

YW Series



YW series switches
A staple of industrial automation.

An extensive range of options with
complementary design.
Modular, efficient and robust products for
industrial applications



• See website for details on approvals and standards.

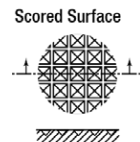
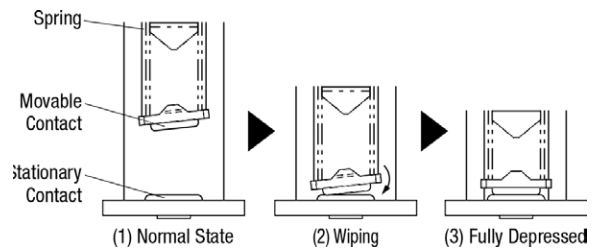
Efficient

Component parts can be ordered separately as
the modular construction allows for effortless and
efficient maintenance.



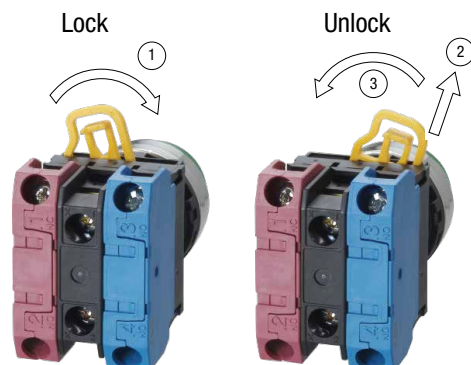
Robust

Heavy duty rugged construction with self-cleaning
wiping action contacts and scored contact surface.



Modular

Easy assembly and changeability of the contact
block to suit your requirements.



YW Series Switches & Pilot Lights

Space-saving, 10-mm-thick contact blocks. Removable operator.



Contact Ratings (Contact Block)

Rated Insulation Voltage		600V			
Rated Thermal Current		10A			
Operating Voltage		24V	120V	240V	380V
AC 50/60 Hz	Resistive Load (AC-12)	10A	10A	6A	2A
	Inductive Load (AC-15)	10A	6A	3A	1.9A
DC	Resistive Load (DC-12)	8A	2.2A	1.1A	—
	Inductive Load (DC-13)	4A	1.1A	0.55A	—

LED Illuminated Unit Specifications

Pilot Light (removable lamp terminal type)

Illuminated Pushbutton

		Unit				LED Lamp				
Unit Type	Input Type	Rated Voltage	Operating Voltage	Color Code	Lamp Base	Part No.	Rated Voltage	Current Draw	Color	
Pilot Light (removable lamp terminal type)	Full Voltage	6V AC/DC	6V AC/DC	±10%	A: amber G: green PW: pure white R: red S: blue W: white (Note) Y: yellow	BA9S/13	LSED-6②	6V AC/DC	10mA (A, R, Y) 7mA (G, PW, S)	A: amber G: green PW: pure white R: red S: blue Y: yellow
		12V AC/DC	12V AC/DC				LSED-1②	12V AC/DC	14mA (A, R, Y) 13mA (G, PW, S)	
		24V AC/DC	24V AC/DC				LSED-2②	24V AC/DC	14mA (A, R, Y) 13mA (G, PW, S)	
		110V AC/DC	110V AC/DC				LSED-H②	110V AC/DC	5mA	
		230/240V AC/DC	207 to 250V AC/DC				LSED-M3②	230/240V AC/DC	3mA	
Illuminated Pushbutton	Transformer (pilot light only) 50/60 Hz	100/110V AC	100/110V AC	±10%			LSED-6②	6V AC/DC	10mA (A, R, Y) 7mA (G, PW, S)	
		200/220V AC	200/220V AC							
		115/120V AC	115/120V AC							
		230/240V AC	207 to 250V AC							

Note: Yellow LED lamps are used for white illumination.

Pilot Light (unibody type)

Unit Type	Rated Voltage	Operating Voltage	Current Draw	Color Code	
Pilot Light (unibody type)	6V AC/DC	6V AC/DC	±10%	A: amber G: green PW: pure white R: red S: blue W: white Y: yellow	
	12V AC/DC	12V AC/DC			16mA (A, R, W, Y) 13mA (G, PW, S)
	24V AC/DC	24V AC/DC			20mA
	100/110V AC (50/60 Hz sine wave)	100/110V AC			20mA
	230/240V AC (50/60 Hz sine wave)	230/240V AC			207 to 250V AC

Incandescent Illuminated Unit Specifications

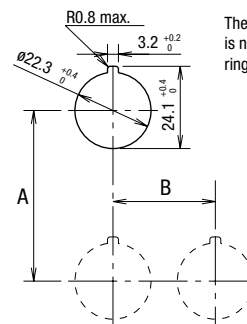
Pilot Light (removable lamp terminal type) Illuminated Pushbutton

Unit					Incandescent Lamp			
Unit Type	Input Type	Rated Voltage	Operating Voltage	Color Code	Lamp Base	Part No.	Rating	
Pilot Light (removable lamp terminal type)	Full Voltage	6V AC/DC	6V AC/DC	±10%	A: amber G: green R: red S: blue W: white Y: yellow	BA9S/13	LS-T6	1W (6.3V)
		12V AC/DC	12V AC/DC				LS-T8	1W (18V)
		24V AC/DC	24V AC/DC				LS-T3	1W (30V)
Illuminated Pushbutton	Transformer (pilot light only) 50/60 Hz	100/110V AC	100/110V AC	±10%	A: amber G: green R: red S: blue W: white Y: yellow	BA9S/13	LS-T6	1W (6.3V)
		200/220V AC	200/220V AC					
		115/120V AC	115/120V AC					
		230/240V AC	207 to 250V AC					

