

ELECTRICAL COMPONENTS

The image features a variety of electrical components. At the top, there are several push buttons in yellow, green, and blue. Below them are two grey cylindrical relays with 'DECA' branding and technical specifications like 'U300V 11h5A B300 R300'. To the left, a large orange push button is partially visible. On the right, a white relay unit with a 'Turn Lock' and 'Push Test' mechanism is shown. At the bottom, there are several grey terminal blocks of different sizes, some with numbered terminals.

PUSH BUTTONS/SWITCHES

LIMIT SWITCHES

FOOT SWITCHES

SOLID STATE RELAYS

RELAYS & SOCKETS

RELAY TERMINAL BLOCKS

DIN RAIL TERMINAL BLOCKS

BARRIER TERMINAL BLOCKS

FUSE

K16 Series

Ø16mm Switches/Buttons


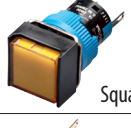










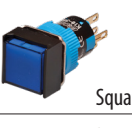






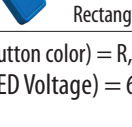
- 16mm (5/8") Mounting Holes
- IP 65 degree of protection (Water & dust proof)
- Snap action contacts
- Illuminated Mushroom & Round, square, rectangular heads (Selector switches are optional)
- Useful quick connector (tap #110) or available solder socket or PCB pin sockets
- Flush mountable switches available - see page F4

Specifications

Contacts	Contact Form	SPDT (1NO + 1NC), DPDT (2NO + 2NC)
	Contact Material	Ag Alloy (24K Gold plated)
	Max. Switching Current	3A MAX
	Max. Rated Voltage	250VAC, 110VDC
	Rated Current	1A at 24VDC/ 120VAC, 0.5A at 250VAC
	Min. Switching Current	1mA 5VDC
LED	Rated Voltage	24VDC, 12VDC, 6VDC
	Rated Current	15mA
	Expected Life	50,000hrs
Buzzer	Sound	80dB continuous alert sound at 0.1m
	Voltage/Current	24VDC/15mA

General Spec	Contact Resistance	Max. 50mΩ	
	Insulation Resistance	100MΩ at 500V DC	
	Dielectric Strength	2,000VAC for 1 Min.	
	Vibration Resistance	5~55Hz Dual amplitude : 0.75mm	
	Shock Resistance	Endurance: 500m/s ² , Operatin 200m/s ²	
	Expected Life	Mechanical	Push Button (release): Min. 1,000,000
			Selector, Key Selector: 250,000
	Expected Life	Electrical	Others: Min. 100,000
			Maintained: Min. 50,000 (frequency 1,200 times/hrs)
	Ambient Temperature	Operation: -25°C~ +55°C, Storage: -30°C~+80°C	Others: Min. 100,000
Ambient Humidity	45~85%RH		
Degree of Protection	IP65		
Terminal Soldering Temp.	20W 5sec / 260°C 3sec		

	Style	Operation	Contact	Part Numbers	
				Non Illuminated	Illuminated
Push Button		Momentary	SPDT DPDT	K16-211-① K16-212-①	K16-271-①-② K16-272-①-②
		Maintained	SPDT DPDT	K16-311-① K16-312-①	K16-371-①-② K16-372-①-②
		Momentary	SPDT DPDT	K16-221-① K16-222-①	K16-281-①-② K16-282-①-②
		Maintained	SPDT DPDT	K16-321-① K16-322-①	K16-381-①-② K16-382-①-②
		Momentary	SPDT DPDT	K16-231-① K16-232-①	K16-291-①-② K16-292-①-②
		Maintained	SPDT DPDT	K16-331-① K16-332-①	K16-391-①-② K16-392-①-②
Mushroom Switches		Momentary	SPDT DPDT	K16-911-① K16-912-①	K16-971-①-② K16-972-①-②
		Maintained	SPDT DPDT	K16-911H-① K16-912H-①	K16-971H-①-② K16-972H-①-②
		Momentary	SPDT DPDT	K16-921-① K16-922-①	K16-981-①-② K16-982-①-②
		Maintained	SPDT DPDT	K16-921H-① K16-922H-①	K16-981H-①-② K16-982H-①-②
		Momentary	SPDT DPDT	K16-931-① K16-932-①	K16-991-①-② K16-992-①-②
		Maintained	SPDT DPDT	K16-931H-① K16-932H-①	K16-991H-①-② K16-992H-①-②
E-Stop Switches		Turn to Release	SPDT DPDT	K16-811R K16-812R	K16-871-24VDC K16-872-24VDC
Buzzers		80dB	N/A	K16-CZ	K16-CZL
		80dB	N/A	K16-BZ	K16-BZL

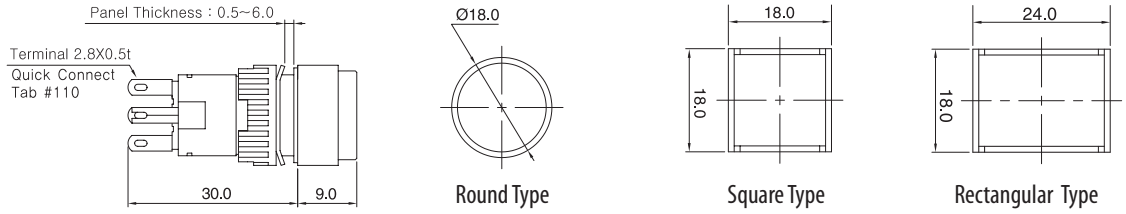
	Style	Operation	Contact	Part Numbers
Pilot Lamp		Pilot Lamp	N/A	K16-170-①-②V
		Pilot Lamp	N/A	K16-180-①-②V
		Pilot Lamp	N/A	K16-190-①-②V
Selector Switches		2 Step	SPDT DPDT	K16-411 K16-412
		3 Step	DPDT	K16-512
		2 Step	SPDT DPDT	K16-421 K16-422
		3 Step	DPDT	K16-522
		2 Step	SPDT DPDT	K16-431 K16-432
		3 Step	DPDT	K16-532
Key Selector Switches		2 Step	SPDT DPDT	⊗ K16-611 ⊗ K16-612
		3 Step	DPDT	⊕ K16-712
		2 Step	SPDT DPDT	⊗ K16-621 ⊗ K16-622
		3 Step	DPDT	⊕ K16-722
		2 Step	SPDT DPDT	⊗ K16-631 ⊗ K16-632
		3 Step	DPDT	⊕ K16-732

* ① (Button color) = R, G, Y, B, and W (Red, Green, Yellow, Blue, and White)

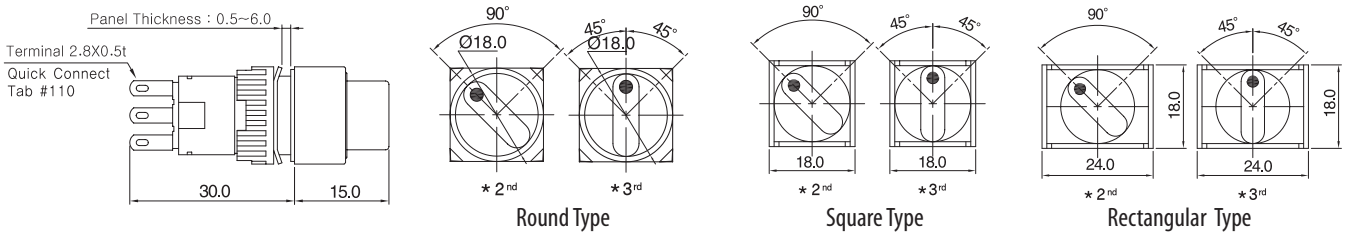
* ② (LED Voltage) = 6VDC, 12VDC, 24VDC

Dimensions

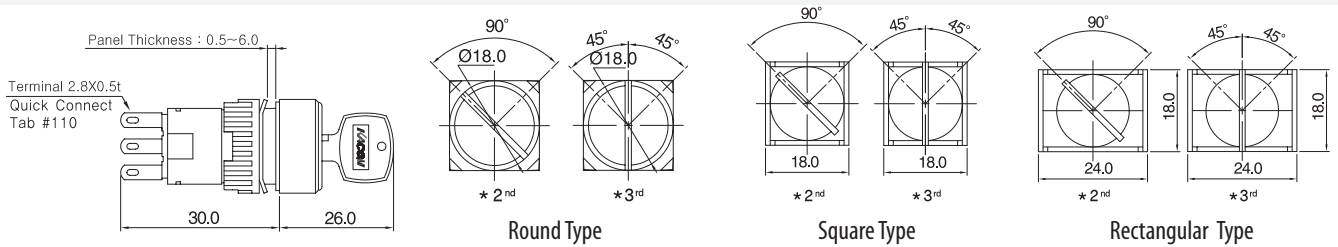
Pilot Lamps & Push Buttons



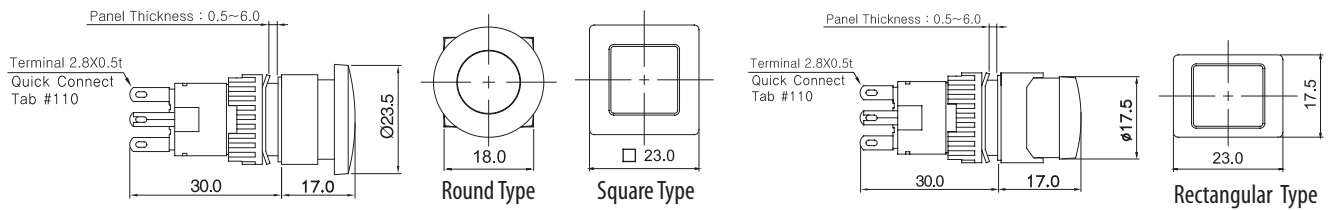
Selector Switches



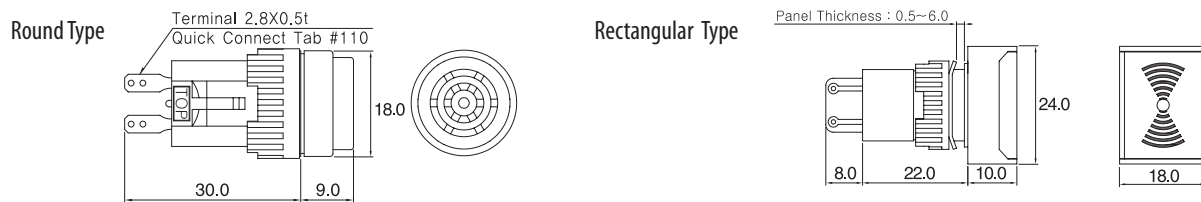
Key Switches



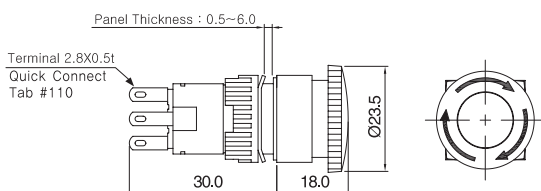
Mushroom Type Push Buttons



Buzzers

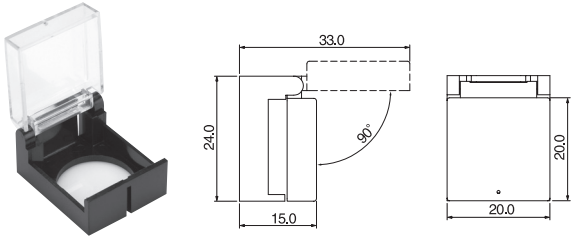


Emergency Resets

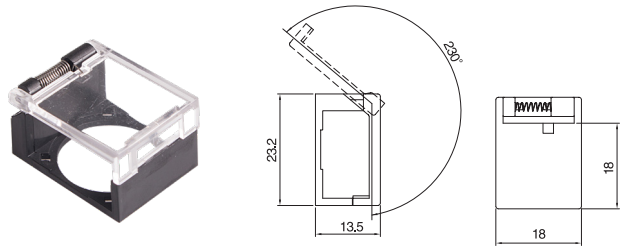


K16 Accessories

Protection Covers - Round & Square Type

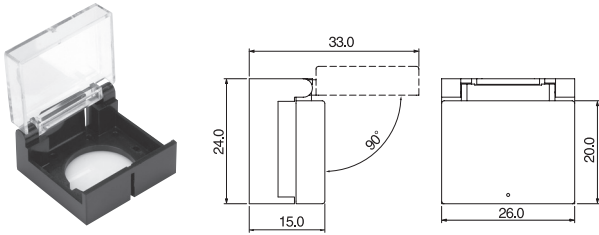


K16-S111 - Opens 90 degree

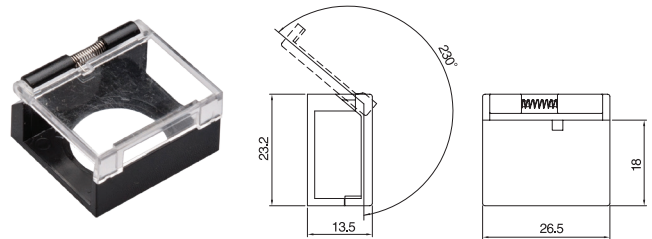


K16-S221 - Opens 230 degree

Protection Covers - Rectangular Type

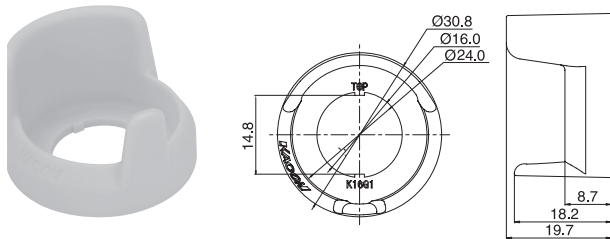


K16-S112 - Opens 90 degree

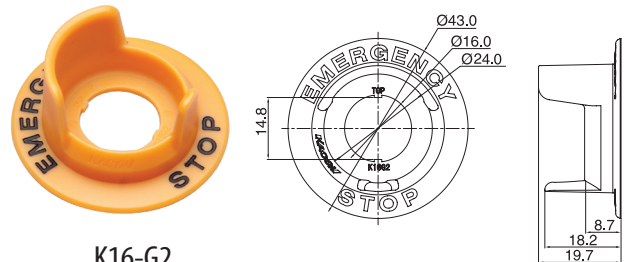


K16-S222 - Opens 230 degree

Safety Guard



K16-G1

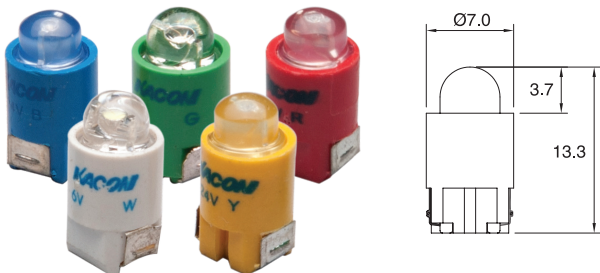


K16-G2

LED

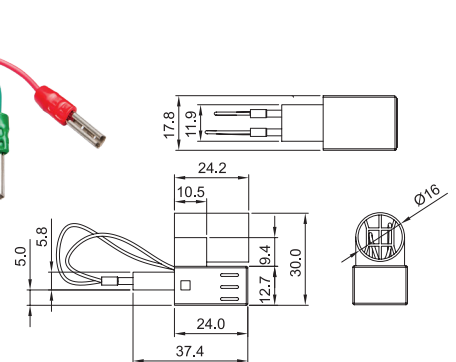
K16-S115①

① - R, Y, G, B, C & 6, 12, 24VDC

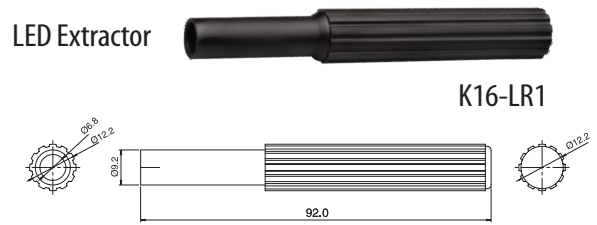
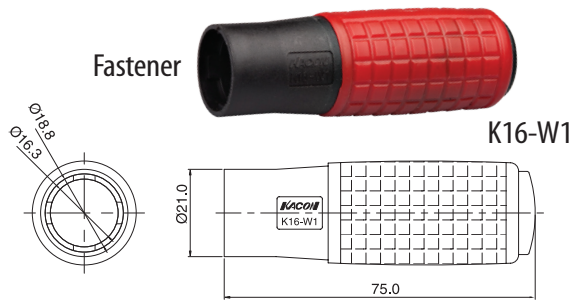


Transformer

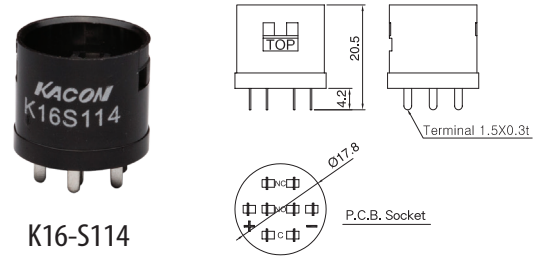
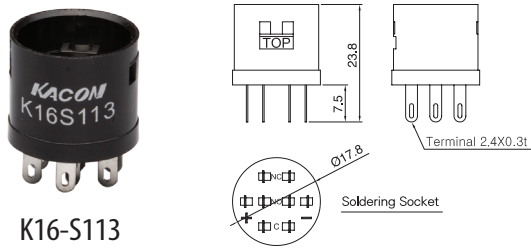
K16-T1 : 220V to 24V
K16-T2 : 110V to 24V



Hand Tools



Sockets



Terminal Protection



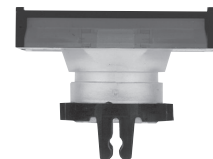
K16-S116

Protection Cover



K16-S223

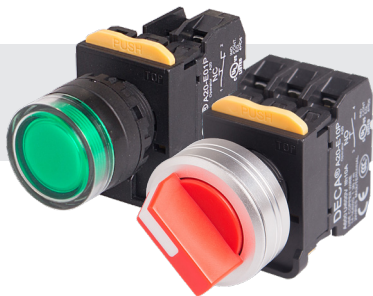
R Type Lens



K16-S224

Flush Mounting Guard





A20 Series

Ø22 Switches/Buttons



- Compact & light weight
- IP20 finger safe screw terminal (IEC60529)
- Matted surface on buttons, lenses, and bezels to reduce reflection of ambient light
- Detachable contact block for easy installation & removal
- Wide light distribution to increase the visibility range
- Comply with EN standard

General Specifications

Insulation Resistance	100MΩ minimum at 500V DC megger	
Dielectric Strength	Contact block: 2,500VAC for 1 Min.	
	Illuminated unit: 2,000VAC for 1 Min.	
Vibration Resistance	E-stop switches	Operation Extremes: 10-500Hz, Amplitude: 0.35mm 50m/s ²
		Damage Extremes: 10-500Hz, Amplitude: 0.35mm 50m/s ²
	Indicator, Pushbutton, Selector switches	Operation Extremes: 5-55Hz, Amplitude: 0.5mm
		Damage Extremes: 30Hz, Amplitude: 1.5mm
Shock Resistance	E-stop switches	Operation Extremes: 150m/s ²
		Damage Extremes: 1,000m/s ²
	Indicator, Pushbutton, Selector switches	Operation Extremes: 100m/s ²
		Damage Extremes: 1,000m/s ²
Mechanical Durability	E-Stop switches	250,000
	Pushbuttons	Momentary: 5,000,000 (Single contact), 1,000,000 (double contact)
		Maintained: 250,000 (Single contact), 100,000 (double contacts)
Selector switches	250,000 (Single contact), 100,000 (double contacts)	
Electrical Life	E-stop switches	100,000
	Pushbuttons	250,000 (Single contact), 100,000 (double contacts)
	Selector switches	250,000 (Single contact), 100,000 (double contacts)
Ambient Temperature	Operation: -25°C~+55°C, Storage: -45°C~+85°C	
Ambient Humidity	45~85%RH	
Degree of Protection	IP65	
Terminal Soldering Temperature	20W 5sec / 260°C 3sec	

Contacts Rating	Rated Insulation Voltage	250V				
	Rated Terminal Current	10A				
	Operation Voltage (AC/DC)	24V	120V	240V	380V	
		AC 50/60Hz	Resistive Load	10A	10A	6A
	DC	Inductive Load	10A	6A	3A	1.9A
		Resistive Load	8A	2.2A	1.1A	-
Inductive Load	4A	1.1A	0.55A	-		
Minimum Applicable Load	3V AC/DC x 3mA					







Type No	Rated voltage	Rated Current	Color code	LED life
LAED-6	6V AC/DC	10mA (R, Y) 7mA (G, W, S)	G: Green W: White R: Red S: Blue Y: Yellow	50,000 Hrs
LAED-1	12V AC/DC	14mA (R, Y) 13mA (G, W, S)		50,000 Hrs
LAED-2	24V AC/DC	14mA (R, Y) 13mA (G, W, S)		50,000 Hrs
LAED-H	110V AC/DC	5.5mA		50,000 Hrs
LAED-M3	230/240V AC/DC	2.7mA		50,000 Hrs










Switch Construction Instructions

Assembly	A	B	C	B LED Lamps Part Number	C Contact Block Assembly Part Number
	Pushbutton Operators	LED Lamps	Contact Block Assembly		
Illuminated				LAED-6G (6VAC/DC) LAED-6R (6VAC/DC) LAED-6S (6VAC/DC) LAED-6W (6VAC/DC) LAED-6Y (6VAC/DC) LAED-1G (12VAC/DC) LAED-1R (12VAC/DC) LAED-1S (12VAC/DC) LAED-1W (12VAC/DC) LAED-1Y (12VAC/DC) LAED-2G (24VAC/DC) LAED-2R (24VAC/DC) LAED-2S (24VAC/DC) LAED-2W (24VAC/DC) LAED-2Y (24VAC/DC) LAED-HG (110VAC/DC) LAED-HR (110VAC/DC) LAED-HS (110VAC/DC) LAED-HW (110VAC/DC) LAED-HY (110VAC/DC)	A20L-E10P (1NO) A20L-E01P (1NC) A20L-E20P (2NO) A20L-E02P (2NC) A20L-E11P (1NO-1NC)
Non-illuminated				LAED-HG (110VAC/DC) LAED-HR (110VAC/DC) LAED-HS (110VAC/DC) LAED-HW (110VAC/DC) LAED-HY (110VAC/DC) LAED-M3G (230/240VAC/DC) LAED-M3R (230/240VAC/DC) LAED-M3S (230/240VAC/DC) LAED-M3W (230/240VAC/DC) LAED-M3Y (230/240VAC/DC)	A20B-E10P (1NO) A20B-E01P (1NC) A20B-E20P (2NO) A20B-E02P (2NC) A20B-E11P (1NO-1NC) A20B-E30P (3NO) A20B-E03P (3NC) A20B-E21P (2NO-1NC) A20B-E12P (1NO-2NC)

(Lens color) = G: Green, R: Red, S: Blue,
W: White, Y: Yellow











A20 Series Operators












	Style	Operation	Part Numbers
Non-illuminated Pushbutton Plastic bezel		Momentary	A20B-M1E①
		Maintained	A20B-A1E①
		Momentary	A20B-M2E①
		Maintained	A20B-A2E①
		Momentary	A20B-M4E①
		Maintained	A20B-A4E①
Non-illuminated Pushbutton metal bezel		Momentary	A204B-M1E①
		Maintained	A204B-A1E①
		Momentary	A204B-M2E①
		Maintained	A204B-A2E①
		Momentary	A204B-M4E①
		Maintained	A204B-A4E①
Non-illuminated Pushbutton flush mountable metal bezel		Momentary	A204B-M1E①-U
		Maintained	A204B-A1E①-U
		Momentary	A204B-M2E①-U
		Maintained	A204B-A2E①-U
		Momentary	A204B-M4E①-U
		Maintained	A204B-A4E①-U

