





# J1. Control Switches

Control switches maximize device control efficiency with fluid operation mechanics and high durability.

J1-1	Ø 16 mm Switches / Pilot Light	S16PR Series	Ø 16 mm Push Button Switches
		S16SR Series	Ø 16 mm Selector Switches
		S16KR Series	Ø 16 mm Key Selector Switches
		S16BR Series	Ø 16 mm Mushroom-Head Push Button Switches
		S16ER Series	Ø 16 mm Emergency Switches
		L16RR Series	Ø 16 mm Pilot Lights
J1-2	Ø 22 / 25 mm Switches / Pilot Light	S2PR Series	Ø 22 / 25 mm Push Button Switches
		S2SR Series	Ø 22 / 25 mm Selector Switches
		S2KR Series	Ø 22 / 25 mm Key Selector Switches
		S2TR Series	Ø 22 / 25 mm I/O Push Button Switches
		S2BR Series	Ø 22 / 25 mm Mushroom-Head Push Button Switches
		S2ER Series	Ø 22 / 25 mm Emergency Switches
		L2RR Series	Ø 22 / 25 mm Pilot Lights
		J1-3	Ø 30 mm Switches / Pilot Light
S3SF Series	Ø 30 mm Selector Switches		
S3KF Series	Ø 30 mm Key Selector Switches		
L3RF Series	Ø 30 mm Pilot Lights		
J1-4	□ 30 mm Switches / Pilot Light	SQ3PF Series	□ 30 mm Push Button Switches
		LQ3RF Series	□ 30 mm Pilot Lights
J1-5	Magnetic Switches	MN Series	Magnetic Non-Contact Switches

# Ø 16 mm Push Button Switches

## S16PR Series



### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm
- Independent detachable contacts

### Specifications

Series	S16PR Series				
Actuation distance	3 mm				
Actuation force	0.2 to 0.35 kgf (2 to 3.5 N)				
Installation	Extended				
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times				
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times				
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours				
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes				
Mechanical life cycle (control unit life cycle)	Returned: ≥ 1 million operations (20 operations/min) Maintained: ≥ 200,000 operations (20 operations/min)				
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)				
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)				
Protection structure	Control unit: IP65 (IEC standard)				
Approval	CE 01, c, RoHS, ENEC, ENEC				
Control unit weight	Round: ≈ 3.8 g, Square: ≈ 4.4 g, Rectangular: ≈ 5.1 g				
Housing weight	≈ 1.4 g				
01) IEC-60947-5-1					
<b>Contact blocks</b>					
Power supply/current	250 VAC~ / 3 A				
Dielectric strength	2,000 VAC~ 50/60 Hz for 1 minute (between other polarities), 1,000 VAC~ 50/60 Hz for 1 minute (between same polarities)				
Insulation resistance	≥ 100 MΩ (500 VDC== megger)				
Contact resistance	≤ 50 mΩ (initial)				
Electrical life cycle	≥ 100,000 operations (20 operations/min)				
Contact material	AgNi10				
Terminal tensile force	≤ 30 N				
Terminal soldering time	At the end of tips within 3 sec with 350 °C (30 W-soldering machine)				
Approval	CE, RoHS, ENEC, ENEC				
Weight	≈ 1.6 g				
<b>LED blocks</b>					
Rated voltage	5 / 12 / 24 VDC== model				
Current consumption	Refer to the below Current consumption table.				
Approval	CE, RoHS, ENEC, ENEC				
Weight	≈ 1.9 g				
<b>Current consumption</b>	<b>Red</b>	<b>Blue</b>	<b>Green</b>	<b>Yellow</b>	<b>White</b>
SA16-L5□ (5 VDC==)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC==)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC==)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



View product detail

# Ø 16 mm Selector Switches

## S16SR Series



### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm
- Independent detachable contacts

### Specifications

Series	S16SR Series
Actuation angle	2-position: 90°±5°, 3-position: 45°±5°
Actuation force	20 to 120 N·mm
Installation	Extended
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 250,000 operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP65 (IEC standard)
Approval	CE <sup>01)</sup>
Control unit weight	Round: ≈ 6.6 g, Square: ≈ 6.8 g, Rectangular: ≈ 7.7 g
Housing weight	≈ 1.4 g

