

Multi Panel Meter

MT Series

User Manual for Communication

CE



MT Series

Preface

Thank you very much for selecting Autonics products.

Please familiarize yourself with the information contained in the **Safety Precautions** section before using this product.

This user manual for communication contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

User Manual for Communication Guide

This user manual for communication contains information about the product and its proper use, and should be kept in a place where it will be easy to access.





- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- A user manual is not provided as part of the product package.
Visit our home-page (www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice.
- We contrived to describe this manual more easily and correctly. However, if there are any corrections or questions, please notify us these on our homepage.

Communication Protocol

MT4 Series is accepted to Modbus RTU Protocol.



Users should be aware that it does not support a broadcast command.

User Manual for Communication Symbols

Symbol	Description
 Note	Supplementary information for a particular feature.
 Warning	Failure to follow instructions can result in serious injury or death.
 Caution	Failure to follow instructions can lead to a minor injury or product damage.
 Ex.	An example of the concerned feature's use.
※1	Annotation mark.

Safety Precautions

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents and minimize hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

 Warning	Warning	Cases that may cause serious injury or fatal accident if instructions are not followed.
 Caution	Caution	Cases that may cause minor injury or product damage if instructions are not followed.

Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in fire, personal injury, or economic loss.
- Install on a device panel to use.
Failure to follow this instruction may result in electric shock or fire.
- Do not connect, repair, or inspect the unit while connected to a power source.
Failure to follow this instruction may result in electric shock or fire.
- Check 'Connections' before wiring.
Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.
Failure to follow this instruction may result in electric shock or fire.

Caution

- [MT4W/MT4Y Series]** When connecting the power/measurement input and relay output, use AWG 24(0.20mm²) to AWG 15(1.65mm²) cable and tighten the terminal screw with a tightening torque of 0.98 to 1.18N·m.
- [MT4N Series]** When connecting the power/measurement input and relay output, use AWG 24(0.20mm²) to AWG 16(1.30mm²) cable and tighten the terminal screw with a tightening torque of 0.78 to 0.98 N·m. Use proper cables for the rated load current.
Failure to follow this instruction may result in fire or malfunction due to contact failure.
- Use the unit within the rated specifications.
Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.
Failure to follow this instruction may result in electric shock or fire.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.
Failure to follow this instruction may result in fire or explosion.

- Keep metal chip, dust, and wire residue from flowing into the unit.
Failure to follow this instruction may result in fire or product damage.

- ※ **The specifications and dimensions of this manual are subject to change without any notice.**

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1 Modbus RTU protocol

1.1 Read Coil Status (Func01-01H)

Reads the output (OX reference, Coil) ON/OFF status in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←———— CRC16 —————→

(2) Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data	Data	Data	Error Check(CRC16)	
						Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←———— CRC16 —————→

The below example is to read the output status (ON: 1, OFF: 0) of 10 within coil 000001(0000 H) to 000010(0009 H) on the Slave(Address 17) from the Master.

▪ Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	01 H	00 H	00 H	00 H	0A H	## H	## H

The below example is when coil 000008(0007 H) to 000001(0000 H) value on the Slave is “ON-ON-OFF-OFF-ON-ON-OFF-ON” and 000010(0009 H) to 000009(0008 H) value is “OFF-ON”.

▪ Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data (000008 to 000001)	Data (000010 to 000009)	Error Check(CRC16)	
					Low	High
11 H	01 H	02 H	CD H	01 H	## H	## H

1.2 Read Input Status (Func02-02H)

Reads the input (1X reference) ON/OFF status in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

(2) Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data	Data	Data	Error Check(CRC16)	
						Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

The below example is to read the input status (ON: 1, OFF: 0) of 10 within 10001(0000 H) to 10010(0009 H) on the Slave(Address 17) from the Master.

- Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	02 H	00 H	00 H	00 H	0A H	## H	## H

The below example is when 10008(0007 H) to 10001(0000 H) value on the Slave is “ON-ON-OFF-OFF-ON-ON-OFF-ON” and 10010(0009 H) to 10009(0008 H) value is “OFF-ON”.

- Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data (100008 to 100001)	Data (100010 to 100009)	Error Check(CRC16)	
					Low	High
11 H	02 H	02 H	CD H	01 H	## H	## H

1.3 Read Holding Registers (Func03–03H)

Reads the binary data of Holding Registers(4X reference) in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

(2) Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data		Data		Data		Error Check(CRC16)	
			High	Low	High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

The below example is to read 2 value within Holding Register 400001(0000 H) to 400002(0001 H) on the Slave(Address 17) from the Master.

▪ Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	03 H	00 H	00 H	00 H	02 H	## H	## H

The below example is when 400001(0000 H) value on the Slave is “555(22B H)” and 400002(0001 H) value is “100 (64 H)”.

▪ Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data		Data		Error Check(CRC16)	
			High	Low	High	Low	Low	High
11 H	03 H	04 H	02 H	2B H	00 H	64 H	## H	## H

1.4 Read Input Registers (Func04–04H)

Reads the binary data of Input Registers(3X reference) in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

(2) Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data	Data	Data	Error Check(CRC16)	
						Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

The below is to read 2 value within Input Register 30001(0000 H) to 30002(0001 H) on the Slave(Address 17) from the Master.

- Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	04 H	00 H	00 H	00 H	02 H	## H	## H

The below example is when 30001(0000 H) value on the Slave is “10 (A H)” and 30002(0001 H) value is “20 (14 H)”.

- Response(Slave)

Slave Address	Function (Command)	Byte Count (Number of data byte)	Data		Data		Error Check(CRC16)	
			High	Low	High	Low	Low	High
11 H	04 H	04 H	00 H	0A H	00 H	14 H	## H	## H

1.5 Force Single Coil (Func 05-05H)

Turns ON (FF00 H) or OFF (0000 H) of single coil (0X reference) status within slave device.

(1) Query (Master)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

(2) Response (Slave)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

If Coil 000001 (0000 H) turns ON of Slave (Address 17) from Master.

▪ Query (Master)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
11 H	05 H	00 H	00 H	FF H	00 H	## H	## H

▪ Response (Slave)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
11 H	05 H	00 H	00 H	FF H	00 H	## H	## H

1.6 Preset Single Registers (Func06–06H)

Writes the binary data of single Holding Registers (4X reference) in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Register Address		Preset Data(Data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

(2) Response(Slave)

Slave Address	Function (Command)	Register Address		Preset Data(Data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

The below example is to write "10(A H)" at Holding Register 400001(0000 H) of Slave(Address 17) from the Master.

- Query(Master)

Slave Address	Function (Command)	Starting Address		Preset Data(Data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	06 H	00 H	00 H	00 H	0A H	## H	## H

- Response(Slave)

Slave Address	Function (Command)	Starting Address		Preset Data(Data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	06 H	00 H	00 H	00 H	0A H	## H	## H

1.7 Preset Multiple Registers (Func16–10H)

Writes the binary data of Holding Registers (4X reference) continuously in the Slave device.

(1) Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Register		Byte Count (Number of data byte)	Data		Data		Error Check (CRC16)	
		High	Low	High	Low		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←———— CRC16 —————→

(2) Response(Slave)

Slave Address	Function (Command)	Starting Address		No. of Register		Error Check(CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←———— CRC16 —————→

The below example is to write all "10(A H)" at Holding Register 40001(0000 H) to 40002(0001 H) of the Slave(Address 17) from the Master.

▪ Query(Master)

Slave Address	Function (Command)	Starting Address		No. of Register		Byte Count (Number of data byte)	Data		Data		Error Check (CRC16)	
		High	Low	High	Low		High	Low	High	Low	High	
11 H	10 H	00 H	00 H	00 H	02 H	04 H	00 H	0A H	00 H	0A H	## H	## H

▪ Response(Slave)

Slave Address	Function (Command)	Starting Address		No. of Register		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	10 H	00 H	00 H	00 H	02 H	## H	## H

Except downloading the pre-designated min/max parameter according to input specification or default value from PC loader program, it is recommended to use single register write (Single Register Write) than multi register write (Multi Register Write) to connect external device such as PLC, graphic panel, etc.