	Style	Operation	Part Numbers
Illuminated Pushbutton plastic bezel		Momentary	A20L-MF2E②
		Maintained	A20L-AF2E②
		Momentary	A20L-M2E②
		Maintained	A20L-A2E②
		Momentary	A20L-M4E②
		Maintained	A20L-A4E②
Illuminated Pushbutton metal bezel		Momentary	A204L-M1E②
		Maintained	A204L-A1E②
		Momentary	A204L-M2E②
		Maintained	A204L-A2E②
		Momentary	A204L-M1E②-BU
		Maintained	A204L-A1E②-BU
Illuminated Pushbutton flush mountable metal bezel		Momentary	A204L-M2E②-U
		Maintained	A204L-A2E②-U
		Momentary	A204L-M4E②
		Maintained	A204L-A4E②
		Momentary	A204L-M4E②-U
		Maintained	A204L-A4E②-U

* ① (Head color) = B: Black, G: Green, R: Red, S: Blue, W: White, Y: Yellow


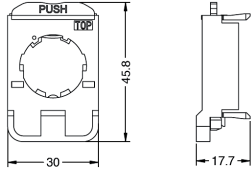

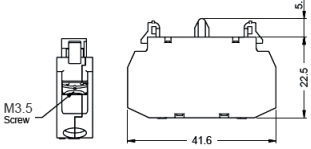

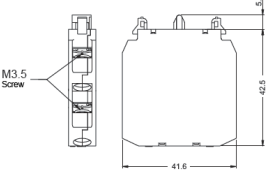

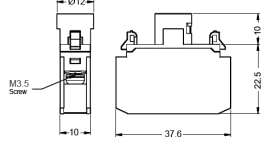

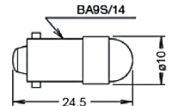
* ② (Lens color) = G: Green, R: Red, S: Blue, W: White, Y: Yellow

	Style	Operation	Part Numbers
Non-illuminated selector switches		Maintained	A20S-2E①
		Spring return from right	A20S-21E①
		Maintained	A20S-3E①
		Spring return from right	A20S-31E①
		Spring return from two-way	A20S-33E①
	Illuminated selector switches		Maintained
Spring return from right			A20F-21E②
		Maintained	A20F-3E②
		Spring return from right	A20F-31E②
		Spring return from two-way	A20F-33E②
Non-illuminated selector switches with metal bezel			Maintained
	Spring return from right		A204S-21E①
		Maintained	A204S-3E①
		Spring return from right	A204S-31E①
		Spring return from two-way	A204S-33E①
	Illuminated selector switches with metal bezel		Maintained
Spring return from right			A204F-21E②
		Maintained	A204F-3E②
		Spring return from right	A204F-31E②
		Spring return from two-way	A204F-33E②
Non-illuminated selector switches with flush mountable metal bezel			Maintained
	Spring return from right		A204S-21E①-U
		Maintained	A204S-3E②-U
		Spring return from right	A204S-31E②-U
		Spring return from two-way	A204S-33E②-U

	Style	Operation	Part Numbers
Illuminated selector switches with flush mountable metal bezel		Maintained	A204F-2E②-U
		Spring return from right	A204F-21E②-U
		Maintained	A204F-3E②-U
		Spring return from right	A204F-31E②-U
		Spring return from two-way	A204F-33E②-U
	Key selector switches		Maintained
Spring return from right			A20K-21BE-2
		Maintained	A20K-3AE-2
		Spring return from right	A20K-31BE-2
		Spring return from two-way	A20K-33DE-2
Key selector switches with metal bezels			Maintained
	Spring return from right		A204K-21BE-2
		Maintained	A204K-3AE-2
		Spring return from right	A204K-31BE-2
		Spring return from two-way	A204K-33DE-2
	Key selector switches with flush mountable metal bezels		Maintained
Spring return from right			A204K-21BE-2U
		Maintained	A204K-3AE-2U
		Spring return from right	A204K-31BE-2U
		Spring return from two-way	A204K-33DE-2U
Non-illuminated E-Stop switches			Push lock Twist reset
Illuminated E-Stop switches		Push lock Twist reset	A20L-V4ER
Key-Reset E-Stop switches		Push lock Key reset	A20E-K4


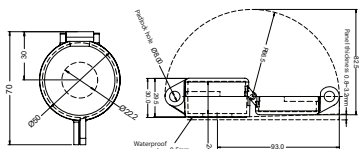

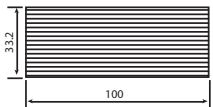

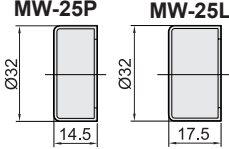

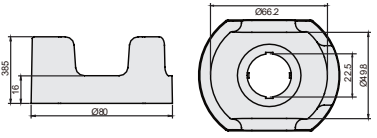
* ① (Head color) = **B**: Black, **G**: Green, **R**: Red, **S**: Blue, **W**: White, **Y**: Yellow
 * ② (Lens color) = **G**: Green, **R**: Red, **S**: Blue, **W**: White, **Y**: Yellow

A20 Components

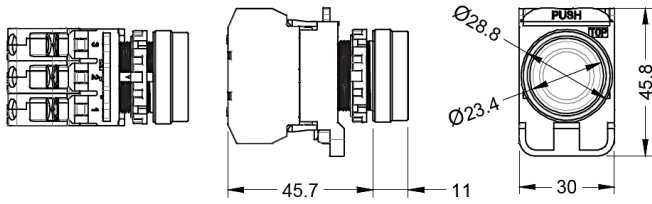
Name	Part No.	Description	Dimensions
	A20B-E00P	Contact block mounting adapter	
	A20-E01P	1NC contact block	
	A20-E10P	1NO contact block	
	A20-E20P	2NO contact block	
	A20-E11P	1NO-1NC contact block	
	A20-E02P	2NC contact block	
	A20-E00P	Lamp socket - full voltage adapter	
	LAED-①②*	LED lamp	

* ① (Operation Voltage) = 6: 6VAC/DC, 1: 12VAC/DC, 2: 24VAC/DC, H: 110VAC/DC, M3: 230/240VAC/DC
 * ② (Lens color) = G: Green, R: Red, S: Blue, W: White, Y: Yellow

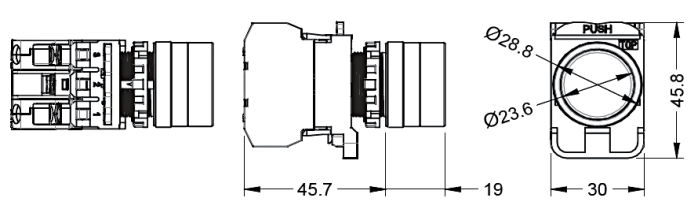
A20 Series Accessories

Name	Part No.	Description	Dimensions
	A29Z-KL1	Padlock cover	
	MC2-P100	Locking ring wrench	
	MW-25P	Water proof cap	
	MW-25L (for Illuminated Button)		
	KEG12Y	Shroud for E-Stop switch	

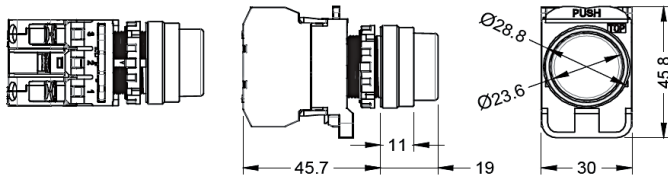
Flush type pushbutton



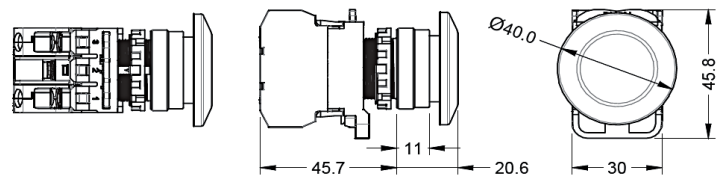
Illuminated flush type pushbutton



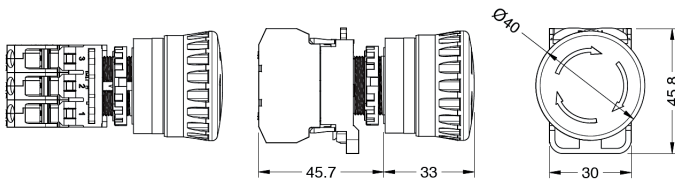
Extended type pushbutton



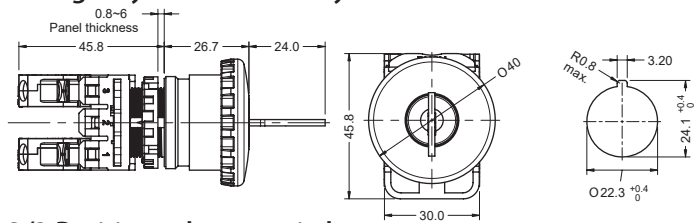
Mushroom type pushbutton



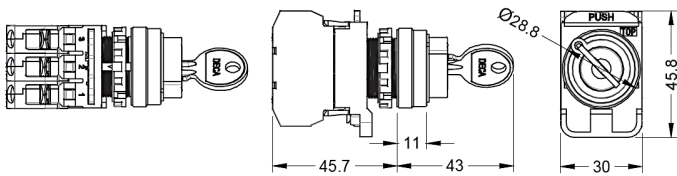
E-Stop switches



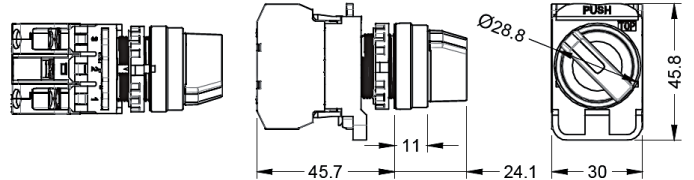
Emergency Switch with Key Reset



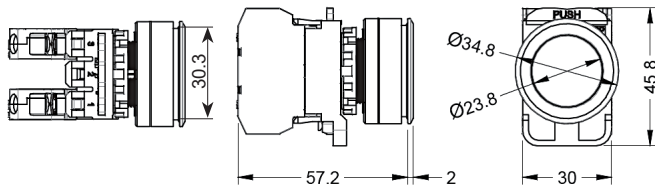
2/3 Position key selector switch



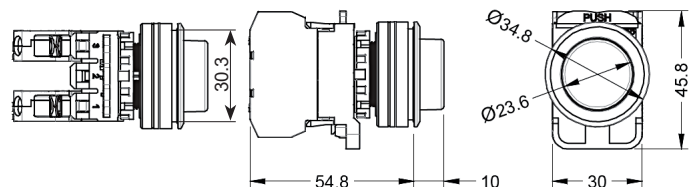
2/3 Position selector switch



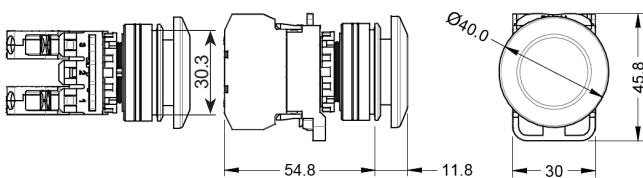
Flush type w/flush mountable metal bezels



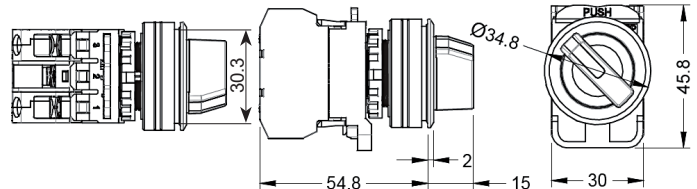
Extended type w/flush mountable metal bezels



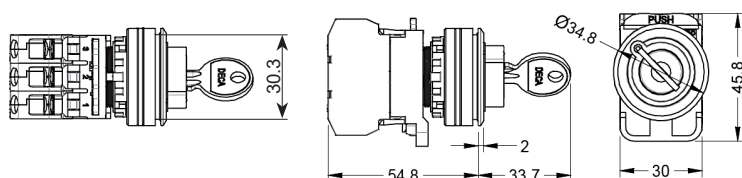
Mushroom type w/flush mountable metal bezels



2/3 Position selector w/flush mountable metal bezels

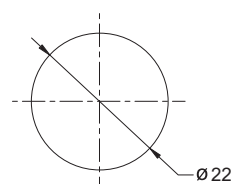


2/3 Position key selector switch w/flush mountable metal bezels

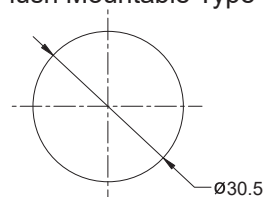


Panel Hole Guide

Standard Type



Metal bezel Flush Mountable Type





CP2 Series

Ø22mm WIRE-PUSH-IN Unibody Switches



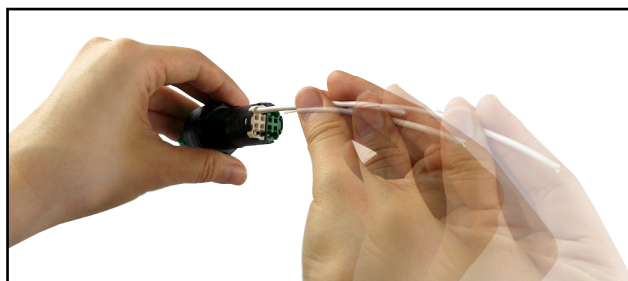
- Save time with quick WIRE-PUSH-IN system
- Spring clamps for strong wire holding force
- Compact unibody housing to reduce installation space
- Double wiring holes for common wiring
- IP66 waterproof (front operator)
- Accessories for contact blocks available (IP66/IP68)

General Specifications

Insulation Resistance		100 MΩ above (500V DC High resistance meter)
Vibration Resistance	E-stop switches	Operation Extremes: 10-500Hz, Amplitude: 0.35mm, 50m/s ²
		Damage Limits: 10-500Hz, Amplitude: 0.35mm, 50m/s ²
	Pilot light Pushbutton, Illuminated pushbutton and Selector switch	Operation Extremes: 5-55Hz, Amplitude: 0.5mm
		Damage Limits: 30Hz, Amplitude: 1.5mm
Shock Resistance	E-stop switches	Operation Extremes: 150m/s ²
		Damage Limits: 1,000m/s ²
	Pilot light Pushbutton, Illuminated pushbutton and Selector switch	Operation Extremes: 100m/s ²
		Damage Limits: 1,000m/s ²
Dielectric Strength	Switch parts	Between charge and non-charged metal parts: 2,000V AC . 1minute
		Between abnormal terminals: 2,000V AC . 1minute
		Between Same polarity Terminals: 2,000V AC . 1minute
		Between Contact terminals and lamp terminals: 2,000V AC . 1minute
	Illuminated parts	Between charging and grounding: 2,000V AC . 1minute
Ambient Temperature		Operation: -25 ~ +55°C(no freezing), Storage: -45°C~+85°C
Ambient Humidity		45~85%RH
Degree of Protection		From panel front: IP66 / Terminal: IP20 (IP66 with silicon sleeve)
Certificate/Compliance		UL(E333442), CE

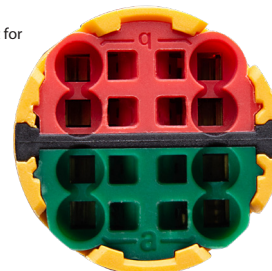
Contacts Rating	Rated Insulation Voltage		400 V				
	Rated Terminal Current		8A				
	Rated Operating Voltage		12V	24V	120V	240V	380V
	AC 50/60Hz	Resistive Load	8V	8A	8A	6A	3.8A
		Inductive Load	8V	8A	6A	3A	1.9A
	Rated Operating Voltage		12V	24V	125V	250V	400V
DC	Resistive Load	2.5V	2.5A	1.1A	0.55A	0.3A	
	Inductive Load	2.5V	2.5A	0.55A	0.27A	0.15A	

Type No	Rated voltage	Rated Current	Color code ①
LAED-1 ①	12V AC/DC	2.2 mA (G) 10.0 mA (R . Y) 12.0 mA (S)	G:Green S:Blue R:Red W:White Y:Yellow
LAED-2 ①			
LAED-H ①	110V AC/DC	1.2 mA (G) 1.3 mA (Y) 1.4 mA (R . S)	
LAED-M3 ①	230/240V AC/DC	1.1 mA (G) 1.2 mA (R . S . Y)	
LAED-11 ①	110VAC	2.8 mA (G) 10.5 mA (S)	
		10.6 mA (R) 10.5 mA (Y)	
LAED-22 ①	220V AC/DC	1.9 mA (G) 9.1 mA (S)	
		8.8 mA (R) 9.0 mA (Y)	



Contact Block

- Two wiring holes per spring contact for common wiring or alternative use
- WIRE-PUSH-IN system to greatly reduce wiring time
- Spring clamps to increase wire holding force and stability
- Central partition structure between contact blocks to enhance electrical insulation
- Solid wire, strand wire or European terminal wiring can be used
- Contact blocks and lampholders are clearly recognizable with their colors



Operator and Housing

- Compact unibody housing to reduce installation space
- Anti-rotation latch design on operators
- Mounting panel thickness: 0.8~12.0mm (standard type)

Accessories

- Waterproof Silicon Sleeve: provides IP66 protection to contacts under the mounting panel
- Waterproof Cover: provides IP68 protection to contact blocks

Ordering Information

Pushbuttons Switches

CP2 ① ② - ③ ④ ⑤ E ⑥ ⑦ ⑧ - ⑨

① Bezel Material	Blank	Plastic Bezel			
	4	Metal Bezel			
② Style	B	Non-Illuminated Pushbutton Switch			
	L	Illuminated Pushbutton Switch			
③ Operator	A	Maintained			
	M	Momentary			
④ Shape	1	Flush	2	Extended	
	F2	Extended with Full Shroud	4	Φ40 Mushroom	
⑤ Marking Type	Blank	Unmarking Type			
	B	Marking Type			
⑥ Contact Arrangement	10	1NO	01	1NC	
	20*	2NO	02*	2NC	
	11*	1NO+1NC			
⑦ Operator Voltage	Blank	Non-Illumination Type	Q3**	LED 12V AC/DC	
	Q4**	LED 24V AC/DC	Q11**	LED 110V AC	
	Q22**	LED 220V AC			
⑧ Color	B*	Black	G	Green	
	R	Red	S	Blue	
	W	White	Y	Yellow	
⑨ Head	Blank	Standard			
	U	Silhouette			
	T	Extended Large frame			

*Non-Illuminated only
**Illuminated only

Key Selector Switches

CP2 ① K - ② ③ E ④ - ⑤

① Bezel Material	Blank	Plastic Bezel			
	4	Metal Bezel			
② Action	2	2 Positions -45°~+45° Maintained	22	2 Positions 0°~+90° Maintained	
	23	2 Positions 0°~+45° Maintained	24	2 Positions 0°~+45° Spring Return from Right	
	3	3 Positions -45°~0°~+45° Maintained	31	3 Positions -45°~0°~+45° Spring Return from Right	
	32	3 Positions -45°~0°~+45° Spring Return from Left	33	3 Positions -45°~0°~+45° Spring Return Two-Way	
③ Function (2 position / 3 position)	A	Key removable in L+R / L+C+R	B	Key removable in L / L+C	
	C	Key removable in R / C+R	D*	Key removable in C	
	E*	Key removable in L+R	G*	Key removable in L	
	H*	Key removable in R			
④ Contact Arrangement (No.1 / No.2)	10	NO / X	01	NC / X	
	20	NO / NO	02	NC / NC	
	11	NO / NC	11N	NC / NO	
⑤ Head	Blank	Standard			
	U	Silhouette			
	T	Extended Large frame			

*3 Position only

Emergency Stop Switches

CP2 ① E - ② E ③ ④ R - ⑤

① Bezel Material	Blank	Plastic Bezel				
	4	Metal Bezel				
② Type	Bezel Hole ø34.6mm					
	BV*	Pull/Turn To Release ø40 Mushroom	LV**	Pull/Turn To Release ø40 Mushroom		
	BP*	Pull To Release ø40 Mushroom	LP**	Pull To Release ø40 Mushroom		
	BT*	Turn To Release ø40 Mushroom	LT**	Turn To Release ø40 Mushroom		
	Bezel Hole ø29.0mm					
	P3*	Pull to Release Φ30 Mushroom	P4*	Pull to Release Φ40 Mushroom		
	P6*	Pull to Release Φ60 Mushroom	T3*	Turn to Release Φ30 Mushroom		
	T4*	Turn to Release Φ40 Mushroom	T6*	Turn to Release Φ60 Mushroom		
	K3*	Key Release Φ30 Mushroom	K4*	Key Release Φ40 Mushroom		
	K6*	Key Release Φ60 Mushroom				
	③ Contact Arrangement	10	1NO	01	1NC	
		20*	2NO	02*	2NC	
11*		1NO+1NC				
④ Operator Voltage	Blank	Non-Illumination Type	Q3**	LED 12V AC/DC		
	Q4**	LED 24V AC/DC	Q11**	LED 110V AC		
	Q22**	LED 220V AC				
⑤ Head	Blank	Standard				
	T	Extended Large frame				

*Non-Illuminated only
**Illuminated only

Selector Switches

CP2 ① ② - ③ ④ E ⑤ ⑥ ⑦ - ⑧

① Bezel Material	Blank	Plastic Bezel			
	4	Metal Bezel			
② Style	S	Non-Illuminated Selector Switch			
	F	Illuminated Selector Switch			
③ Action	2	2 Positions -45°~+45° Maintained	22	2 Positions 0°~+90° Maintained	
	23	2 Positions 0°~+45° Maintained	24	2 Positions 0°~+45° Spring Return from Right	
	3*	3 Positions -45°~0°~+45° Maintained	31*	3 Positions -45°~0°~+45° Spring Return from Right	
	32*	3 Positions -45°~0°~+45° Spring Return from Left	33*	3 Positions -45°~0°~+45° Spring Return Two-Way	
④ Lever	Blank	Standard Lever			
	L	Long Lever			
⑤ ***Contact Arrangement	10	1NO	01	1NC	
	20*	NO / NO	02*	NC / NC	
	11*	NO / NC	11N*	NC / NO	
⑥ Operator Voltage	Q2**	LED 6V AC/DC	Q3**	LED 12V AC/DC	
	Q4**	LED 24V AC/DC	Q11**	LED 110V AC	
	Q22**	LED 220V AC			
⑦ Color	B*	Black	G	Green	
	R	Red	S	Blue	
	W	White	Y	Yellow	
⑧ Head	Blank	Standard			
	U	Silhouette			
	T	Extended Large frame			

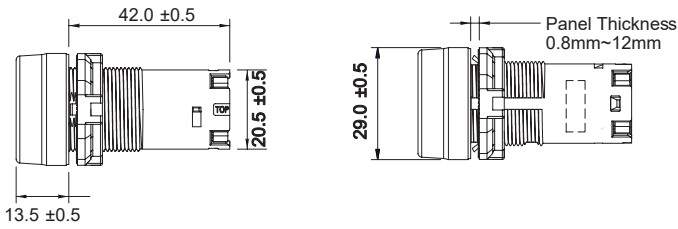
*Non-Illuminated only
**Illuminated only

