

16 SERIES PUSHBUTTON SWITCHES AND INDICATORS



18 x 18



φ18



18 x 24



indicator



1 pole



2 poles



3 poles



4 poles

According to performance, 16 series pushbutton switches can be further categorised into the following 3 types:

- 1) Illuminated push-button switch (Momentary or Alternate action)
- 2) Non-illuminated push-button switch (Momentary or Alternate action)
- 3) Pilot indicators,

In terms of shapes our products can be divided into three types.

- (1) Round type (Dia 18mm)
- (2) Rectangular type (18 x 24mm)
- (3) Square type (18 x 18mm)

The aforesaid big variety offers a high flexibility for you to meet the actual requirements for functions and shapes, However, the mounting hole diameter for all the products is 16mm. For the mounting, just have the nut at the rear of the panel fastened in a very convenient way.

Our contactors are with quality silver contact points so as to ensure electrical stability and the life span, Each contact block has N.C(Normal Close) contact points and N.O.(Normal Open)contact points. Code number 1-2 for wiring stand for N.C. contact points: whereas 3-4 stand for N.O. contact points Each switch may have a maximum of 4 contact blocks. which means that total contact points will have 4 NC's and 4 NO's As each block is of independent device. wiring work can be done simultaneously by use of different voltages, but the contact points for N.C, or NO. of the contact block must not be simultaneously connected to different voltages, except for the voltage lower than 40V AC/DC, The tags with code a-b are

exclusively for indicators: if LED is to be used as the indicator, then tag b is positive pole. Push-cap can be replaced, and legend plate can be inserted between color cap and lens.

Product specifications:

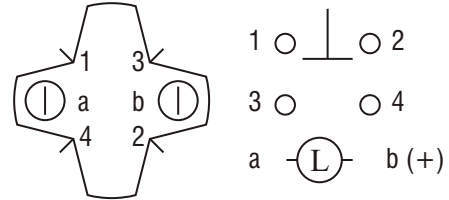
Switch system	: Each contact block has one double break snap action switching mechanism.	
Switch mode	: Momentary or alternate action. 1-4 poles	
Contact material	: Soldering type - silver is standard; socket type - pin with golden plating.	
Body material	: High-grade temperature resistant thermoplastic. Contact housing moulded in electrical high-grade thermosetting plastic.	
Operating travel	: 3.0 mm.	
Actuating force	: 2-5N depending on no. of contact block.	
Mechanical lifetime	: > 2 million operations.	
Electrical life time	alternate action	momentary action
	5A/250V AC > 5.0 x 10 ⁴ operations	> 2.5 x 10 ⁴ operations
	4A/250V AC > 1.2 x 10 ⁵ operations	> 6.0 x 10 ⁴ operations
	2A/250V AC > 4.0 x 10 ⁵ operations	> 2.0 x 10 ⁵ operations
	1A/250V AC > 8.0 x 10 ⁵ operations	> 4.0 x 10 ⁵ operations
Initial contact resistance	: < 10m Ω current 1A AC. according to IEC-341 test I, silver contact. < 15m Ω 20mV. according to IEC 341-1 test II, gold contact	
Terminal	: diameter of wire 2 x 0.8mm diameter of standard cable 0.75mm ² max.	
Electric rating	250V AC 5A 250V DC 0.2A	125V AC 8A 24V DC 6A.
Max torque of nut	: maximum 15kgfcm	
Max. insulation voltage	: 2000V, 60Hz, 1 min. between all terminals and ground.	
Acceleration	: > 10g in all 3 planes	
Vibration resistance	: IEC 68-2-6 test.	
Soldering heat resistance	: 280 °C 4 ses	
Insulation resistance	: IEC 341-1, > 1000 megaohms	
Panel thickness	: 8 mm max.	
Degree of protection	: IP 40	
Storage temperature	: 40 °C to +85 °C	
Operating temperature	-25 °C to +55 C with lamp	-25 °C to +70 °C without lamp

