

## MTA PID Controller Communication Manual

### 1. SPECIFICATION

Interface: Base on standard RS-485

Connection method: 2 wire system, half-duplex multidrop connection

Communication distance: 1.2km (max.)

\*However, the maximum communication distance varies slightly with the surroundings such as cables etc.

Communication speed: 2400bps, 4800bps, 9600bps, 19200bps

Data type: Start bit: 1

Data bit: 8

Parity bit: None

Stop bit: 1

Protocol: Modbus-RTU

### 2. COMMUNICATION ADDRESS

Name	Address (HEX)	Data range	Attribute	Decimal
Measured Value (PV)	0000H	FUL range	R	0, 1, 2, 3
OUTPUT1 Bar Graphic display %	0001H	0-1000 (0-100.0%)	R	1
Alarm lamp (8 bits)	0002H	0: ON 1: OFF see *1	R	0
Spare address	0003H			
Spare address	0004H			
Set value (SV)	0005H	-1999-9999	R/W	0, 1, 2, 3
Spare address	0006H	0	R	0
Auto tuning (AT)	0007H	0: No 1: Auto tuning	R/W	0
Alarm 1 (AL1)	0008H	-1999~9999	R/W	0, 1, 2, 3
Alarm 2 (AL2)	0009H	-1999~9999	R/W	0, 1, 2, 3
PV compensation (SC)	000AH	-199.9~199.9	R/W	0, 1, 2, 3
Spare address	000BH		R	
Proportional band P	000CH	0-200.0	R/W	1
Integral time I	000DH	0-3600	R/W	0
Derivative time d	000EH	0-200	R/W	0
Spare address	000FH			
Spare address	0010H			
Proportioning cycle C Y T	0011H	0-100	R/W	0

Control Hysteresis	HYS	0012H	0-100.0	R/W	1
Spare address		0013H			
Spare address		0014H			
Spare address		0015H			
Spare address		0016H			
Spare address		0017H			
Spare address		0018H			
Spare address		0019H			
Overshoot protection	rE	001AH	-30.0~30.0	R/W	0, 1
Proportional reset	rSt	001BH	-30.0~30.0	R/W	0, 1
Spare address		001CH			
Output limit(Low)	OPL	001DH	0.0~100.0%	R/W	1
Output limit (High)	OPH	001EH	0.0~100.0%	R/W	1
Spare address		001FH			
Spare address		0020H			
Spare address		0021H			
Output buffer only for out1	BUFF	0022H	0.0~100.0%	R/W	1
Data lock	LCK	0023H	0-255	R/W	0
Main input type	1nP1	0024H	See *2	R/W	0
Decimal point	dP (only for Analog input)	0025H	0~3	R/W	
Low setting Limiter	LSPL	0026H	-1999~9999	R/W	0, 1, 2, 3
High setting limiter	USPL	0027H	-1999~9999	R/W	0, 1, 2, 3
Display scale	UNit	0028H	0: Centigrade, 1: Fahrenheit 3: Without scale (for analog)	R/W	0
Spare address		0029H			
PV follow-up PV input filter	PVFt	002AH	0-60	R/W	0
Lowest value of PV display	ANL1	002BH	-1999~9999	R/W	0, 1, 2, 3
Highest value of PV display	ANH1	002CH	-1999~9999	R/W	0, 1, 2, 3
Spare address		002DH			
Spare address		002EH			
Alarm1 mode	ALd1	002FH	0~16	R/W	0

Alarm1 differential gap	AH1	0030H	0.0~100.0	R/W	1
Alarm2 mode	ALd2	0031H	0~16	R/W	0
Alarm2 differential gap	AH2	0032H	0.0~100.0	R/W	1
Spare address		0033H			
Spare address		0034H			
Control action for OUT1	OUd	0035H	0:Reverse action (Heating) 1: Direct action (Cooling)	R/W	0
Spare address		0036H			
Spare address		0037H			
Buffer mode for out1analog output BEr		0038H	0, 1, 2	R/W	0

\*1 : Alarm lamp (8 bits) , Address: 0002H      0: ON   1: OFF

bit0: COM   bit1:MAN   bit2:AL3   bit3: AL2   bit4:AL1   bit5:AT   bit6:OUT2   bit7:OUT1

\*2: Main input type   1nP1

INP1=	Input sign	Low range	High range	Scale
0 or 1	K	0	1300	°C
2 or 3	E	0	600	°C
4 or 5	J	0	800	°C
6	N	0	1300	°C
7	Wu3/Re25	0	2000	°C
8	S	0	1600	°C
9	T	0.0	400.0	°C
10	R	0	1700	°C
11	B	0	1800	°C
12	AN4 (2-10VDC or 1-5VDC or DC4-20mA)	-1999	9999	
13	AN3 (0-10VDC or 0-5VDC or DC0-20mA)	-1999	9999	
14	AN2 (0-50mV)	-1999	9999	
15	AN1 (0-20mV)	-1999	9999	
16	Pt100	-200	800	°C