1.8 Exception Process (Exception Response-Error Code)

If communication error occurs, it sends response command and transmits the applicable Exception Code after setting(1) the highest-level bit of received command (Function).

Slave Address	Function (Command) +80 H	Exception Code	Error Check(CRC16)	
			Low	High
1Byte	1Byte	1Byte	1Byte	1Byte
← CRC16 →				

- ILLEGAL FUNCTION(Exception Code: 01 H): Command is not supported.
- ILLEGAL DATA ADDRESS(Exception Code: 02 H)
: Starting address of the queried data is inconsistent with transmittable data address.
- ILLEGAL DATA VALUE(Exception Code: 03 H)
: The number of the queried data is inconsistent with the number of transmittable data.
- SLAVE DEVICE FAILURE(Exception Code: 04 H)
: Not properly completes the queried command.

The below example is to read the output status (ON: 1, OFF: 0) of non-existing coil 001001(03E8 H) on the Slave(Address 17) from the Master.

- Query (Master)

Slave Address	Function (Command)	Starting Address		No. of Points(Number of data)		Error Check(CRC16)	
		High	Low	High	Low	Low	High
11 H	01 H	03 H	E8 H	00 H	01 H	## H	## H

- Response (Slave)

Slave Address	Function (Command) +80 H	Exception Code	Error Check(CRC16)	
			Low	High
11 H	81 H	02 H	## H	## H

2 Modbus Mapping Table

2.1 MT4W

2.1.1 Read Input Registers

No.(address)	Func	R/W	Item	Description
300001(0000)	04	R	Measured value 5LRd: Displays from -5% to 110% 5LRL: Displays from -1999 to 9999	Decimal number display method. Signal input (DV/DA/AV/AA) is set by each terminal. <ul style="list-style-type: none"> Standard When outputs "HHHH", displays "30000" When outputs "LLLL", displays "-30000" Scale At H-5L, L-5L, displays the set value. When displays "d-HH", outputs "30001" When displays "d-LL", outputs "-30001" Frequency When outputs "F-HH", displays "30002"
300002(0001)	04	R	Sets decimal point 5LRd 0.000→0003H, 0.00→0002H 0.0→0001H, 0→0000H 5LRL 0.000→0103H, 0.00→0102H 0.0→0101H, 0→0100H	Outputs decimal point position's information of 5LRd / 5LRL mode.
300003(0002)	04	R	HI Peak Value	Decimal number display method. Outputs max. value of signal input. (DV/DA/AV/AA)
300004(0003)	04	R	LO Peak Value	Decimal number display method. Outputs min. value of signal input. (DV/DA/AV/AA)
300005(0004)	04	R	OUT Status	HI, GO, LO (0: OFF / 1: ON)
300101(0064)	04	R	Product number H	0671H
300102(0065)	04	R	Product number L	DV : F31CH/F326H, DA : F704H/F70EH AV : FAECH/FAF6H, AA : FED4H/FEDEH
300103(0066)	04	R	Hardware version	20
300104(0067)	04	R	Software version	20
300105(0068)	04	R	Model name1	"MT "
300106(0069)	04	R	Model name2	"4W "
300107(006A)	04	R	Model name3	"DV/DA/AA/AV "
300108(006B)	04	R	Model name4	"-8/-9 "
300109(006C)	04	R	Model name5	"85H "
300110(006D)	04	R	Model name6	
300111(006E)	04	R	Model name7	
300112(006F)	04	R	Model name8	
300113(0070)	04	R	Model name9	
300114(0071)	04	R	Model name10	
300118(0075)	04	R	Coil Status Start Address	0
300119(0076)	04	R	Coil Status Quantity	3
300120(0077)	04	R	Input Status Start Address	0
300121(0078)	04	R	Input Status Quantity	0
300122(0079)	04	R	Holding Register Start Address	0
300123(007A)	04	R	Holding Register Quantity	0