SOLDERING TYPE ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

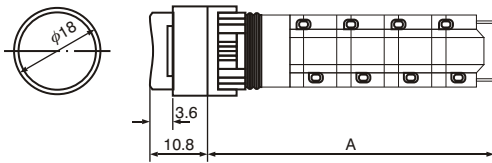
Round



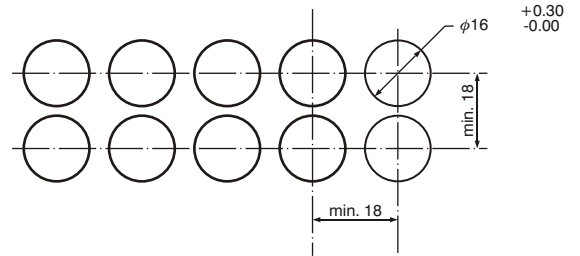
■ Bottom view



■ Mounting dimensions, mm



■ Dimensions, mm

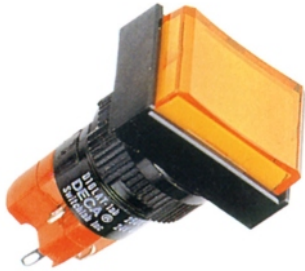


Description	Type	Contact block diagram (button not depressed)	Mounting length (A)	Case Colour
illuminated or non-illuminated pushbutton, 1 pole momentary action	SPST		29 mm	black red
illuminated or non-illuminated pushbutton, 2 pole momentary action	DPST		36.5 mm	black red
illuminated or non-illuminated pushbutton, 3 pole momentary action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole momentary action	4PST		51.5 mm	black red
illuminated or non-illuminated pushbutton, 1 pole alternate action	SPST		29 mm	black red
illuminated or non-illuminated pushbutton, 2 pole alternate action	DPST		36.5 mm	black red
illuminated or non-illuminated pushbutton, 3 pole alternate action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole alternate action	4PST		51.5 mm	black red

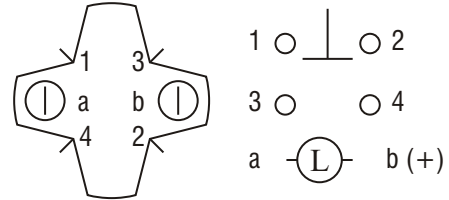
NOTE: As usual, silver contactors are commonly used. However, if it is used for small signal, we wish to recommend the use of gold plated contactors for which you are most welcome to contact with us for detailed specifications.

SOLDERING TYPE ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

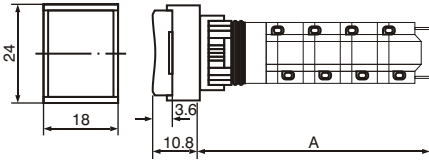
Rectangular



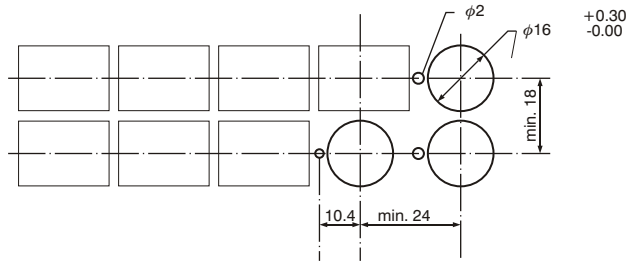
Bottom view



Mounting dimensions, mm



Dimensions, mm



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illuminated or non-illuminated pushbutton, 1 pole momentary action	SPST		29 mm	black red
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illuminated or non-illuminated pushbutton, 3 pole momentary action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole momentary action	4PST		51.5 mm	black red
illuminated or non-illuminated pushbutton, 1 pole alternate action	SPST		29 mm	black red
illuminated or non-illuminated pushbutton, 2 pole alternate action	DPST		36.5 mm	black red
illuminated or non-illuminated pushbutton, 3 pole alternate action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole alternate action	4PST		51.5 mm	black red

