Indicator (Cylindrical 16-dia.)

CSM\_M16\_DS\_E\_7\_4

# Cylindrical 16-dia. Indicator

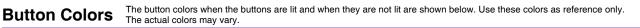
• Same basic design as the A16 Pushbutton Switch.

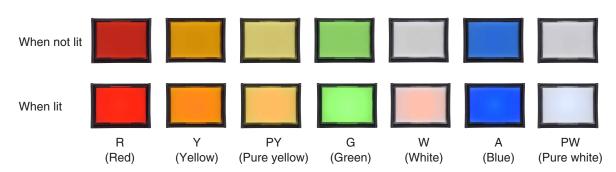


Refer to Safety Precautions for All Pushbutton Switches/ Indicators and Safety Precautions on page 11.

## List of Models

	Appearance	Model
	Rectangular	M16-J
Solder terminals	Square	M16-A
	Round	M16-T
Voltage- reduction lighting		M16-□
Screw-less Clamp		M16-□





## **Model Number Structure**

Model Number Legend ..... The model numbers used to order sets of Units are illustrated below. One set comprises the Display, Case,

Lamp, and Socket.

For information on combinations, refer to Ordering Information on the following pages.



## (1) Degree of Protection (2) Shape of Display (3) Color of Display (4) Light Source Symbol Protection Symbol Shape

Cynnoor	11010011011	Symbol	onape
No	IP40	J	Rectangular
symbol		А	Square
5	IP66 oil-resistant type	Т	Round
	type		

Symbol	Color		
R	Red		
G	Green		
Y	Yellow		
PY	Pure yellow		
W	White		
PW	Pure white		
Α	Blue		
Color illur	Color illuminated models		

Symbol	Туре	Operating voltage	Rated voltage
5	Incondoccent	5 VAC/VDC	6 VAC/VDC
12	Incandescent lamp	12 VAC/VDC	14 VAC/VDC
24		24 VAC/VDC	28 VAC/VDC
5D		5 ±5% VDC	5 VDC
12D	LED	12 ±5% VAC/VDC	12 VAC/VDC
24D		24 ±5% VAC/VDC	24 VAC/VDC

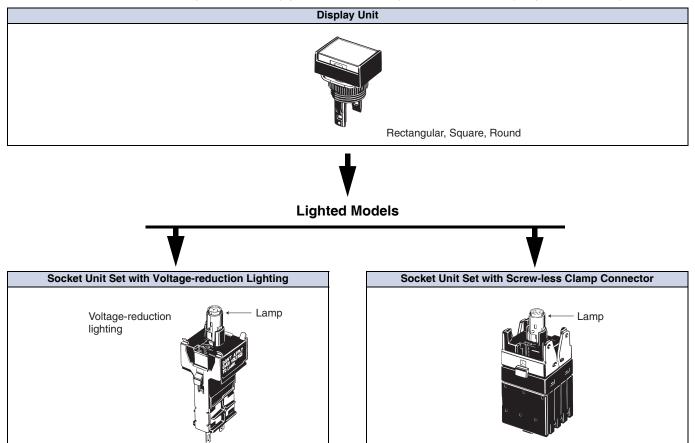
#### Voltage Reduction Unit (24-V Built-in LED)

- are also available (see page 4).
- · Order the parts separately.

Symbol	Туре	Operating voltage	Rated voltage
T1	LED	100/110 VAC/VDC	110 VAC/VDC
T2	LLD	200/220 VAC/VDC	220 VAC/VDC

• Solder terminals are available only with 100-V models.

• Screw-less clamp connectors are used for 200-V models.



the Display, Case, Lamp, and Socket.

#### M16 -J (Rectangular) Models **Solder Terminal Models**

Appearance	Degree of protection Lighting		IP40	IP66 oil-resistant type	Display color symbol *
Rectangular (M16-J)		5 VDC	M16-J⊡-5D	M165-J□-5D	R: red Y: yellow
	LED without Voltage Reduction Unit	12 VAC/VDC	M16-J□-12D	M165-J□-12D	G: green A: blue W: white PY: pure yellow PW: pure white R: red Y: yellow
		24 VAC/VDC	M16-J□-24D	M165-J□-24D	
		5 VAC/VDC	M16-J□-5	M165-J□-5	
	Incandescent lamp	12 VAC/VDC	M16-J□-12	M165-J⊡-12	G: green A: blue
		24 VAC/VDC	M16-J□-24	M165-J□-24	W: white PY: pure yellow

 $^{\ast}$  Enter the desired color symbol into  $\Box$  in the model number.