Specifications

Operating Conditions	Operating temperature: -20 to +55°C (no freezing) Operating humidity: 45 to 85% RH (no condensation) Storage temperature: -45 to +80°C Storage humidity: 95% RH maximum
Degree of Protection	From panel front: IP65 (IEC 60529) Terminal: IP20 (IEC 60529)
Insulation Resistance	100 MΩ
Dielectric Strength	Contact block: 2,500V, 1 minute Pilot light: 2,000V, 1 minute
Vibration Resistance	<Emergency stop switch> Operating extremes / Damage limits: 10 to 500 Hz, amplitude 0.35 mm, acceleration 50 m/s ² (5G) <Pushbutton, pilot light, illuminated pushbutton, selector switch, and key selector switch> Operating extremes: 5 to 55 Hz, amplitude 0.5 mm Damage limits: 30 Hz, amplitude 1.5 mm
Shock Resistance	<Emergency stop switch> Operating extremes: 150 m/s ² (10G) Damage limits: 1,000 m/s ² (100G) <Pushbutton, pilot light, illuminated pushbutton, selector switch, and key selector switch> Operating extremes: 100 m/s ² (10G) Damage limits: 1,000 m/s ² (100G)
Mechanical Life (minimum operations)	<Emergency stop switch> 250,000 (single contact block) <Pushbutton and illuminated pushbutton> Momentary: 5,000,000 (single contact block) 1,000,000 (double contact block) Maintained: 250,000 (single contact block) 100,000 (double contact block) <Selector switch and key selector switch> 250,000 (single contact block) 100,000 (double contact block)
Electrical Life (minimum operations)	<Emergency stop switch> 100,000 (single contact block) <Pushbutton, selector switch, and key selector switch> 100,000 (single contact block) 50,000 (double contact block)

Mounting Hole Layout



The 3.2-mm-wide key recess is necessary when the anti-rotation ring is used.

Unit	A (mm)	B (mm)
Emergency stop switch	50 min.	50 min.
Pushbutton	50 min.	30 min.
Selector switch		
Key selector switch		
Mushroom pushbutton	50 min.	40 min.
Pilot light (with removable lamp terminal)	30 min.*	30 min.
Pilot light (unibody)	50 min.	30 min.

* Keep a minimum spacing of 50 mm when using a lamp of over 1W.

APEM

Switches & Pilot Lights

Control Boxes

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Explosion Proof

Terminal Blocks

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LED Illumination

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Operator Interfaces

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AUTO-ID

Flush Silhouette

ø16

ø22

ø30

Miniature

Pilot Lights





HW

TW

YW

Key Selector Switches (90° 2-Position)



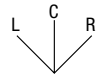
Package Quantity: 1

No. of Positions	Contact Configuration	Contact Block Mounting Position		Operator Position		Part No.		
				L	R	Plastic Bezel	Metal Bezel	
								
90° 2-position Maintained 	1NO (10)	1	NO		●	YW1K-2AE10	YW4K-2AE10	
		2						
		3						
	1NC (01)	1					YW1K-2AE01	YW4K-2AE01
		2						
		3	NC	●				
	2NO (20)	1	NO		●	YW1K-2AE20	YW4K-2AE20	
		2						
		3	NO		●			
	2NC (02)	1	NC	●		YW1K-2AE02	YW4K-2AE02	
		2						
		3	NC	●				
	1NO-1NC (11)	1	NO		●	YW1K-2AE11	YW4K-2AE11	
		2						
		3	NC	●				
	3NO (30)	1	NO		●	YW1K-2AE30	YW4K-2AE30	
		2	NO		●			
		3	NO		●			
	3NC (03)	1	NC	●		YW1K-2AE03	YW4K-2AE03	
		2	NC	●				
3		NC	●					
2NO-1NC (21)	1	NO		●	YW1K-2AE21	YW4K-2AE21		
	2	NC	●					
	3	NO		●				
1NO-2NC (12)	1	NO		●	YW1K-2AE12	YW4K-2AE12		
	2	NC	●					
	3	NC	●					
90° 2-position Spring Return from Right 	1NO (10)	1	NO		●	YW1K-21BE10	YW4K-21BE10	
		2						
		3						
	1NC (01)	1					YW1K-21BE01	YW4K-21BE01
		2						
		3	NC	●				
	2NO (20)	1	NO		●	YW1K-21BE20	YW4K-21BE20	
		2						
		3	NO		●			
	2NC (02)	1	NC	●		YW1K-21BE02	YW4K-21BE02	
		2						
		3	NC	●				
	1NO-1NC (11)	1	NO		●	YW1K-21BE11	YW4K-21BE11	
		2						
		3	NC	●				
	3NO (30)	1	NO		●	YW1K-21BE30	YW4K-21BE30	
		2	NO		●			
		3	NO		●			
	3NC (03)	1	NC	●		YW1K-21BE03	YW4K-21BE03	
		2	NC	●				
3		NC	●					
2NO-1NC (21)	1	NO		●	YW1K-21BE21	YW4K-21BE21		
	2	NC	●					
	3	NO		●				
1NO-2NC (12)	1	NO		●	YW1K-21BE12	YW4K-21BE12		
	2	NC	●					
	3	NC	●					

- On the spring-returned types, the key can be removed only from the maintained position. On the maintained types, the key can be removed from every position. Key retained positions are also available. See Part No. Development shown on **B-296**.
- Each key selector switch is supplied with two identical keys.

Key Selector Switches (45° 3-Position)

Package Quantity: 1

No. of Positions	Contact Configuration	Contact Block Mounting Position		Operator Position			Part No.		
				L	C	R	Plastic Bezel	Metal Bezel	
									