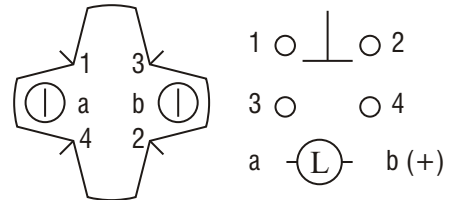
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SOLDERING TYPE ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

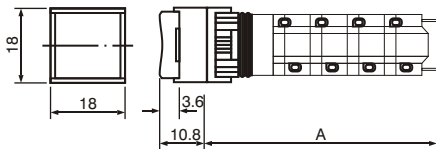
Square



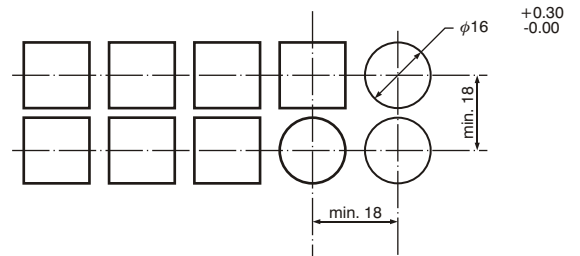
■ Bottom view



■ Mounting dimensions, mm



■ Dimensions, mm



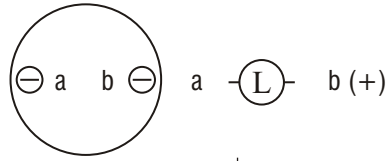
Description	Type	Contact block diagram (button not depressed)	Mounting length (A)	Case Colour
illuminated or non-illuminated pushbutton, 1 pole momentary action	SPST		29 mm	black red
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illuminated or non-illuminated pushbutton, 3 pole momentary action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole momentary action	4PST		51.5 mm	black red
illuminated or non-illuminated pushbutton, 1 pole alternate action	SPST		29 mm	black red
illuminated or non-illuminated pushbutton, 2 pole alternate action	DPST		36.5 mm	black red
illuminated or non-illuminated pushbutton, 3 pole alternate action	3PST		44 mm	black red
illuminated or non-illuminated pushbutton, 4 pole alternate action	4PST		51.5 mm	black red

NOTE: As usual, silver contactors are commonly used. However, if it is used for small signal, we wish to recommend the use of gold plated contactors for which you are most welcome to contact with us for detailed specifications.

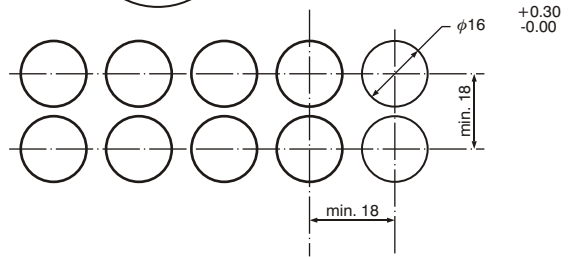
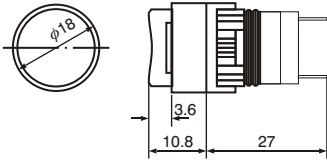
ROUND HEAD PILOT INDICATORS