***Contact arrangement : 2 position (10, 01, 20, 02, 11), 3 position (20, 02, 11, 11N)

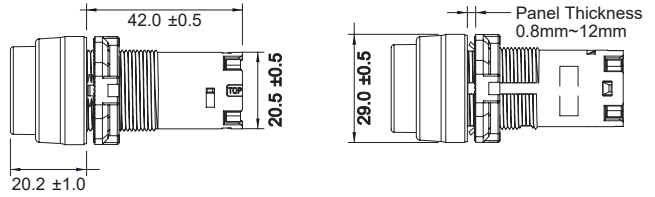
Dimensions

Unit: mm

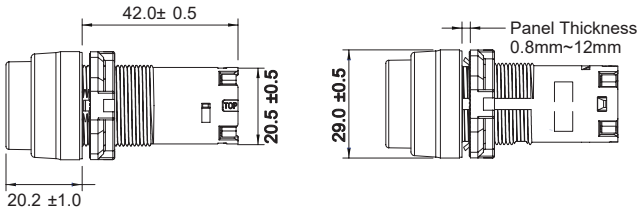
CP2B-A1E, CP2L-M1E, CP2B-M1E



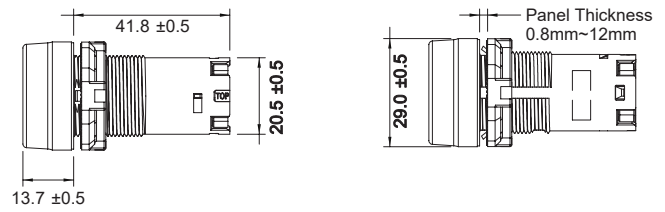
CP2L-A2E



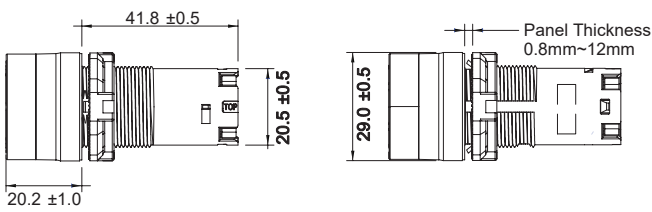
CP2L-M2E, CP2B-M2E



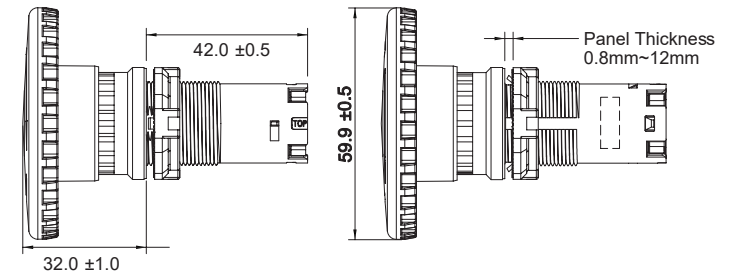
CP2L-A1E



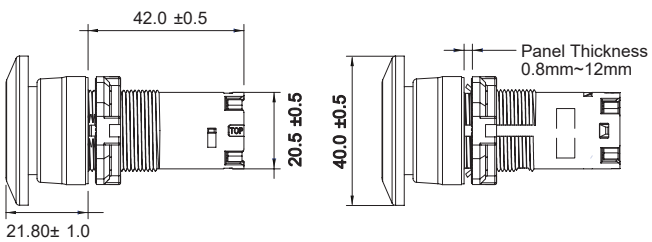
CP2L-AF2E, CP2B-MF2E



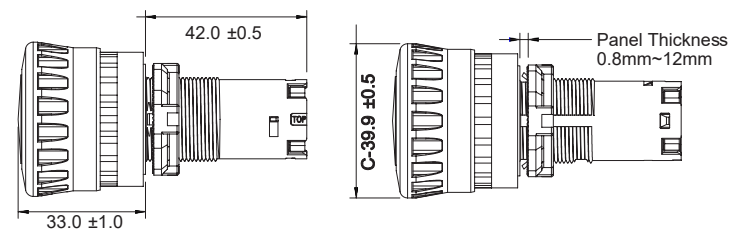
CP2E-T6E



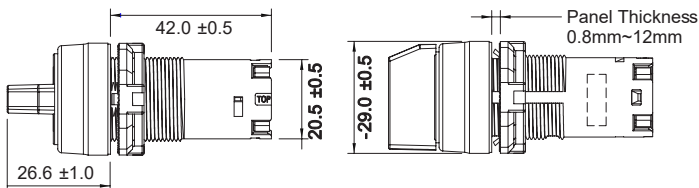
CP2L-A4E, CP2B-M4E



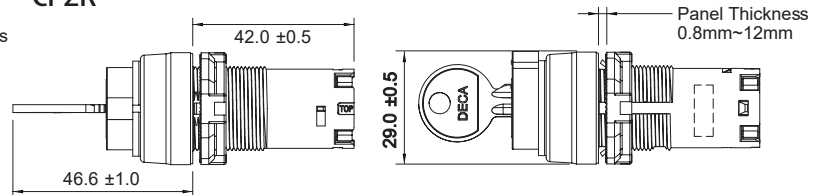
CP2E-BV, CP2E-LPE, CP2E-LTE, CP2E-LVE, CP2E-BPE



CP2S



CP2K



B30 Series

Ø30mm Switches/Buttons



General Specifications

Nominal Rating		10A 250VAC
Contact Resistance		Max. 50mΩ
Insulation Resistance		100MΩ at 500V DC
Frequency of Alteration	Mechanical	30 operation/min
	Electrical	30 operation/min
Dielectric Strength	btwn Charging sectors	1,800VAC/Min. (50~60Hz)
	btwn charger & earth	2,500VAC/Min. (50~60Hz)
Expected Life	Mechanical	500,000 times
	Electrical	100,000 times
Degree of Protection		IP63 (Optional IP65)
Ambient Temperature	Operation	-25°C~ +70°C
	Storage	-30°C~+80°C
Ambient Humidity		35~80% RH

	Style	Operation	Part Number
Push button		Momentary	B30-21①
		Momentary Illuminated	B30-27①②
Half guarded Push button		Momentary	B30-21①-EG
Maintained Selector switch		2 Step Knob	B30-41S
		2 Step long lever	B30-41L
		3 Step Knob	B30-51S
		3 Step long lever	B30-51L
Maintained Key Selector		2 Step	B30-61K
		3 Step	B30-71K
Mushroom 45mm head		Momentary	B30-21①-N40
Halfmoon guard 65mm Head		Momentary	B30-21①-C65

* ① (Head color) = R: Red, Y: Yellow, G: Green, B: Blue, W: White, K: Black

* ② (Operation Voltage) = 24VDC, 110VAC, 220VAC

LED	Nominal Current	AC	LED	Approx. 15mA
		DC	LED	Approx. 15mA
	Voltage			24VAC
	Expected Life			Min. 50,000 hrs

Normal Current

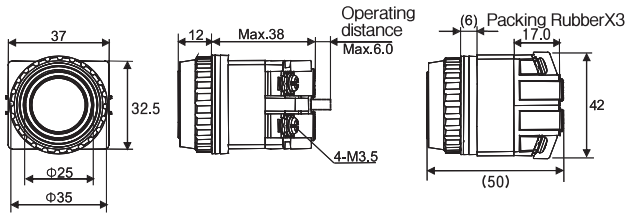
Rated Current	Contact Material	Ag Alloy		
	Voltage	AC1	AC3	DC1
24V	24V	20A	10A	6A
	110V	16A	8A	1.2A
	250V	10A	5A	0.5A
	440V	5A	2.5A	0.25A

	Style	Operation	Part Number
Extended 65mm Head		Momentary	B30-21①-H65
Full guard 65mm Head		Momentary	B30-21①-F65
Mushroom 65mm Head		Momentary	B30-21①-N65
EN418 Safety Lock E-stop switch		Turn to release	B30-81L
Water proof E-stop switch		Turn to release	B30-81A
E-stop switch		Turn to release	B30-81R
Connect Block			BCB(NC) BCA(NO)

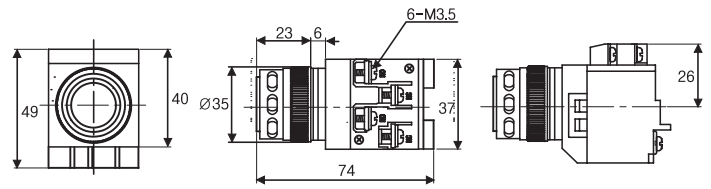
Dimensions

Unit: mm

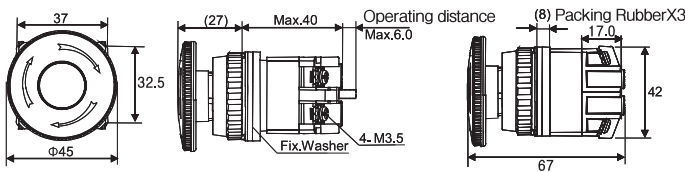
Push Buttons



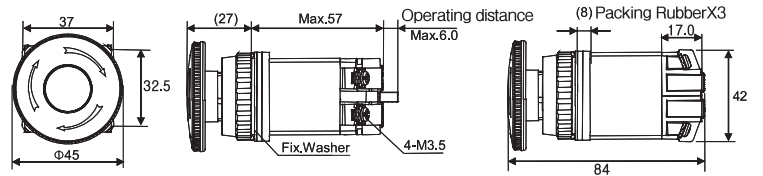
Illuminated Push Buttons



E-Stop Switches

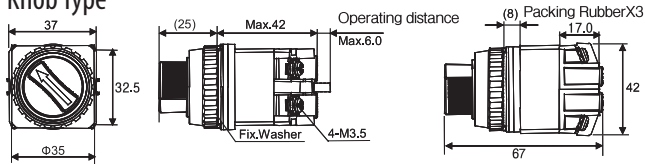


E-Stop Switches (water proof)/ Latch Type E-Stop Switches

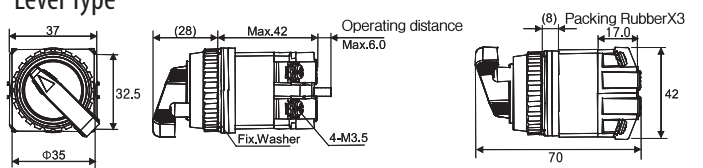


Selector Switches

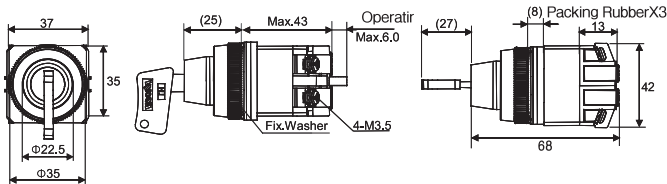
Knob Type



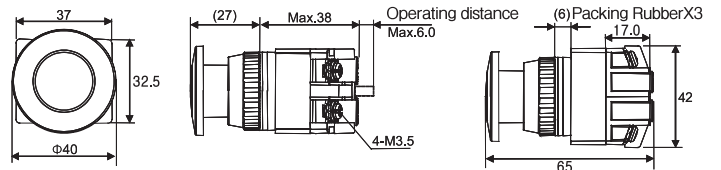
Lever Type



Key Switches

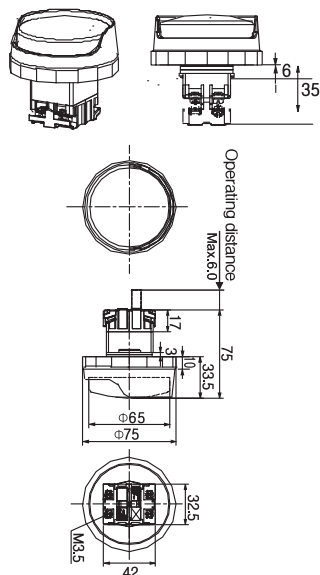


Mushroom Push Buttons

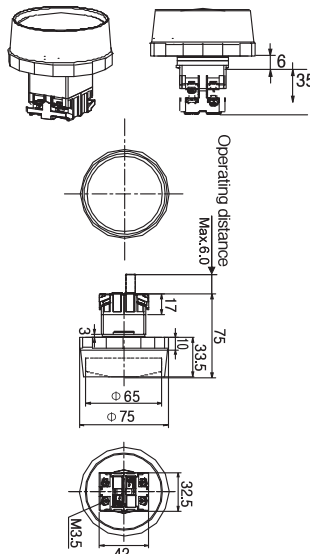


65mm Metal Guarded Head Push Buttons

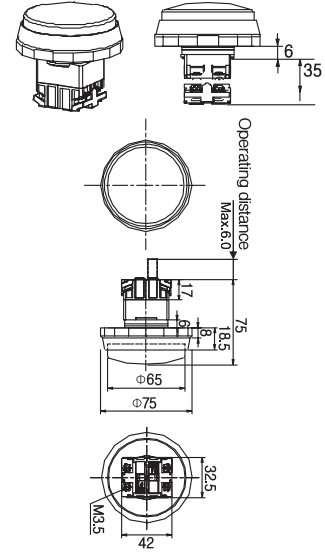
Halfmoon Guard



Full Guard



Extended head





T Series

Metal Chassis Pushbuttons



Ordering Information

T ① - ② ③ ④ ⑤ ⑥ ⑦

① Size	16	Ø16mm		
	19	Ø19mm		
	22	Ø22mm		
	25	Ø25mm		
	30	Ø30mm		
② Operation Type	1	Pilot Lamp	2	Momentary Push
	3	Maintained Push	4*	2 Position Selector
	5*	3 Position Selector	6*	2 Position Key Selector
	7*	3 Position Key Selector	8*	Emergency Stop
	CZ*	Buzzer		
	③ Illumination & Shape	1	Non-Illuminated Round	
7		Illuminated LED Round		
C		Continuous		
④ Contact Form	0	No Contact		
	1	1N/O + 1N/C		
	2	2N/O + 2N/C		
⑤ Color	R	Red		
	Y	Yellow		
	G	Green		
	B	Blue		
	W	White		
⑥ Button Type		Flush Head		
	H	Extended Head**		
⑦ Voltage	D4	24VDC		
	A2	110/220VAC		

*T19 Series Only

**T16 & T19 only, Non-Illuminated only

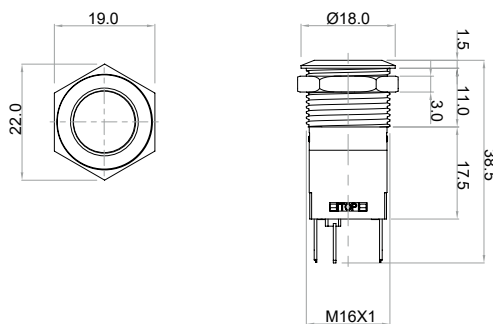
Specifications

	T16, 19	T22, 25, 30		
General Specs.	Contact Resistance	Max. 50mΩ		
	Insulation Resistance	Min. 100MΩ at 500V DC		
	Dielectric Strength	2,000VAC for 1 Min.		
	Vibration Resistance	5~55Hz dual amplitude : 0.75mm		
	Shock resistance	Operation: 200m/s ² , Endurance: 500m/s ²		
	Life Cycles	Mechanical	Momentary: Min. 1,000,000	
			Maintained: Min. 250,000	
	Life Cycles	Electrical	Momentary: Min. 100,000	
			Maintained: Min. 50,000	
	Frequency of On/Off	1,200 times/hr		
	Ambient Temperature	Operation: -25°C~ +55°C, Storage: -30°C~+80°C		
	Ambient Humidity	45~85%RH (at -5~+40°C)		
	Degree of Protection	IP65		
	Terminal soldering temperature	20W 5Sec / 260°C 3Sec		
Material	Body:SUS304, Operator:SUS316			
Contacts	Contact Arrangement	1N/O + 1N/C, 2N/O + 2N/C		
	Contact Material	Ag Alloy (24K Gold plate)		
	Rated Insulation Voltage	250VAC		
	Max. Switching Current	3A Max.	5A Max.	
	Max. Switching Voltage	250VAC, 110VDC		
	Rated Current	1A 24VDC / 120VAC	3A 24VDC/120VAC	
LED Lamp	Min. Switching Current	0.5A 250VAC		
	Min. Switching Voltage	1mA 5VDC		
	Color	Red, Green, Yellow, Blue, White		
	Operator Type	Round		
	Rated Voltage	24VDC, 110VAC, 220VAC		
	Rated Current	15mA Approx.		
Buzzer	Expected Life	50,000hrs		
	Sound Type	Continuous		
	Volume	80dB		
	Rated Voltage	24VDC		
Rated Current	Approx. 15mA			
Life Cycles	1,000hours			

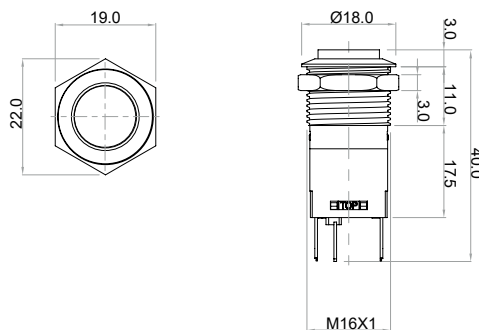
Dimensions

Unit: mm

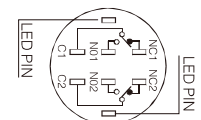
T16 Flush head pushbuttons



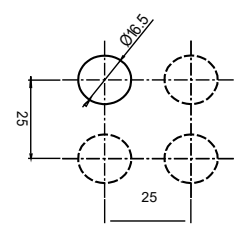
T16 Extended head pushbuttons



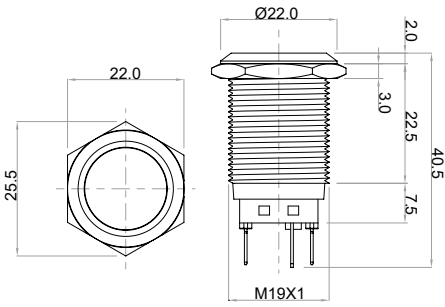
T16 Wiring Diagram



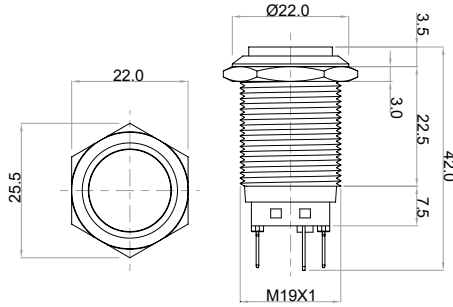
T16 Panel Cut-out



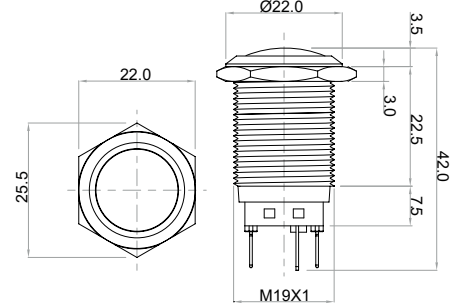
T19 Flush head pushbuttons



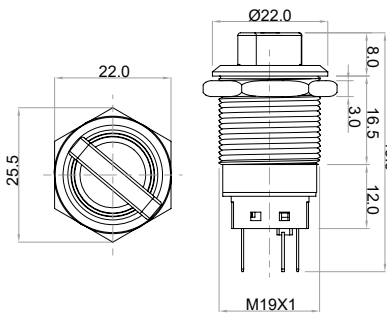
T19 Extended head pushbuttons



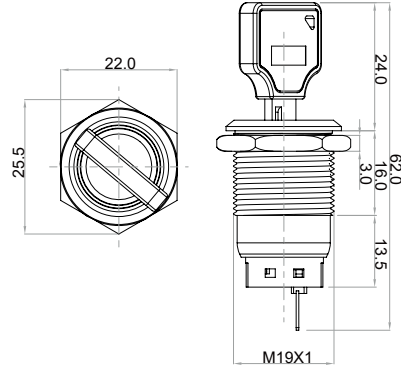
T19 Dome head pushbuttons



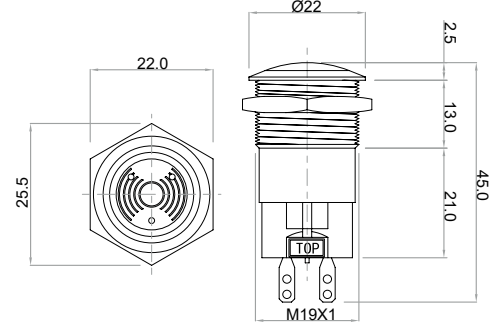
T19 Selector Switches



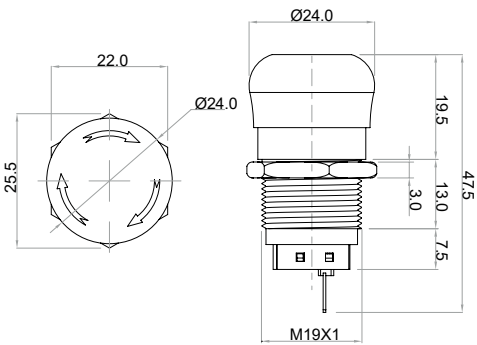
T19 Key Selector Switches



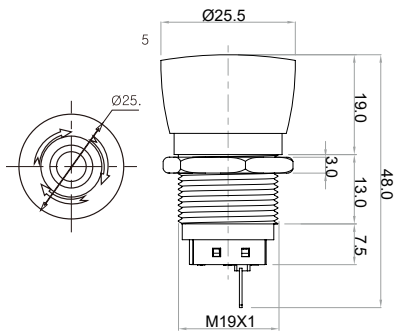
T19 LED Illuminated Buzzer



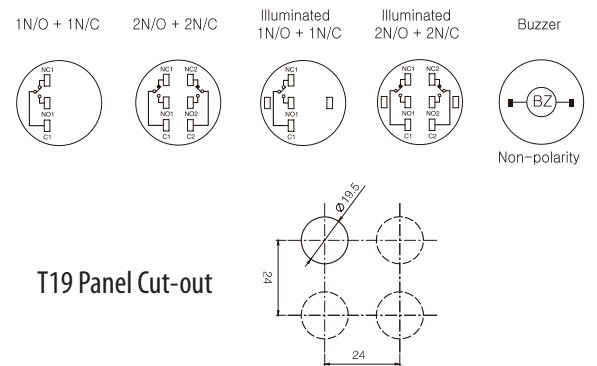
T19 Emergency Switches (T19-8 Type)



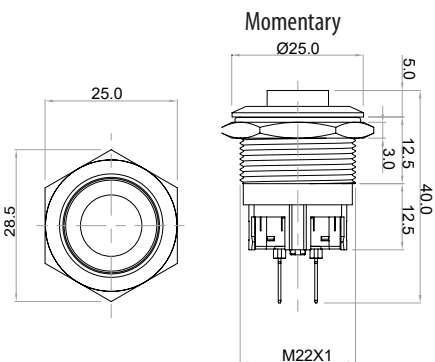
T19 Emergency Switches (T19-A Type)



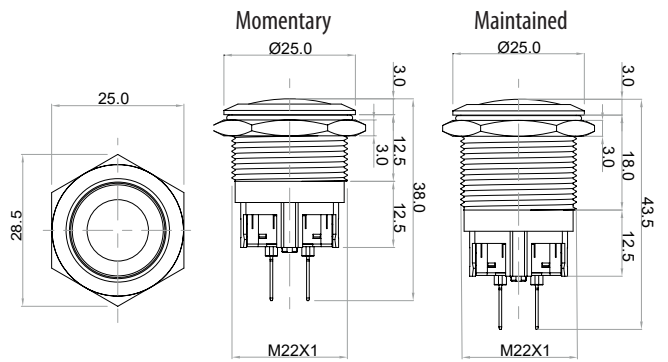
T19 Wiring Diagram



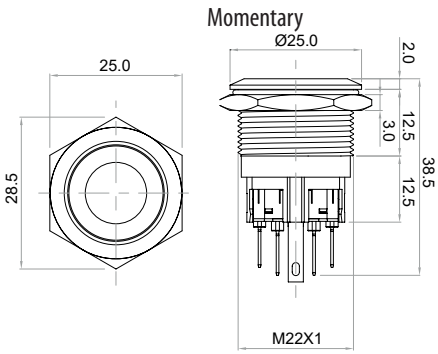
T22 Non-Illuminated Flush head pushbuttons