<div style="text-align: center;"> <p>45° 3-position Maintained</p>  </div>	2NO (20)	1	NO	●			YW1K-3AE20	YW4K-3AE20	
		2							
		3	NO			●			
	2NO (20N1)	1						YW1K-3AE20N1	YW4K-3AE20N1
		2	NO	●		●			
		3	NO			●			
	2NC (02)	1	NC		■			YW1K-3AE02	YW4K-3AE02
		2							
		3	NC	■					
	2NC (02N1)	1						YW1K-3AE02N1	YW4K-3AE02N1
		2	NC		●				
		3	NC	■					
	1NO-1NC (11)	1	NO	●				YW1K-3AE11	YW4K-3AE11
		2							
		3	NC	■					
	1NO-1NC (11N1)	1	NC		■			YW1K-3AE11N1	YW4K-3AE11N1
		2							
		3	NO			●			
	1NO-1NC (11N2)	1	NO	●				YW1K-3AE11N2	YW4K-3AE11N2
		2	NC		●				
		3							
	1NO-1NC (11N3)	1						YW1K-3AE11N3	YW4K-3AE11N3
		2	NC		●				
		3	NO			●			
1NO-1NC (11N4)	1						YW1K-3AE11N4	YW4K-3AE11N4	
	2	NO	●		●				
	3	NC	■						
3NO (30)	1	NO	●				YW1K-3AE30	YW4K-3AE30	
	2	NO	●		●				
	3	NO			●				
3NC (03)	1	NC		■			YW1K-3AE03	YW4K-3AE03	
	2	NC		●					
	3	NC	■						
2NO-1NC (21)	1	NO	●				YW1K-3AE21	YW4K-3AE21	
	2	NC		●					
	3	NO			●				
1NO-2NC (12)	1	NC		■			YW1K-3AE12	YW4K-3AE12	
	2	NO	●		●				
	3	NC	■						

- On the maintained types, the key can be removed from every position. Key retained positions are also available. See Part No. Development below.
- Each key selector switch is supplied with two identical keys.

Part No. Development

YW1K-2 A E21

Key removal position code

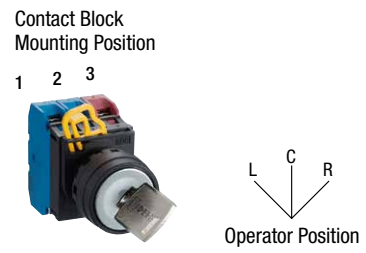
2-position

- A: Removable in all positions
- B: Removable in left only
- C: Removable in right only

3-position

- A: Removable in all positions
- B: Removable in left and center
- C: Removable in right and center
- D: Removable in center only
- E: Removable in right and left
- G: Removable in left only
- H: Removable in right only

Contact Block Mounting Position



APEM

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AUTO-ID

Flush Silhouette

ø16

ø22

ø30

Miniature

Pilot Lights




HW

TW

YW

Key Selector Switches (45° 3-Position)



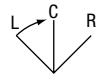
Package Quantity: 1

No. of Positions	Contact Configuration	Contact Block Mounting Position		Operator Position			Part No.		
				L	C	R	Plastic Bezel	Metal Bezel	
									
45° 3-position Spring Return from Right 	2NO (20)	1	NO	●			YW1K-31BE20	YW4K-31BE20	
		2							
		3	NO			●			
	2NO (20N1)	1						YW1K-31BE20N1	YW4K-31BE20N1
		2	NO	●		●			
		3	NO			●			
	2NC (02)	1	NC		■			YW1K-31BE02	YW4K-31BE02
		2							
		3	NC	■					
	2NC (02N1)	1						YW1K-31BE02N1	YW4K-31BE02N1
		2	NC		●				
		3	NC	■					
	1NO-1NC (11)	1	NO	●				YW1K-31BE11	YW4K-31BE11
		2							
		3	NC	■					
	1NO-1NC (11N1)	1	NC			■		YW1K-31BE11N1	YW4K-31BE11N1
		2							
		3	NO			●			
	1NO-1NC (11N2)	1	NO	●				YW1K-31BE11N2	YW4K-31BE11N2
		2	NC			●			
		3							
	1NO-1NC (11N3)	1						YW1K-31BE11N3	YW4K-31BE11N3
		2	NC		●				
		3	NO			●			
1NO-1NC (11N4)	1			●			YW1K-31BE11N4	YW4K-31BE11N4	
	2	NO	●		●				
	3	NC	■						
3NO (30)	1	NO	●				YW1K-31BE30	YW4K-31BE30	
	2	NO	●		●				
	3	NO			●				
3NC (03)	1	NC			■		YW1K-31BE03	YW4K-31BE03	
	2	NC		●					
	3	NC	■						
2NO-1NC (21)	1	NO	●				YW1K-31BE21	YW4K-31BE21	
	2	NC			●				
	3	NO			●				
1NO-2NC (12)	1	NC			■		YW1K-31BE12	YW4K-31BE12	
	2	NO	●		●				
	3	NC	■						

- On the spring-returned types, the key can be removed only from the maintained position. Key retained positions are also available. See Part No. Development shown on **B-296**.
- Each key selector switch is supplied with two identical keys.

Key Selector Switches (45° 3-Position)

Package Quantity: 1

No. of Positions	Contact Configuration	Contact Block Mounting Position		Operator Position			Part No.		
				L	C	R	Plastic Bezel	Metal Bezel	
									
45° 3-position Spring Return from Left 	2NO (20)	1	NO	●			YW1K-32CE20	YW4K-32CE20	
		2							
		3	NO			●			
	2NO (20N1)	1						YW1K-32CE20N1	YW4K-32CE20N1
		2	NO	●		●			
		3	NO			●			
	2NC (02)	1	NC		■			YW1K-32CE02	YW4K-32CE02
		2							
		3	NC	■					
	2NC (02N1)	1						YW1K-32CE02N1	YW4K-32CE02N1
		2	NC		●				
		3	NC	■					
	1NO-1NC (11)	1	NO	●				YW1K-32CE11	YW4K-32CE11
		2							
		3	NC	■					
	1NO-1NC (11N1)	1	NC		■			YW1K-32CE11N1	YW4K-32CE11N1
		2							
		3	NO			●			
	1NO-1NC (11N2)	1	NO	●				YW1K-32CE11N2	YW4K-32CE11N2
		2	NC		●				
		3							
	1NO-1NC (11N3)	1						YW1K-32CE11N3	YW4K-32CE11N3
		2	NC		●				
		3	NO			●			
1NO-1NC (11N4)	1						YW1K-32CE11N4	YW4K-32CE11N4	
	2	NO	●		●				
	3	NC	■						
3NO (30)	1	NO	●				YW1K-32CE30	YW4K-32CE30	
	2	NO	●		●				
	3	NO			●				
3NC (03)	1	NC		■			YW1K-32CE03	YW4K-32CE03	
	2	NC		●					
	3	NC	■						
2NO-1NC (21)	1	NO	●				YW1K-32CE21	YW4K-32CE21	
	2	NC		●					
	3	NO			●				
1NO-2NC (12)	1	NC		■			YW1K-32CE12	YW4K-32CE12	
	2	NO	●		●				
	3	NC	■						

- On the spring-returned types, the key can be removed only from the maintained position. Key retained positions are also available. See Part No. Development shown on B-296.
- Each key selector switch is supplied with two identical keys.