■ Bottom view



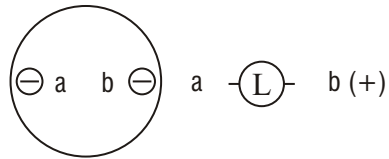
■ Mounting dimensions, mm



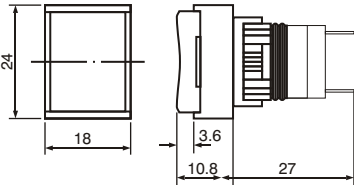
RECTANGULAR HEAD PILOT INDICATORS



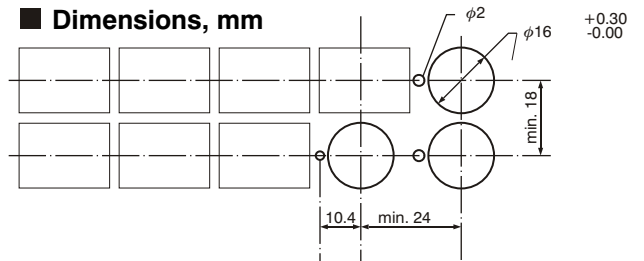
■ Bottom view



■ Mounting dimensions, mm



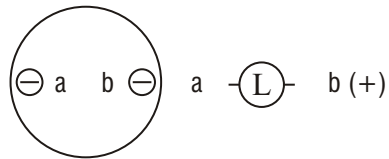
■ Dimensions, mm



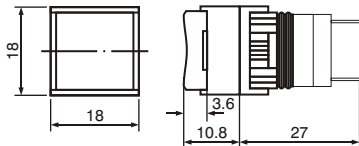
SQUARE HEAD PILOT INDICATORS



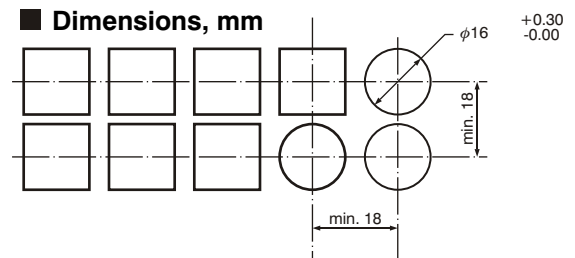
■ Bottom view



■ Mounting dimensions, mm



■ Dimensions, mm



SOLDERING TYPE PUSHBUTTON SWITCHES & INDICATORS ORDER INFORMATION

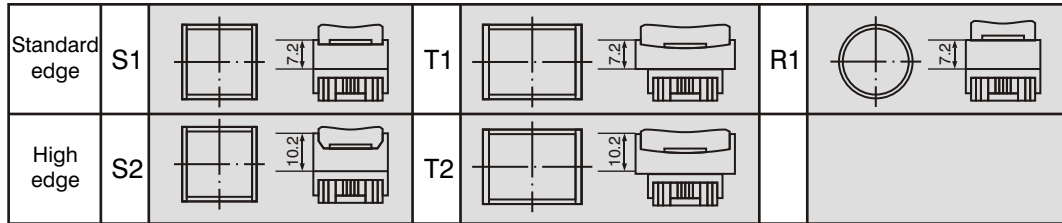
Order no : **D16** —

φ16mm basic type : _____

Functions : _____

- LA : Illuminated socket type pushbutton with alternate action
- LM : Illuminated socket type pushbutton with momentary action
- PA : Non-Illuminated socket type pushbutton with alternate action
- PM : Non-Illuminated socket type pushbutton with momentary action
- PL : Pilot indicator

Pushbutton head : _____



Contact Arrangement : _____

- 000 : Non contact
- 2ab : 2 NO + 2 NC
- 3ab : 3 NO + 3 NC
- 4ab : 4 NO + 4 NC

Lamp and Voltage : _____

- 0 : Without lamp
- A : Incandescent 6 V AC/DC 200mA
- B : Incandescent 14 V AC/DC 80mA
- C : Incandescent 28 V AC/DC 40mA
- F : Neon 110 V AC green / red
- G : Neon 220 V AC green / red
- H : LED 6 V DC green / yellow / red
- J : LED 12 V DC green / yellow / red
- K : LED 24 V DC green / yellow / red

Special type :

- M : Incandescent 6V AC/DC 40 mA
- N : Incandescent 14V AC/DC 40 mA
- L : Incandescent 33V AC/DC 35 mA
- D : Incandescent 48V AC/DC 25 mA
- E : Incandescent 60V AC/DC 20 mA

Color Lens : _____

- B : Blue G : Green O : Orange
- R : Red W : White Y : Yellow

Order Example :

