New Models with Blanking Function Added to the Series

- Single-color (red or green) and two-color (red or green selectable) displays with a character height of 14 mm are available for a variety of applications and locations.
- Miniature design with a 43-mm depth is perfect for saving space in equipment and devices.
- Wide-range power supply from 12 to 24 VDC.
- Negative sign (–) display with signal codes is possible for Decimal-display Models.
- Models with zero suppression function available.

Model Configuration

■ Unit Configuration





■ List of Models

Display	Display	Туре	Model			
contents	color		Model with Zero Suppression (See note 1.)	Model with Blanking (See note 2.)		
±1	Red	Positive		M7E-01BRP2		
10 A		Negative		M7E-01BRN2		
		Dynamic output	M7E-01BGP M7E-01BGN out M7E-01BGD			
÷ 5	Green	Positive		M7E-01BGP2		
		Negative		M7E-01BGN2		
		Dynamic output		M7E-01BGD2		
Decimal	Red	Positive	M7E-01DRP2	M7E-01DRP2-B		
10 A		Negative	M7E-01DRN2	M7E-01DRN2-B		
		Dynamic output	M7E-01DRD2	M7E-01DRD2-B		
8. 5.	Green	Positive	M7E-01DGP2	M7E-01DGP2-B		
		Negative	M7E-01DGN2	M7E-01DGN2-B		
		Dynamic output	M7E-01DGD2	M7E-01DGD2-B		
	Red/green (two colors)	Negative	M7E-01DRGN2	M7E-01DRGN2-B		
Hexadeci-	Red	Positive	M7E-01HRP2	M7E-01HRP2-B		
mal		Negative	M7E-01HRN2	M7E-01HRN2-B		
	Green	Positive	M7E-01HGP2	M7E-01HGP2-B		
F		Negative	M7E-01HGN2	M7E-01HGN2-B		

Display contents	Display color	Logic	Model	
Unit	Red		M7E-01UR2-□ (See note 3.)	No
Sec	Green		M7E-01UG2-□ (See note 3.)	

■ Accessories (Order Separately)

End Plate

Case color	ltem	Model
Light gray		M7E-012M
Black		M7E-012M-1

Note: The Right and Left Plates form a pair.

Spacer

Case color	ltem	Model
Light gray		M7E-012PA
Black		M7E-012PA-1

Connectable PLCs

M7E model		PLC output method			
Display	Туре	Static	Dynamic		
contents		PNP output	NPN output	output	
±1, decimal	Positive	О	\bigtriangleup	\bigtriangleup	
decimal	Negative	×	О	×	
	Dynamic output	×	×	0	
Hexa- decimal	Positive	О	\bigtriangleup	\bigtriangleup	
aecimai	Negative	×	О	×	
Unit		O (only voltage imposed)			

O: Connectable

×: Not connectable

 \triangle : Connectable (See note.)

Note: Connectable but an external resistor is required and only 24 VDC must be supplied.

Refer to External Connections on page 9 and 10 for details.

- **lote: 1.** Models with zero suppression are blank only when the display is **2** and the decimal is OFF by wiring as shown on page 12.
 - 2. Models with blanking enable turning OFF a user-specified display (**1** to **9**, **1** to **F**) by inputting a signal to the blank input terminal.
 - **3.** The symbol in the box (□) indicates the code for the display contents. Refer to page 13.

Connector

Te	erminal	Model
Solder terminal		NRT-C
Solder terminal		NRT-CN
PCB terminal		NRT-CP

Mother Board

Туре	Number of digits	Model
Static	4	M7E-01MB4-S2
Static	3	M7E-01MB3-S2
Static	2	M7E-01MB2-S2

Note: Refer to M7E Mother Board for Display Units (Character Height: 14 mm) for details.

■ Ratings

Rated	power supply	Wide range from	12 to 24 VDC	
	able voltage ation range	90% to 110% of rated voltage		
Current consumption (per Display Unit)		Red LED: Greed LED:	35 mA max. at 24 VDC 60 mA max. at 12 VDC 40 mA max. at 24 VDC	
		Red/green LED:	75 mA max. at 12 VDC 45 mA max. at 24 VDC 90 mA max. at 12 VDC	
Input level	Positive logic	High: 9.6 V to power supply voltage Low: 0 to 3 V High: 4 V to power supply voltage Low: 0 to 1.5 V Residual voltage: 1.5 V max. OFF leakage current: 0.1 mA max.		
	Negative logic			
	Dynamic output	High: 4 V to power supply voltage Low: 0 to 1.5 V		
Ambient temperature		Operating: -10 to 55°C (with no icing) Storage: -25 to 70°C (with no icing)		
Ambient humidity		Operating: 35% to 85% (with no condensation)		

Installation

Terminal Arrangements and Functions

Terminal Arrangement

Note: The circled numbers are the connector pin numbers (NRT- \Box).