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
HW

TW

YW

Key Selector Switches (45° 3-Position)

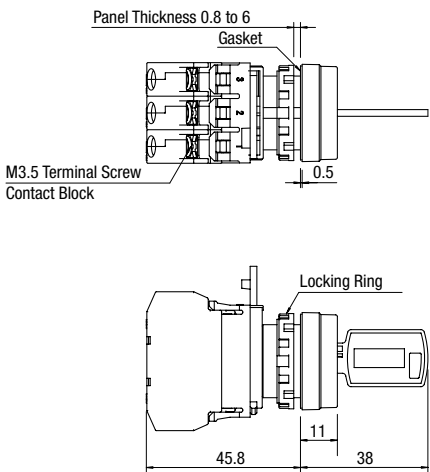
Package Quantity: 1

No. of Positions	Contact Configuration	Contact Block Mounting Position		Operator Position			Part No.		
				L	C	R	Plastic Bezel	Metal Bezel	
									
45° 3-position Spring Return Two-way 	2NO (20)	1	NO	●			YW1K-33DE20	YW4K-33DE20	
		2							
		3	NO			●			
	2NO (20N1)	1						YW1K-33DE20N1	YW4K-33DE20N1
		2	NO	●		●			
		3	NO			●			
	2NC (02)	1	NC		■			YW1K-33DE02	YW4K-33DE02
		2							
		3	NC	■					
	2NC (02N1)	1						YW1K-33DE02N1	YW4K-33DE02N1
		2	NC		●				
		3	NC	■					
	1NO-1NC (11)	1	NO	●				YW1K-33DE11	YW4K-33DE11
		2							
		3	NC	■					
	1NO-1NC (11N1)	1	NC		■			YW1K-33DE11N1	YW4K-33DE11N1
		2							
		3	NO			●			
	1NO-1NC (11N2)	1	NO	●				YW1K-33DE11N2	YW4K-33DE11N2
		2	NC			●			
		3							
	1NO-1NC (11N3)	1						YW1K-33DE11N3	YW4K-33DE11N3
		2	NC		●				
		3	NO			●			
1NO-1NC (11N4)	1			●			YW1K-33DE11N4	YW4K-33DE11N4	
	2	NO	●		●				
	3	NC	■						
3NO (30)	1	NO	●				YW1K-33DE30	YW4K-33DE30	
	2	NO	●		●				
	3	NO			●				
3NC (03)	1	NC		■			YW1K-33DE03	YW4K-33DE03	
	2	NC		●					
	3	NC	■						
2NO-1NC (21)	1	NO	●				YW1K-33DE21	YW4K-33DE21	
	2	NC		●					
	3	NO			●				
1NO-2NC (12)	1	NC		■			YW1K-33DE12	YW4K-33DE12	
	2	NO	●		●				
	3	NC	■						

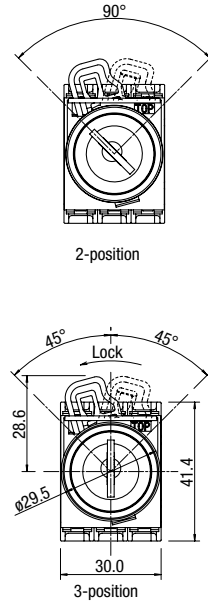
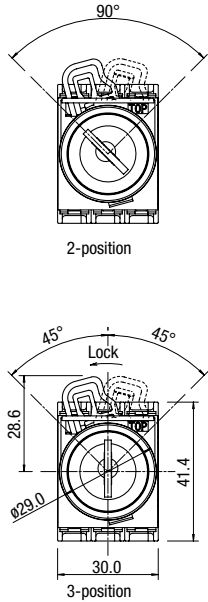
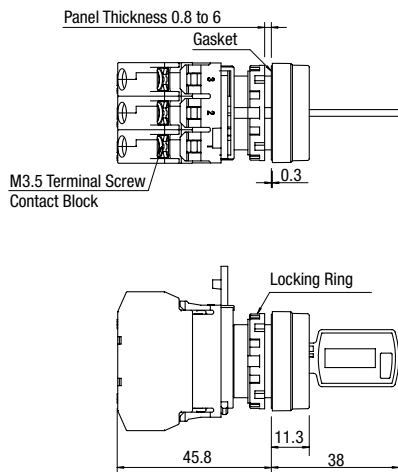
- On the spring-returned types, the key can be removed only from the maintained position. Key retained positions are also available. See Part No. Development shown on **B-296**.
- Each key selector switch is supplied with two identical keys.

Dimensions All dimensions in mm

Plastic Bezel



Metal Bezel



Contact Block Mounting Position

Plastic Bezel




Metal Bezel




- APEM
- Switches & Pilot Lights
- Control Boxes
- Emergency Stop Switches
- Enabling Switches
- Safety Products
- Explosion Proof
- Terminal Blocks
- Relays & Sockets
- Circuit Protectors
- Power Supplies
- LED Illumination
- Controllers
- Operator Interfaces
- Sensors
- AUTO-ID

- Flush Silhouette
- ø16
- ø22
- ø30
- Miniature
- Pilot Lights
- HW
- TW
- YW


Key Selector switches (Sub-assembled)

Contact block	Mounting adapter	Operator	Completed unit
			



Contact block

Picture	Contacts	Contact block	Contact configuration	Part number
	Finger safe screw terminal	Single pole	1 x NO	YW-E10
			1 x NC	YW-E01
Double pole		2 x NO	YW-EW20	
		2 x NC	YW-EW02	
	1 x NO + 1 x NC	YW-EW11		