No.(address)	Func	R/W	Item	Description
300124(007B)	04	R	Input Register Start Address	0
300125(007C)	04	R	Input Register Quantity	4

2.1.2 Read Input Status

No.(address)	Func	R/W	Item	Description
100001(0000)	02	R	Out Status LO	0: OFF / 1: ON
100002(0001)	02	R	Out Status GO	0: OFF / 1: ON
100003(0002)	02	R	Out Status HI	0: OFF / 1: ON

2.1.3 Read Holding Registers / Preset Single Registers / Preset Multiple Registers

2.1.3.1 Parameter 0 group

No.(address)	Func	R/W	Item	Description
400001(0000)	03/06/16	R/W	High Preset	HIGH set value of OUT
400002(0001)	03/06/16	R/W	Low Preset	LOW set value of OUT
400003(0002)	03/06/16	R/W	High Peak	Decimal number display method. Outputs max. value of signal input (DV/DA/AV/AA)., Factory default: 0
400004(0003)	03/06/16	R/W	Low Peak	Decimal number display method. Outputs min. value of signal input (DV/DA/AV/AA)., Factory default: 0

2.1.3.2 Parameter 1 group

No.(address)	Func	R/W	Item	Description
400101(0064)	03/06/16	R/W	Input Range	Select input range (Refer to measurement input specifications.)
400102(0065)	03/06/16	R/W	Display	0: 5tnd / 1: 5CRl / 2: FRE9
400103(0066)	03/06/16	R/W	Dot	0: 0000 / 1: 000 / 2: 00 / 3: 0
400104(0067)	03/06/16	R/W	High Scale	-1999 to 9999 (Changes by decimal point position.)
400105(0068)	03/06/16	R/W	Low Scale	-1999 to 9999 (Changes by decimal point position.)
400106(0069)	03/06/16	R/W	Input Type	0: A00 / 1: r05
400107(006A)	03/06/16	R/W	Input Bias High	Corrects high-limit gradient of display value 5tnd, 5CRl : 0.100 to 5.000 FRE9 : 0.001 to 9.999 (mantissa)
400108(006B)	03/06/16	R/W	Input Bias Low	Corrects low-limit gradient of display value 5tnd, 5CRl : -99 to +99
400109(006C)	03/06/16	R/W	Input Bias High Exponent	Corrects high-limit gradient of display value FRE9 : 10 ⁻² to 10 ¹ (index) 0: 10-2 / 1: 10-1 / 2: 10-0 / 3: 10 1

2.1.3.3 Parameter 2 group

No.(address)	Func	R/W	Item	Description
400201(00C8)	03/06/16	R/W	Out Type	0: 0FF / 1: L5t / 2: H5t / 3: LH5t / 4: HH5t / 5: LL5t / 6: Ld5t
400202(00C9)	03/06/16	R/W	Hysteresis	Within 1 to 10% F.S. range
400203(00CA)	03/06/16	R/W	Startup Compensation Time	Startup compensation time 0.0 to 99.9 sec
400204(00CB)	03/06/16	R/W	Peak Time	Peak monitoring delay time 00 to 30 sec
400205(00CC)	03/06/16	R/W	Display Time	Display cycle 0.1 to 5.0 sec
400206(00CD)	03/06/16	R/W	Zero Key	Select zero function with operation at front 0: n0 / 1: YE5
400207(00CE)	03/06/16	R/W	Event Input	Input external terminal 0: Hold / 1: EEr0
400208(00CF)	03/06/16	R/W	Full Scale High	Unable to set
400209(00D0)	03/06/16	R/W	Full Scale Low	Unable to set
400210(00D1)	03/06/16	R/W	Address	Communication address 01 to 99