±1. Display Unit

M7E-01B 2



Unit Display Unit M7E-01U 2-



Decimal/Hexadecimal Display Unit (Single Color)Models with Zero SuppressionModels withM7E-01D2/M7E-01H2M7E-01D2/M7E-01H2



Decimal Display Unit (Two Colors) Models with Zero Suppression M7E-01DRGN2



■ Characteristics

Insulation resistance	100 M Ω min. at 500 VDC (between each terminal and mounting panel)			
Dielectric strength	500 VAC at 50/60 Hz for 1 minute (between each terminal and mounting panel)			
Noise immunity (See note 2.)	Power terminal: ±500 V Input terminal: ±500 V (normal mode) ±1,500 V (common mode)			
Vibration resistance	Destruction: 10 to 55 Hz, 0.75-mm double amplitude			
Shock resistance	Destruction: 300 m/s ²			
Degree of protection	IEC IP40 (portion on panel surface)			
Compatible connector	OMRON NRT-C/NRT-CN/NRT-CP			

Note: 1. The above values are initial values.

Impulse conditions
 Rise time: 1 ns + 10% max.
 Pulse width: 100 ms, 1 μs
 Polarity: Positive, negative, asynchronous to power frequency, 100-Hz repeat frequency.

Models with Blanking M7E-01D□□2-B/M7E-01H□□2-B



Models with Blanking M7E-01DRGN2-B



Note: 1. The latch terminal on ± 1 . Display Units is provided only on Dynamic Output Models.

2. The terminal numbers of the Unit Display Unit are different from the terminal numbers of the connector.

Terminal Functions

Ter-	Name	Function				
minal sym-		Decimal/Hexadeo	± Display Unit			
bol		Models with Zero Suppression				
V	Power supply	Positive power supply				
RBO	Control output	Zero-suppress output (See note 1.)				
RBI	Control input	Zero-suppress output (See note 1.)	Blanking input (Turns OFF all the displays including decimal point.)			
BI	Control input			Blanking input (Turns OFF all the displays including decimal point.)		
A B C D	Data inputs	A (2 ⁰) B (2 ¹) C (2 ²) D (2 ³) A (2 ²) D (2 ³) A				
1 + -	Data inputs			Applicable to ± 1 . Display Unit only For each input terminal, the input of a signal causes a display to light.		
DP	Data inputs	The decimal point lights.				
LE	Control input	Latch input The immediately preceding display condition is retained.				
R/G	Control input	Color selection input (See note 2.) Set low for green display and high for red display.				
G	Power supply	0-V power-supply (gro	und) input terminal (GN	D)		

Note: 1. Refer to the input code table for RBO and RBI control.2. Applicable to the M7E-01DRGN2 and -01DRGN2-B only.

■ Input Codes

Models with Positive or Negative Logic
--

<u>±1. Display Unit</u>

Positive Logic (M7E-01BRP2/M7E-01BGP2)

	Input signal				Display	
Connector pin No.	9	7	6	8	4	conditions
Terminal symbol	BI	+	-	1	DP	
Input signals	L	L	L	L	L	Blank
	L	Н	L	L	L	+
	L	L	Н	L	L	-
	L	L	L	н	L	1
	L	L	L	L	Н	•
	Н	*	*	*	*	Blank (See note.)

Note: 1. BI takes precedence over any input signal.

2. Inputting + and - simultaneously enables to display ±.

* Either high or low.

Unit Display Unit

This display lights when voltage is applied to the power supply terminals (V and G).