01) IEC-60947-5-1

Contact blocks	
Power supply/current	250 VAC~ / 3 A
Dielectric strength	2,000 VAC~ 50/60 Hz for 1 minute (between other polarities), 1,000 VAC~ 50/60 Hz for 1 minute (between same polarities)
Insulation resistance	≥ 100 MΩ (500 VDC= megger)
Contact resistance	≤ 50 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Terminal tensile force	≤ 30 N
Terminal soldering time	At the end of tips within 3 sec with 350 °C (30 W-soldering machine)
Approval	CE
Weight	≈ 1.6 g

LED blocks	
Rated voltage	5 / 12 / 24 VDC= model
Current consumption	Refer to the below Current consumption table.
Approval	CE
Weight	≈ 1.9 g

Current consumption	Red	Blue	Green	Yellow	White
SA16-L5□ (5 VDC=)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC=)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC=)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



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# Ø 16 mm Key Selector Switches

## S16KR Series



### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm
- Independent detachable contacts

### Specifications

Series	S16KR Series				
Actuation angle	2-position: 90°±5°, 3-position: 45°±5°				
Actuation force	20 to 120 N·mm				
Installation	Extended				
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times				
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times				
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours				
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes				
Mechanical life cycle (control unit life cycle)	≥ 250,000 operations (20 operations/min)				
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)				
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)				
Protection structure	Control unit: IP65 (IEC standard)				
Approval	CE 01, c, RoHS, ENEC, ERE				
Control unit weight	Round: ≈ 16 g, Square: ≈ 16.2 g, Rectangular: ≈ 17.1 g				
Housing weight	≈ 1.4 g				
01) IEC-60947-5-1					
Contact blocks					
Power supply/current	250 VAC~ / 3 A				
Dielectric strength	2,000 VAC~ 50/60 Hz for 1 minute (between other polarities), 1,000 VAC~ 50/60 Hz for 1 minute (between same polarities)				
Insulation resistance	≥ 100 MΩ (500 VDC== megger)				
Contact resistance	≤ 50 mΩ (initial)				
Electrical life cycle	≥ 100,000 operations (20 operations/min)				
Contact material	AgNi10				
Terminal tensile force	≤ 30 N				
Terminal soldering time	At the end of tips within 3 sec with 350 °C (30 W-soldering machine)				
Approval	CE, RoHS, ENEC, ERE				
Weight	≈ 1.6 g				
LED blocks					
Rated voltage	5 / 12 / 24 VDC== model				
Current consumption	Refer to the below Current consumption table.				
Approval	CE, RoHS, ENEC, ERE				
Weight	≈ 1.9 g				
Current consumption	Red	Blue	Green	Yellow	White
SA16-L5□ (5 VDC==)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC==)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC==)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



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# Ø 16 mm

## Mushroom-Head

### Push Button

### Switches

#### S16BR Series



#### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm
- Independent detachable contacts

#### Specifications

Series	S16BR Series
Actuation distance	3 mm
Actuation force	0.2 to 0.35 kgf (2 to 3.5 N)
Installation	Extended
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 1 million operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP65 (IEC standard)
Approval	CE <sup>01)</sup>
Control unit weight	≈ 4.1 g
Housing weight	≈ 1.4 g

01) IEC-60947-5-1

Contact blocks	
Power supply/current	250 VAC~ / 3 A
Dielectric strength	2,000 VAC~ 50/60 Hz for 1 minute (between other polarities), 1,000 VAC~ 50/60 Hz for 1 minute (between same polarities)
Insulation resistance	≥ 100 MΩ (500 VDC= megger)
Contact resistance	≤ 50 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Terminal tensile force	≤ 30 N
Terminal soldering time	At the end of tips within 3 sec with 350 °C (30 W-soldering machine)
Approval	CE
Weight	≈ 1.6 g

LED blocks	
Rated voltage	5 / 12 / 24 VDC= model
Current consumption	Refer to the below Current consumption table.
Approval	CE
Weight	≈ 1.9 g

Current consumption	Red	Blue	Green	Yellow	White
SA16-L5□ (5 VDC=)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC=)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC=)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