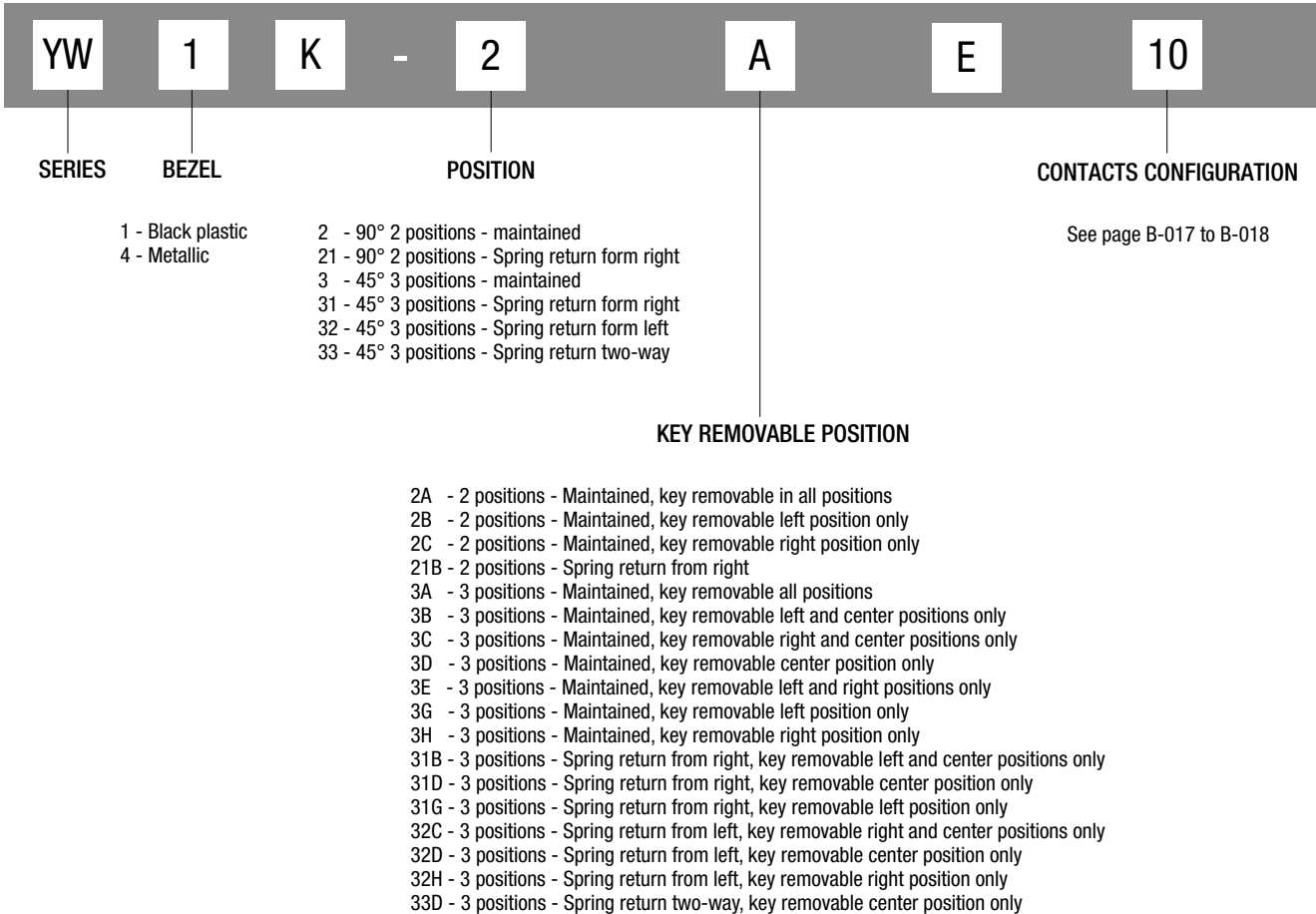
Contact block mounting adapter

Picture	Part number
	YW-CN

Operator


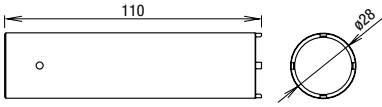

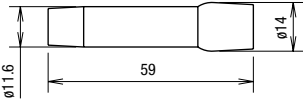

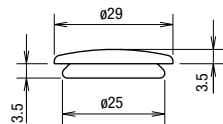

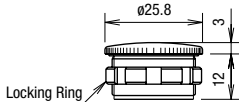

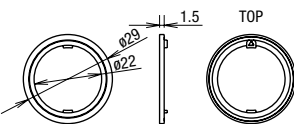

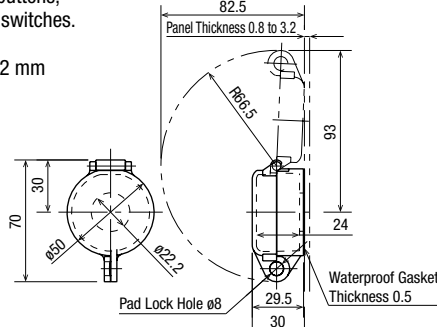
Picture	Position	Description	Black bezel	Metal bezel
	2 positions	Maintained, key removable in all positions	YW1K-2A	YW4K-2A
		Maintained, key removable left position only	YW1K-2B	YW4K-2B
		Maintained, key removable right position only	YW1K-2C	YW4K-2C
		Spring return from right	YW1K-21B	YW4K-21B
	3 positions	Maintained, key removable all positions	YW1K-3A	YW4K-3A
		Maintained, key removable left and center positions only	YW1K-3B	YW4K-3B
		Maintained, key removable right and center positions only	YW1K-3C	YW4K-3C
		Maintained, key removable center position only	YW1K-3D	YW4K-3D
		Maintained, key removable left and right positions only	YW1K-3E	YW4K-3E
		Maintained, key removable left position only	YW1K-3G	YW4K-3G
		Maintained, key removable right position only	YW1K-3H	YW4K-3H
		Spring return from right, key removable left and center positions only	YW1K-31B	YW4K-31B
		Spring return from right, key removable center position only	YW1K-31D	YW4K-31D
		Spring return from right, key removable left position only	YW1K-31G	YW4K-31G
		Spring return from left, key removable right and center positions only	YW1K-32C	YW4K-32C
		Spring return from left, key removable center position only	YW1K-32D	YW4K-32D
		Spring return from left, key removable right position only	YW1K-32H	YW4K-32H
Spring return two-way, key removable center position only	YW1K-33D	YW4K-33D		