V-G terminals	Display						
Open circuit	Blank						
Voltage applied	Lit						

Decimal/Hexadecimal Display Unit (Single-color Models with Zero Suppression)



Negative Logic	(M7E-01BRN2/M7E-01BGN2)
-----------------------	-------------------------

		In	Display			
Connector pin No.	9	7	6	8	4	conditions
Terminal symbol	BI	+	-	1	DP	
Input signals	Н	Н	Н	Н	Н	Blank
	H L H H H					
	Н	Н	L	Н	Н	-
	Н	Н	Н	L	н	1
	Н	Н	Н	Н	L	•
	L	*	*	*	*	Blank (See note.)

Note: BI takes precedence over any input signal.

* Either high or low.

Decimal/Hexadecimal Display Unit

Models with Zero Suppression

Positive logic (M7E-01DRP2/M7E-01DGP2/M7E-01HRP2/ M7E-01HGP2)

				Inpu	It	Out- put	Display	condition					
Connector pin No.	3	5	6	7	8	4	9	10					
Terminal number	3	5	6	7	8	4	9	10					
Terminal symbol	LE	D	С	в	A	DP	RBI	RBO	Decimal	Hexadeci- mal			
Input	Ц	Ц	Ц	Ц	Ц	L	Ц	L		٥			
signals	Ц	Ц	Ц	Ц	н	L	*	L		1			
				т	Ц	L	*	L		2			
	L	L	L	Н	Н	L	*	L		3			
	Ц	Ц	н	Ц	Ц	L	*	L		ч			
			т		н	L	*	L		5			
	Ц	Ц	н	н	Ц	L	*	L	6				
	Ц	Ц	н	н	н	L	*	L		7			
	L	Н	L	L	L	L	*	L		8			
	Ц	н	Ц	Ц	н	L	*	L		9			
	Ц	н	Ц	н	Ц	L	*	L	-	8			
	L	Н	L	Н	Н	L	*	L	Blank	ь			
	L	Н	Н	L	L	L	*	L	Blank	٢			
	L	Н	Н	L	Н	L	*	L	Blank	d			
	L	Н	Н	Н	L	L	*	L	Blank	Ε			
	L	Н	Н	Н	Н	L	*	L	Blank	۶			
	L	*	*	*	*	Н	*	L	Blank (See note 1.)				
	*	L	L	L	L	L	Н	Н					
	Η	*	*	*	*	*	*	*	Retains the display conditions of A through D and DP terminals before LE goes high. RBI is not related.				

Note: 1. The display will go blank when the data input is "0" and the DP is OFF.

- * Either high or low
 - 2. If the input terminals are open when the power supply is turned ON, the voltage between the input terminals will not be stable, the LE terminal may go high, and the M7E may show unexpected displays. When you turn ON the power supply, we recommend that you either set the LE terminal to low or input a signal to the specified terminals from the host.

Negative logic (M7E-01DRN2/M7E-01DGN2/M7E-01DRGN2/M7E-01HRN2/M7E-01HGN2)

				Inpu	It			Out- put	Display	condition		
Connector pin No.	3	5	6	7	8	4	9	10				
Terminal number	3	5	6	7	8	4	9	10				
Terminal symbol	LE	D	С	В	A	DP	RBI	RBO	Decimal Hexadec- imal			
Input	Н	Н	Н	Н	Н	Н	Н	Н	8			
signals	Н	Η	Н	Η	L	Н	*	н	1			
	н	н	н	L	н	н	*	н	2			
	Н	Η	Н	L	L	Н	*	н	3			
	Н	Η	L	Η	н	Н	*	н		ч		
	Н	Η	Г	Η	L	Н	*	Н		5		
	Н	Н	L	L	Н	Н	*	Н		6		
	Н	Н	L	L	L	Н	*	Н		7		
	Н	L	Н	Н	Н	Н	*	Н		8		
	Н	L	Н	Н	L	Н	*	Н		9		
	Н	L	Н	L	Н	Н	*	Н	-	8		
	Н	Г	Н	Г	L	Н	*	Н	Blank	ь		
	Н	L	L	Н	Н	Н	*	Н	Blank	Ľ		
	Н	L	L	Н	L	Н	*	Н	Blank	d		
	Н	L	L	L	Н	Н	*	Н	Blank	ε		
	Н	L	L	L	L	Н	*	Н	Blank	۶		
	Н	*	*	*	*	L	*	Н		•		
	*	Η	Н	Η	Н	Н	L	L	Blank (See note.)			
	L	*	*	*	*	*	*	*	Retains the display conditions of A through D, DP and R/G terminals before LE goes low. RBI is not related.			