No.(address)	Func	R/W	Item	Description
400211(00D2)	03/06/16	R/W	Bit Per Second	Communication speed 0: 1200 / 1: 2400 / 2: 4800 / 3: 9600
400212(00D3)	03/06/16	R/W	Parity Bit	Communication parity bit 0: nonE / 1: E _u E _n / 2: odd
400213(00D4)	03/06/16	R/W	Stop Bit	Communication stop bit 0: 1 / 1: 2
400214(00D5)	03/06/16	R/W	Response Waiting Time	Communication response waiting time 5 to 99 ms
400215(00D6)	03/06/16	R/W	Lock	Lock 0: oFF / 1: LoC 1 / 2: LoC 2 / 3: LoC 3

2.2 MT4Y

2.2.1 Read Input Registers

No.(address)	Func	R/W	Item	Description
300001(0000)	04	R	Measured value 5LRd: Displays from -5% to 110% 5LRL: Displays from -1999 to 9999	Decimal number display method. Signal input (DV/DA/AV/AA) is set by each terminal. <ul style="list-style-type: none"> Standard When outputs "HHHH", displays "30000" When outputs "LLLL", displays "-30000" Scale At H-5L, L-5L, displays the set value. When displays "d-HH", outputs "30001" When displays "d-LL", outputs "-30001" Frequency When outputs "F-HH", displays "30002"
300002(0001)	04	R	Sets decimal point 5LRd 0.000→0003H, 0.00→0002H 0.0→0001H, 0→0000H 5LRL 0.000→0103H, 0.00→0102H 0.0→0101H, 0→0100H	Outputs decimal point position's information of 5LRd / 5LRL mode.
300003(0002)	04	R	HI Peak Value	Decimal number display method. Outputs max. value of signal input . (DV/DA/AV/AA)
300004(0003)	04	R	LO Peak Value	Decimal number display method. Outputs min. value of signal input. (DV/DA/AV/AA)
300005(0004)	04	R	OUT Status	HI, GO, LO (0: OFF / 1: ON)
300101(0064)	04	R	Product number H	0672H
300102(0065)	04	R	Product number L	DV : 8B4CH, DA : 8BB0H AV : 8C14H, AA : 8C78H
300103(0066)	04	R	Hardware version	20
300104(0067)	04	R	Software version	20
300105(0068)	04	R	Model name1	"MT "
300106(0069)	04	R	Model name2	"4Y "
300107(006A)	04	R	Model name3	"DV/DA/AA/AV "
300108(006B)	04	R	Model name4	"-4 "
300109(006C)	04	R	Model name5	"8 "
300110(006D)	04	R	Model name6	
300111(006E)	04	R	Model name7	
300112(006F)	04	R	Model name8	
300113(0070)	04	R	Model name9	
300114(0071)	04	R	Model name10	
300118(0075)	04	R	Coil Status Start Address	0
300119(0076)	04	R	Coil Status Quantity	3
300120(0077)	04	R	Input Status Start Address	0
300121(0078)	04	R	Input Status Quantity	0
300122(0079)	04	R	Holding Register Start Address	0
300123(007A)	04	R	Holding Register Quantity	0
300124(007B)	04	R	Input Register Start Address	0
300125(007C)	04	R	Input Register Quantity	4

2.2.2 Read Input Status

No.(address)	Func	R/W	Item	Description
100001(0000)	02	R	Out Status LO	0: OFF / 1: ON
100002(0001)	02	R	Out Status GO	0: OFF / 1: ON
100003(0002)	02	R	Out Status HI	0: OFF / 1: ON

2.2.3 Read Holding Registers / Preset Single Registers / Preset Multiple Registers

2.2.3.1 Parameter 0 group

No.(address)	Func	R/W	Item	Description
400001(0000)	03/06/16	R/W	High Preset	Unable to set
400002(0001)	03/06/16	R/W	Low Preset	LOW set value of OUT
400003(0002)	03/06/16	R/W	High Peak	Decimal number display method. Outputs max. value of signal input (DV/DA/AV/AA). Factory default: 0
400004(0003)	03/06/16	R/W	Low Peak	Decimal number display method. Outputs min. value of signal input (DV/DA/AV/AA). Factory default: 0