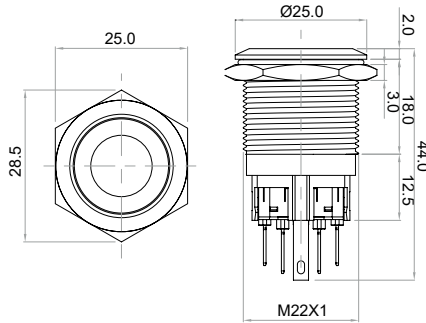
T22 Non-Illuminated Extended head pushbuttons



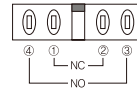
T22 Illuminated Momentary Flush head pushbuttons



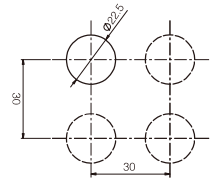
T22 Illuminated Maintained Flush head pushbuttons



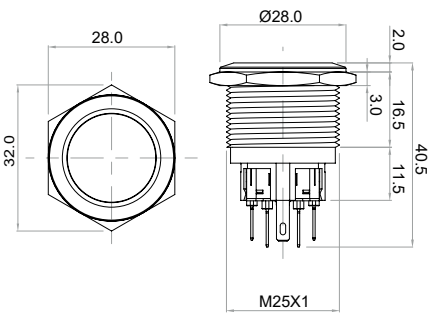
T22 Wiring Diagram



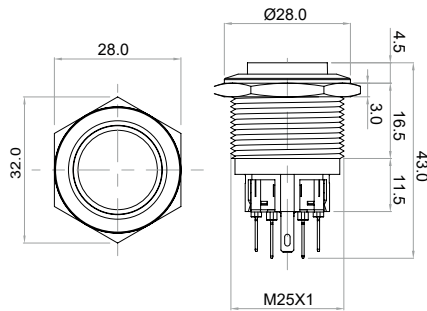
T22 Panel Cut-out



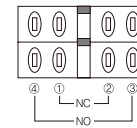
T25 Flush head pushbuttons



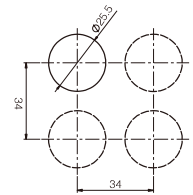
T25 Extended head pushbuttons



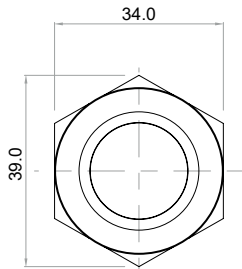
T25 Wiring Diagram



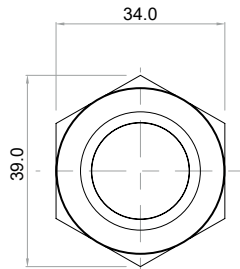
T25 Panel Cut-out



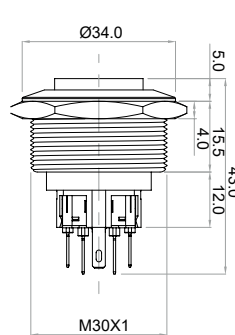
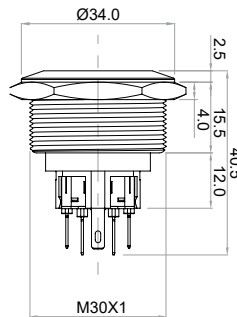
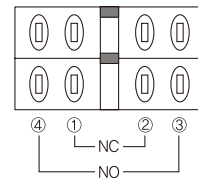
T30 Flush head pushbuttons



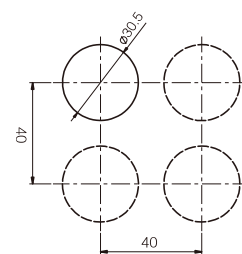
T30 Extended head pushbuttons



T30 Wiring Diagram



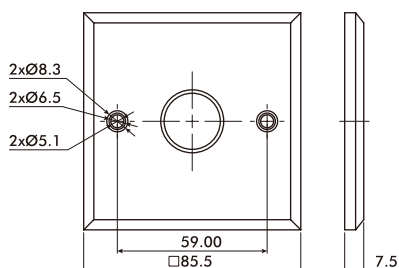
T30 Panel Cut-out



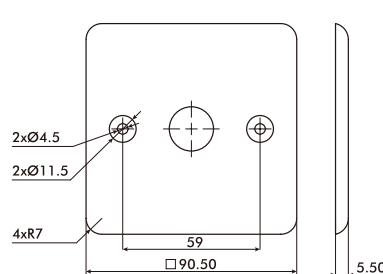
Accessory: Fix Plate

Unit: mm

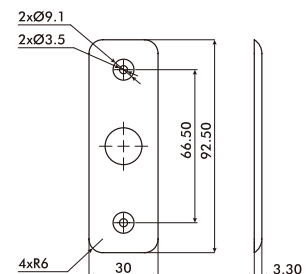
T-P1 (T19, 22, 25, 30)

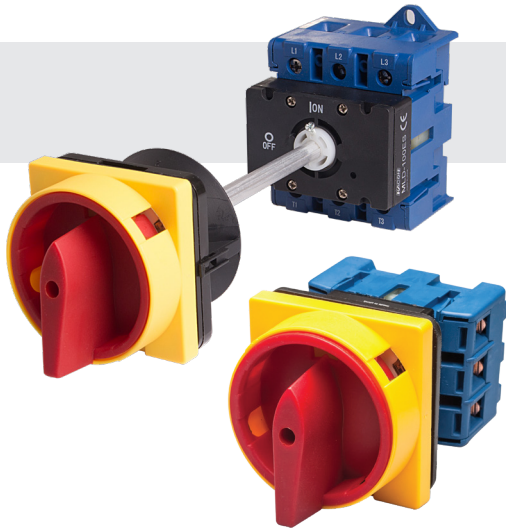


T-P2 (T19)



T-P3 (T16)





MLD Series

Rotary Switch Disconnecter



Ordering Information

MLD - ① ②

① Rated Current			
020	20A	032	32A
040	40A	063	63A
080	80A	100	100A

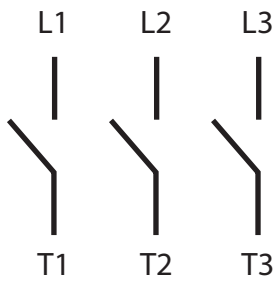
② Mounting Type	PE	Panel Type
	ESE	Extension Shaft

Specifications

Division		MLD-020	MLD-032	MLD-040	MLD-063	MLD-080	MLD-100
Rated Isolation Voltage (Ui)	V	690					
Maximum Switching Current (I th)	A	20	32	40	63	80	100
Rated Current (Ie)							
AC-23A	A	15	22	30	43	57	70
AC-3	A	11	15	22	36	43	57
Rated Voltage (Ue)	V	240 440	240 440	240 440	240 440	240 440	240 440
Contact Capacity							
AC-23A	kW	3.7 5.5	5.5 11	7.5 15	9 22	15 30	22 37
AC-3	kW	2.7 3.7	4 7.5	5.5 11	8 18.5	9 22	15 30
Motor Load							
V		240 440	240 440	240 440	240 440	240 440	240 440
HP		2 3	5 10	7.5 15	10 20	20 40	25 50
Icw/s	A	180	264	360	516	684	840
Wire	mm ²	1.25 - 5.5	2 - 14	2 - 14	2 - 38	2 - 38	2 - 60
Tightening Torque	N-m	0.8(8.16kgf-cm)		1.2(12.24kgf-cm)		2.5(25.49kgf-cm)	

* Workable temperature : -25 ~ 70°C (With no icing)

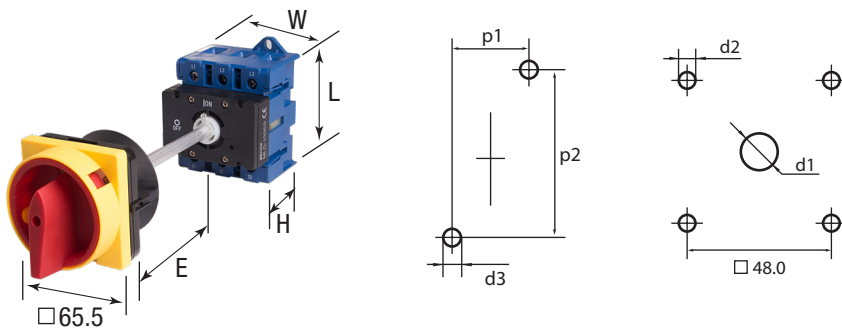
Contact Diagram



Dimensions

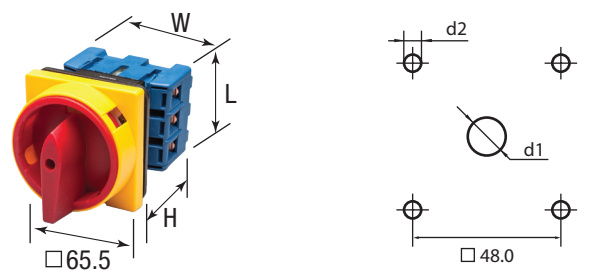
unit: mm

MLD-ESE Series



Model	Switch				Panel				
	H	L	W	E	d1	d2	d3	p1	p2
MLD-020	51	55	43	150	20	4.2	4.2	22	60
MLD-032	51	55	43	150	20	4.2	4.2	22	60
MLD-040	61	64	50	150	20	4.2	4.2	22	70
MLD-063	61	64	50	150	20	4.2	4.2	22	70
MLD-080	68	81	71	150	20	4.2	4.2	25	90
MLD-100	68	81	71	150	20	5.2	5.2	25	90

MLD-PE Series



Model	Switch			Panel	
	H	L	W	d1	d2
MLD-020	55	55	43	20	4.2
MLD-032	55	55	43	20	4.2
MLD-040	60	65	50	20	4.2
MLD-063	60	65	50	20	4.2
MLD-080	70	80	70	20	4.2
MLD-100	70	80	70	20	5.2



KMCB Series

Miniature Circuit Breaker

- Two types of terminal blocks
- Terminal covers
- DIN Rail mounting
- On/Off Indicator

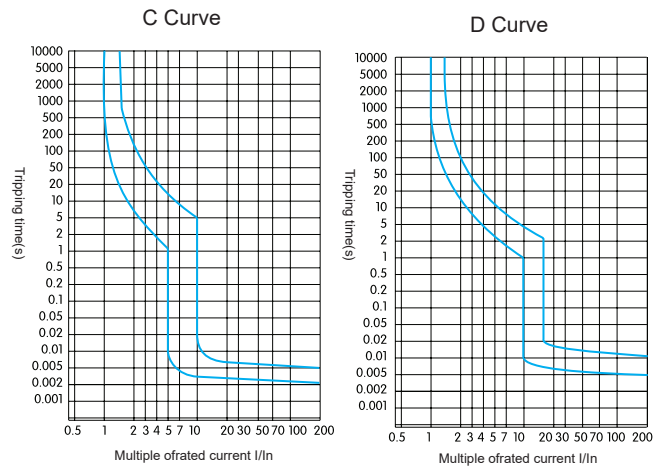


Ordering Information

KMCB - ① ② ③

① Tripping Characteristic	C		D	
	C type		D type	
② Rated Current				
2	2A*	3	3A*	
4	4A*	6	6A*	
10	10A	16	16A	
20	20A	25	25A	
32	32A	40	40A	
50	50A			
*Custom orders only				
③ Poles	1P	2P	3P	4P

Characteristics



Specifications

Poles	1P	2P	3P	4P
Standard	IEC60989, GB10963			
Rated Voltage	220VAC (Max. 400VAC)	220VAC/380VAC (Max. 400VAC)		
Rated Current	(2, 3, 4, 6), 10, 16, 20, 25, 32, 40, 50A			
Insulation Voltage	400VAC			
Withstanding Voltage	4,000VAC			
Rated Frequency	50/60Hz			
Rated Capacity	6KA at 380VAC			
Electrical Life	4,000 times			
Mechanical Life	20,000 times			
Operation Frequency/hr	Mechanical	240 times/hr 2A - 50A		
	Electrical	240 times/hr 2A - 32A 120 times/hr 40A - 63A		
Protection	IP20			
Ambient Temperature	-5 ~ 40°C			
Installation Altitude	Less than 2,000 meter			
Recommended wire	2A-6A:1mm ²	10A:1.5mm ²	16, 20A:2.5mm ²	25A:4mm ²
	32A:6mm ²	40, 50A:10mm ²		

Features

KMCB can be installed on any 35mm DIN rail with easy clip on bracket



Two terminal block options give easier access per installation environment



On-Off Indicator

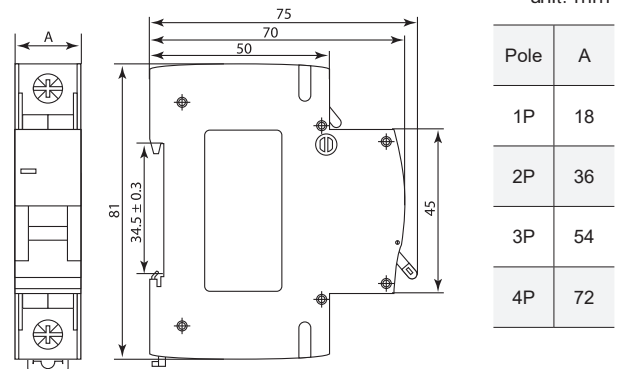


Terminal cover can be opened for easier access



Enhanced resistance of vibration shock with SEMS Screw

Dimensions



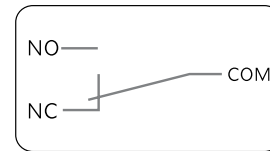
Specifications

Contact Arrangement	SPDT(1NO + 1NC)	
Material	Ag Alloy	
Distance btw contacts	0.5mm	
Insulation Resistance	100MΩ at 500V DC	
Contact Resistance	50mΩ	
Vibration	10~55Hz (Durable Amplitude 1.5mm)	
Schock	30G	
Ambient Temperature	Operation: -25°C~ +80°C, Storage: -30°C~+80°C	
Ambient Humidity	35~80%RH (at -5~+40°C)	
Operation Speed		0.1mm/sec ~ 0.5m/sec
Operation Frequency	Electrical	Max. 20/min
	Mechanical	Max 60/min
Dielectric Strength	1,500VAC 1min	
Expected Life	Electrical	Min. 100,000
	Mechanical	Min. 1,000,000

Contact Rating

Rated Voltage	Non-Inductive Load				Inductive Load			
	Resistive Load		Lamp Load		Inductive Load		Motor Load	
	NO	NC	NO	NC	NO	NC	NO	NC
125VAC	15A	15A	1.5A	3A	10A	10A	2A	4A
250VAC	10A	15A	1A	2A	6A	10A	1A	3A
8VDC	10A	15A	1.5A	4A	8A	10A	2.5A	6A
14VDC	5A	15A	1.5A	4A	4A	10A	2.5A	6A
30VDC	2A	10A	1A	4A	1.5A	6A	1.5A	4A
125VDC	0.5A	0.6A	0.1A	0.1A	0.05A	0.6A	0.05A	0.1A
250VDC	0.25A	0.3A	0.05A	0.05A	0.03A	0.3A	0.04A	0.05A

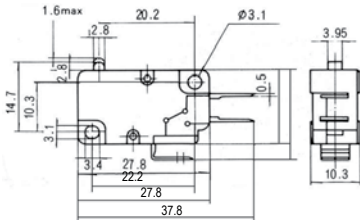
Contact Diagram



Dimensions

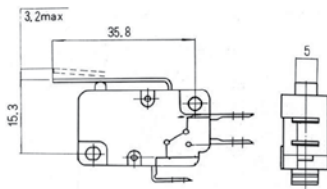
(unit: mm)

V15F-01C



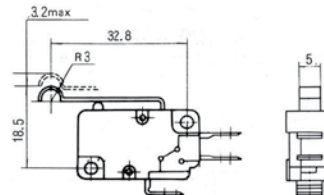
PT	Max. 1.7mm
MD	Max. 0.4mm
OT	Min. 0.8mm
OP	14.7 ± 0.6mm

V15F-06C



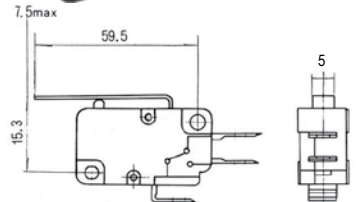
PT	Max. 3.2mm
MD	Max. 1.2mm
OT	Min. 1.2mm
OP	15.3 ± 1.2mm

V15F-070C



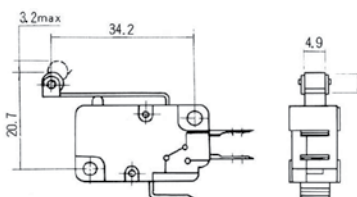
PT	Max. 3.2mm
MD	Max. 1.2mm
OT	Min. 1.2mm
OP	15.5 ± 1.2mm

V15F-060C



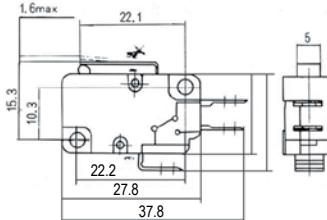
PT	Max. 7.5mm
MD	Max. 2.2mm
OT	Min. 2.2mm
OP	15.3 ± 2.6mm

V15F-07C



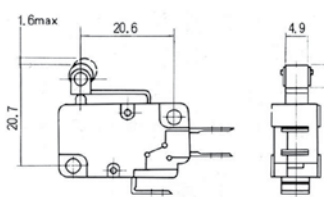
PT	Max. 3.2mm
MD	Max. 1.2mm
OT	Min. 1.2mm
OP	20.7 ± 1.2mm

V15F-08C



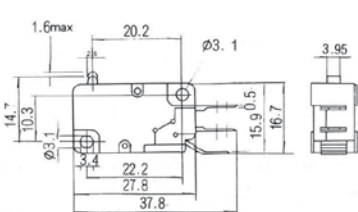
PT	Max. 1.6mm
MD	Max. 0.5mm
OT	Min. 0.8mm
OP	15.3 ± 0.8mm

V15F-09C



PT	Max. 1.6mm
MD	Max. 0.5mm
OT	Min. 0.8mm
OP	20.7 ± 0.8mm

VV15F-01C



PT	Max. 1.6mm
MD	Max. 0.4mm
OT	Min. 0.8mm
OP	14.7 ± 0.6mm

Z15 Series

Micro Switches

- Available with a variety of actuators, compact size fits where you need it
- A variety of standard features, such as current capacity, operating force, travel characteristics and actuators



Specifications

Contact Arrangement	Ag Alloy, SPDT(1NO+1NC)	
Distance btw contacts	Z15G:0.5mm Z15H:0.25mm	
Insulation Resistance	100MΩ @ 500 VDC	
Contact Resistance	15m Ohms maximum, initial	
Ambient Temperature	Operation: -25°C~ +80°C, Storage: -30°C~+80°C	
Ambient Humidity	35~80%RH (at -5~+40°C)	
Operation Speed	0.01mm/sec to 0.5m/sec	
Operation Frequency	Electrical	Max. 20/min
	Mechanical	Max 240/min
Dielectric Strength	2,000VAC 1min	
Expected Life	Electrical	Min. 500,000
	Mechanical	Min. 2,000,000

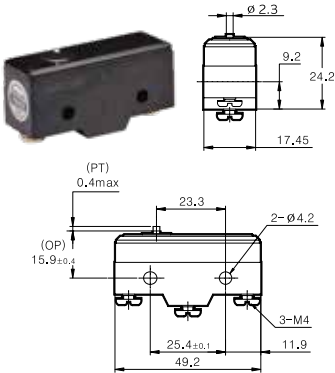
Contact Rating

Rated Voltage	Non-Inductive Load			Inductive Load		
	Resistive Load	Lamp Load		Inductive Load	Motor Load	
		NO	NC		NO	NC
125VAC	15A(10)	1.5A	3A	15A(10)	2.5A	5A
250VAC	15A(10)	1.25A	2.5A	15A(10)	1.5A	3A
500VAC	10A	0.75A	1.5A	6A	0.75A	1.5A
8VDC	15A	1.5A	3A	15A	2.5A	5A
14VDC	15A	1.5A	3A	10A	2.5A	5A
30VDC	6(2)A	1.5A	3A	5(1)A	2.5(1)A	5(1)A
125VDC	0.5A	0.5A	0.5A	0.05A	0.05A	0.05A
250VDC	0.25A	0.25A	0.25A	0.03A	0.03A	0.03A

Dimensions

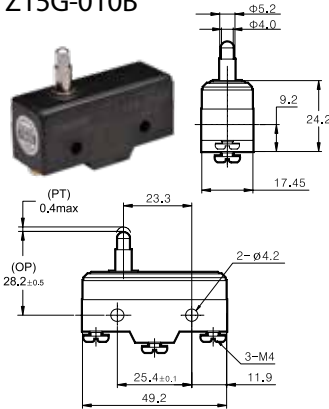
unit: mm

Z15G-01B



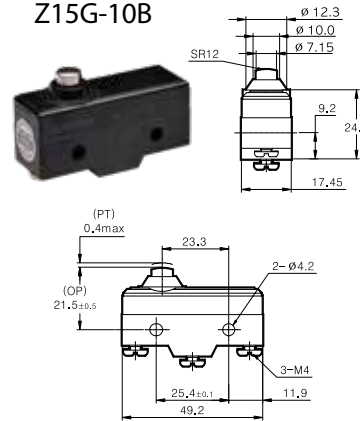
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	0.13mm
MD	0.05mm
OP	15.9 ± 0.4mm

Z15G-010B



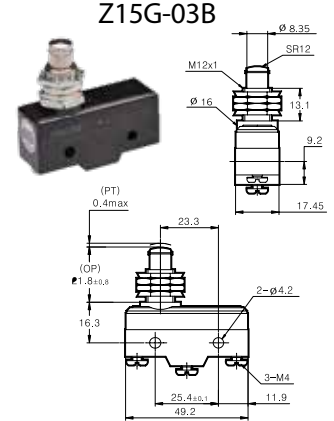
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	1.6mm
MD	0.05mm
OP	28.2 ± 0.5mm

Z15G-10B



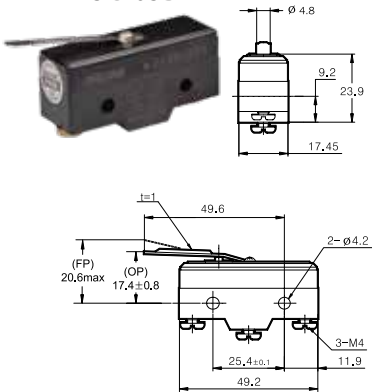
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	1.6mm
MD	0.05mm
OP	21.5 ± 0.5mm

Z15G-03B



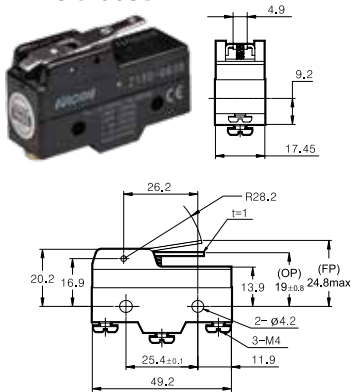
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	5.5mm
MD	0.05mm
OP	21.8 ± 0.8mm

Z15G-05B



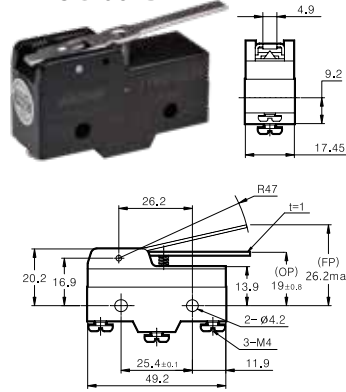
OF	141gf(1.38N)
RF	14gf(0.14N)
OT	1.6mm
MD	1.3mm
FP	20.6mm
OP	17.4 ± 0.8mm