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# Ø 16 mm Emergency Switches

## S16ER Series



### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm
- Independent detachable contacts

### Specifications

Series	S16ER Series
Actuation distance	2 to 4 mm
Actuation angle	35° ± 7°
Actuation force	1.7 to 4.7 kgf (17 to 47 N)
Installation	Extended
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 100,000 operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP65 (IEC standard)
Approval	CE 011, TÜV, ENEC, ENEC
Control unit weight	≈ 11.5 g
Housing weight	≈ 1.4 g

01) IEC-60947-5-1

Contact blocks					
Power supply/current	250 VAC~ / 3 A				
Dielectric strength	2,000 VAC~ 50/60 Hz for 1 minute (between other polarities), 1,000 VAC~ 50/60 Hz for 1 minute (between same polarities)				
Insulation resistance	≥ 100 MΩ (500 VDC== megger)				
Contact resistance	≤ 50 mΩ (initial)				
Electrical life cycle	≥ 100,000 operations (20 operations/min)				
Contact material	AgNi10				
Terminal tensile force	≤ 30 N				
Terminal soldering time	At the end of tips within 3 sec with 350 °C (30 W-soldering machine)				
Approval	CE, TÜV, ENEC, ENEC				
Weight	≈ 1.6 g				
LED blocks					
Rated voltage	5 / 12 / 24 VDC== model				
Current consumption	Refer to the below Current consumption table.				
Approval	CE, TÜV, ENEC, ENEC				
Weight	≈ 1.9 g				
Current consumption	Red	Blue	Green	Yellow	White
SA16-L5□ (5 VDC==)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC==)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC==)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



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# Ø 16 mm Pilot Lights




## L16RR Series






### Features

- Compact, space-saving 16 mm installation diameter
- Short rear-length size of only 29.5 mm

### Specifications

Series	L16RR Series
Installation	Extended
Shock	500 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Light unit: IP65 (IEC standard)
Approval	CE <sup>01)</sup>   
Light unit weight	≈ 11.5 g
Housing weight	≈ 1.4 g

01) IEC-60947-5-1

LED blocks					
Rated voltage	5 / 12 / 24 VDC⇒ model				
Current consumption	Refer to the below Current consumption table.				
Approval	CE <sup>01)</sup>   				
Weight	≈ 1.9 g				
Current consumption	Red	Blue	Green	Yellow	White
SA16-L5□ (5 VDC⇒)	6 to 9 mA	10 to 14 mA	5 to 7 mA	12 to 16 mA	10 to 14 mA
SA16-L12□ (12 VDC⇒)	9 to 14 mA	10 to 15 mA	5 to 9 mA	10 to 16 mA	9 to 14 mA
SA16-L24□ (24 VDC⇒)	15 to 20 mA	20 to 26 mA	16 to 22 mA	27 to 35 mA	23 to 30 mA



View product detail

# Ø 22 / 25 mm

## Push Button Switches

### S2PR Series



#### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

#### Specifications

Series	S2PR Series
<b>Actuation distance</b>	5.0 to 5.5 mm
<b>Actuation force</b>	0.5 kgf (4.9 N) (per 1 contact)
<b>Installation</b>	Extended
<b>Shock</b>	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
<b>Shock (malfunction)</b>	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
<b>Vibration</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
<b>Vibration (malfunction)</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
<b>Mechanical life cycle (control unit life cycle)</b>	Returned: ≥ 1 million operations (20 operations/min)
<b>Ambient temperature</b>	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
<b>Protection structure</b>	Control unit: IP52 (IEC standard)
<b>Approval</b>	CE
<b>Control unit weight</b>	Round : ≈ 14.5 g, Square: ≈ 15.5 g
<b>Housing weight</b>	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC= AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



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# Ø 22 / 25 mm Selector Switches