2.2.3.2 Parameter 1 group

No.(address)	Func	R/W	Item	Description
400101(0064)	03/06/16	R/W	Input Range	Selects input range (Refer to measurement input specifications.)
400102(0065)	03/06/16	R/W	Display	0: <i>Stnd</i> / 1: <i>SCRL</i> / 2: <i>FE9</i>
400103(0066)	03/06/16	R/W	Dot	0: <i>0000</i> / 1: <i>000</i> / 2: <i>00</i> / 3: <i>0</i>
400104(0067)	03/06/16	R/W	High Scale	-1999 to 9999 (Changes by decimal point position.)
400105(0068)	03/06/16	R/W	Low Scale	-1999 to 9999 (Changes by decimal point position.)
400106(0069)	03/06/16	R/W	Input Type	0: <i>RuG</i> / 1: <i>rns</i>
400107(006A)	03/06/16	R/W	Input Bias High	Corrects high-limit gradient of display value <i>Stnd</i> , <i>SCRL</i> : 0.100 to 5.000 <i>FE9</i> : 0.001 to 9.999 (mantissa)
400108(006B)	03/06/16	R/W	Input Bias Low	Corrects low-limit gradient of display value <i>Stnd</i> , <i>SCRL</i> : -99 to +99
400109(006C)	03/06/16	R/W	Input Bias High Exponent	Corrects high-limit gradient of display value <i>FE9</i> : 10^{-2} to 10^1 (index) 0: <i>10-2</i> / 1: <i>10-1</i> / 2: <i>10-0</i> / 3: <i>10 1</i>

2.2.3.3 Parameter 2 group

No.(address)	Func	R/W	Item	Description
400201(00C8)	03/06/16	R/W	Out Type	0: <i>oFF</i> / 1: <i>L5t</i> / 2: <i>H5t</i> / 3: <i>LH5t</i> / 4: <i>HH5t</i> / 5: <i>LL5t</i> / 6: <i>Ld5t</i> ※MT4Y-□-43, MT4Y-□-44 models are only settable between 0: <i>oFF</i> / 1: <i>L5t</i> .
400202(00C9)	03/06/16	R/W	Hysteresis	Within 1 to 10% F.S. range
400203(00CA)	03/06/16	R/W	Startup Compensation Time	Startup compensation time 0.0 to 99.9 sec
400204(00CB)	03/06/16	R/W	Peak Time	Peak monitoring delay time 00 to 30 sec
400205(00CC)	03/06/16	R/W	Display Time	Display cycle 0.1 to 5.0 sec
400206(00CD)	03/06/16	R/W	Zero Key	Select zero function with operation at front 0: <i>no</i> / 1: <i>YES</i>
400207(00CE)	03/06/16	R/W	Event Input	Input external terminal 0: <i>Hold</i> / 1: <i>Err</i>
400208(00CF)	03/06/16	R/W	Full Scale High	Unable to set
400209(00D0)	03/06/16	R/W	Full Scale Low	Unable to set
400210(00D1)	03/06/16	R/W	Address	Communication address 01 to 99
400211(00D2)	03/06/16	R/W	Bit Per Second	Communication speed 0: <i>1200</i> / 1: <i>2400</i> / 2: <i>4800</i> / 3: <i>9600</i>

No.(address)	Func	R/W	Item	Description
400212(00D3)	03/06/16	R/W	Parity Bit	Communication parity bit 0: none / 1: Even / 2: odd
400213(00D4)	03/06/16	R/W	Stop Bit	Communication stop bit 0: 1 / 1: 2
400214(00D5)	03/06/16	R/W	Response Waiting Time	Communication response waiting time 5 to 99 ms
400215(00D6)	03/06/16	R/W	Lock	Lock 0: OFF / 1: LoC1 / 2: LoC2 / 3: LoC3