Z15G-063B



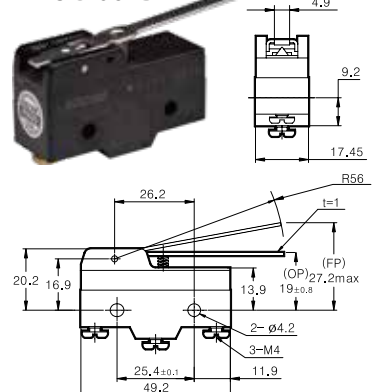
OF	160gf(1.38N)
RF	28gf(0.14N)
OT	2.0mm
MD	1.0mm
FP	24.8mm
OP	19.0 ± 0.8mm

Z15G-062B



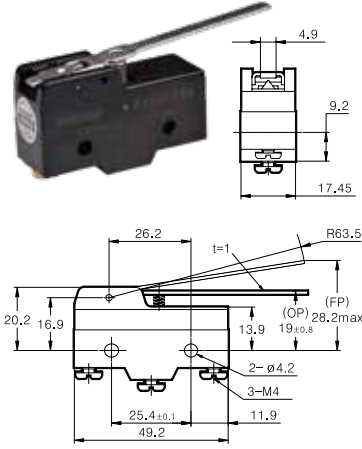
OF	95gf(0.95N)
RF	18gf(0.18N)
OT	4.2mm
MD	0.95mm
FP	26.2mm
OP	19.0 ± 0.8mm

Z15G-061B



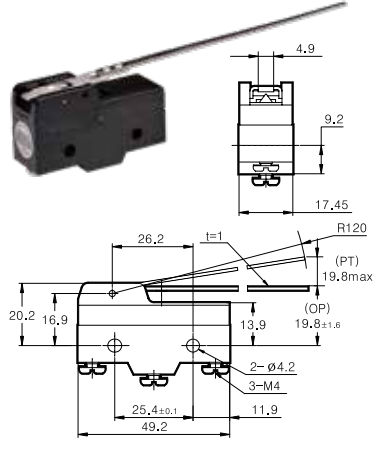
OF	80gf(0.78N)
RF	15.5gf(0.15N)
OT	4.8mm
MD	1.12mm
FP	27.2mm
OP	19.0 ± 0.8mm

Z15G-06B



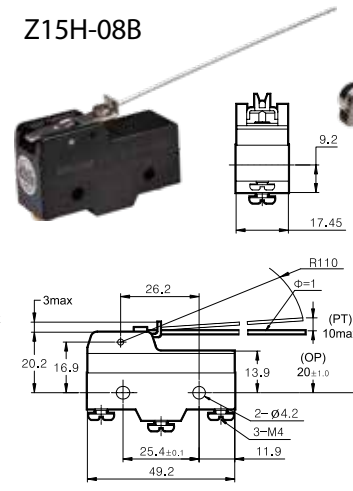
OF	70gf(0.69N)
RF	14gf(0.14N)
OT	5.6mm
MD	1.27mm
FP	28.2mm
OP	19.0 ± 0.8mm

Z15H-060B



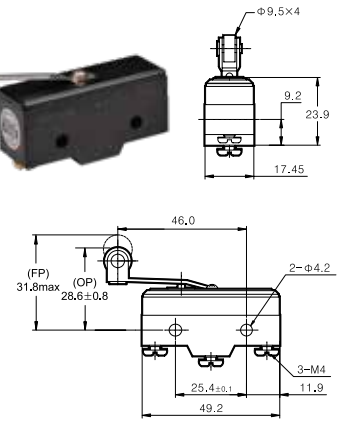
OF	6gf(58.8mN)
RF	0.5gf(4.90mN)
PT	19.8mm
OT	10.0mm
MD	2.0mm
OP	19.8 ± 1.6mm

Z15H-08B



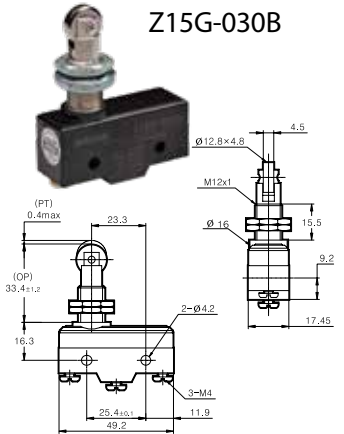
OF	4gf(39.2mN)
RF	0.3gf(2.94mN)
PT	10.0mm
OT	6.0mm
MD	3.0mm
OP	20.0 ± 1.0mm

Z15G-052B



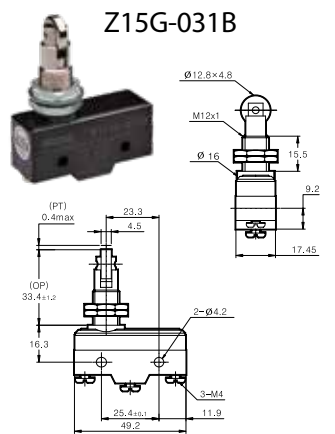
OF	141gf(1.38N)
RF	14gf(0.14N)
OT	1.6mm
MD	1.3mm
FP	31.8mm
OP	28.6 ± 0.8mm

Z15G-030B



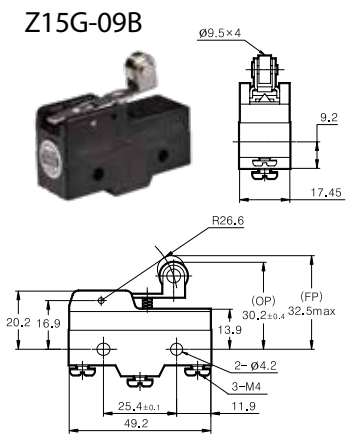
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	3.58mm
MD	0.05mm
OP	33.4 ± 1.2mm

Z15G-031B



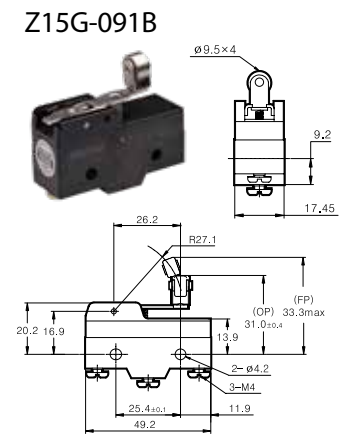
OF	250~350gf(2.45~3.43N)
RF	114gf(1.12N)
PT	0.4mm
OT	3.58mm
MD	0.05mm
OP	33.4 ± 1.2mm

Z15G-09B



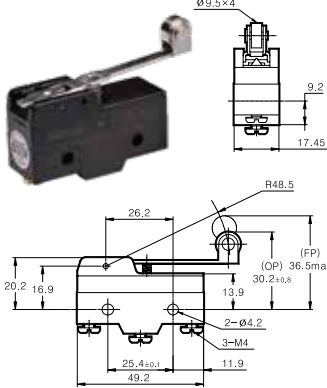
OF	160gf(1.57N)
RF	42gf(0.41N)
PT	2.4mm
OT	0.5mm
MD	32.5mm
OP	30.2 ± 0.4mm

Z15G-091B



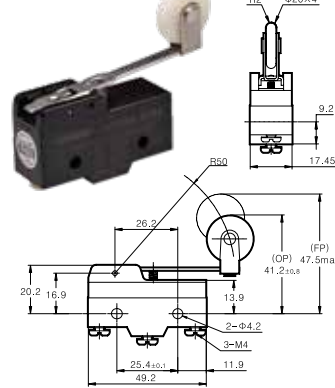
OF	170gf(1.67N)
RF	42gf(0.41N)
PT	2.4mm
OT	0.51mm
MD	33.3mm
OP	31.0 ± 0.4mm

Z15G-07B



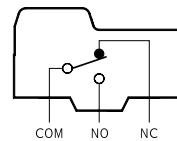
OF	100gf(0.98N)
RF	22gf(0.22N)
PT	4.0mm
OT	1.02mm
MD	36.5mm
OP	30.2 ± 0.8mm

Z15G-073B



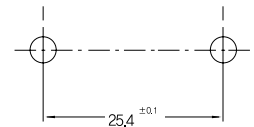
OF	100gf(0.98N)
RF	21gf(0.21N)
PT	4.0mm
OT	1.6mm
MD	47.5mm
OP	41.2 ± 0.8mm

Contact Diagram



COM: Common Terminal
NO: Normally open
NC: Normally Close

Panel Cut out



ZXM/KXM Series

Light Duty Limit Switches



Specifications

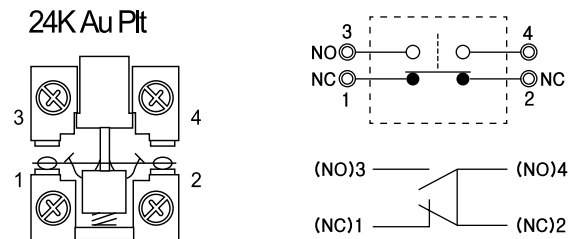
Contact Arrangement	Ag Alloy, SPDT(1NO+1NC)
Insulation Resistance	100MΩ at 500V DC
Contact Resistance	Max. 25mΩ
Ambient Temperature	Operation: -20°C~ +60°C, Storage: -30°C~+80°C
Ambient Humidity	90%RH Max
Degree of Protection	IP65

Operation Frequency	Electrical	Max. 30/min
	Mechanical	Max 120/min
Dielectric Strength	1,500VAC 50/60Hz 1min	
Expected Life	Electrical	Min. 300,000
	Mechanical	Min. 10,000,000

Contact Rating

Rated Voltage	Non-Inductive Load				Inductive Load			
	Resistive Load		Lamp Load		Inductive Load		Motor Load	
	NO	NC	NO	NC	NO	NC	NO	NC
125VAC	6A	6A	0.7A	1.5A	3A	3A	1A	2A
250VAC	6A	6A	0.5A	1A	3A	3A	0.8A	1.5A
500VAC	2A	2A	0.35A	0.75A	0.75A	0.75A	0.4A	0.75A
30VDC	5A	5A	3A	3A	4A	4A	3A	3A
125VDC	0.2A	0.4A	-	-	-	-	-	-
250VDC	0.2A	0.4A	-	-	-	-	-	-

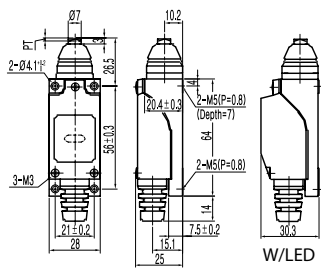
Contact Diagram



Dimensions

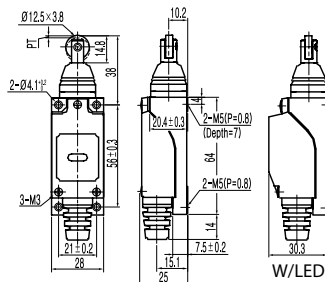
unit: mm

ZXM/KXM-301



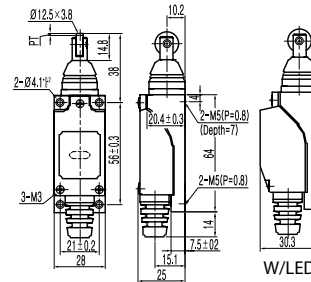
OF	900gf(8.83N)
RF	150gf (1.47N)
PT	1.5mm
MD	0.7mm
OT	4mm
TT	5.5mm

ZXM/KXM-302



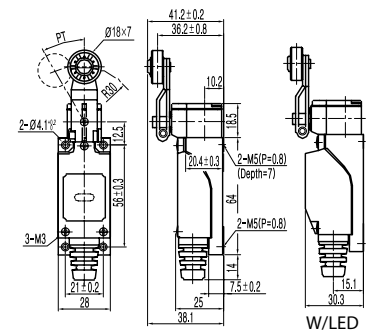
OF	900gf(8.83N)
RF	150gf (1.47N)
PT	1.5mm
MD	0.7mm
OT	4mm
TT	5.5mm

ZXM/KXM-312



OF	900gf(8.83N)
RF	150gf (1.47N)
PT	1.5mm
MD	0.7mm
OT	4mm
TT	5.5mm

ZXM/KXM-702



OF	600gf(5.88N)
RF	50gf (0.49N)
PT	20°
MD	10°
OT	75°
TT	95°



ZXM/KXM-703



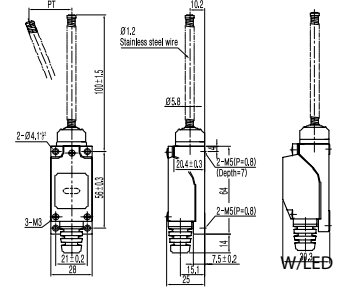
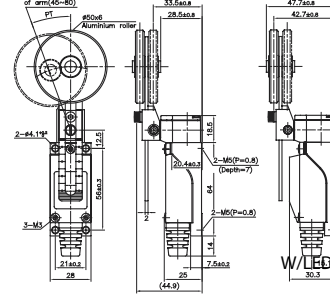
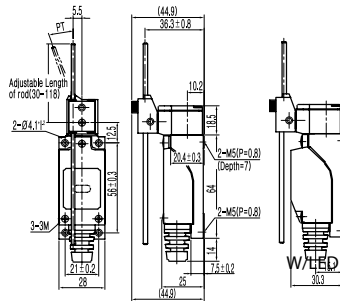
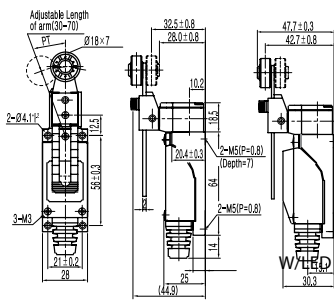
ZXM/KXM-704



ZXM/KXM-726



ZXM/KXM-901



OF	800gf(7.84N)~342gf(3.35N)
RF	50gf(0.49N)~21gf(0.21N)
PT	20°
MD	10°
OT	75°
TT	95°

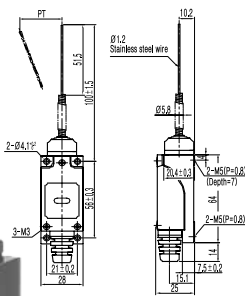
OF	800gf(7.84N)~203gf(1.99N)
RF	50gf(0.49N)~12gf(0.12N)
PT	20°
MD	10°
OT	75°
TT	95°

OF	800gf(7.84N)~342gf(3.35N)
RF	50gf(0.49N)~21gf(0.21N)
PT	20°
MD	10°
OT	75°
TT	95°

OF	90gf(0.88N)
RF	-
PT	30°
MD	-
OT	20°
TT	50°



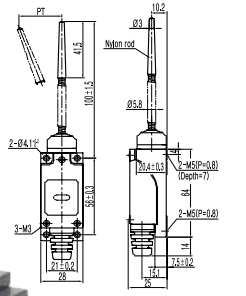
ZXM/KXM-902



W/LED



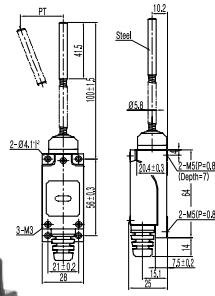
ZXM/KXM-903



W/LED



ZXM/KXM-923



W/LED

Option Parts

24K Gold Plated Contact Block
ZXM-101



Indicator Lamp

ZXM-102
LED 12 ~ 24V AC/DC
ZXM-103
Neon 80/240V AC



*Changable ON status at NC or NO

OF	90gf(0.88N)
RF	-
PT	30°
MD	-
OT	20°
TT	50°

OF	90gf(0.88N)
RF	-
PT	30°
MD	-
OT	20°
TT	50°

OF	90gf(0.88N)
RF	-
PT	30°
MD	-
OT	20°
TT	50°

ZXL/KXL Series

Heavy Duty Limit Switches



- High reliability by 24K Gold plated contact of SPDT(1a+1b) •
- Low maintenance by die-cast body & stainless steel of moving parts •
- IP67 rated with built-in gasket in body cover & O-ring in moving part •
- Detachable head can be positioned in any direction •
- Available optional LED indicator cover (ZXL-102/103) •

Option Parts

24K Gold Plated Contact Block
ZXL-101



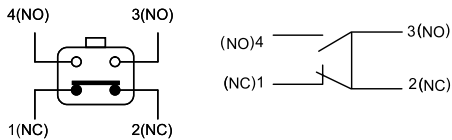
Indicator Lamp

ZXL-102
LED 12 ~ 24V AC/DC
ZXL-103
Neon 110/240V AC



*Changeable ON status at NC or NO

Contact Diagram



Specifications

Contac	SPDT(1NO+1NC), 24K Ag Alloy	
Protection	IP67	
Rated Current	12 at 250VAC	
Insulation Resistance	100MΩ at 500V DC	
Contact Resistance	Max. 50mΩ	
Operation Speed	1mm/sec ~ 1m/sec	
Vibration	10~55Hz dual wave length 1.5mm	
Ambient Temperature	Operation: -25°C~+80°C, Storage: -30°C~+80°C	
Ambient Humidity	35~85%RH (at -5~+40°C)	
Impact Resistance	Durability	Max. 100G
	Error	Plunger max. 30G Lever Max. 20G
Dielectric Strength	2,200	
Expected Life	Electrical	Min. 500,000
	Mechanical	Min. 10,000,000

Contact Rating

Rated Voltage	Non-Inductive Load		Inductive Load	
	Resistive Load	Lamp Load	Inductive Load	Motor Load
125VAC	16A	5A	16A	8A
250VAC	12A	3A	12A	5A
500VAC	10A	2.5A	10A	2.5A
30VDC	8A	6A	8A	6A
125VDC	1A	0.3A	1A	0.3A
250VDC	0.5A	0.2A	0.5A	0.2A

Dimensions

unit: mm

ZXL/KXL-301



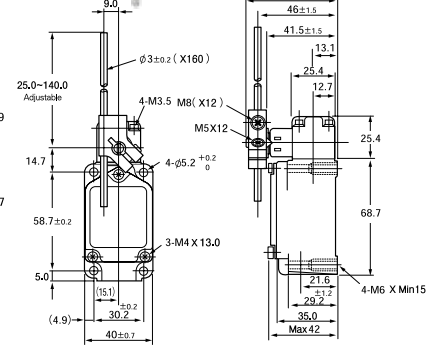
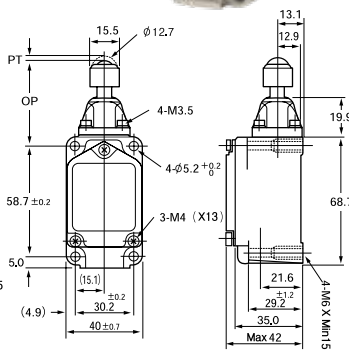
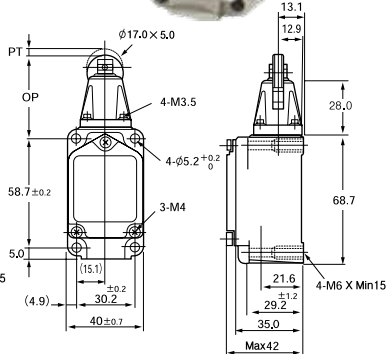
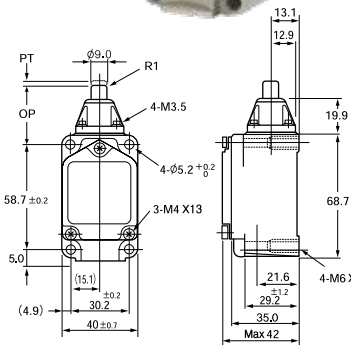
ZXL/KXL-302



ZXL/KXL-303



ZXL/KXL-704



OF	2,720gf(26.67N)
RF	910gf(8.92N)
PT	1.7mm
OT	6.4mm
MD	1mm
TT	-
OP	34 ± 0.8mm
TTP	29.5mm

OF	2,720gf(26.67N)
RF	910gf(8.92N)
PT	1.7mm
OT	5.6mm
MD	1mm
TT	-
OP	44 ± 0.8mm
TTP	39.5mm

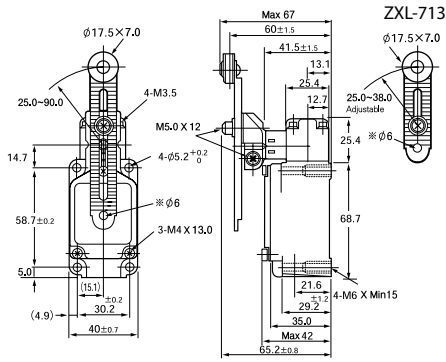
OF	2,720gf(26.67N)
RF	910gf(8.92N)
PT	1.7mm
OT	4mm
MD	1mm
TT	-
OP	44.5 ± 0.8mm
TTP	41mm

OF	142gf(1.4N)
RF	28gf(0.27N)
PT	15 ± 5°
OT	80°
MD	12°
TT	100°
OP	
TTP	

ZXL/KXL-703

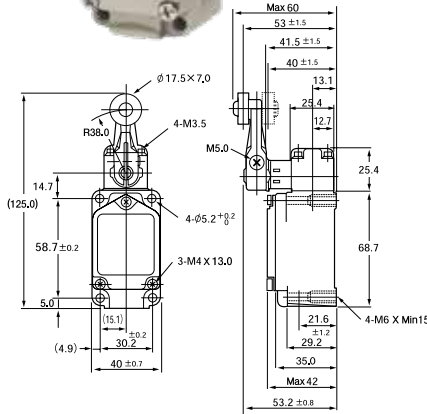


ZXL/KXL-713



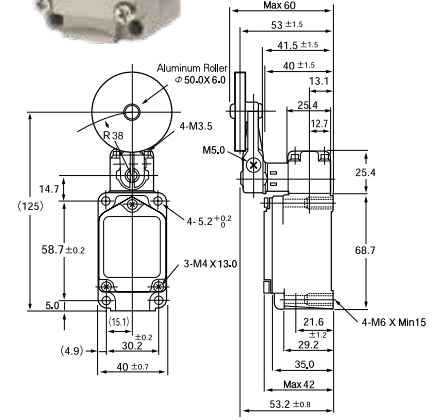
OF	1,360gf(13.34N)
RF	227gf(2.23N)
PT	15 ± 5° 80 ± 5°(703M)
OT	80°
MD	12°
TT	100°

ZXL/KXL-702



OF	1,360gf(13.34N)
RF	227gf(2.23N)
PT	15 ± 5°
OT	80°
MD	12°
TT	100°

ZXL/KXL-705



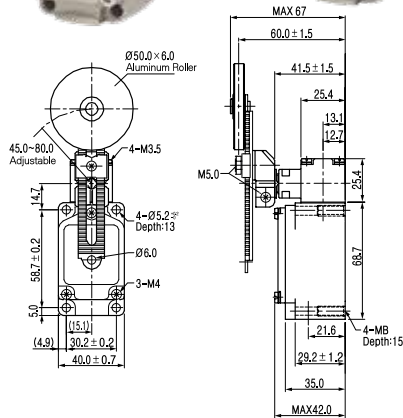
OF	1,360gf(13.34N)
RF	227gf(2.23N)
PT	15 ± 5°
OT	80°
MD	12°
TT	100°



**ZXL/
KXL-706**



**ZXL/
KXL-726**



OF	1,360gf(13.34N)
RF	227gf(2.23N)
PT	15 ± 5°
OT	80°
MD	12°
TT	100°



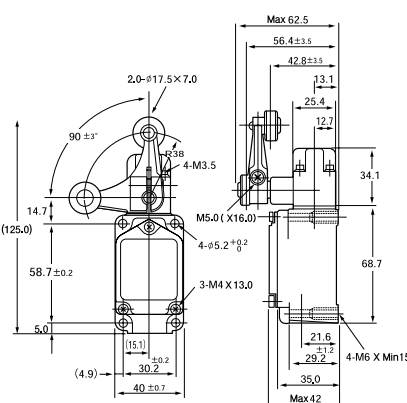
ZXL/KXL-717



ZXL/KXL-737



ZXL/KXL-747



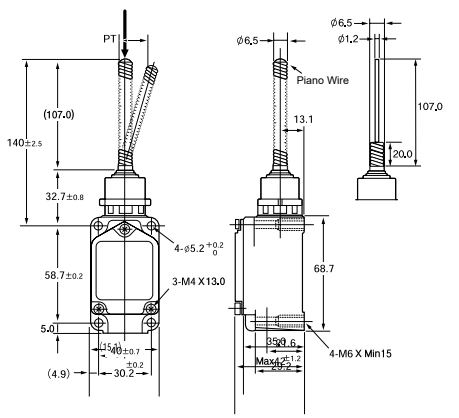
OF	1,200gf(11.8N)
RF	50 ± 5°
PT	15 ± 5°
OT	35°
MD	-
TT	-