Note: The display will go blank when the data input is "0" and the DP is OFF.

* Either high or low

Models with Blanking

Positive logic (M7E-01DRP2-B/M7E-01DGP2-B/M7E-01HRP2-B/M7E-01HGP2-B)

			I	nput	Display co	ndition							
Connector pin No.	3	9	5	6	7	8	4						
Terminal number	3	9	5	6	7	8	4						
Terminal symbol	LE	RBI	D	С	в	Α	DP	Decimal Hexa- decimal					
Input	L	L	L	L	L	L	L	0					
signals	L	L	L	L	L	Н	L	1					
	L	L	L	L	Н	L	L	2					
	L	L	L	L	Н	Н	L	3					
	L	L	L	н	L	L	L	ч					
	L	L	L	н	L	Н	L	5					
	L	L	L	Н	Н	L	L	6					
	L	L	L	н	Н	Н	L	7					
	L	L	н	Ц	L	L	L	8					
	L	L	Н	L	L	Н	L	9					
	L	L	н	Ц	Н	L	L	-	8				
	L	_	н	Ц	Н	Н	L	Blank	Ь				
	L	L	Н	Н	L	L	L	Blank	Ľ				
	L	L	Н	Н	L	Н	L	Blank	d				
	L	L	Н	Н	Н	L	L	Blank	ε				
	L	L	Н	Н	Н	Н	L	Blank	۶				
	*	L	*	*	*	*	Н	Blank (See note.)					
	*	Н	*	*	*	*	*						
	Н	L	*	*	*	*	*	Retains the display conditions of A through D terminals before LE goes high. DP is not related.					

Negative logic (M7E-01DRN2-B/M7E-01DGN2-B/M7E-01DRGN2-B/M7E-01HRN2-B/M7E-01HGN2-B)

			l	nput	Display co	ndition							
Connector pin No.	3	9	5	6	7	8	4						
Terminal number	3	9	5	6	7	8	4						
Terminal symbol	LE	RBI	D	С	В	A	DP	Decimal Hexa- decima					
nput	н	Н	Н	Н	Н	н	Н	0					
signals	Н	Н	Н	Н	Н	L	н	1					
	Н	Н	Н	Н	L	Н	н	2					
	н	Н	Н	Η	L	Ц	Н	3					
	Н	Н	Н	L	Н	Н	Н	ч					
	н	H	Н	L	Н	Ц	Н	5					
	Н	Н	Н	Г	L	Н	н	5					
	Н	Н	Н	L	L	L	Н	7					
	Н	Н	L	Н	Н	Н	Н	8					
	Н	Н	L	Н	Н	L	Н	9					
	Н	Н	L	Н	L	Н	Н	-	8				
	Н	Н	L	Н	L	L	Н	Blank	Ь				
	Н	Н	L	L	Н	Н	Н	Blank	٢				
	Н	Н	L	L	Н	L	Н	Blank	d				
	Н	Н	L	L	L	Н	Н	Blank	٤				
	Н	Н	L	L	L	L	Н	Blank	۶				
	*	Н	*	*	*	*	L	•					
	*	L	*	*	*	*	*	Blank (See note.)					
	L	Т	*	*	*	*	*	Retains the display conditions of A through and R/G terminals befor LE goes low. DP is not related.					

Note: RBI takes precedence over any input signal.

* Either high or low

Note: RBI takes precedence over any input signal.

* Either high or low

Models with Dynamic Outputs

h

±1. Display Unit

(M7E-01BRD2/M7E-01BGD2)

			Inp	Display condition			
Connector pin No.	3	9	7	6	8	4	
Terminal symbol	LE	BI	+	-	1	DP	
Input	L	Н	L	L	L	Н	Blank
signals	L	Н	Н	L	L	Н	+
	L	Н	L	Н	L	Н	-
	L	Н	L	L	Н	Н	1
	*	Н	*	*	*	L	
	*	L	*	*	*	*	Blank (See note.)
	H	Н	*	*	*	*	Retains the display conditions of +, -, and 1 before LE goes high. DP is not related.

Note: BI takes precedence over any input signal.