#### M16 -A (Square) Models **Solder Terminal Models**

Appearance	Degree of protection Lighting		IP40	IP66 oil-resistant type	Display color symbol *
Square (M16-A)		5 VDC	M16-A⊡-5D	M165-A□-5D	R: red Y: yellow
	Í ED without Voltage	12 VAC/VDC	M16-A□-12D	M165-A□-12D	G: green A: blue W: white PY: pure yellow PW: pure white R: red Y: yellow
		24 VAC/VDC	M16-A⊡-24D	M165-A□-24D	
		5 VAC/VDC	M16-A⊡-5	M165-A□-5	
	Incandescent lamp	12 VAC/VDC	M16-A□-12	M165-A□-12	G: green A: blue
		24 VAC/VDC	M16-A□-24	M165-A□-24	W: white PY: pure yellow

\* Enter the desired color symbol into  $\Box$  in the model number.

#### M16 -T (Round) Models

#### **Solder Terminal Models**

Appearance	Degree of protection Lighting		IP40	IP66 oil-resistant type	Display color symbol *
Round (M16-T)		5 VDC	M16-T□-5D	M165-T□-5D	R: red Y: yellow
	LED without Voltage Reduction Unit	12 VAC/VDC	M16-T□-12D	M165-T□-12D	G: green A: blue W: white PY: pure yellow PW: pure white R: red Y: yellow
		24 VAC/VDC	M16-T□-24D	M165-T❑-24D	
		5 VAC/VDC	M16-T□-5	M165-T□-5	
	Incandescent lamp	12 VAC/VDC	M16-T□-12	M165-T□-12	G: green A: blue
		24 VAC/VDC	M16-T⊡-24	M165-T□-24	W: white PY: pure yellow

Note: Neon lamps are not available with models that are ordered as a set. They must be ordered individually if required. \* Enter the desired color symbol into  $\Box$  in the model number.

Individual models: Refer to pages 4 to 7.

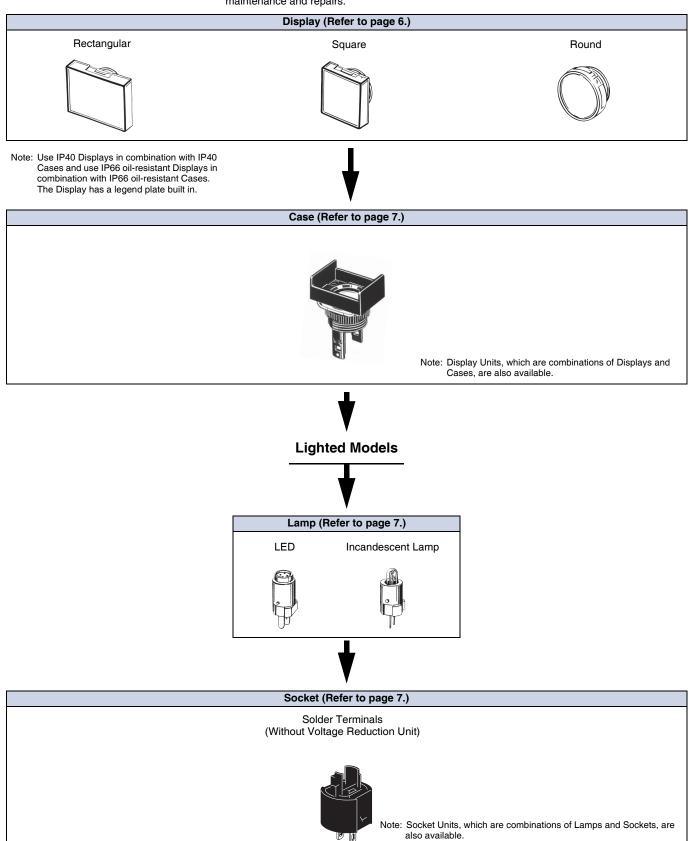
(The Display, Lamp, Case, and Switch can be ordered separately.)

Accessories, replacements, and tools: Refer to the A16.

Ratings and characteristics: Refer to the A16.

Dimensions: Refer to pages 9 to 10.

Ordering Individually ...... Displays, Cases, Lamps, and Sockets can be ordered separately. Combinations that are not available as sets can be created using individual parts. Also, store the parts as spares for maintenance and repairs.



· For colored illumination, order the Display, Case, Lamp, and Socket Unit separately.

## **Display Set**

Appearance	Classi	Model	
		Rectangular (2-way guard)	A16-J⊡M
JA .	IP40	Square (2-way guard)	A16-A⊡M
		Round (projecting model)	A16-T□M
		Rectangular (2-way guard)	A165-J□M
	IP66 oil-resistant type	Square (2-way guard)	A165-A□M
		Round (projecting model)	A165-T□M

Insert one of the following symbols into the box in the model number.