## S2SR Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	S2SR Series
<b>Actuation angle</b>	2-position: [Spring return] 60° ±5°, 90° ±5° [Maintained] 90° ±5° 3-position: [Spring return] 60° ±5°, 45° ±5° [Maintained] 90° ±5°, 45° ±5°
<b>Actuation force</b>	0.5 kgf (4.9 N) (per 1 contact)
<b>Installation</b>	Extended
<b>Shock</b>	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
<b>Shock (malfunction)</b>	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
<b>Vibration</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
<b>Vibration (malfunction)</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
<b>Mechanical life cycle (control unit life cycle)</b>	≥ 100,000 operations (20 operations/min)
<b>Ambient temperature</b>	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
<b>Protection structure</b>	Control unit: IP52 (IEC standard)
<b>Approval</b>	CE
<b>Control unit weight</b>	Standard head type: ≈ 19 g Shark-head type: ≈ 16 g
<b>Housing weight</b>	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC== megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



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# Ø 22 / 25 mm

## Key Selector Switches











### S2KR Series



#### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

#### Specifications

Series	S2KR Series
<b>Actuation angle</b>	2-position: [Spring return] 60° ±5° [Maintained] 90° ±5° 3-position: [Spring return] 60° ±5° [Maintained] 90° ±5°
<b>Actuation force</b>	0.5 kgf (4.9 N) (per 1 contact)
<b>Installation</b>	Extended
<b>Shock</b>	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
<b>Shock (malfunction)</b>	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
<b>Vibration</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
<b>Vibration (malfunction)</b>	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
<b>Mechanical life cycle (control unit life cycle)</b>	≥ 100,000 operations (20 operations/min)
<b>Ambient temperature</b>	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
<b>Protection structure</b>	Control unit: IP52 (IEC standard)
<b>Approval</b>	CE     
<b>Control unit weight</b>	≈ 37 g
<b>Housing weight</b>	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE     
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g



View product detail

# Ø 22 / 25 mm

## I/O Push Button

### Switches

#### S2TR Series



#### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

#### Specifications

Series	S2TR Series
Actuation distance	5.0 to 5.5 mm
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Extended
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 1 million operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP50 (IEC standard)
Approval	CE
Control unit weight	≈ 14.5 g
Housing weight	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC== megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# Ø 22 / 25 mm Mushroom-Head Push Button Switches

## S2BR Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	S2BR Series
Actuation distance	5.0 to 5.5 mm
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Extended
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 1 million operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP52 (IEC standard)
Approval	CE
Control unit weight	≈ 21 g
Housing weight	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g



View product detail

# Ø 22 / 25 mm

## Emergency Switches

### S2ER Series



#### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

#### Specifications

Series	S2ER Series
Actuation distance	5.0 to 5.5 mm
Actuation angle	40° ±7°
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Extended
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 100,000 operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP52 (IEC standard)
Approval	CE ENEC EAC
Control unit weight	D30: ≈ 22.5 g D40: ≈ 22.5 g D60: ≈ 27 g
Housing weight	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE ENEC EAC
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC= AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE ENEC EAC
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# Ø 22 / 25 mm

## Pilot Lights








### L2RR Series



### Features

- High luminance LED
- Available in various colors
- Long-lasting durability

### Specifications

Series	L2RR Series
Installation	Extended
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Light unit: IP52 (IEC standard)
Approval	CE    
Light unit weight	≈ 15.5 g
Housing weight	≈ 7 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC ~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC ~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE   
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail



# Ø 30 mm Push Button Switches

## S3PR / S3PF Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	S3PR Series	S3PF Series
Actuation distance	5.0 to 5.5 mm	
Actuation force	0.5 kgf (4.9 N) (per 1 contact)	
Installation	Extended	Flush
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times	
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes	
Mechanical life cycle (control unit life cycle)	Returned: ≥ 1 million operations (20 operations/min)	
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)	
Protection structure	Control unit: IP52 (IEC standard)	
Approval	CE	
Control unit weight	21.5 g	
Housing weight	≈ 7 g	
<b>Contact blocks</b>		
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A	
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute	
Insulation resistance	≥ 1,000 MΩ (500 VDC== megger)	
Contact resistance	≤ 20 mΩ (initial)	
Electrical life cycle	≥ 100,000 operations (20 operations/min)	
Contact material	AgNi10	
Approval	CE	
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g	
<b>LED blocks</b>		
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC~ 50/60 Hz	
Current consumption	≤ 20 mA	
Approval	CE	
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g	