Key selector switches (part number development)



- APEM
- Switches & Pilot Lights
- Control Boxes
- Emergency Stop Switches
- Enabling Switches
- Safety Products
- Explosion Proof
- Terminal Blocks
- Relays & Sockets
- Circuit Protectors
- Power Supplies
- LED Illumination
- Controllers
- Operator Interfaces
- Sensors
- AUTO-ID
- Flush Silhouette
- ø16
- ø22
- ø30
- Miniature
- Pilot Lights
- HW
- TW
- YW

Accessories



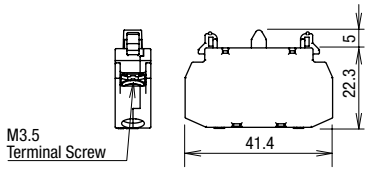



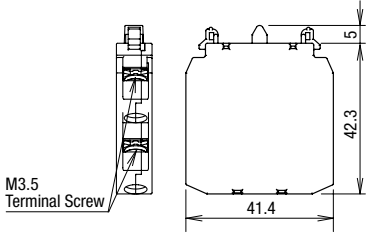
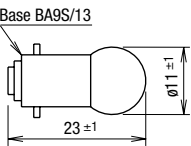

Name & Shape	Part No.	Description & Dimensions (mm)	Package Quantity
	MW9Z-T1	<p>Metallic tool used to tighten the plastic locking ring when installing the YW series in a panel.</p> 	1
	OR-55	<p>Made of rubber. Used for replacing lamps.</p> 	1
	OB-31	<p>Used for plugging unused mounting holes in the panel. Color: Black</p> 	5
	LW9Z-BM	<p>Used for plugging unused mounting holes in the panel. Weight: Approx. 18g</p> 	1
	HW9Z-RL	<p>Prevents rotation of switches in panel. Mainly used with selector switches when no nameplate is used. With waterproof gasket (IP65). Made of plastic (black). Applicable panel thickness: 1.2 to 4.5 mm</p> 	10
	HW9Z-KL1	<p>Plastic hinged cover to protect pushbuttons, illuminated pushbuttons, or selector switches. Degree of protection: IP65. Applicable panel thickness: 0.8 to 3.2 mm</p> 	1

HW

TW

YW

- APEM
- Switches & Pilot Lights
- Control Boxes
- Emergency Stop Switches
- Enabling Switches
- Safety Products
- Explosion Proof
- Terminal Blocks
- Relays & Sockets
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- ø16
- ø22
- ø30
- Miniature
- Pilot Lights
- HW
- TW
- YW

Maintenance Parts		Description & Dimensions (mm)			Package Quantity
Name & Shape	Part No.				
Single Contact Block  	YW-E10	Contact: 1NO	Color: blue		10
	YW-E01	Contact: 1NC	Color: reddish purple		
Double Contact Block   	YW-EW20	Contact: 2NO	Color: blue	 <p>Note: Double contact blocks cannot be used on emergency stop switches.</p>	10
	YW-EW02	Contact: 2NC	Color: reddish purple		
	YW-EW11	Contact: 1NO-1NC	Color: blue and reddish purple		
LED Lamp 	LSED-6②	6V AC/DC	Specify a color code in place of ② in the Part No.: A (amber), G (green), PW (pure white), R (red), S (blue), Y (yellow) See B-271 for applicable units and rated current. Note: Yellow LED lamps are used for white illumination of pilot lights and illuminated pushbuttons.		1
	LSED-1②	12V AC/DC			
	LSED-2②	24V AC/DC			
	LSED-H②	110V AC/DC			
	LSED-M3②	230/240V AC/DC			
Incandescent Lamp 	LS-T6P	6.3V, 1W	One pack contains 100 incandescent lamps.		100
	LS-T8P	18V, 1W			
	LS-T3P	30V, 1W			
Spare Key 	YW9Z-SK00				2

Nameplates

HWAM, HWAQ, HWAS, and HWAV

Name	Legend	Material	Part No.	Package Quantity	Dimensions (mm)
HWAM	Order marking plate separately.	Plastic (black) 1.5 mm thick	HWAM	10	
HWAQ	Order marking plate separately.	Plastic (black) 1.5 mm thick	HWAQ	10	
HWAS	Blank	Plastic (black) 1.5 mm thick	HWAS-0	10	
HWAV	Blank	Plastic (yellow) 1.5 mm thick	HWAV-0	1	 • Legend "Emergency Stop" is indicated outside a ø44mm circle.
	EMERGENCY STOP		HWAV-27	1	

Making Plate

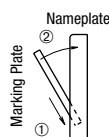
Description	Material	Part No.	Package Quantity	Dimensions (mm)
HWNP	Aluminum (black) 1.0 mm thick	HWNP-*	10	White legend on black background.

• Specify a legend code in place of * in the Ordering No.

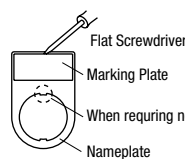
Legends

Code	Legend
0	(blank)
1	ON
2	OFF
3	START
4	STOP
31	OFF-ON
35	HAND-AUTO
53	HAND-OFF-AUTO

• Installing the marking plate on a nameplate



• To remove the marking plate, insert the flat screwdriver between the marking plate and nameplate.



When requiring no anti-rotation, remove the projection using pliers.

Note: When using an nameplate, the mounting panel thickness is decreased by 1.5 mm.

⚠ Safety Precautions

- Turn off the power to the YW series before starting installation, removal, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid burning your hand, use the lamp holder tool when replacing lamps.