ZXL/KXL-901



ZXL/KXL-902



OF	150gf(1.47N)
RF	-
PT	20 ± 10mm
OT	-
MD	-
TT	-

KL Series

Medium Duty Limit Switches



- High reliability by silver plated contact of SPDT(1a+1b)
- Low maintenance by die-cast aluminum body & stainless steel of moving parts
- IP65 rated with built-in NBR gasket in body cover & O-ring in moving part
- Single & multi conduits (PG13.5) for saving wiring time
- 3 different sizes for diverse mounting application

Reliable operation with physical lift-off system preventing any malfunction of contact (NC only)

Specifications

Contact Arrangement	Ag Alloy, SPDT(1NO+1NC)
Operation Speed	0.01mm/sec to 0.5m/sec
Insulation Resistance	100MΩ at 500V DC
Contact Resistance	Max. 50mΩ
Ambient Temperature	Operation: -25°C~ +80°C, Storage: -30°C~+80°C
Ambient Humidity	35~80%RH (at -5~+40°C)

Operation Frequency	Electrical	Max. 30/min
	Mechanical	Max 120/min
Dielectric Strength	2,000VAC 1min	
Expected Life	Electrical	Min. 500,000
	Mechanical	Min. 10,000,000

Contact Rating

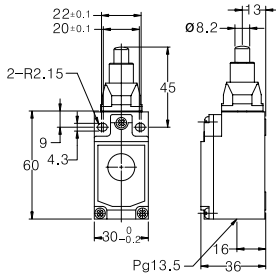
Rated Voltage	Non-Inductive Load				Inductive Load			
	Resistive Load		Lamp Load		Inductive Load		Motor Load	
	NO	NC	NO	NC	NO	NC	NO	NC
125VAC	10A	10A	1.5A	3A	6A	6A	2.5A	5A
250VAC	10A	10A	1A	2A	4A	4A	1.5A	3A
600VAC	1A	3A	0.5A	1A	1.5A	1.5A	0.5A	1A
8VDC	10A	10A	3A	6A	10A	10A	6A	6A
30VDC	6A	6A	3A	4A	6A	6A	4A	4A
125VDC	0.8A	0.8A	0.2A	0.2A	0.8A	0.8A	0.2A	0.2A

Dimensions

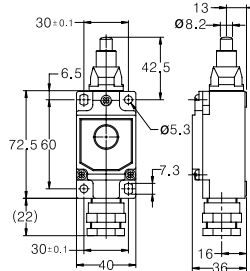
unit: mm

KLSAP1

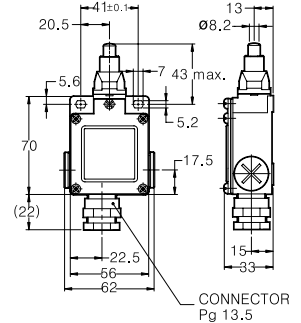
Push Plunger



KLLAP1

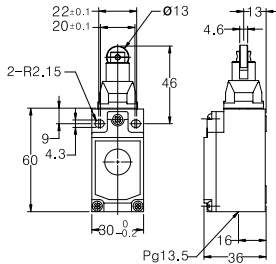


KLMAP1

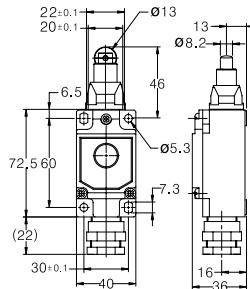


KLSAP2

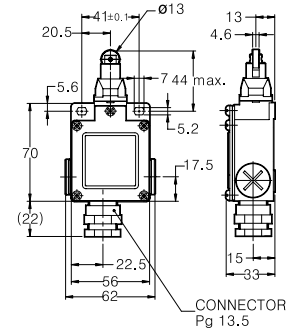
Roller Plunger



KLLAP2

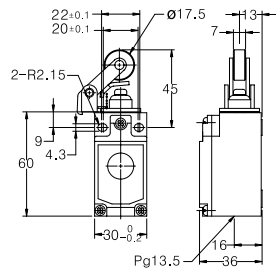


KLMAP2

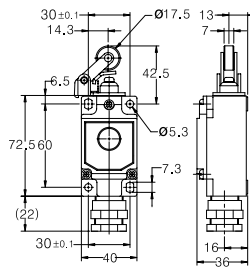


KLSAL1

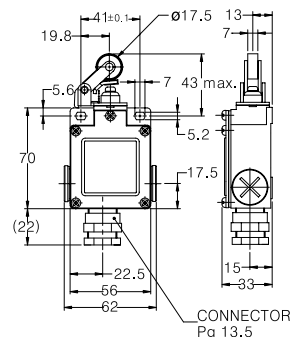
Roller Lever Plunger

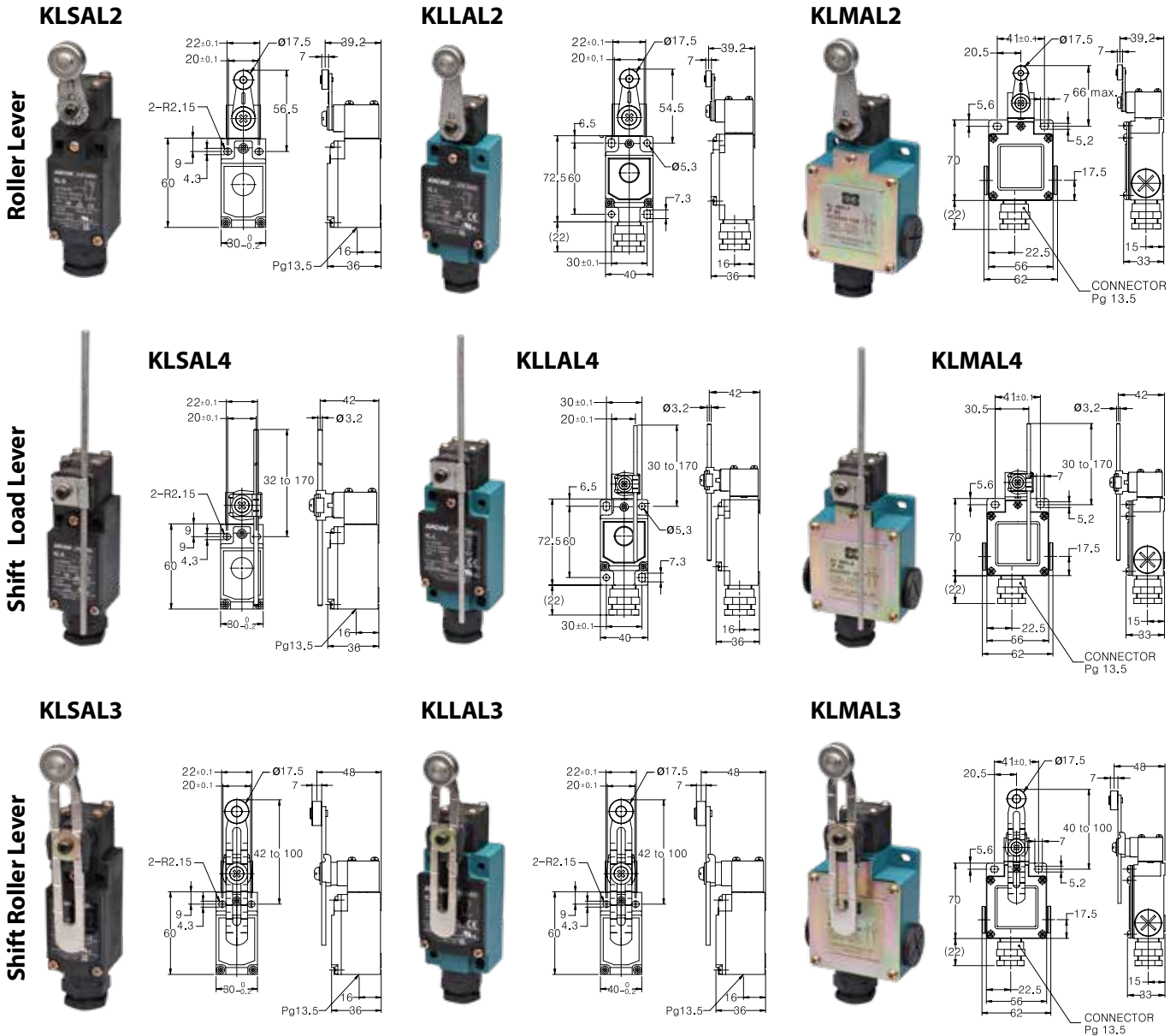


KLLAL1



KLMAL1

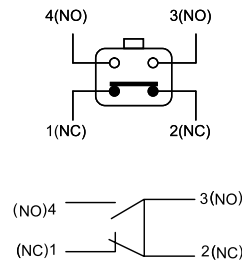




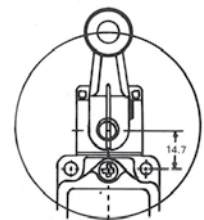
Operation Characteristics

	AP1	AP2	AL1	AL2	AL3	AL4
OF	2,720g	2,720g	700g	1,360g	1,360g	142g
RF	910g	910g	170g	227g	227g	28g
PT	1.7mm	1.7mm	4.5mm	20°±5	20°±5	20°±5
OT	6.4mm	5.6mm	6.4mm	40°	40°	40°
MD	1.0mm	1.0mm	1.0mm	12°	12°	12°
TF	-	-	-	2,720g	200g	200g

Contact Diagram



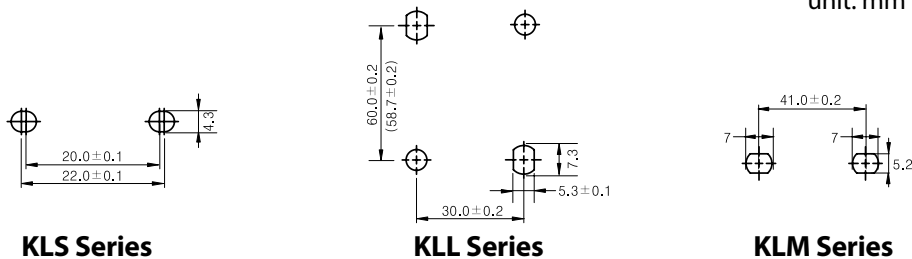
Roller Lever Operating Position Adjustment



Loosen the bolt on the side of the roller lever to adjust angle.

Assembly Guide

unit: mm



HRF-M Series

Medium Duty Foot Switches

- Suitable for general applications (medical, beauty etc.)
- 24K gold plated built-in switch
- Various designs & functions available

Specifications



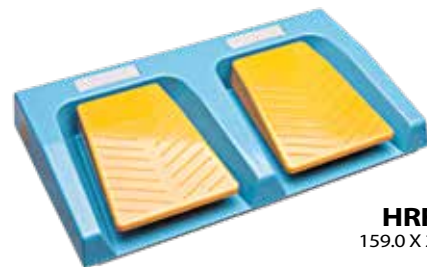
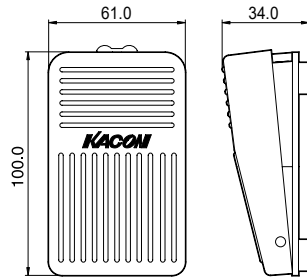
	M1	M2	MX1	MD2	MD23	MD2S	MD3	MD4	M5	M8	M52	M6	
Contact	1NO	SPDT (1NO + 1NC)							1NO	1NO x 2ea			
Rated Current	16A 250VAC									5A 250VAC	16A 250VAC		
Built-in Switch	V type micro switch (UL, CUL, VDE, CE Certified) + 24K gold plated									KMS-F Molding type	V type Micro Switch (UL, cUL, CE Certified) + 24K gold plated		
Body Material	Plastic	Steel	Aluminum Die cast						Plastic				
Function	Momentary				Maintained			Momentary					
Degree of Protection	IP54								IP68		IP65		
Cable	0.75 mm ² x 3 line cables x 2 m		0.5mm ² x 3 lines x 2m						0.5mm ² x 2 lines x 2m		0.5mm ² x 4 lines x 2m		

Plastic Housing (Unit: mm)



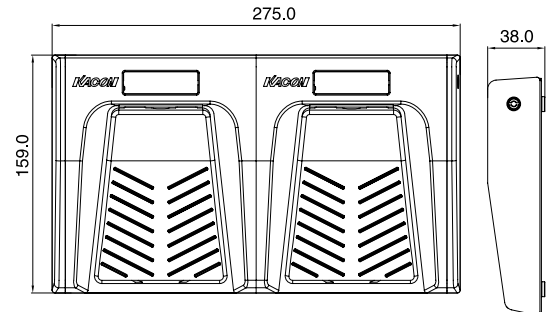
HRF-M1

100.0 X 61.0 X 34.0



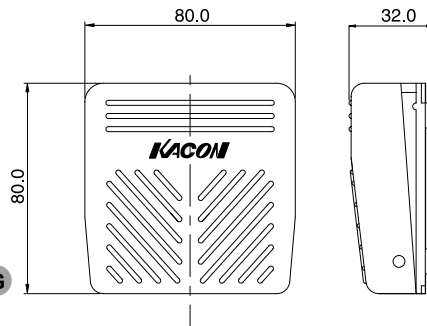
HRF-M52

159.0 X 275.0 X 38.0



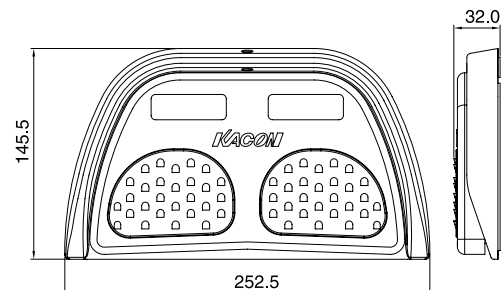
HRF-M2

85.0 X 80.0 X 32.0



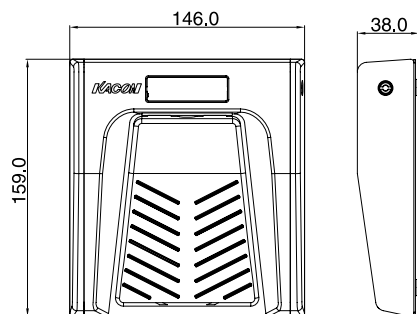
HRF-M6

145.0 X 252.5 X 32.0



HRF-M5

159.0 X 146.0 X 38.0

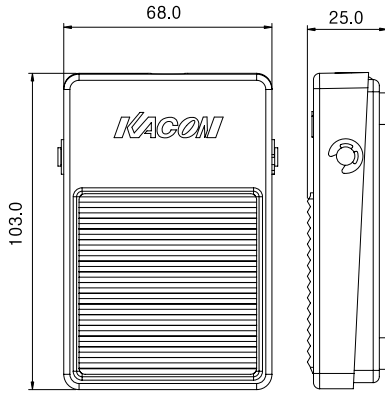


Metal Housing

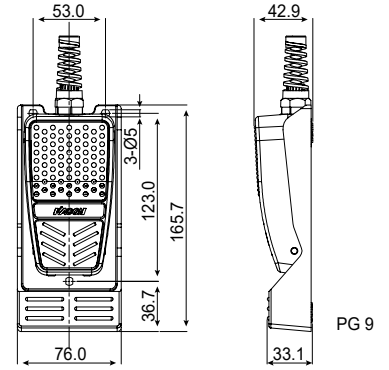
(Unit: mm)



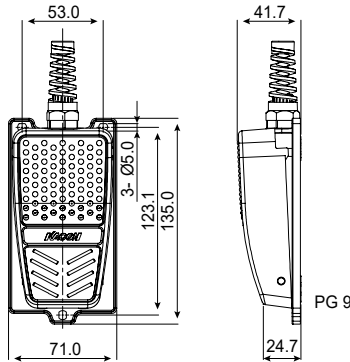
HRF-MX1
103.0 X 68.0 X 25.0



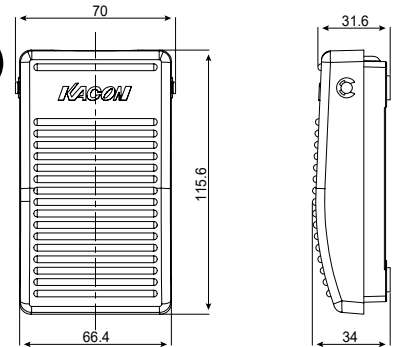
HRF-MD2S
165.7 X 76.0 X 42.9



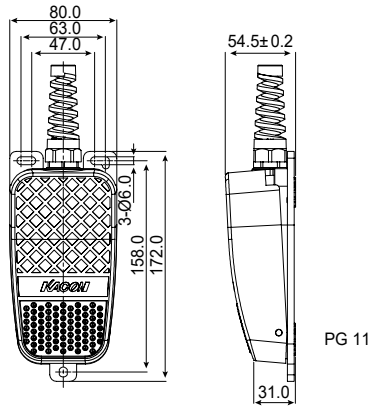
HRF-MD2
HRF-MD23 (Maintained)
135.0 X 71.0 X 41.7



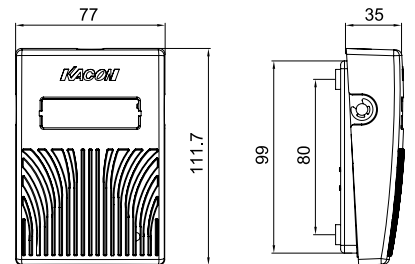
HRF-MD4
115.6 X 70.0 X 34.0



HRF-MD3
172.0 X 80.0 X 54.5

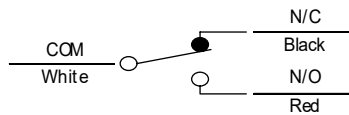


HRF-M8
111.7 X 77.0 X 35.0

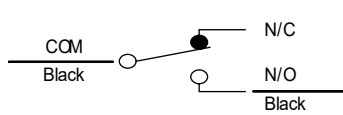


Contact Diagram

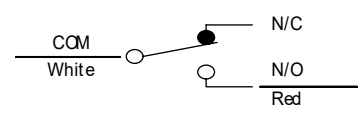
1C (1NO + 1NC)



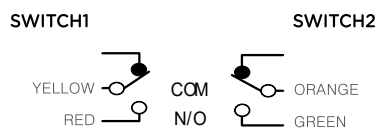
1NO(M1)



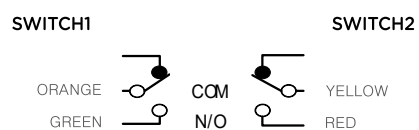
1NO(M5,M8)



1NO x 2ea (M52)



1NO x 2ea (M6)



HRF-HD Series

Heavy Duty Foot Switches

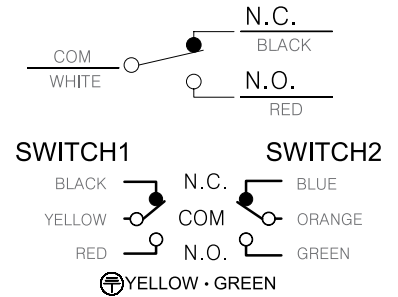
- Suitable for industrial machinery, medical etc.
- Aluminum die-casting body
- Various safety features



Specifications

	HD3	HD3N	HD3NX	HD3LX	HD3NS	HD5NX	HD5NS	HD202P
Contact	1NO 1NC				1NO 1NC x 2ea			
Regular Current	15A 125/250VAC							
Built-in Switch	Z type Micro Switch (UL, cUL, CE certified)							
Body Material	Aluminum Die-casting							
Function	Momentary							
Degree of Protection	IP65				IP54			
Cable	1/2 In. Tap, the flexible cable can be attached (Zinc connector 10 - 16)							

Contact Diagram

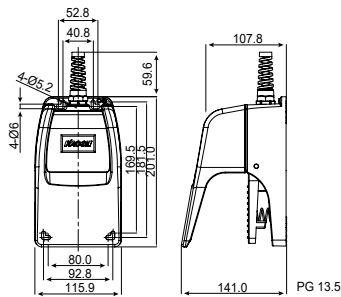


Dimensions

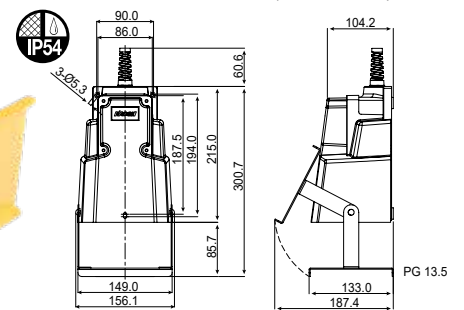
(Unit: mm)



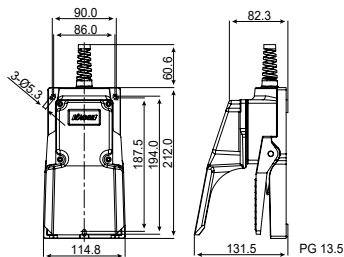
HRF-HD3
201.0 X 115.9 X 141.0



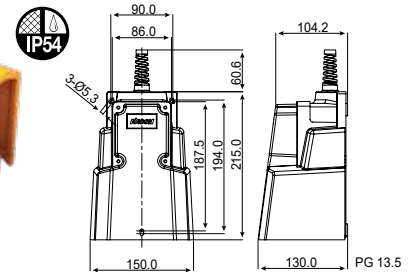
HRF-HD3NS
300.7 X 156.1 X 187.4
(W/Front Cover)



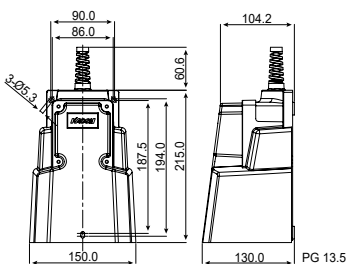
HRF-HD3N
212.0 X 114.8 X 131.5



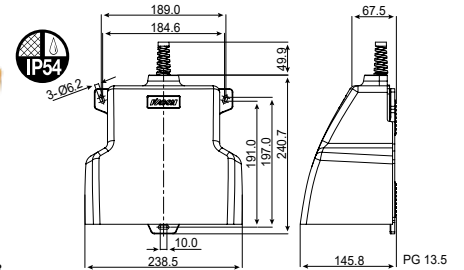
HRF-HD3LX
215.0 X 150.0 X 130.0
Safety Lock Type



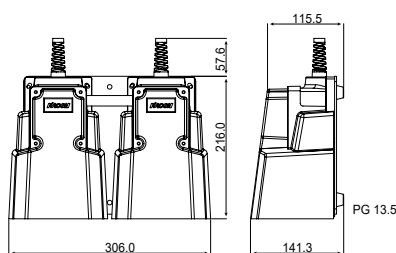
HRF-HD3NX
215.0 X 150.0 X 130.0



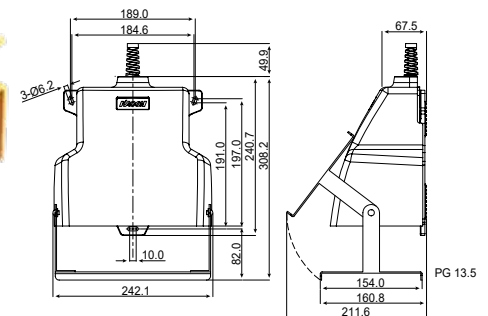
HRF-HD5NX
240.7 X 238.5 X 145.8



HRF-HD202P
216.0 X 306.0 X 141.3
(CE Only)