If you want to order a round head illuminated pushbutton switch with a yellow color lens 60V DC 20 mA incandescent lamp, 3NO +3NC contacts, alternate action
It's order # as : D16LAR1-3abEY

If you want to order a rectangular head pushbutton switch with high edge, non-illuminated and red color lens, 2NO + 2NC contacts momentary action
It's order # as : D16PMT2-2abOR

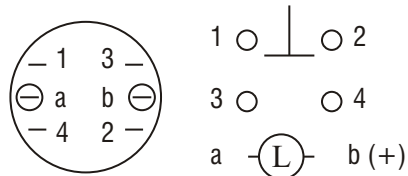
If you want to order a square head pilot indicator with standard edge, blue color lens, 28V DC 40 mA incandescent lamp.
It's order # as : D16PLS1-000CB

SOCKET TYPE ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

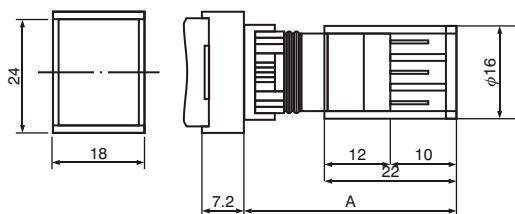
Rectangular



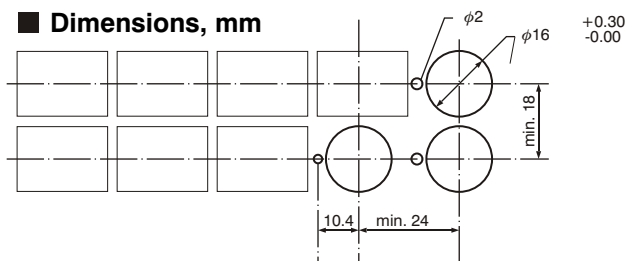
Bottom view



Mounting dimensions, mm



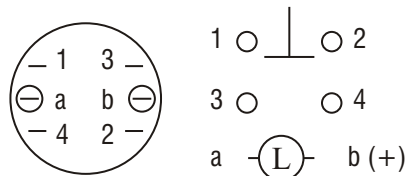
Dimensions, mm



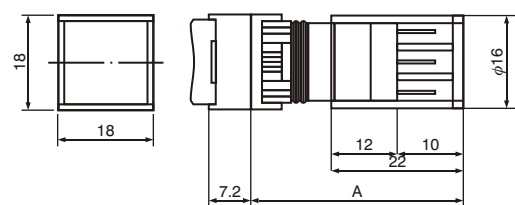
Square



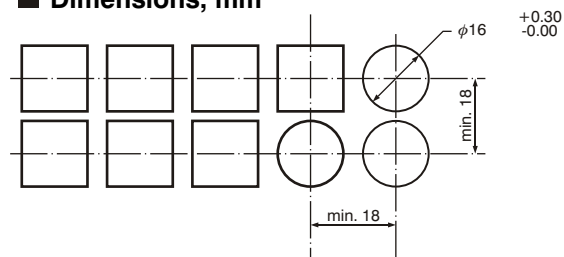
Bottom view



Mounting dimensions, mm



Dimensions, mm



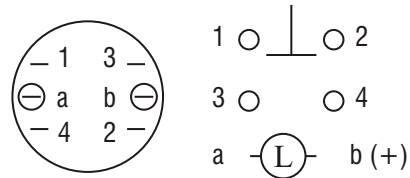
Description	Type	Contact block diagram (button not depressed)	Mounting length (A)
illuminated or non-illuminated pushbutton 1 pole momentary action	SPST		40 mm
illuminated or non-illuminated pushbutton 1 pole alternate action	SPST		40 mm