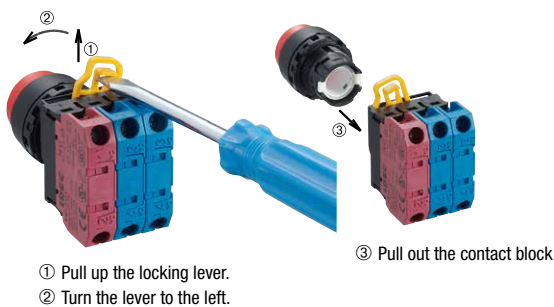
- For wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the M3.5 terminal screws to a tightening torque of 1.0 N·m. Failure to tighten the terminal screws may cause overheating and fire.

Instructions

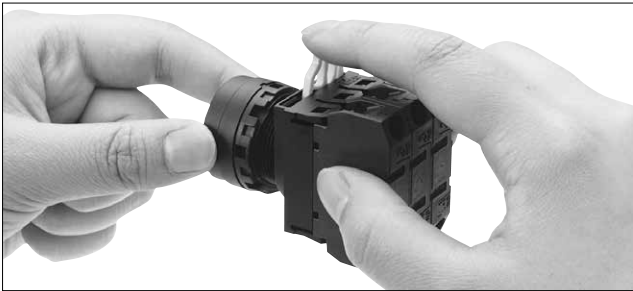
Panel Mounting

- Remove the contact block from the operator (for pilot lights, remove the transformer or full voltage unit from the pilot light). Remove the locking ring from the operator. Insert the operator into the panel cut-out from the front, tighten the locking ring from the back, then install the contact block to the operator.

Removing and Installing the Contact Block

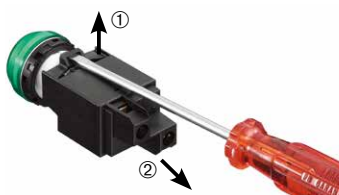


1. To remove the operator from the contact block, pull up the locking lever and turn it to the left. Then the operator can be pulled out.
2. To reinstall, place the TOP marking on the operator and the TOP marking on the contact block mounting adapter in the same direction, and insert the operator into the contact block mounting adapter. Then turn the locking lever to the right.

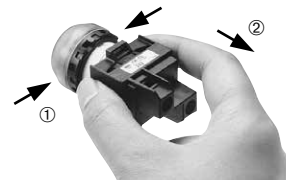


Removing and Installing the Transformer

1. Insert a flat screwdriver (5 mm wide at maximum) into the latch hole on the transformer unit as shown in the photo below, and disengage the latch. Then pull out the operator.
2. To reinstall, place the TOP marking on the operator and the latch in the same direction, and push the operator into the transformer.



Removing the Full Voltage Unit



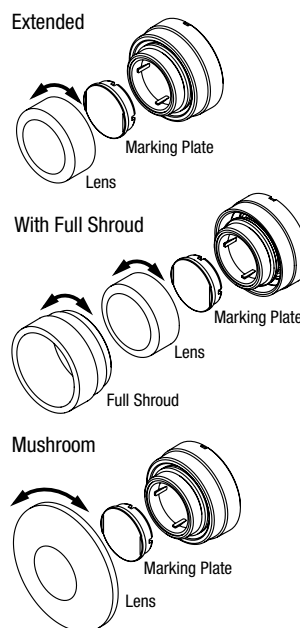
1. To remove the full voltage unit, squeeze the full voltage unit from both sides to disengage the latch as shown, and pull it out. Like the transformer unit, the full voltage unit can also be pulled out by inserting a flat screwdriver into the latch hole as shown.
2. To reinstall, place the TOP markings on the operator and the latch on the full voltage unit in the same direction, and insert the operator into the full voltage unit.

Notes for Panel Mounting

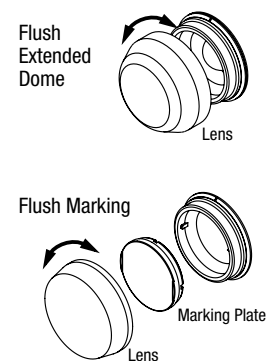
1. Use the optional locking ring wrench (MW9Z-T1) to mount the operator onto a panel. Tightening torque must not exceed 2.0 N·m. Do not use pliers. Excessive tightening will damage the locking ring.
2. For contact blocks and transformers housing LED and incandescent lamps, make sure not to press the lamps too hard, otherwise the lamp socket may be damaged.

Insertion Order of Lens and Marking Plate

Illuminated Pushbutton



Pilot Light



Instructions

Marking

For YW series pilot lights and illuminated pushbuttons, legends and symbols can be engraved on built-in marking plates, or printed mylar film can be inserted under the lens for labeling purposes. Mylar film is not supplied with the YW series and must be supplied by the end user.

Built-in Marking Plate and Marking Film Size

Unit	Pilot Light	Illuminated Pushbutton
Built-in Marking Plate		
	Engraving depth: 0.5 mm maximum Marking plate material: White acrylic	
Applicable Marking Film		
	0.1-mm-thick × 2 sheets or 0.2-mm-thick × 1 sheet Film material: Mylar (recommended) Note: Marking film is not supplied with the pilot light or illuminated pushbutton.	

Replacement (LED and incandescent lamps)

Lamps can be replaced using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator unit.

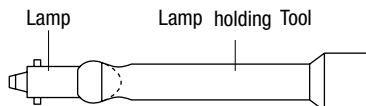
Removing the Lamp from the Front of the Panel



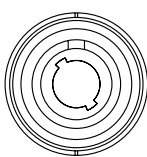
To remove, gently insert the lamp holder tool onto the lamp head. Then push slightly, and turn the lamp holder tool to the left.

Installing the Lamp from the Front of the Panel

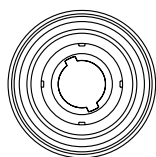
- To install, insert the lamp head into the lamp holder tool, and hold the lamp as shown in the figure below.



- Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it to the right.