HRF-HD5NS
308.2 X 242.1 X 160.8
(W/Front Cover)





HRF-HD8 Series

Heavy Duty Foot Switches

- Impact resistant aluminum die-casting foot guard
- Adjustable pedal height from 20 to 45mm
- IP67 rated with silicon gasket
- 24K gold plated contacts
- Fluorescent label for safety in the dark



Replacement Contact Block

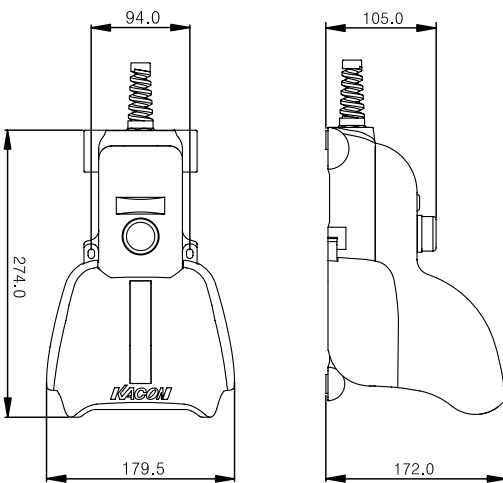
Part number	Contact Block
HD8S111	KSB1
HD8S211	KSB1-1, KSB1-2
HD8S212	
HD8S311	KSB1-A
HD8S811	SKSB1-S
HD8L811	

Specifications

	HD8S111	HD8S211	HD8S212	HD8S311	HD8S811	HD8L811
Contact Form	1NO + 1NC		2NO	1NO + 1NC		
Operation Type	Standard	Two-Stage Type		Self-Holding Type	Safety-Reset Button	Safety-Reset Button, Anti-Misoperation Lever
Function	Momentary			Momentary/Maintained		
Body Material	Aluminum Die-casting					
Contact Ratings	Contact Material	Ag Alloy (24K Au Plated)				
	Rated Current	20A 250VAC				
	Rated Voltage	Max. 440VAC				
	Contact Resistance	Max. 50mΩ				
General Ratings	Dielectronic Strench	2,000VAC for 1 minute				
	Life Cycle	Electrical	200,000			
		Mechanical	1,000,000			
	Degree of Protection	IP67				
	Insulation Resistance	100MΩ				

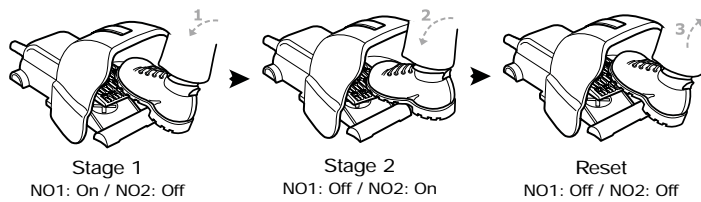
Dimensions

(Unit: mm)

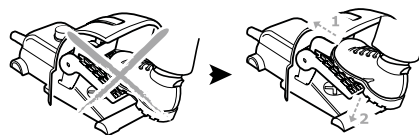


Operation Types

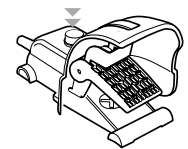
Two-Stage Type



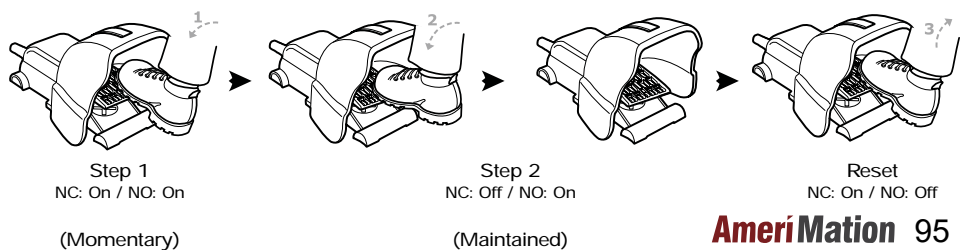
Anti-Misoperation Lever Type



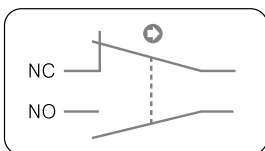
Safety-Reset Button Type (for emergency stop)



• Self-Holding Type (Momentary/Maintained)



Diagram



KAF-HD3 Series

Heavy Duty Foot Switches

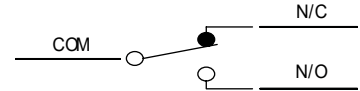
- Cost-effective industrial heavy duty
- Aluminum die-casting cover
- Power coated outer surface



Specifications

Part number	KAF-HD3T	KAF-HD3T2	KAF-HD3T3
Contact Form	1NO+1NC	2NO+2NC	3NO+3NC
Pedal	1 Pedal	2 Pedal	3 Pedal
Rated Current	15A 250VAC		
Built-in Switch	Z type Micro Switch (CE, UL, cUL certified)		
Body Material	Aluminum Die-casting		
Wire Inlet and Outlet Holes	1/2 Inch Tap, the flexible cable can be attached (zinc connector 10 ~ 16)		
Degree of Protection	IP65		
Certification	CE, UL, CCC, KC (Built-in Switch)		
Shock Test	IK10 cUL		

Contact Diagram

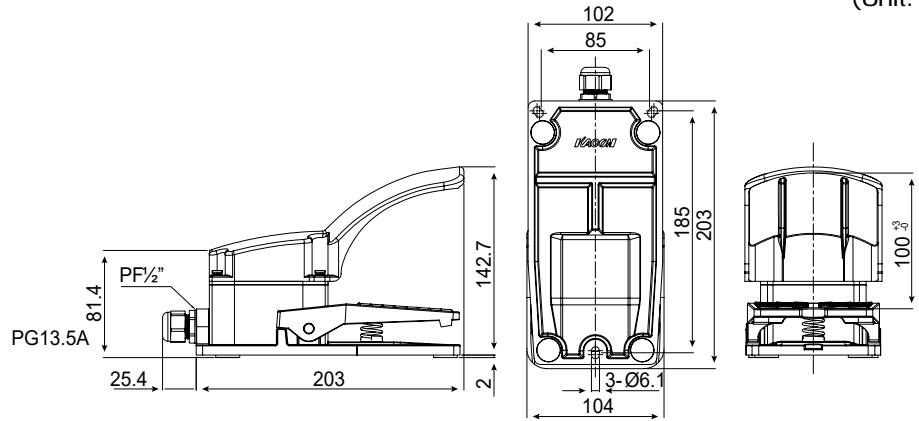


Dimensions

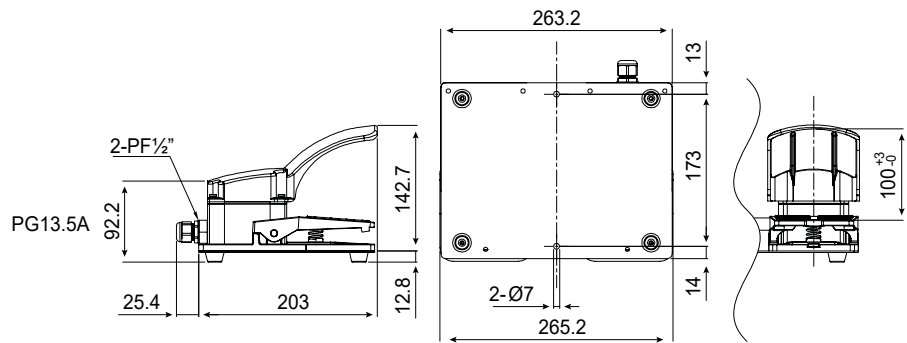
(Unit: mm)



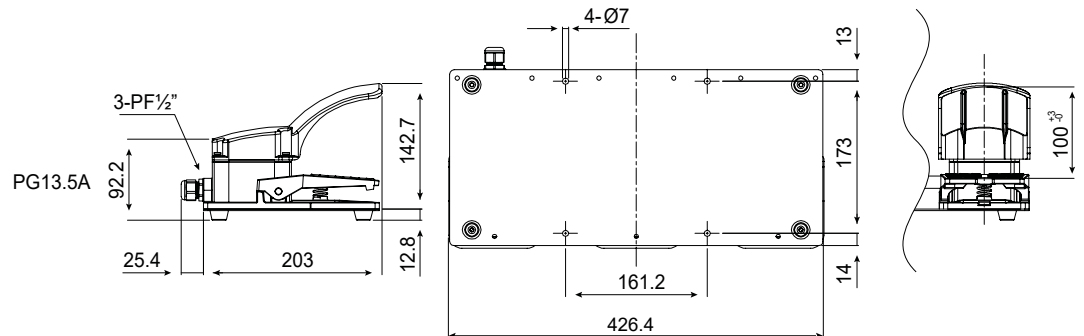
KAF-HD3T
203 X 104 X 142.7



KAF-HD3T2
203 X 265.2 X 142.7



KAF-HD3T3
203 X 426.4 X 142.7



• **Note** •

A series of horizontal dotted lines for writing notes, spanning the width of the page.



KMSR Series

Single Phase Solid State Relays



- Hockey puck style single phase SSR
- LED indicator of the control input status
- Clip cover of IP20 touch protection
- Available 4 ~ 32VDC or 90 ~ 265VAC input

Ordering Information

KMSR - ① ② ③ ④

① Input Voltage	D	4 - 32 VDC
	A	90 - 265 VAC
② Output Voltage	S	Single Phase
	D	DC
③ Load Current		
005	5A*	040 40A
010	10A	050 50A
020	20A	060 60A
025	25A	100 100A
030	30A	
④ Load Voltage	AC	2 90 - 240V
		4 90 - 480V
	DC	5 50V

*DC output type only
- DC Output DC Input models are not available

Specifications

Insulation Resistance	100MΩ/500VDC (btwn Terminal & Case)
Dielectric Strength	2500VAC(50/60Hz 1minute)
Vibration Resistance	10-55Hz, amplitude: 1.5mm,x,y,z each axis 2 hours
Shock Resistance	1000m/s ² ,s,y,z each axis 3times
Storage Temperature	-30°C~ +90°C
Ambient Temperature	-25°C~ +70°C
Ambient Humidity	45 - 85% R.H
Weight	approx. 100g

Characteristics

DC Input / AC Output (90 - 240VAC) .9A

Model#	KMSR-	DS0102	DS0202	DS0252	DS0302	DS0402	DS0502	DS0602	DS1002
Input	Rated Control Voltage	4 -32VDC							
	Pick-up Voltage	3VDC Minimum							
	Drop-out Voltage	1.5VDC Maximum							
	Input Current	3-35mA							
Output	Rated Load Voltage	90 - 240VAC							
	Peak Voltage	600V						800V	
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	170A	250A	315A			580A		
	Output Leakage Current (Maximum)	10mA	15mA						
	Output on Voltage Drop	1.5V Maximum							
	Minimum Switching Current	1A							
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum							

DC Input / AC Output (90 - 480VAC) .9A

Model#	KMSR-	DS0104	DS0204	DS0254	DS0304	DS0404	DS0504	DS0604	DS1004
Input	Rated Control Voltage	4 -32VDC							
	Pick-up Voltage	3VDC Minimum							
	Drop-out Voltage	1.5VDC Maximum							
	Input Current	3 - 35mA							
Output	Rated Load Voltage	90 - 480VAC							
	Peak Voltage	800V	1200V						
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	170A	250A	350A	370A	580A			
	Output Leakage Current (Maximum)	20mA							
	Output on Voltage Drop	1.3V MAX	1.6V MAX	1.8V Maximum					
	Minimum Switching Current	1A							
Pick-up/Drop-out Time	1/2 cycle+1ms Maximum								

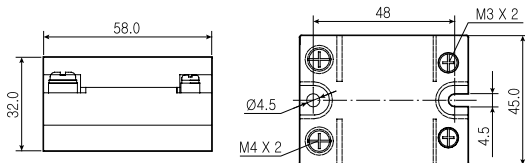
AC Input / AC Output (90 - 240VAC)

Model#	KMSR-	AS0102	AS0202	AS0252	AS0302	AS0402	AS0502	AS0602	AS1002
Input	Rated Control Voltage	90-265VAC							
	Pick-up Voltage	72VAC Minimum							
	Drop-out Voltage	60VAC Maximum							
	Input Current	15mA Maximum							
Output	Rated Load Voltage	90 - 240VAC							
	Peak Voltage	600V				800V			
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	170A	250A	315A			580A		
	Output Leakage Current (Maximum)	10mA	15mA						
	Output on Voltage Drop	1.5V Maximum							
	Minimum Switching Current	1A							
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum							

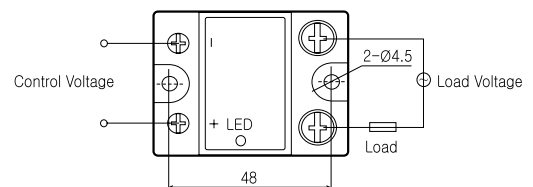
AC Input / AC Output (90 - 480VAC)

Model#	KMSR-	AS0104	AS0204	AS0254	AS0304	AS0404	AS0504	AS0604	AS1004
Input	Rated Control Voltage	90-265VAC							
	Pick-up Voltage	72VAC Minimum							
	Drop-out Voltage	60VAC Maximum							
	Input Current	15mA Maximum							
Output	Rated Load Voltage	90 - 480VAC							
	Peak Voltage	800V	1200V						
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	170A	250A	350A	370A	580A			
	Output Leakage Current (Maximum)	20mA							
	Output on Voltage Drop	1.3V MAX	1.6V MAX	1.8V Maximum					
	Minimum Switching Current	1A							
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum							

Dimension

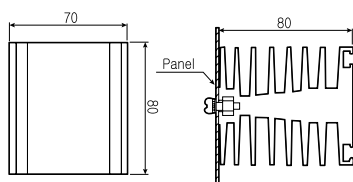


Connection Diagram

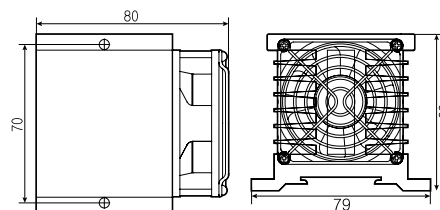


Optional Heatsink

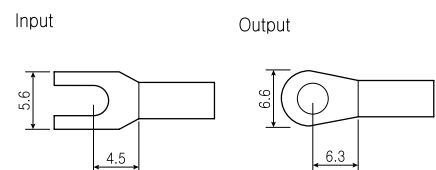
KSH-A040(25A-40A)



KSH-A100(40A-100A)



Terminals





KMSR Series

Three Phase Solid State Relays



- Economic type three phase SSR
- LED indicator of the control input status
- Available heatsinks & fans

Ordering Information

KMSR - ① ② ③ ④

① Input voltage	D	4 - 32 VDC
	A	90 - 265 VAC

② Output Voltage	T	Three Phase
---------------------	----------	-------------

③ Load Current			
010	10A	040	40A
020	20A	050	50A
025	25A	060	60A
030	30A	100	100A

④ Load Voltage	2	90 - 240VAC
	4	90 - 480VAC

Specifications

Insulation Resistance	100MΩ/500VDC (btwn Terminal & Case)
Dielectric Strength	2500VAC(50/60Hz 1minute)
Vibration Resistance	10-55Hz, amplitude: 1.5mm,x,y,z each axis 2 hours
Shock Resistnace	1000m/s ² ,s,y,z each axis 3times
Storage Temperature	-30°C~ +90°C
Ambient Temperatur	-25°C~ +70°C
Ambient Humidity	45 - 85% R.H
Weight	approx. 530g

Characteristics

DC Input / AC Output (90 - 240VAC)

		DT0102	DT0202	DT0252	DT0302	DT0402	DT0502	DT0602	DT1002
Input	Rated Control Voltage	4 -32VDC							
	Pick-up Voltage	3VDC Minimum							
	Drop-out Voltage	1.5VDC Maximum							
	Input Current	25mA Maximum							
Output	Rated Load Voltage	90 - 240VAC							
	Peak Voltage	600V				800V			
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	125A	260A	315A			580A		
	Output Leakage Current (Maximum)	10mA	10mA						
	Output on Voltage Drop	1.5V Maximum							
	Minimum Switching Current	1A							
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum							

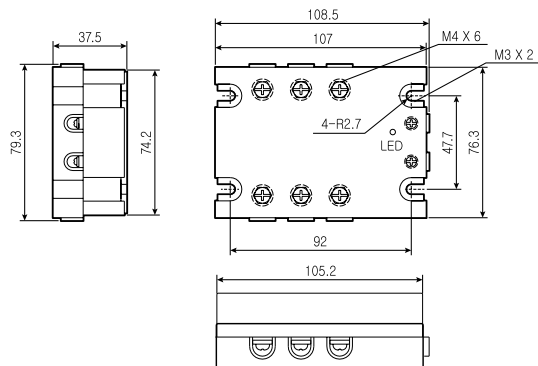
DC Input / AC Output (90 - 480VAC)

		DT0104	DT0204	DT0254	DT0304	DT0404	DT0504	DT0604	DT1004	
Input	Rated Control Voltage	4 -32VDC								
	Pick-up Voltage	3VDC Minimum								
	Drop-out Voltage	1.5VDC Maximum								
	Input Current	3 - 35mA								
Output	Rated Load Voltage	90 - 480VAC								
	Peak Voltage	800V	1200V							
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A	
	Frequency	47 - 63Hz								
	Single Cycle Surge Current Resistance	170A	250A		350A		580A			
	Output Leakage Current (Maximum)	10mA								
	Output on Voltage Drop	1.5V Maximum								
	Minimum Switching Current	1A								
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum								

AC Input / AC Output (90 - 240VAC)										
		AT0102	AT0202	AT0252	AT0302	AT0402	AT0502	AT0602	AT1002	
Input	Rated Control Voltage	90-265VAC								
	Pick-up Voltage	72VAC Minimum								
	Drop-out Voltage	60VAC Maximum								
	Input Current	15mA Maximum								
Output	Rated Load Voltage	90 - 240VAC								
	Peak Voltage	600V					800V			
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A	
	Frequency	47 - 63Hz								
	Single Cycle Surge Current Resistance	125A	260A	315A			580A			
	Output Leakage Current (Maximum)	10mA								
	Output on Voltage Drop	1.5V Maximum								
	Minimum Switching Current	1A								
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum								

AC Input / AC Output (90 - 480VAC)									
		AT0104	AT0204	AT0254	AT0304	AT0404	AT0504	AT0604	AT1004
Input	Rated Control Voltage	90-265VAC							
	Pick-up Voltage	72VAC Minimum							
	Drop-out Voltage	60VAC Maximum							
	Input Current	15mA Maximum							
Output	Rated Load Voltage	90 - 480VAC							
	Peak Voltage	800V	1200V						
	Rated Load Current	10A	20A	25A	30A	40A	50A	60A	100A
	Frequency	47 - 63Hz							
	Single Cycle Surge Current Resistance	170A	250A		350A		580A		
	Output Leakage Current (Maximum)	10mA							
	Output on Voltage Drop	1.5V Maximum							
	Minimum Switching Current	1A							
	Pick-up/Drop-out Time	1/2 cycle+1ms Maximum							

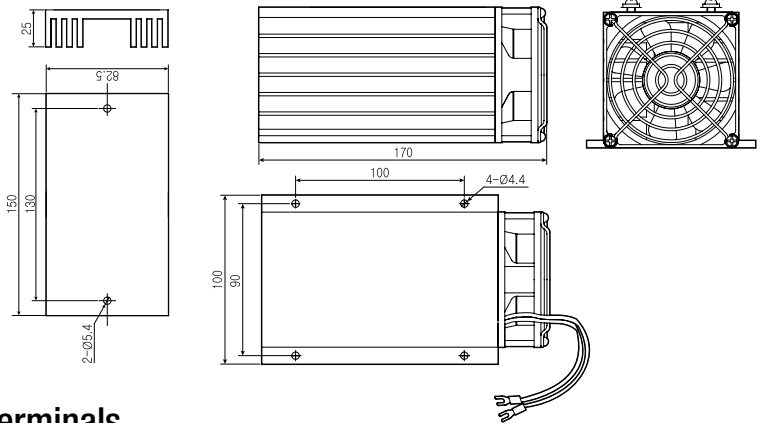
Dimension



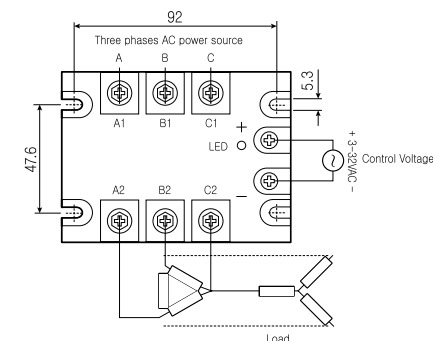
Optional Heatsink

KSH-B040(25A-40A)

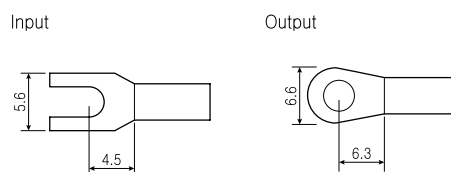
KSH-B100(40A-100A)



Connection Diagram



Terminals





KSR Series

Single Phase Solid State Relays

- Slim type single phase SSR
- LED indicator of the control input status
- Heatsink integrated SSR available



Ordering Information

KSR ① ② ③ ④ ⑤

Load Voltage	2	90 - 240 VAC \mathcal{V}_{AC}
	5	90 - 480 VAC

Load Current			
005 \mathcal{V}_{AC}	5A	050 \mathcal{V}_{AC}	50A
015 \mathcal{V}_{AC}	15A	060 \mathcal{V}_{AC}	60A
030 \mathcal{V}_{AC}	30A	080 \mathcal{V}_{AC}	80A
040 \mathcal{V}_{AC}	40A		

③ Operate mode	Z	Zero Cross
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④ Input voltage	D	24VDC(4-32V) \mathcal{V}_{DC}
	A	220VAC(90-240V 50/60Hz)

⑤ Heatsink	no mark	Mount Type
	H	Heatsink Type \mathcal{V}_{AC}
	HF	Heatsink + Fan Type

Specifications

	Low Voltage	High Voltage
Release Time	Cycle of 1/2 Load + Less than 1 ms	
Output on Voltage Drop	Less than 1.6V (RMS)	Less than 1.8V (RMS)
Leakage Current	Less than 10mA (AC200V)	Less than 20mA (AC480V)
Insulation Resistance	more than 100MΩ (DC500V)	
Withstand Voltage	AC 5,000V 50/60Hz 1min	
Vibration Resistance	10-55-10Hz Peak Amplitude 0.35mm (Dual Amplitude 0.7mm)	
Shock Resistance	294m/s ²	
Storage Temperature	-30 - +100°C (non-condensing)	
Ambient Temperature	-30 - +80°C (non-condensing)	
Ambient Humidity	45 - 85%RH	

Over temperature alarm specification

Output	NPN Open Collector	
Maximum Switching Current Rating	Opens at 95 ± 5°C of SSR Body temperature	
Alarm Voltage Drop	Typical	50mADC
	Maximum	2.8VDC
Visual Indication	Normal : Green LED, Overheat alarm : Red LED	
UL Certification	4VDC	
	Only on 24VDC Input voltage, with and without heatsink	

Characteristics

Input Ratings (Ambient Temp of 25°C)

Rated Control Voltage	Control Voltage Range	Control Voltage Levels			Input Current
		Pick-up Voltage	Drop-out Voltage		
24VDC	4-32VDC	Less than 4VDC	More than 1.4VDC	10±3mA	
220VAC	90-240VAC	Less than 90VAC	More than 50VAC	10±5mA	

