

# FY Series SCR Controller Modbus RTU Comms

Address	Function code	Data	CRC Inspection
8bit	8bit	N×8bit	16bit

Table 1 - Function code 03 (read the Rated current(3.03) =200.0)

Request		Response	
Field name	(Hexadecimal)	Field name	(Hexadecimal)
Number	01	Number	01
Function code	03	Function code	03
Start Address Hi	01	Byte count	02
Start Address Low	2E	Register value Hi	07
Register number Hi	00	Register value Low	D0
Register number Low	01	CRC Low	BB
CRC Low	E5	CRC Hi	E8
CRC Hi	FF		

Table 2 - Function code 10 (read the Communication set(1.12) =50)

Request		Response	
Field name	(Hexadecimal)	Field name	(Hexadecimal)
Number	01	Number	01
Function code	10	Function code	10
Start Address Hi	00	Start Address Hi	00
Start Address Low	6F	Start Address Low	6F
Register number High	00	Register number High	00

Register number Low	01	Register number Low	01
Byte count	02	CRC Low	31
Register value High	00	CRC High	D4
Register value Low	32		
CRC Low	2E		
CRC High	DA		

Table 3 . FY3

Address	Name	Range	Factory value	Read/write	Description
0 : Basic information					
0.01	Running state	0、 1	-	R	0:Stop 1:RUN
0.02	Auto mode	0、 1	-	R	0: (1.11) M input 1: (1.10) A input
0.03	Uab input	0.0~3276.7	-	R	Uab input voltage
0.04	Ubc input	0.0~3276.7	-	R	Ubc input voltage
0.05	Uca input	0.0~3276.7	-	R	Uca input voltage
0.06	Uab output	0.0~3276.7	-	R	Uab output voltage
0.07	Ubc output	0.0~3276.7	-	R	Ubc output voltage
0.08	Uca output	0.0~3276.7	-	R	Uca output voltage
0.09	Output voltage	0.0~3276.7	-	R	$(U_{ab} + U_{bc} + U_{ca}) / 3$
0.1	Ia current	0.0~3276.7	-	R	A current
0.11	Ib current	0.0~3276.7	-	R	B current
0.12	Ic current	0.0~3276.7	-	R	C current
0.13	Output current	0.0~3276.7	-	R	$(I_a + I_b + I_c) / 3$

0.14	Output power	0.00~327.67	-	R	<a href="#">active power</a>
0.15	Start signal	0、1	-	R	Terminal RUN state
0.16	IN1 input (%)	0. 00~100.00%	-	R	Terminal IN1 4~20mA input
0.17	IN2 input (%)	0. 00~100.00%	-	R	Terminal IN2 0~5V / 0~10V
0.18	Pannel input (%)	0. 00~100.00%	-	R	Expansion Pannel input
0.19	Communication input (%)	0. 00~100.00%	-	R	
0.2	Input total (%)	0. 00~100.00%	-	R	
0.21	U feedback (%)	0. 00~120.00%	-	R	Voltage feedback (%)
0.22	I feedback (%)	0. 00~120.00%	-	R	Current feedback (%)
0.23	P feedback (%)	0. 00~120.00%	-	R	Power feedback (%)
0.24	Total feedback (%)	0. 00~120.00%	-	R	Total feedback (%)
0.25	Grid frequency (Hz)	0. 00~100.00	-	R	
0.26	Phase Angle	0. 00~180.00	-	R	Thyristor control angle a
0.27	U loop output (%)	0. 00~100.00%	-	R	Voltage loop output (%)
0.28	I loop output (%)	0. 00~100.00%	-	R	Current loop output (%)
0.29	P loop output (%)	0. 00~100.00%	-	R	Power loop output (%)
0.3	Accumulated electricity (kW·h)	0~32767		R	Accumulated electricity UNIT: kW·h
0.31	Accumulated electricity (MW·h)	0~32767		R	Accumulated electricity UNIT: MW·h
0.32	Expansion Pannel A/M	0、1	-	R	A/M state of Expansion Pannel

0.33	Expansion Panel RUN	0、1	-	R	RUN state of Expansion Panel
1 .Parameter setting					
1.01	Communication start	0、1		W	Control the start and stop of the communication. When the 1.02 menu is set to 1/2/3/5. The menu setting is valid. 0: Stop 1: Run
1.02	Start & stop source	0~5		W	Set start signal source 0 : Terminal RUN control 1 : Communication control 2 : Expansion pannel control start & stop 3:The terminal and communication are effective at the same time 4: Expansion pannel and communication are effective at the same time 5:Terminal, communication and pannel are effective at the same time
1.03	Communication A/M setting	0、1		W	Control the A/M of the communication. When the 1.04 menu is set to 1, The menu setting is valid. 0: M input 1: A input
1.04	A/M control source	0~2		W	A/M control signal source 0 : Terminal A / M control 1 : Communication A/M control