SOCKET TYPE ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

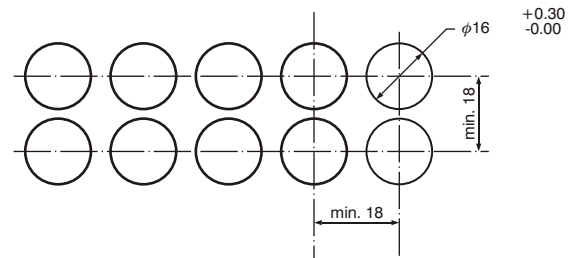
Round



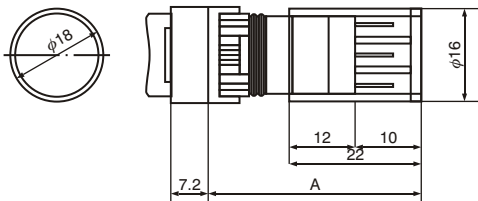
Bottom view



Dimensions, mm



Mounting dimensions, mm



Description	Type	Contact block diagram (button not depressed)	Mounting length (A)
illuminated or non-illuminated pushbutton 1 pole momentary action	SPST		40 mm
illuminated or non-illuminated pushbutton 1 pole alternate action	SPST		40 mm

SOCKET TYPE PUSHBUTTON SWITCHES ORDER INFORMATION

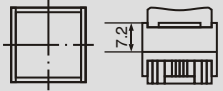
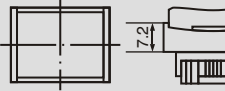
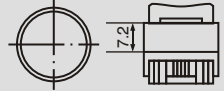
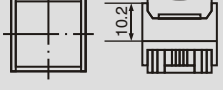
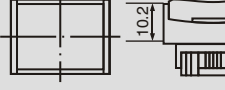
Order no : **P16** —

φ16mm basic type : _____

Function : _____

- LA : Illuminated socket type pushbutton with alternate action
- LM : Illuminated socket type pushbutton with momentary action
- PA : Non-Illuminated socket type pushbutton with alternate action
- PM : Non-Illuminated socket type pushbutton with momentary action

Pushbutton head : _____

Standard edge	S1		T1		R1	
High edge	S2		T2			

Contact Arrangement : _____

1ab : 1 NO + 1 NC

Lamp and Voltage : _____

- 0 : Without lamp
- A : Incandescent 6 V AC/DC 200mA
- B : Incandescent 14 V AC/DC 80mA
- C : Incandescent 28 V AC/DC 40mA
- F : Neon 110 V AC green / red
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Special type :

- M : Incandescent 6V AC/DC 40 mA
- N : Incandescent 14V AC/DC 40 mA
- L : Incandescent 33V AC/DC 35 mA
- D : Incandescent 48V AC/DC 25 mA
- E : Incandescent 60V AC/DC 20 mA

Color Lens : _____

- B : Blue G : Green O : Orange
- R : Red W : White Y : Yellow

Order Example :

If you want to order a round head illuminated pushbutton switch with a yellow color lens 60V DC 20 mA incandescent lamp, 1NO + 1NC contact, alternate action
It's order # as : P16LAR1-1abEY

If you want to order a rectangular head with high edge, non-illuminated pushbutton switch with red color lens, 1NO + 1NC contact momentary action
It's order # as : P16PMT2-1abOR

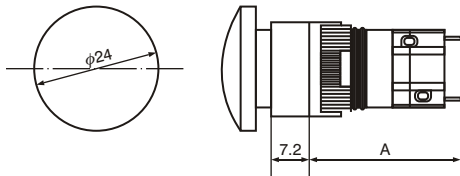
EMERGENCY OFF ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