Symbol	Color	Remarks	
R	Red		
Y	Yellow		
PY	Pure yellow	LED and incandes- cent lamps	
А	Blue	oent lampo	
W	White*		
GY	Green	LED only	
G	Green	Incandescent only	

\* Use this pushbutton color if the illumination color of the LED is white or pure white.

#### Socket Unit Sets with Incandescent Lamps

Appearance	Classification		Model
A	5 V		M16-5
	12 V	Solder terminals	M16-12
a la a	24 V		M16-24

#### Socket Unit Sets with LEDs

Appearance	Classification	Model
	Solder terminals	M16-1-2

### Socket Unit Sets with Voltage-reduction Lighting (Solder Terminals)

Appearance	Classification	Model
	100/110 VAC/VDC	M16-1 -T1

Note: The LED has 24-VAC/VDC circuit built in.

#### Socket Unit Sets with Screw-less Clamp Connectors

Appearance	Classification			Model
			No voltage-reduction lighting	
		Voltage-reduc- tion lighting	100/110 VAC/VDC	M16-1-T1-S
		(See note.)	200/220 VAC/VDC	M16-1-T2-S

Note: 1. The LED built into the 100-V model is 24 VAC/VDC. 2. The LED built into the 200-V model is high-intensity 24 VAC/VDC.

#### Insert symbols into the boxes with circled numbers. 1

Symbol	Color
R	Red
Y	Yellow
А	Blue
W	White
G	Green

2

Symbol	Туре	Operating voltage
5D		5 VDC
12D	LED	12 VAC/VDC
24D		24 VAC/VDC

Ordering Individually ......Displays, Cases, Lamps, and Sockets can be ordered separately. Combinations that are not available as sets can be created using individual parts. Also, store the parts as spares for maintenance and repairs.

## Display

### For LED-lighted Models

Sealing	IP40		IP66 oil-resistant type		pe	
	Rectangular	Square	Round	Rectangular	Square	Round
Appearance						
Color of Display						
Red	A16L-JR	A16L-AR	A16L-TR	A165L-JR	A165L-AR	A165L-TR
Yellow	A16L-JY	A16L-AY	A16L-TY	A165L-JY	A165L-AY	A165L-TY
Pure yellow	A16L-JPY	A16L-APY	A16L-TPY	A165L-JPY	A165L-APY	A165L-TPY
Green	A16L-JGY	A16L-AGY	A16L-TGY	A165L-JGY	A165L-AGY	A165L-TGY
White	A16L-JW	A16L-AW	A16L-TW	A165L-JW	A165L-AW	A165L-TW
Blue	A16L-JA	A16L-AA	A16L-TA	A165L-JA	A165L-AA	A165L-TA

### Incandescent Lamps (With the exception of green, the Units are the same as for LEDs.)

Sealing	IP40			IP66 oil-resistant type		
	Rectangular	Square	Round	Rectangular	Square	Round
Appearance			<b>O</b>			
Color of Display						
Red	A16L-JR	A16L-AR	A16L-TR	A165L-JR	A165L-AR	A165L-TR
Yellow	A16L-JY	A16L-AY	A16L-TY	A165L-JY	A165L-AY	A165L-TY
Pure yellow	A16L-JPY	A16L-APY	A16L-TPY	A165L-JPY	A165L-APY	A165L-TPY
Green	A16L-JG	A16L-AG	A16L-TG	A165L-JG	A165L-AG	A165L-TG
White	A16L-JW	A16L-AW	A16L-TW	A165L-JW	A165L-AW	A165L-TW
Blue	A16L-JA	A16L-AA	A16L-TA	A165L-JA	A165L-AA	A165L-TA

Ordering set combinations: Refer to page 3.

- Accessories, replacements, and tools: Refer to the A16.
- Ratings and characteristics: Refer to the A16.
- Dimensions: Refer to pages 9 to 10.

Ordering Individually ...... Displays, Cases, Lamps, and Sockets can be ordered separately. Combinations that are not available as sets can be created using individual parts. Also, store the parts as spares for maintenance and repairs.

## Lamp

#### LED

Operating voltage	High intensity			
Color	5 VDC 12 VAC/VDC 24 VAC/VDC			
Red	A16-5DSR	A16-12DSR	A16-24DSR	
Yellow	A16-5DSY	A16-12DSY	A16-24DSY	
Green	A16-5DSG	A16-12DSG	A16-24DSG	
White *	A16-5DSW	A16-12DSW	A16-24DSW	
Blue	A16-5DA	A16-12DA	A16-24DA	
Pure white	A16-5DPW	A16-12DPW	A16-24DPW	

\* Use the white LED when the required illumination color is white or pure yellow.