* Either high or low

Decimal Display Unit

Models with Zero Suppression (M7E-01DRD2/M7E-01DGD2)

				Inpu	It	Out- put	Display condition		
Connector pin No.	3	5	6	7	8	4	9	10	
Terminal number	3	5	6	7	8	4	9	10	
Terminal symbol	LE	D	С	в	A	DP	RBI	RBO	
Input	L	L	L	L	L	Н	L	L	G (See note 1.)
signals	L	L	L	L	Н	Н	*	L	1
	L	L	L	Н	L	Н	*	L	2
	Г	Г	Ц	т	Η	Н	*	L	3
	L	L	Н	L	L	Н	*	L	ч
	L	L	Н	L	Н	Н	*	L	5
	L	L	Н	Н	L	Н	*	L	8
	L	L	Н	Н	Н	Н	*	L	7
	L	Н	L	L	L	Н	*	L	8
	L	Н	L	L	Н	Н	*	L	9
	L	Н	L	Н	L	Н	*	L	-
	L	Н	L	Н	Н	Н	*	L	Blank
	L	Н	Н	L	L	Н	*	L	Blank
	L	Н	Н	L	Н	Н	*	L	Blank
	L	Н	Н	Н	L	Н	*	L	Blank
	L	Н	Н	Н	Н	Н	*	L	Blank
	L	*	*	*	*	L	*	L	•
	*	L	L	L	L	Н	Н	Н	Blank (See note 2.)
	H	*	*	*	*	*	*	*	Retains the display conditions of A through D, and DP terminals before LE goes high. RBI is not related.

Note: 1. Input low for RBI when data "0" is displayed. RBI will go high in open mode and the zero suppression will function.

2. The display will go blank when the data input is "0" and the DP is OFF.

* Either high or low

Models with Blanking (M7E-01DRD2-B/M7E-01DGD2-B)

			.9 (Input				
			Display condition					
Connector pin No.	3	9	5	6	7	8	4	condition
Terminal number	3	9	5	6	7	8	4	
Terminal symbol	LE	RBI	D	С	в	Α	DP	
Input	L	Н	L	L	L	L	Н	0
signals	L	Н	L	L	L	Н	Н	1
	L	Н	L	L	Н	L	Н	2
	L	Н	L	L	Н	Н	Н	3
	L	Н	L	Н	L	L	Н	ч
	L	Н	L	Н	L	Н	Н	5
	L	Н	L	Н	Н	L	Н	5
	L	Н	L	Н	Н	Н	Н	ŋ
	L	Н	Н	L	L	L	Н	8
	L	Н	Н	L	L	Н	Н	3
	L	Н	Н	L	Н	L	Н	-
	L	Н	Н	L	Н	Н	Н	Blank
	L	Н	Н	Н	L	L	Н	Blank
	L	Н	Н	Н	L	Н	Н	Blank
	L	Н	Н	Н	Н	L	Н	Blank
	L	Н	Н	Н	Н	Н	Н	Blank
	*	Н	*	*	*	*	L	•
	*	L	*	*	*	*	*	Blank (See note.)
	н	H	*	*	*	*	*	Retains the display conditions of A through D terminals before LE goes high. DP is not related.

Note: RBI takes precedence over any input signal.

* Either high or low

Block Diagram Note: Circled numbers are the board terminal numbers.





Note: The terminal numbers of the Unit Display Unit are different from the terminal numbers of the connector. Refer to *Terminal Arrangements and Functions* on page 3 for details.

External Connections

Refer to the Terminal Arrangement on page 3 and the Block Diagram on page 8 for external connections for each unit.

Example of connection to a PLC.

- Refer to the PLC operation manual before connecting the PLC.
- The number of wires can be reduced by using a PLC with dynamic outputs.

_Static Output Unit _

1. M7E-01 P2 Positive Logic Model Use a PNP Transistor Output Unit for the PLC Output Unit.

Connected to CS1W-OD232 and CJ1W-OD232 Transistor Output Unit



2. M7E-01 N2 Negative Logic Model Use an NPN Transistor Output Unit for the PLC Output Unit.

Connected to CS1W-OD261 and CJ1W-OD231 Transistor Output Unit





^{*2.} The reception of orders for C200H-OD251 was discontinued at the end of March 2017. The recommended replacements are the CS1W-OD231 and CJ1W-OD231.

^{*3.} The above recommended replacements are not Dynamic Output Units. Therefore, ladder programming will be required to use them as replacements.