2.3 MT4N

2.3.1 Read Input Registers

No.(address)	Func	R/W	Item	Description
300001(0000)	04	R	Measured value 5LRd: Displays from -5% to 110% 5LRL: Displays from -1999 to 9999	Decimal number display method. Signal input (DV/DA/AV/AA) is set by each terminal. <ul style="list-style-type: none"> Standard When outputs "HHHH", displays "30000" When outputs "LLLL", displays "-30000" Scale At H-5L, L-5L, displays the set value. When displays "d-HH", outputs "30001" When displays "d-LL", outputs "-30001" Frequency When outputs "F-HH", displays "30002"
300002(0001)	04	R	Sets decimal point 5LRd 0.000→0003H, 0.00→0002H 0.0→0001H, 0→0000H 5LRL 0.000→0103H, 0.00→0102H 0.0→0101H, 0→0100H	Outputs decimal point position's information of 5LRd / 5LRL mode.
300003(0002)	04	R	HI Peak Value	Decimal number display method. Outputs max. value of signal input . (DV/DA/AV/AA)
300004(0003)	04	R	LO Peak Value	Decimal number display method. Outputs min. value of signal input. (DV/DA/AV/AA)
300005(0004)	04	R	OUT Status	OUT1(0: OFF / 1: ON)
300101(0064)	04	R	Product number H	0672H
300102(0065)	04	R	Product number L	DV: B25CH, DA: B2C0H AV: B324H, AA: B388H
300103(0066)	04	R	Hardware version	20
300104(0067)	04	R	Software version	20
300105(0068)	04	R	Model name1	"MT "
300106(0069)	04	R	Model name2	"4N "
300107(006A)	04	R	Model name3	"DV/DA/AA/AV "
300108(006B)	04	R	Model name4	"4 "
300109(006C)	04	R	Model name5	"8 "
300110(006D)	04	R	Model name6	
300111(006E)	04	R	Model name7	
300112(006F)	04	R	Model name8	
300113(0070)	04	R	Model name9	
300114(0071)	04	R	Model name10	
300118(0075)	04	R	Coil Status Start Address	0
300119(0076)	04	R	Coil Status Quantity	1
300120(0077)	04	R	Input Status Start Address	0
300121(0078)	04	R	Input Status Quantity	0
300122(0079)	04	R	Holding Register Start Address	0
300123(007A)	04	R	Holding Register Quantity	0
300124(007B)	04	R	Input Register Start Address	0
300125(007C)	04	R	Input Register Quantity	4

2.3.2 Read Input Status

No.(address)	Func	R/W	Item	Description
100001(0000)	02	R	Out status OUT1	0: OFF / 1: ON

2.3.3 Read Holding Registers / Preset Single Registers / Preset Multiple Registers

2.3.3.1 Parameter 0 group

No.(address)	Func	R/W	Item	Description
400001(0000)	03/06/16	R/W	OUT1 High Preset	HIGH set value of OUT1
400002(0001)	03/06/16	R/W	OUT1 Low Preset	LOW set value of OUT1
400003(0002)	03/06/16	R/W	OUT2 High Preset	HIGH set value of OUT2
400004(0003)	03/06/16	R/W	OUT2 Low Preset	LOW set value of OUT2
400005(0004)	03/06/16	R/W	High Peak	Decimal number display method. Outputs max. value of signal input (DV/DA/AV/AA)., Factory default: 0
400006(0005)	03/06/16	R/W	Low Peak	Decimal number display method. Outputs min. value of signal input (DV/DA/AV/AA)., Factory default: 0