#### Incandescent Lamp

Appearance	Operating voltage	Model
	5 VAC/VDC	A16-5
	12 VAC/VDC	A16-12
	24 VAC/VDC	A16-24

#### Case

Appearance	Classif	Model number	
		Rectangular	A16-CJM
	IP40	Square	A16-CAM
		Round	A16-CTM
	IP66 oil-resistant type	Rectangular	A165-CJM
		Square	A165-CAM
		Round	A165-CTM

#### Socket

Appearance	Class	Model number		
	Solder terminals			M16-0
	PCB te	M16-0P		
Solder terminals	Screw-Less Clamp			M16-S
	Solder terminals	Voltage-	100 V	M16-T1
		reduction	100 V	M16-T1-S
	Screw-less Clamp lighting		200 V	M16-T2-S

Ordering set combinations: Refer to page 3.

- Accessories, replacements, and tools: Refer to the A16.
- Ratings and characteristics: Refer to the A16.
- Dimensions: Refer to pages 9 to 10.

## Specifications

## **Approved Standard Ratings**

UL, cUL (File No. E76675)

LED: 24 VDC max. Incandescent lamp: 24 VDC/VAC max.

Note: Certification has been obtained for the Socket Unit.

For detailed information on individual products that have received certification, consult your supplier.

## Ratings

Ambient operating temperature	-10°C to 55°C (with no icing or condensation)
Ambient operating humidity	35% to 85%RH
Ambient storage temperature	–25°C to 65°C (with no icing or condensation)

### Super-bright LED

Rated voltage	Rated current	Operating voltage	Built-in limiting resistance
5 VDC		5 VDC ±5%	Red, yellow, white: 300 $\Omega$ Green, blue, pure white: 160 $\Omega$
12 VAC/VDC	8 mA	12 VAC/VDC ±5%	Red, yellow, white: 1 k $\Omega$ Green, blue, pure white: 910 $\Omega$
24 VAC/VDC		24 VAC/VDC ±5%	2.4 kΩ

### Incandescent Lamp

Rated voltage	Rated current	Operating voltage	
6 VAC/VDC	60 mA	5 VAC/VDC	
14 VAC/VDC	40 mA	12 VAC/VDC	
28 VAC/VDC	24 mA	24 VAC/VDC	

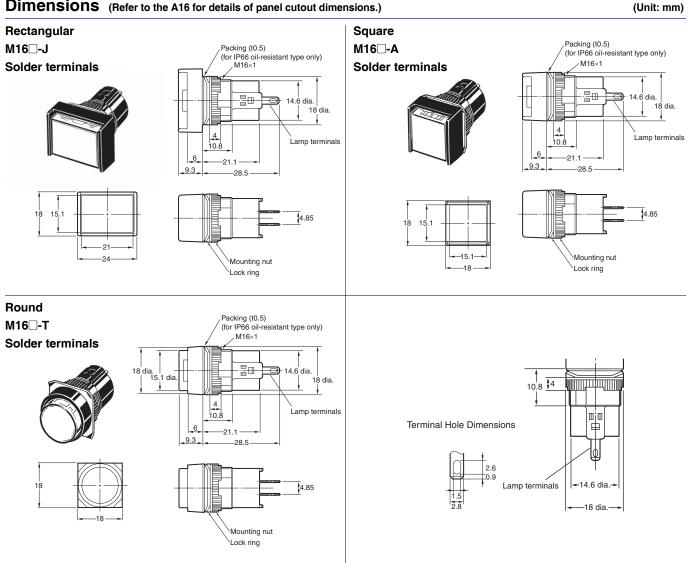
## Characteristics

### Screw-less Clamp

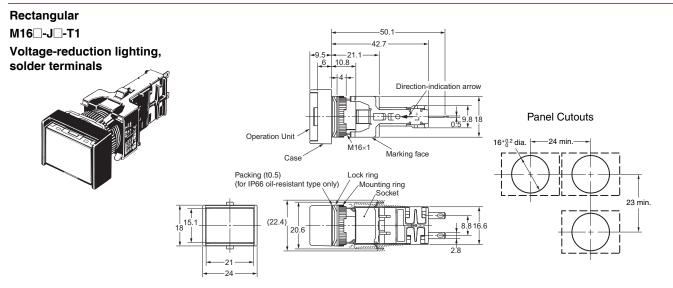
Item Type		Screw-less Clamp				
Recommended wire size		0.5 mm <sup>2</sup> twisted wire or 0.8 mm-dia. solid wire				
Usable wires and tensile strength	Twisted wire	0.3 mm <sup>2</sup>	0.5 mm <sup>2</sup>	0.75 mm <sup>2</sup>	1.25 mm <sup>2</sup>	
	Solid wire	0.5 mm dia.	0.8 mm dia.	1.0 mm dia.		
	Tensile strength	10 N	20 N	30 N	40 N	
Length of exposed wire		10 ±1 mm				
Compliant standards		JIS C 2811 Terminal Blocks for Industrial Use				