Soldering type

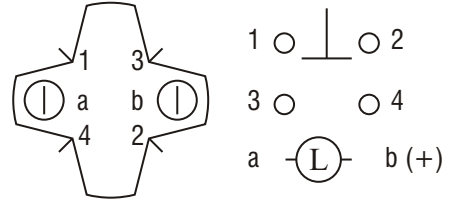


■ D16 series

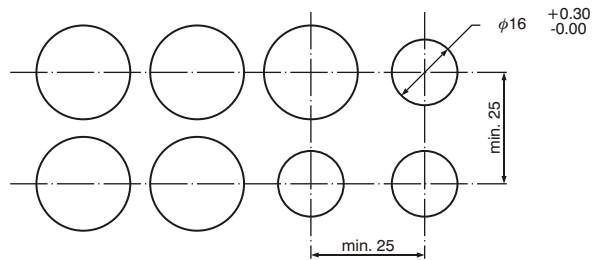
■ Mounting dimensions, mm



■ Bottom view



■ Dimensions, mm

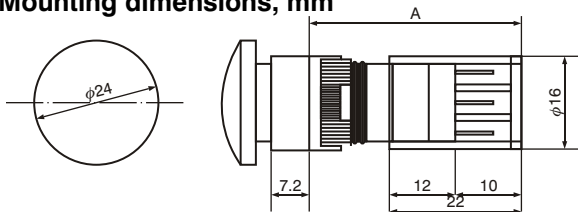


Socket type

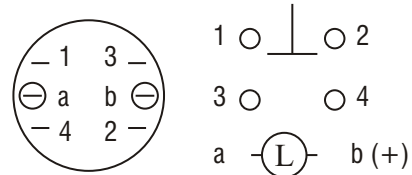


■ P16 series

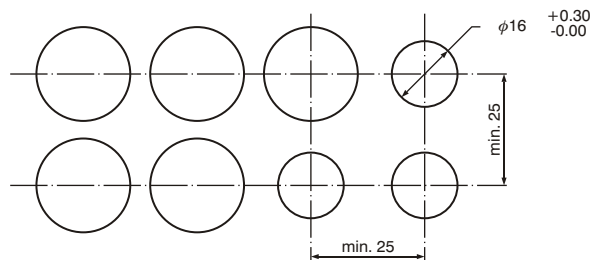
■ Mounting dimensions, mm



■ Bottom view



■ Dimensions, mm



P16 series	Type	Contact block diagram (button not depressed)	Mounting length (A) Soldering	Mounting length (A) Socket
illuminated or non-illuminated pushbutton 1 pole momentary action	SPST		29 mm	40 mm
illuminated or non-illuminated pushbutton 1 pole alternate action	SPST		29 mm	40 mm

EMERGENCY OFF ILLUMINATED SWITCHES & PUSHBUTTON SWITCHES

ORDER INFORMATION

Soldering type

Order no : **D16** —

ϕ 16mm basic type : _____

Functions : _____

EB : Emergency off illuminated switches with alternate action

EC : Emergency off illuminated switches with momentary action

EA : Emergency off pushbutton switches with alternate action

EM : Emergency off pushbutton switches with momentary action

Shape of button _____

R : Round

Contact Arrangement : _____

1ab : 1 NO + 1 NC

2ab : 2 NO + 2 NC

3ab : 3 NO + 3 NC

4ab : 4 NO + 4 NC

Lamp and Voltage : _____

See page 6 & 9

Color cap : _____

R : red

G : green

Order Example :

If you want to order a soldering type emergency pushbutton switch with alternate action & 1ab contact, and color cap is red.

It's order # as : D16EAR-1abOR

If you want to order a soldering type emergency pushbutton switch with momentary action & 1ab contact, and color cap is green, and 110V AC neon lamp

It's order # as : D16ECR-1abFG

Socket type - pin

Order no : **P16** —

ϕ 16mm basic type : _____

Functions : _____

EB : Emergency off illuminated switches with alternate action

EC : Emergency off illuminated switches with momentary action

EA : Emergency off pushbutton switches with alternate action

EM : Emergency off pushbutton switches with momentary action

Shape of button _____

R : Round

Contact Arrangement : _____

1ab : 1 NO + 1 NC

Lamp and Voltage : _____

See page 6 & 9

Color cap : _____

R : red

G : green

Order Example :

If you want to order a socket type emergency pushbutton switch with red color cap, momentary action and 1ab contact, 110V AC neon Lamp.

It's order # as : P16ECR-1abFR