View product detail



S3PR Series



S3PF Series

# Ø 30 mm

## Selector Switches















### S3SF Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	S3SF Series
<b>Actuation angle</b>	2-position: [Spring return] 60° ±5°, 90° ±5° [Maintained] 90° ±5° 3-position: [Spring return] 60° ±5°, 45° ±5° [Maintained] 90° ±5°, 45° ±5°
<b>Actuation force</b>	0.5 kgf (4.9 N) (per 1 contact)
<b>Installation</b>	Flush
<b>Shock</b>	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
<b>Shock (malfunction)</b>	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
<b>Vibration</b>	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
<b>Vibration (malfunction)</b>	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
<b>Mechanical life cycle (control unit life cycle)</b>	≥ 100,000 operations (20 operations/min)
<b>Ambient temperature</b>	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
<b>Ambient humidity</b>	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
<b>Protection structure</b>	Control unit: IP52 (IEC standard)
<b>Approval</b>	CE     
<b>Control unit weight</b>	Standard head type: ≈ 23.5 g Shark-head type: ≈ 21 g
<b>Housing weight</b>	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC== megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE     
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE    
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# Ø 30 mm Key Selector Switches










## S3KF Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	S3KF Series
Actuation angle	2-position: [Spring return] 60° ±5° [Maintained] 90° ±5° 3-position: [Spring return] 60° ±5° [Maintained] 90° ±5°
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Flush
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	≥ 100,000 operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP52 (IEC standard)
Approval	CE     
Control unit weight	≈ 41 g
Housing weight	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC= megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE     
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g



View product detail

# Ø 30 mm Pilot Lights








## L3RF Series



### Features

- High luminance LED
- Available in various colors
- Long-lasting durability

### Specifications

Series	L3RF Series
Installation	Flush
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Light unit: IP52 (IEC standard)
Approval	CE    
Light unit weight	≈ 22 g
Housing weight	≈ 7 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC ~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC ~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE   
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# □ 30 mm Push Button Switches

## SQ3PF Series



### Features

- Smooth operation
- High electrical conductivity
- Long-lasting durability

### Specifications

Series	SQ3PF Series
Actuation distance	5.0 to 5.5 mm
Actuation force	0.5 kgf (4.9 N) (per 1 contact)
Installation	Flush
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Mechanical life cycle (control unit life cycle)	Returned: ≥ 1 million operations (20 operations/min)
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Control unit: IP52 (IEC standard)
Approval	CE
Control unit weight	≈ 22 g
Housing weight	≈ 7 g
<b>Contact blocks</b>	
Power supply / current	110 VAC~ / 10 A, 250 VAC~ / 6 A
Dielectric strength	2,500 VAC~ 50/60 Hz for 1 minute
Insulation resistance	≥ 1,000 MΩ (500 VDC== megger)
Contact resistance	≤ 20 mΩ (initial)
Electrical life cycle	≥ 100,000 operations (20 operations/min)
Contact material	AgNi10
Approval	CE
Weight	Modular type: ≈ 10 g, Singular type: ≈ 11 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# □ 30mm Pilot Lights








## LQ3RF Series



### Features

- High luminance LED
- Available in various colors
- Long-lasting durability

### Specifications

Series	LQ3RF Series
Installation	Flush
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times
Vibration	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.5 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 minutes
Ambient temperature	-15 to 55 °C, storage : -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (no freezing or condensation)
Protection structure	Light unit: IP52 (IEC standard)
Approval	CE    
Light unit weight	≈ 22 g
Housing weight	≈ 7 g
<b>LED blocks</b>	
Rated voltage	AC/DC voltage type: 12-24 VAC ~ 50/60 Hz, 12-24 VDC== AC voltage type: 110-220 VAC ~ 50/60 Hz
Current consumption	≤ 20 mA
Approval	CE   
Weight	AC/DC voltage type: ≈ 11 g, AC voltage type: ≈ 12 g



View product detail

# Magnetic Non-Contact Switches


## MN Series



### Features

- Non-powered magnetic detection method
- Two wiring specifications of cable / cable connector type
- Available to install at back-forth / right-left moving door
- IP67 protection structure (IEC standard)

### Specifications

Model	MN-AB-□	MN-2A-□
Contact	1 × N.O. + 1 × N.C.	2 × N.O.
Operating distance <sup>01)</sup>	OFF→ON	≥ 5 mm
	ON→OFF	≤ 15 mm
Approval	CE  ENEC	
Unit weight (package)	Cable type: ≈ 92.6 g (= 106.5 g) Cable connector type: ≈ 47.2g (= 61.0g)	

01) Rated at the ambient temperature of 23 °C. It can be differ up to ±20 % according to the ambient temperature.