Pilot Light

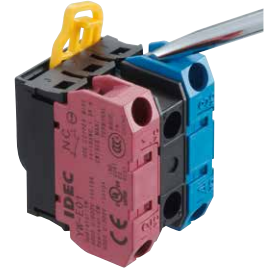


Illuminated Pushbutton

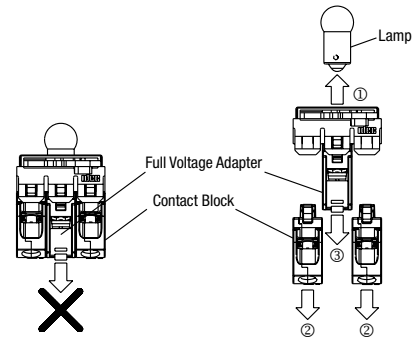
Note: LED lamps in unibody pilot lights cannot be replaced.

Removing Contact Blocks and Full Voltage adapters

Insert a flat screwdriver between the latch and contact block mounting adapter, and disengage the latch.



Make sure to remove the lamp and contact blocks before removing the full voltage adapter.

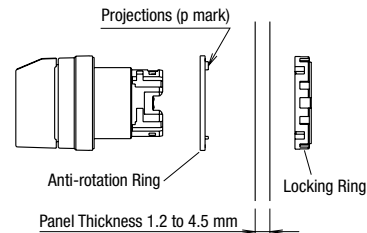


Tightening Torque for Terminal Screws

Tighten terminal screws to a torque of 1.0 N·m.

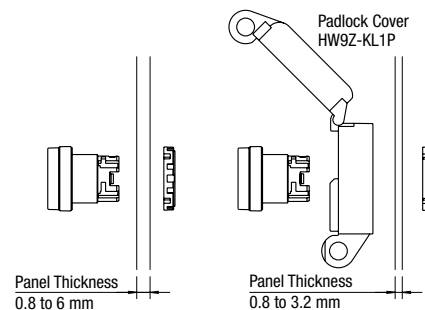
Anti-rotation Ring and Mounting Panel

Turn the TOP marking on the operator and the ▲ mark on the anti-rotation ring to the recess on the mounting panel.



Mounting Panel Thickness

The mounting panel must be 0.8 to 6.0 mm in thickness. When optional accessories are added, the applicable panel thickness changes as shown below.



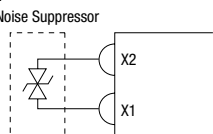
Contact Bounce

When pressing or turning the operator, the NC and NO contacts will bounce. When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

Instructions

Precautions for Noise

When using the unibody pilot light in an environment where it is subjected to noise, connect a noise suppressor across terminals X1 and X2 as shown below.



Key Selector Switch

Before operation, ensure that the key is inserted into the key hole completely. Operating the key selector switch with a loose key will cause damage to the key selector switch.

LED Illumination

LED lamps consist of semiconductors. If the applied voltage exceeds the rated voltage, LED elements deteriorate due to overheat, resulting in significant decrease in brightness, hue change, or failure of lighting. Also, if extraneous noise, transient voltage, or transient current is applied to the circuit, similar effects will be caused. When using LED lamps, observe the following instructions.

Rated Voltage

The LED illuminated units are rated at 6V, 12V, 24V, 110V, or 230/240V AC/DC, and can be used within ±10% the rated voltage of either AC or DC, except the 230/240V AC/DC types can be used on 250V AC/DC maximum.

DC Power

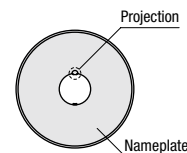
1. Switching power supply
Regulated voltage from a switching power supply is best suited. Make sure to use within the rated voltage of the LED lamp.
2. Rechargeable battery
Note that the battery voltage may exceed the rated voltage of the LED lamp while the battery is being charged and immediately after the charging is complete. Be sure to use the LED lamp on a voltage of ±10% the rated voltage, except the 230/240V AC/DC types on 250V AC/DC maximum.
3. Full-wave rectification
Since the LED lamp is AC/DC compatible, a diode bridge for rectification is not necessary. If the LED lamp is used on a full-wave rectification current through a diode bridge, the rectifier diodes will reduce the voltage, resulting in lower brightness.
4. Single-phase half-wave rectification
This is not suitable for the power source of LED lamps. Use constant-voltage DC power.

Noise

LED elements deteriorate due to extraneous noise, resulting in significant decrease in brightness, hue change, or failure of lighting. When such effects are anticipated, take a protection measure shown below, such as RC elements or a surge absorber.

Nameplate

When anti-rotation is not required, remove the projection from the nameplate using pliers.

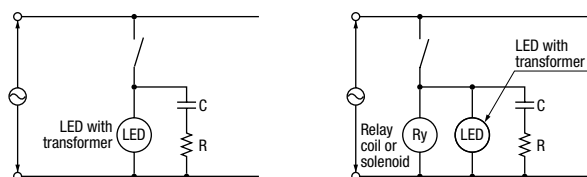


Handling

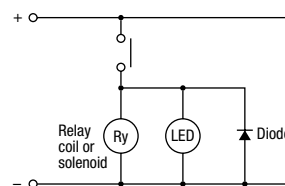
Do not expose the switch to excessive shock and vibration, otherwise the switch may be deformed or damaged, causing malfunction or operation failure.



[Protection Example 1] For AC circuit



[Protection Example 2] For DC circuit

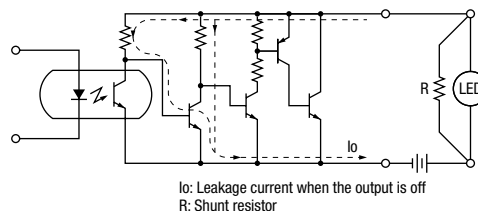


Countermeasures against Dim Lighting

1. Leakage current through transistors or a contact protection circuit may cause the LED lamp to illuminate dimly even when the output is off.
2. When the LED lamp is illuminated by a transistor output, take the following measure.

[Circuit Example]

Connect shunt resistor R in parallel with the LED lamp.



Ordering Information

- When ordering, specify the Part No. and quantity.
- Replacement contact blocks are supplied in a package containing 10 pieces.

- APEM
- Switches & Pilot Lights
- Control Boxes
- Emergency Stop Switches
- Enabling Switches
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- Flush Silhouette
- ø16
- ø22
- ø30
- Miniature
- Pilot Lights

- HW
- TW
- YW



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