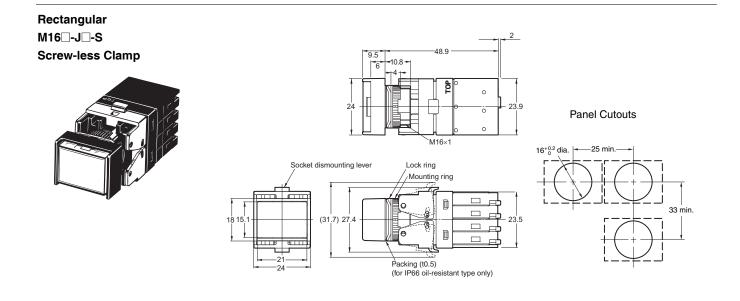
# M16

### Dimensions (Refer to the A16 for details of panel cutout dimensions.)

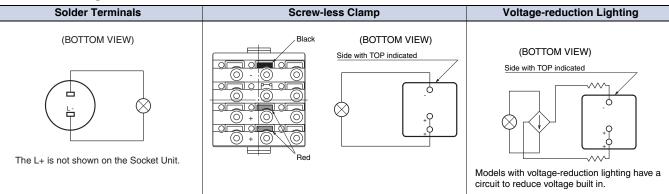


## Dimensions





#### **Terminal Arrangement**



#### Accessories, Replacements, and Tools

The accessories, replacements, and tools are also used with the A16 Pushbutton Switch. Refer to the A16 datasheet.

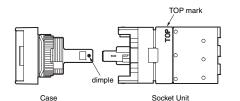
## **Safety Precautions**

Refer to Safety Precautions for All Pushbutton Switches/Indicators and Safety Precautions for the A16.

#### Precautions for Correct Use

#### Mounting

• When mounting the Case onto the Socket Unit, ensure that the orientation is correct. Perform mounting with the dimple on the Case and the TOP mark on the Socket Unit facing in the same direction.



#### Wiring

- When using stranded wire, gather the ends of the strands together before wiring.
- When wiring, insert the wire until it comes into contact with something. After wiring is completed, pull on the wires to confirm that they are connected securely.
- After wiring, ensure that continuous pressure is not applied to the terminals.
- Refer to internal connections diagrams and confirm the terminal numbers before performing wiring.

#### Screw-less Clamps

#### **Mounting Procedure**

- 1. Strip a length of 10 mm off the end of the wire (allowable range:  $10\pm1$  mm).
- 2. Bunch wire strands together and straighten them.
- 3. Insert the wire into the insertion hole while pressing the release button at the side of the hole. (Using a precision screwdriver is recommended.)
- 4. Let go of the release button to lock the wire into place.
- 5. After locking, pull on the wire gently to confirm that it is securely locked.

#### **Removing Procedure**

- 1. Remove wires by pulling them while pressing the release button.
- Note: When reusing wires that have already been locked, cut off the end of the wire and strip the wire again before using.

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 warrantv.

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

http://www.ia.omron.com/

# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Industrial Panel Mount Indicators / Switch Indicators category:

Click to view products by Omron manufacturer:

Other Similar products are found below :

LW1A-P1-GD LW1A-P1-W 01-931.3 01-152.025 73.362.4028.0 750-1520 9001OA120 A0142N5 A3DT-500Y AL6M-LK3-R AL6M-P7P-A AOLQW-2B0600 AP1M255-A APD106LN-G APD106LN-S APN1126-G APS122DN-W ASLWLD-G ASLWLD-R ATN2100 AYLW4L-A 18-237.035 18-945 HW1A-L1-GD HW1A-P2-GL HW1X-BM411-R HW2A-L1-GL HW2A-P1-GD HWAZ1N-OB PA2100/2 PA2200/1 PA2SHIELD PAMR25 LA3P-1C03V-Y 96-923.5 A0244J2 LSPD-120A LSPD-1Y LSPD-6A LSPD-6DA LSPD-6DW LSPD-6DY LSPD-6R LSPD-6W 18-946 AL6H-LK3-A AL6H-P4-JW AL6M-LK1-MG AP8M155-G APD106LN-W