2.3.3.2 Parameter 1 group

No.(address)	Func	R/W	Item	Description
400101(0064)	03/06/16	R/W	Input Range	Selects input range (Refer to measurement input specifications.)
400102(0065)	03/06/16	R/W	Display	0: <i>Sctnd</i> / 1: <i>ScRL</i> / 2: <i>Frc9</i>
400103(0066)	03/06/16	R/W	Dot	0: <i>0000</i> / 1: <i>000</i> / 2: <i>00</i> / 3: <i>0</i>
400104(0067)	03/06/16	R/W	High Scale	-1999 to 9999 (Changes by decimal point position.)
400105(0068)	03/06/16	R/W	Low Scale	-1999 to 9999 (Changes by decimal point position.)
400106(0069)	03/06/16	R/W	Input Type	0: <i>RUG</i> / 1: <i>rns</i>
400107(006A)	03/06/16	R/W	Display Unit Lamp	0: <i>Unit</i> / 1: <i>nu</i> / 2: <i>u</i> / 3: <i>nr</i> / 4: <i>R</i> / 5: <i>HE</i> / 6: <i>oFF</i>
400108(006B)	03/06/16	R/W	Input Bias High	Corrects high-limit gradient of display value <i>Sctnd</i> , <i>ScRL</i> : 0.100 to 5.000 <i>Frc9</i> : 0.001 to 9.999 (mantissa)
400109(006C)	03/06/16	R/W	Input Bias Low	Corrects low-limit gradient of display value <i>Sctnd</i> , <i>ScRL</i> : -99 to +99
400110(006D)	03/06/16	R/W	Input Bias Exponent	Corrects high-limit gradient of display value <i>Frc9</i> : 10^{-2} to 10^1 (index) 0: <i>10-2</i> / 1: <i>10-1</i> / 2: <i>10-0</i> / 3: <i>10 1</i>

2.3.3.3 Parameter 2 group

No.(address)	Func	R/W	Item	Description
400201(00C8)	03/06/16	R/W	OUT1 Type	0: <i>oFF</i> / 1: <i>Hl</i> / 2: <i>Lo</i> / 3: <i>HL</i> / 4: <i>HL-G</i>
400202(00C9)	03/06/16	R/W	OUT2 Type	Unable to set
400203(00CA)	03/06/16	R/W	Hysteresis OUT1	Within 1 to 10% F.S. range
400204(00CB)	03/06/16	R/W	Hysteresis OUT2	Unable to set
400205(00CC)	03/06/16	R/W	Startup Compensation Time	Startup compensation time 0.0 to 99.9 sec
400206(00CD)	03/06/16	R/W	Peak Time	Peak monitoring delay time 00 to 30 sec
400207(00CE)	03/06/16	R/W	Display Time	Display cycle 0.1 to 5.0 sec
400208(00CF)	03/06/16	R/W	Color	Front display color 0: <i>rEd</i> / 1: <i>Grn</i> / 2: <i>YEL</i> / 3: <i>r-G</i> / 4: <i>G-r</i>
400209(00D0)	03/06/16	R/W	Zero Key	Select zero function with operation at front 0: <i>no</i> / 1: <i>YES</i>
400210(00D1)	03/06/16	R/W	Event Input	Input external terminal 0: <i>Hold</i> / 1: <i>Er0</i>
400211(00D2)	03/06/16	R/W	Full Scale High	Unable to set
400212(00D3)	03/06/16	R/W	Full Scale Low	Unable to set
400213(00D4)	03/06/16	R/W	Address	Communication address 01 to 99

No.(address)	Func	R/W	Item	Description
400214(00D5)	03/06/16	R/W	Bit Per Second	Communication speed 0: 1200 / 1: 2400 / 2: 4800 / 3: 9600
400215(00D6)	03/06/16	R/W	Parity Bit	Communication parity bit 0: nonE / 1: E _u E _n / 2: odd
400216(00D7)	03/06/16	R/W	Stop Bit	Communication stop bit 0: 1 / 1: 2
400217(00D8)	03/06/16	R/W	Response Waiting Time	Communication response waiting time 5 to 99 ms
400218(00D9)	03/06/16	R/W	Lock	Lock 0: oFF / 1: LoC 1 / 2: LoC 2 / 3: LoC 3

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