Switching voltage	≤ 24 VDC==
Switching current	≤ 400 mA
Life expectancy	≥ 1 billion times (with low load)
Vibration	1.0 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 2 hours
Vibration (malfunction)	1.0 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 10 minutes
Shock	300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times
Shock (malfunction)	300m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction in output ON/OFF status for 3 times
Ambient temperature	-10 to 55 °C, storage: -20 to 60 °C (a non freezing or condensation environment)
Ambient humidity	35 to 85 %RH, storage : 35 to 85 %RH (a non freezing or condensation environment)
Protection structure	IP67 (IEC standard)
Connection	Cable type / Cable connector type
Cable	∅ 5 mm, 4-wire cable type: 2 m, cable connector type: 0.3 m
Wire	AWG24 (0.08 mm), 40-core, core diameter: ∅ 1.11 mm
Connector	M12 connector
Material	Body/CAP: PC

### [Applied REED SWITCH]

Model	ORD324-25-30 (STANDEX MEDER)
Contact	A (SPST-NO: single pole single throw, normally open)
Contact rating	≤ 10 W/VA <sup>01)</sup>
Voltage	Switching: ≤ 200 VDC==, Breakdown: ≥ 250 VDC==
Current	Switching: ≤ 0.5 A, Carry: ≤ 1 A
Ambient temperature	-40 to 125 °C, storage : -65 to 125 °C <sup>02)</sup>
Material	Body: glass, leads: tin-plated Ni-Fe wire

01) Switching voltage and current should never exceed the wattage rating.

02) Long time exposure at elevated temperature may degrade solderability of the leads.



View product detail

# K. Signals

Signal lights are frequently used in industrial settings to offer audio status indication of control processes and applications.

## K1. Buzzers







K





## K1. Buzzers

The buzzer informs the situation by making a sound. There are magnetic buzzers and piezo buzzers depending on the structure that making a sound.

K1-1 Buzzers

B2PB Series

Piezo Buzzers

B6MA Series

Melody Buzzers

B2NB Series

Magnetic Buzzers

# Piezo Buzzers

## B2PB Series



### Features

- Clear and loud sound:  
up to  $98 \pm 8$  dB (at 0.1 m)
- Select between continuous or intermittent sound settings
- Mounting hole:  $\varnothing 22 / 25$  mm /  
Panel thickness: 6 mm

### Specifications

Model	B2PB-B1D	B2PB-B1D-R
Power supply	12-24 VDC $\pm$ $\pm 10$ %	
Power consumption	$\leq 0.6$ W	
Current consumption	$\leq 25$ mA	
Sound pressure	$98 \pm 8$ dB (distance: 0.1 m) <sup>01)</sup>	
Sound frequency	$\approx 2.5$ kHz	
Sound type <sup>02)</sup>	Continuous sound, intermittent sound	
Mounting hole	$\varnothing 22/25$ mm compatible	
Operation indicator	Green	Red
Insulation resistance	$\geq 1,000$ M $\Omega$ (500 VDC $\pm$ megger)	
Dielectric strength	500 VAC $\sim$ 50/60 Hz for 1 min (between all terminals and case)	
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 1 hour	
Vibration (malfunction)	0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 10 min	
Shock	500 m/s <sup>2</sup> ( $\approx 50$ G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	147 m/s <sup>2</sup> ( $\approx 15$ G) in each X, Y, Z direction for 3 times	
Ambient temperature	-15 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Protection structure	IP65 (front, IEC standard)	
Material	Cap: PC, Body: PA6 (G15%)	
Tightening torque	0.4 to 0.6 N m	
Approval	CE ENEC	
Unit weight (packaged)	$\approx 18$ g ( $\approx 305$ g, 10 units)	

01) It is rated at power supply 24 VDC $\pm$ . (sound pressure may be decreased when using 12 VDC $\pm$ .)

