> (Digital Output); <b>6: Go-1.2</b> (Go function compare with SP1 & SP2); <b>7: Go-2.3</b> (Go function compare with SP2 & SP3);	2	R/W	
r44HY	002Bh	0000~5000	Hysteresis of Relay4	0	R/W	
r44Fd	002Ch	0000~5999 (0.1second)	Energized Delay Time of Relay4	0	R/W	
r44Fd	002Dh	0000~5999 (0.1second)	De-Energized Delay Time of Relay4	0	R/W	
r4r5E	002Eh		Reset for Relay Energized Hold <b>0: No</b> 1: Yes	0	R/W	

Name	Address	Range	Explanation	Initial	Write/Read	Note
<b>RESERVED</b>	002Fh		<b>No use unless DP2-VA &amp; DP2-RS</b>			
b8Ad			<b>The address is for DP2-VA &amp; DP2-RS</b> Bank selection <b>bit0=1: Bank1 selected</b> <b>bit1=1: Bank2 selected</b> <b>bit2=1: Bank3 selected</b> <b>bit0=bit1-bit2=0: Bank0 selected</b>	0	R/W	
<b>[ECI Group]</b>						
Name	Address	Range	Explanation	Initial	Write/Read	Note
EC 1.1	0030h	0~5	External Control Input 1 <b>0: nonE</b> (None); <b>1: rEL.PV</b> (Relative PV); <b>2: PV.HLd</b> (PV Hold); <b>3: M.rSt</b> (Reset for Maximum & Minimum); <b>4: rY.rSt</b> (Reset for Relay Hold); <b>5: di</b> (Digital Input);	3	R/W	
EC 1.2	0031h	0~5	External Control Input 1 <b>0: nonE</b> (None); <b>1: rEL.PV</b> (Relative PV); <b>2: PV.HLd</b> (PV Hold); <b>3: M.rSt</b> (Reset for Maximum & Minimum); <b>4: rY.rSt</b> (Reset for Relay Hold); <b>5: di</b> (Digital Input);	2	R/W	
EC 1.3	0032h	0~5	External Control Input 1 <b>0: nonE</b> (None);	1	R/W	

			1:rEL.PV(Relative PV); 2:PV.HLd(PV Hold); 3: M.rSt(Reset for Maximum & Minimum); 4:rY.rSt(Reset for Relay Hold); 5:di(Digital Input);			
dEbnc	0033h	5~255	ECI debouncing 5~255 *8mSec	12	R/W	

### 【AO Group】

Name	Address	Range	Explanation	Initial	Write/Read	Note
AOtYP	0034h	0~5	Analog Output Type 0: 0~10V 1: 0~5V 2: 1~5V 3: 0~20mA 4: 4~20mA 5: 0~10mA	0	R/W	
AOlS	0035h	-19999~29999	Analogue Output Low Scale	0	R/W	
AOHS	0036h	-19999~29999	Analogue Output High Scale	19999	R/W	
AOlnt	0037h	00.00%~110.00%	Analogue Output High Limit	110.00%	R/W	
PSrSt	0038h	0~3	The clear of AO_ZERO and AO_SPAN 0: None 1: AO_ZERO 2: AO_SPAN 3: Both	3	R/W	

### 【RS485 Group】

Name	Address	Range	Explanation	Initial	Write/Read	Note
AdRES	0039h	1~255	RS485 address	1	R/W	
bAUD	003Ah	0~5	RS485 baud rate 0:1200 1:2400 2:4800 3:9600 4:19200 5:38400	3	R/W	
Pr tY}}	003Bh	0~3	RS485 parity 0: n-8-1 1: n-8-2, 2: odd, 3: even,	2	R/W	