					2 : Expansion pannel A/M control
1.05	Control mode	0~11		W	Set the working mode of the controller 0 : Phase shift open loop 1 : Phase shifting constant voltage 2 : Phase shifting constant current 3 : Phase shifting constant power 4 : Zero crossing open loop 5 : Zero crossing constant voltage 6 : Zero crossing constant current 7 : Zero crossing constant power 8 : Variable period open loop 9 : Variable period constant voltage 10 : Variable period constant current 11 : Variable period constant power
1.06	Minimum Phase Angle	0	0	W	Set Phase angle limit
1.07	Limit Source	-		W	Limit the input signal
1.08	Fixed period number	100~32767		W	
1.09	Fixed period soft start number	0~15		W	
1.1	A setting source	0~3		W	Select auto / remote signal source. <b>Refer to the logic diagram in Appendix 2</b>
1.11	M setting source	0~3		W	Select local / manual signal source <b>Refer to the logic diagram in Appendix 2</b>
1.12	Communication set	0~32767		W	Use with 1.13

1.13	Communication set rating	0~32767		W	1.12 ÷ 1.13 = communication set %
1.14	AI2 range	0、1		W	0 : AI2 input 0 ~ 5V signal 1 : AI2 input 0 ~ 10V signal
1.15	Ramp mode	0、1		W	0 : Close 1 : Open
1.16	Ramp up speed (%)	0.00~100.00	1	W	When the 1.15 menu is set to 1, The menu setting is valid. Input signal soft start
1.17	Ramp down speed (%)	0.00~100.00	100	W	When the 1.15 menu is set to 1, The menu setting is valid. Input signal soft stop
1.18	Power decimal places	-	1		
1.19	Zero crossing control parameter	-	0.3		
1.2	Voltage loop P	0.000~32.767	0.5	W	Voltage PID setting
1.21	Voltage loop I	0.000~32.767	0.3	W	
1.22	Voltage loop D	0.000~32.767	0	W	
1.23	Current loop P	0.000~32.767	0.3	W	Current PID setting
1.24	Current loop I	0.000~32.767	0.2	W	
1.25	Current loop D	0.000~32.767	0	W	
1.26	Power loop P	0.000~32.767	0.3	W	Power PID setting
1.27	Power loop I	0.000~32.767	0.2	W	
1.28	Power loop D	0.000~32.767	0	W	
2. Fault information					
2.01	Total fault	0、1	0	R	0 No fault 1 Fault

2.02	Fault reset	0、1	0	W	Keyboard / communication settings reset
2.03	Present fault	0~5	0	R	
2.04	Fault record 1	0~5	0	R	
2.05	Fault record 2	0~5	0	R	
2.06	Fault record 3	0~5	0	R	
2.07	Fault record 4	0~5	0	R	
2.08	Fault record 5	0~5	0	R	
2.09	System fault	0、1	0	R	0: No fault 1: Fault
2.1	Overheat	0、1	0	R	0: No fault 1: Fault
2.11	Overcurrent	0、1	0	R	0: No fault 1: Fault
2.12	Thyristor fault	0、1	0	R	0: No fault 1: Fault
2.13	Main loop fault	0、1	0	R	0: No fault 1: Fault
2.14	Lower limit of grid voltage (V)	10.0~1000.0	30	T	Alarm when the power grid is lower than this value
3 .System information					
3.01	Software version	-	-	R	
3.02	Rated voltage (V)	-	-	T	
3.03	Rated current (A)	-	-	T	
3.04	Rated power (kW)	-	-	T	

3.05	Com address	1~247		W	
3.06	Com baud rate	4800~115200	9600	W	
3.07	Com check bit	0~2	1	W	
3.08	Com stop bit	0~1	0	W	
3.09	Password set	-32768~32767	0	W	
3.1	Language		0	W	

Signed parameter address allocation table (" NC "means the address is empty)

Parameter name	Address		Read /write state	Ratio	Range
	Hexadecimal	Decimal			
MV	00H	0	R/W	10	0~100
MV1	01H	1	R/W	10	0~100
PV1	02H	2	R	10	LSP~USP
PV2	03H	3	R	10	LSP2~USP2
SV	04H	4	R/W	10	LSP~USP
NC	05H	5	R/W	10	
AD1	06H	6	R/W	1	0-11
AL1	07H	7	R/W	10	-1999 ~9999
AD2	08H	8	R/W	10	0-11
NC	09H	9	R/W	1	
NC	0AH	10	R/W	1	
P	0CH	11	R/W	10	0.1~3600
I	0DH	12	R/W	10	0~3600
D	0EH	13	R/W	10	0~3600
P <sub>c</sub>	0FH	14	R/W	10	0.1~ 3600
I <sub>c</sub>	10H	15	R/W	10	0~3600
D <sub>c</sub>	11H	16	R/W	10	0~3600
LSP	12H	17	R/W	10	-1999 ~9999
USP	13H	18	R/W	10	-1999 ~9999
LSP2	14H	19	R/W	10	-1999 ~9999
USP2	15H	20	R/W	10	-1999~9999
HY1	16H	21	R/W	10	LSP~USP
HY2	17H	22	R/W	10	LSP~ USP
OUL	18H	23	R/W	10	0~100
OUH	19H	24	R/W	10	0~100
OU3	1AH	25	R/W	10	0~100
OU4	1BH	26	R/W	10	0~100
KV	1CH	27	R/W	10	0.1~300
TH	1DH	28	R/W	10	0~6
TRL	1EH	29	R/W	10	LSP~ USP
TRH	1FH	30	R/W	10	LSP~ USP
PVOS		31	R/W	10	-50~50