■ Operation Timing (Input Signal Timing)



Pulse duration (tw)	1.5 ms min.
Hold time (th)	0.75 ms min.
Setup time (ts)	2.25 ms min.

■ Operation Chart

• The following example shows the relationship between each input terminal signal and the display condition for a Negative-logic Decimal Display Unit with Blanking.

Terminal	Data		0	1	2	3	4	5	6	7	8	9	Description
displayed													
Input signals	A (2 ⁰)	H L		1				1		1			 Inputs the data signal as BCD (or binary code).
	B (2 ¹)	H L											
	C (2 ²)	H L					1				J		
	D (2 ³)	H L									1		
	DP	H L				٦							 Low when the decimal point lights.
	LE	H L											 Low when all the display is to be retained. (High is maintained until the signal goes low.)
Display o	condition		:⊡	- ;		+ <i>¦</i> → <u>∃</u> →	·'-'.	5	-5-5-	-7	8	9	
Remarks	3			Th by	e " /" display is the LE signal.	retained		The '	5" display is r e LE signal.	etained			

• Using the latch input (LE) terminal for each Unit, the data input terminals (A to D) can be used in common yet still enable display on each Unit (example of a 3-digit dynamic-output model with positive logic).

Data input signals (A to D)		0 (power: ON)		5	7	6	1	
			>	\bigcirc	\bigcirc	\bigcirc		Data input signals
Latch input sig- nals	3 rd digit (LE3)	H L	Data latch	Data read	Data	latch	Data read	LES latch input signal (third digit)
Tials	2 nd digit (LE2)	H L		Data latch	Data read	Data latch		CV CV LE2 latch input signal (second digit)
	1 st digit (LE1)	H L		Data latch		Data read	Data latch	latch input signal (first digit)
Display conditio	'n	ſ	000	3 rd -digit display change	2 nd -digit display change	1 st -digit display change	3 rd -digit display change	A numeric value is displayed one digit at a time via data signals A to D.

Example of Zero Suppression Usage: Description Using **Negative Logic Model**

The zero suppression function operates when the display is \mathcal{I} , RBI is low and the decimal point is not lit.

- Example 1: The RBI input and RBO output of each digit are open when zero suppression is not being used.
- Example 2: Wired as shown to display only \mathcal{I} for the rightmost digit when zero suppression is being used.
- Example 3: Zeros are suppressed only for the digits on the left of the digit where the decimal is lit when both zero suppression and a decimal point are being used.
- Example 4: Zeros are suppressed to the right of the first digit below the decimal point when both zero suppression and a decimal point are being used. If the first-to-fourth-digit values are all 0 and the decimal point is lit at the fourth digit, $\mathcal{G}\mathcal{G} \square \square$ will be displayed. (There is no data in $\square \square$.)

Note: Use RBO output for the RBI input connection only.



Dimensions

Note: All units are in millimeters unless otherwise indicated.

M7E-01 2



Digital Display Units.

■ Accessories (Order Separately)

End Plate Spacer M7E-012M(-1) M7E-012PA(-1) 33.5 Left End Right End (39) (39) -33 33 (39) 33 зc 33.5 33.5 Ħ 30 (4.3) 4.5 (4.3) 30 . 4.5 4.5 Note: Tolerance is ± 0.4 mm unless otherwise specified.

Connector

NRT-C Soldered Terminal

NRT-CN Soldered Terminal

NRT-CP PCB Terminal







32

- 30.2±0.1

Face Plate

- The required face plate is used with the Unit Display Unit, which incorporates a surface-lighting LED.
- The following face plates are available. When ordering the M7E-01U 2- 18, add the suffix according to your requirement.
- Custom face plates can be made.

Symbol	Α	В	С	D	E	F	G	Н	J	JC1	Κ	v	Z1
Display contents	Blank display	sec	min	h	ဌာ	kg	mm	cm	m	m/min	°C	rpm	%

Character Dimensions

Height	-	7.8	11.0	9.7	10.5	13.8	7.5	7.5	7.5	12.5	9.2	10.5	9.0
Width	-	10.0	10.0	5.0	5.0	10.0	10.5	10.0	8.5	12.0	9.5	11.0	9.0

Example of Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

In the interest of product improvement, specifications are subject to change without notice.

(Unit: mm)

Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.

(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE

PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See http://www.omron.com/global/ or contact your Omron representative for published information.

Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions. Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation Industrial Automation Company