02) Connect the power in the right direction: continuous sound (beep ---), Connect the power in the reverse direction: intermittent sound (beep-beep-)



View product detail

# Melody Buzzers

## B6MA Series



### Features

- 4 different melodies (ambulance, police siren, phone ring, Für Elise)
- Check operation status with operation indicator (red LED)
- End sleeves (ferrule terminal) provide simple wiring
- Power supply:  
12 - 24 VDC, 110 - 220 VAC 50 / 60 Hz
- Max volume:  
up to 95 dB (at 1 m), \*105 dB (at 0.1 m)
- Installation diameter: Ø 66 mm
- Installation method: screw-on method
- IP65 protection structure (IEC standard, front-plate only)

### Specifications

Model	B6MA-4GD□	B6MA-4GL□
Power supply	12 - 24 VDC==	110 - 220 VAC~ 50/60 Hz
Allowable voltage range	90 to 110% of power supply	
Power consumption	≤ 3 W	≤ 5 VA
Input	NPN open collector / PNP open collector model	
Sound pressure	Max. 105±10%dB (0.1 m), Max. 95±10%dB (1 m)	
Channels	4 channels	
Melody type	Terminal input: 4 types (ambulance, police, ringtone, for elise)	
Insulation resistance	≥ 1,000 MΩ (500VDC== megger, between all terminals and case)	
Dielectric strength	500 VAC~ 50/60 Hz for 1 min (between all terminals and case)	2,000 VAC~ 50/60 Hz for 1 min (between all terminals and case)
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Shock	500 m/s <sup>2</sup> (≈ 50 G) In each X, Y, Z direction for 3 times	
Ambient temperature	-10 to 55 °C, storage: -20 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Protection structure	IP65 (front, IEC standard)	
Material	PC	
Tightening torque for power input terminal	0.4 to 0.6 N m	
Tightening torque for nut on panel mounting	0.7 to 0.8 N m	
Accessories	Flat washers: 4, Spring washers: 4, Hex nuts: 4	
Approval	CE ENEC	
Unit weight (packaged)	≈ 130 g (≈ 170 g)	



View product detail

# Magnetic Buzzers

## B2NB Series



### Features

- Clear and loud sound :  
up to  $87 \pm 10$  dB (at 0.1 m)
- Select between continuous or intermittent sound settings
- Mounting hole:  $\varnothing 22 / 25$  mm /  
Panel thickness: 6 mm

### Specifications

Model	B2NB-B1D	B2NB-B1D-R
Power supply	12 - 24 VDC $\equiv$	
Power consumption	$\leq 1.5$ W	
Sound pressure	$\approx 87 \pm 10$ dB (distance: 0.1 m) <sup>01)</sup>	
Sound type	Continuous sound, intermittent sound <sup>02)</sup>	
Mounting hole	$\varnothing 22/25$ mm compatible	
Operation indicator	Green	Red
Insulation resistance	$\geq 50$ M $\Omega$ (500 VDC $\equiv$ megger)	
Dielectric strength	1,000 VAC $\sim$ 50/60 Hz for 1 minute (between all terminals and case)	
Vibration	0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 1 hour	
Shock	500 m/s <sup>2</sup> ( $\approx 50$ G) in each X, Y, Z direction for 3 times	
Ambient temperature	-15 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Protection structure	IP30 (front)	
Material	Body: PA6, Cap: PC	
Tightening torque	0.4 to 0.6 N m	
Approval	CE ENEC	
Unit weight (packaged) <sup>03)</sup>	$\approx 14$ g ( $\approx 214$ g)	

01) It is rated at power supply 24 VDC $\equiv$ . (sound pressure may be decreased when using 12 VDC $\equiv$ .)

02) Jumper pin attached: intermittent sound (beep - beep - ), Jumper pin removed: continuous sound (beep ---)

03) It is weight per product. The weight in parentheses is for 10 packing units including packing materials.



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