Low Voltage Load

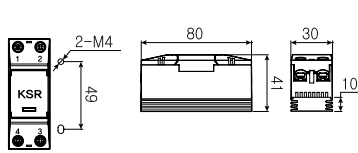
	2005	2015	2030	2040	2050	2060	2080
Rated Load Voltage	AC 220V (50/60Hz)						
Load Voltage Range	AC 90-240V (50/60Hz)						
Rated Load Current	5A	15A	30A	40A	50A	60A	80A
Load Current Ragne	0.5A - Rated Current @ Ambient Temp of 25°C						
Peak Voltage	600V						
Single Cycle	84	260	420	520	580		
Surge Current Resistance	60Hz, 1 Cycle						

High Voltage Load

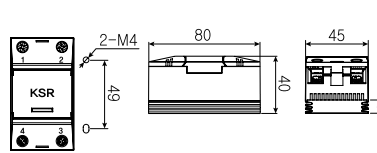
	5005	5015	5030	5040	5050	5060	5080
Rated Load Voltage	AC 440V (50/60Hz)						
Load Voltage Range	AC 90-480V (50/60Hz)						
Rated Load Current	5A	15A	30A	40A	50A	60A	80A
Load Current Ragne	0.5A - Rated Current @ Ambient Temp of 25°C						
Peak Voltage	1,200V						
Single Cycle	80	250	370	500	580		
Surge Current Resistance	60Hz, 1/2 Cycle						

Dimensions

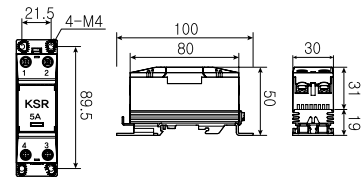
Mount Type 5 / 15 / 30A



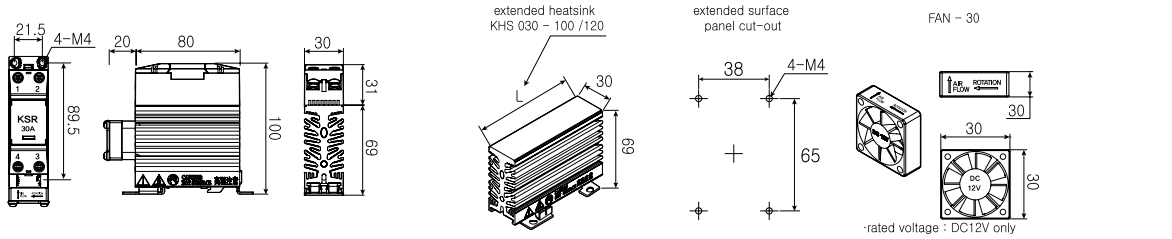
Mount Type 40 / 50 / 60 / 80A



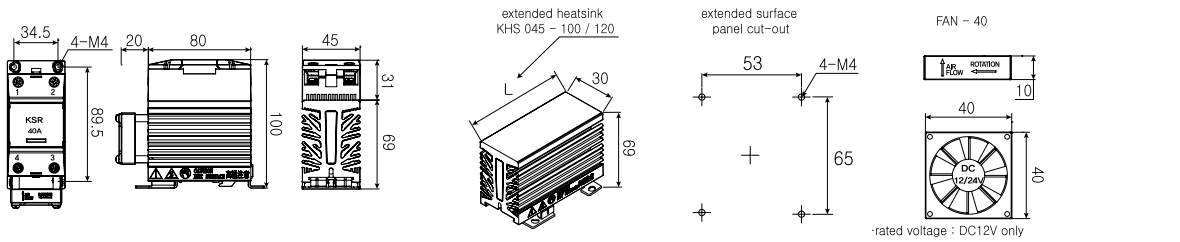
Heatsink Type 5A



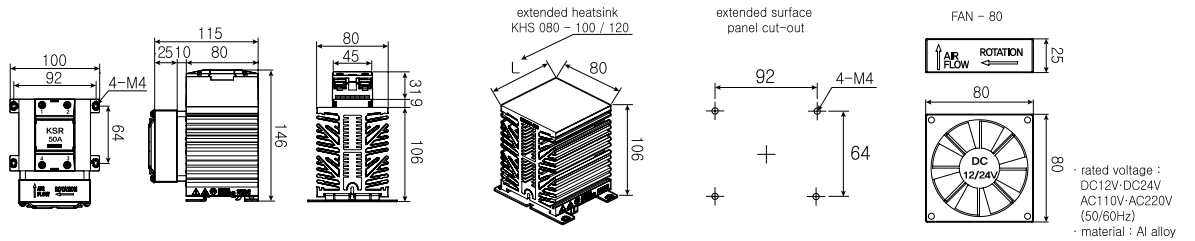
Heatsink + Fan Type 30A



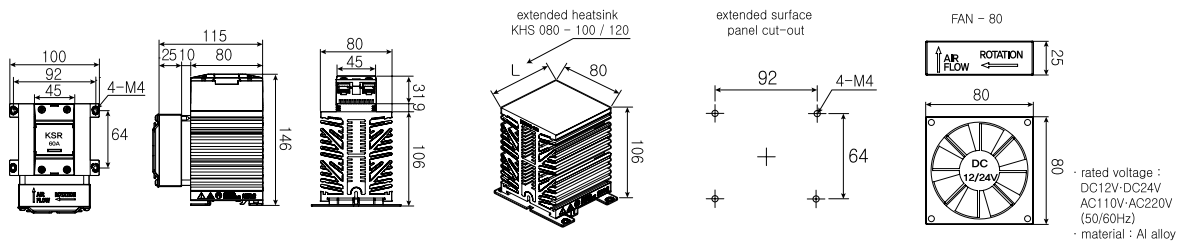
Heatsink + Fan Type 40A



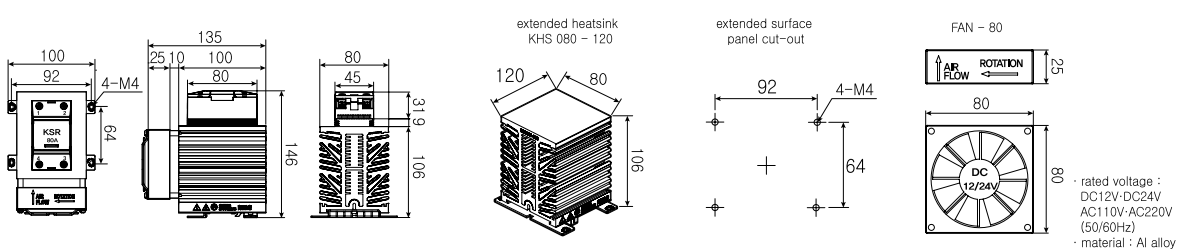
Heatsink + Fan Type 50A



Heatsink + Fan Type 60A



Heatsink + Fan Type 80A





KSC Series

Three Phase Solid State Relays



- 80 x 80mm three phase SSR
- LED indicator of the control input status
- Heatsink integrated SSR available
- Clip cover of IP20 touch protection

Ordering Information

KSC- ① ② ③ ④ ⑤

① Load Voltage	2	90 - 240 VAC $\frac{VAC}{VAC}$
	5	90 - 480 VAC
② Load Current		
015 $\frac{VAC}{VAC}$	15A	050 $\frac{VAC}{VAC}$ 50A
030 $\frac{VAC}{VAC}$	30A	060 $\frac{VAC}{VAC}$ 60A
040 $\frac{VAC}{VAC}$	40A	080 $\frac{VAC}{VAC}$ 80A
③ Operate mode	Z	Zero Cross
④ Input voltage	D	24VDC(4-32V) $\frac{VAC}{VAC}$
	A	220VAC(90-240V 50/60Hz)
⑤ Heatsink	no mark	Mount Type
	H	Heatsink Type $\frac{VAC}{VAC}$
	HF	Heatsink + Fan Type

Specifications

	Low Voltage	High Voltage
Release Time	Cycle of 1/2 Load + Less than 1 ms	
Output on Voltage Drop	Less than 1.6V (RMS)	Less than 1.8V (RMS)
Leakage Current	Less than 10mA (AC200V)	Less than 20mA (AC480V)
Insulation Resistance	more than 100MΩ (DC500V)	
Withstand Voltage	AC 5,000V 50/60Hz 1min	
Vibration Resistance	10-55-10Hz Peak Amplitude 0.35mm (Dual Amplitude 0.7mm)	
Shock Resistance	294m/s ²	
Storage Temperature	-30 - +100°C (non-condensing)	
Ambient Temperature	-30 - +80°C (non-condensing)	
Ambient Humidity	45 - 85%RH	

Over temperature alarm specification

Output	NPN Open Collector	
	Opens at 95 ± 5°C of SSR Body temperature	
Maximum Switching Current Rating	50mADC	
Alarm Voltage Drop	Typical	2.8VDC
	Maximum	4VDC
Visual Indication	Normal : Green LED, Overheat alarm : Red LED	

Characteristics

Input Ratings (Ambient Temp of 25°C)

Rated Control Voltage	Control Voltage Range	Operational Voltage Range			Input Current
		Pick-up Voltage	Drop-out Voltage		
24VDC	4-32VDC	Less than 4VDC	More than 1.4VDC		30±3mA
220VAC	90-240VAC	Less than 90VAC	More than 50VAC		30±5mA

Low Voltage Load

	2015	2030	2040	2050	2060	2080
Rated Load Voltage	220VAC (50/60Hz)					
Load Voltage Range	90-240VAC (50/60Hz)					
Rated Load Current	15A	30A	40A	50A	60A	80A
Load Current Range	0.5A - Rated Current @ Ambient Temp of 25°C					
Peak Voltage	600V					
Single Cycle Surge Current Resistance	260	420	520	520	580	580
	60Hz, 1Cycle					
UL Certification	Only on 24VDC Input voltage, with and without heatsink					No UL

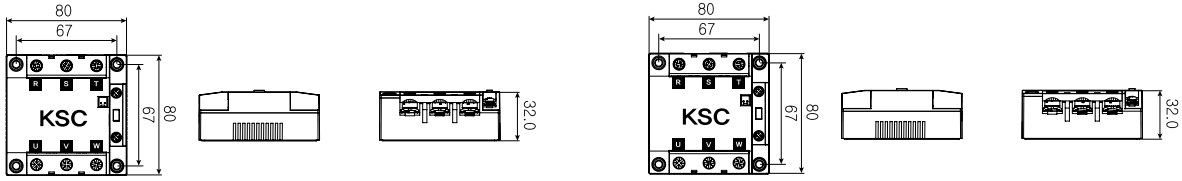
High Voltage Load

	5015	5030	5040	5050	5060	5080
Rated Load Voltage	440VAC (50/60Hz)					
Load Voltage Range	90-480VAC (50/60Hz)					
Rated Load Current	15A	30A	40A	50A	60A	80A
Load Current Range	0.5A - Rated Current @ Ambient Temp of 25°C					
Peak Voltage	1,200V					
Single Cycle Surge Current Resistance	250	370	500	500	580	580
	60Hz, 1/2Cycle					

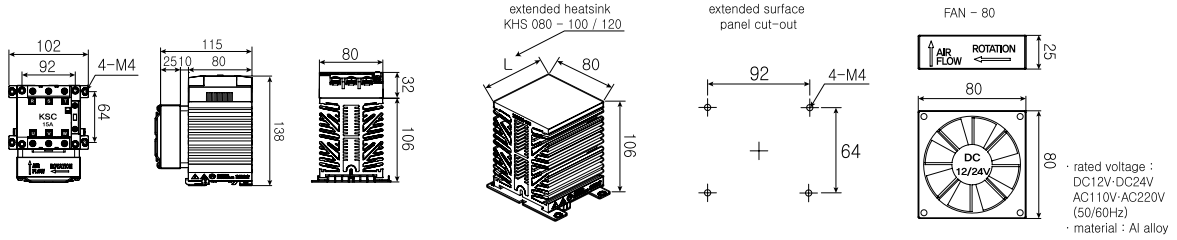
Dimensions

Mount Type 15 / 30A

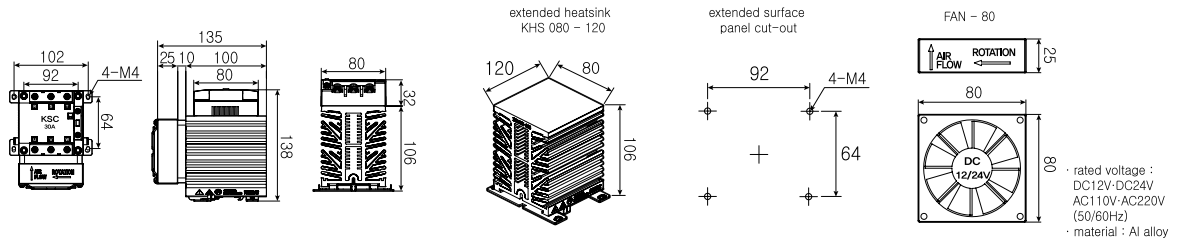
Mount Type 40 / 50 / 60 / 80A



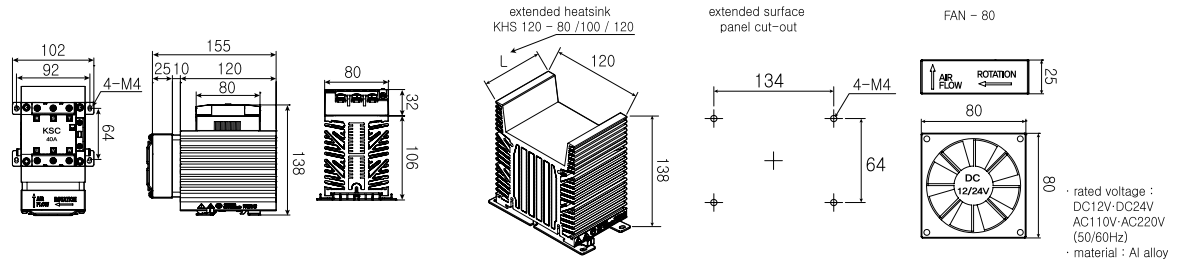
Heatsink Type 15A



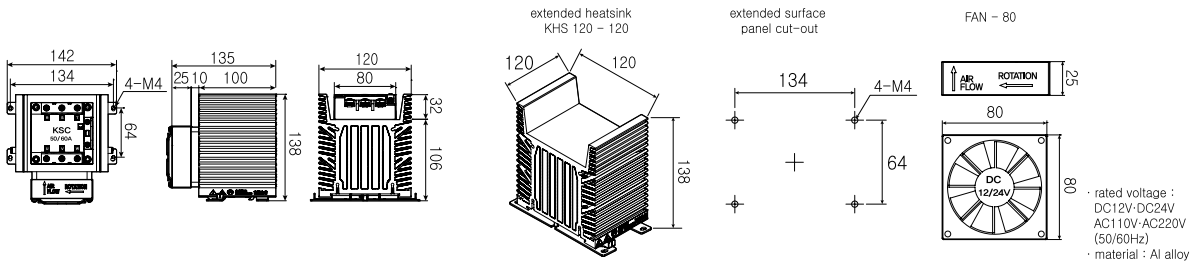
Heatsink Type 30A



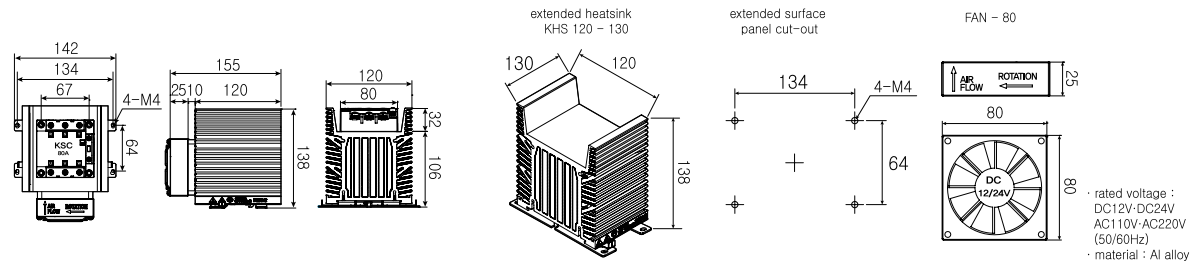
Heatsink Type 40A



Heatsink Type 50 / 60A



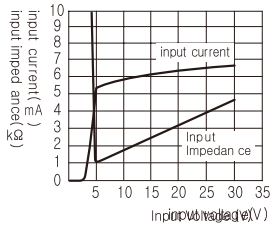
Heatsink Type 80A



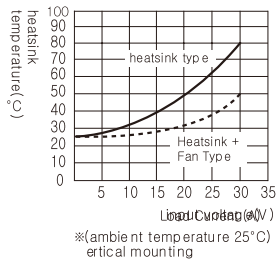
Technical Data

KSR & KSC Series

Input current and Impedance

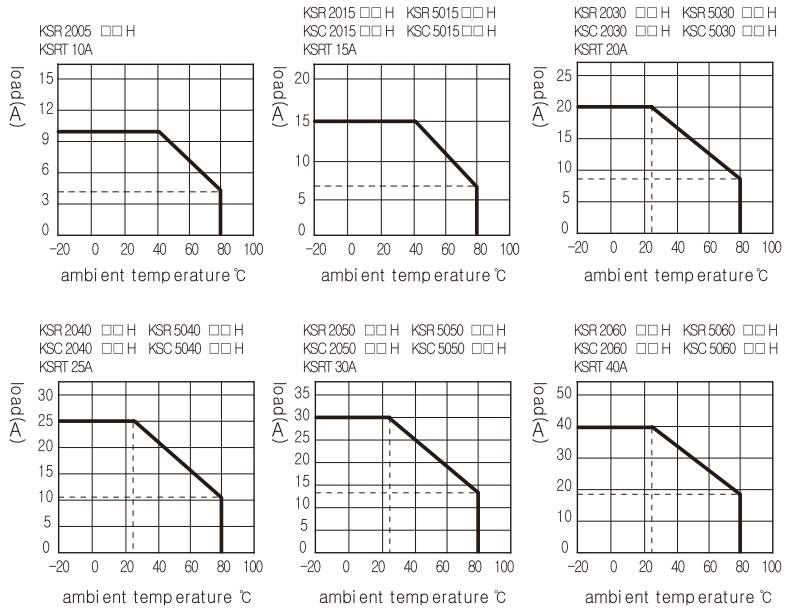


Heatsink type & Heatsink + Fan type



※(ambient temperature 25°C)
vertical mounting

Ambient Temperature-load current



▶ Caution

- The radiator fan reduces the radiator temperature by up to 35 ~ 40 % (ambient temperature of 25°C / vertical mounting)
- In the design process, note that the load current characteristic worsens with the increase in the ambient temperature.
- With the high-voltage type, design the system at 80 % of the rating or less.
- The device life is prolonged when the temperature decreases.

Note



TA/TR Series

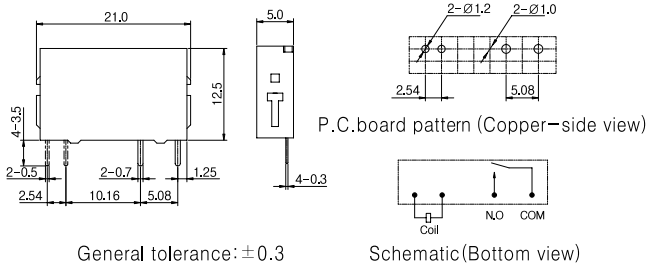
Miniature sized class F Relays



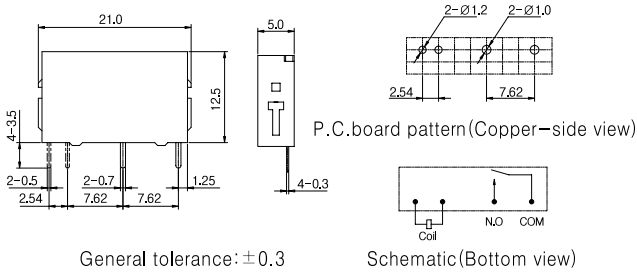
- Miniature size (width 5mm, height 12.5mm) high density and easy to install
- Extended switching capability (1mA 5VDC to 5A 250VAC, 30VDC)
- Twin Cross Bar Contact Mechanism for enhanced contact reliability
- High sensitive operation: 120mW ~ 180mW (5 to 24VDC)
- Gold Clad Silver Alloy Contact to secure micro current conductivity
- SIL terminal layout
- Wider terminal structure (TA : 5.08mm/TR : 7.62mm)
- Gold plated Socket terminal (24k gold plated)
- Class F 155°C

Dimensions (unit: mm)

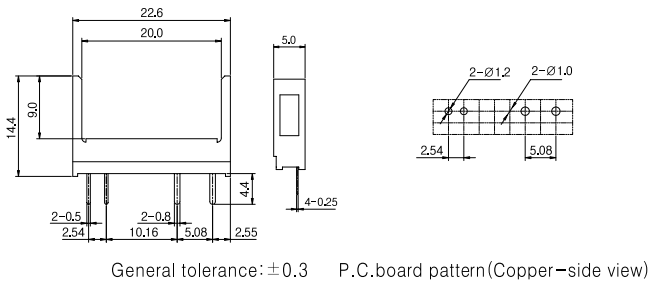
TA Series



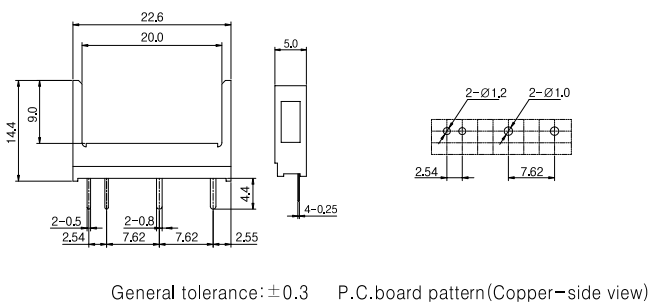
TR Series



TAS (Socket for TA)



TRS (Socket for TR)



Ordering Information

T A - 1a 5

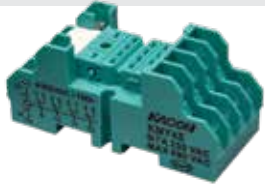
① ②

① Distance btwn Terminals	A	5.08mm
	R	7.62mm
② Voltage	5	5V DC
	12	12V DC
	24	24V DC

Specifications

Contact Specifications	Contact point composition		SPST (1NO)
	Contact point material		Gold-clad Silver alloy
	Initial contact resistance		30mΩ max
	Rated current(resistance load)		5A 30V DC 5A 250V AC
	Maximum Switching Current rating		5A
	Maximum Contact capacity	DC	150W
		AC	1,250VA
	Maximum Rated Voltage		110V DC 250V AC
Minimum switching rating*		1mA 5V DC	
Coil Spec.	Coil Voltage		5VDC ~ 24VDC
	Power consumption		120mW, 180mW
	Minimum operating		70% of rated voltage
	Maximum cut-off voltage		5% of rated voltage
	Insulation		Class F 155°C
Time of operation		maximum rated voltage at 6ms	
Time of interruption		maximum tated voltage at 3ms	
Insulation resistance		1,000MΩ min. (500VDC)	
Dielectric Strength	between contact points	1,000VACrms per minute	
	Between contact points and coil	2,000VACrms per minute	
Surge voltage	Between contact points and coil	4,000V	
Life span	Mechanical	Over 10,000,000 times	
	Electrical	Over 100,000 times under rated load	
Vibration resistand	Functional	Min. 147m/s ² (15G), 10~55Hz (width of vibration:2.5mm)Min.	
	Destructive	Min. 205.8m/s ² (21G), 10~55Hz (width of vibration: 3.5mm)	
Counter Shock	Functional and destructive	15G min. (147m/s ²) 100G min. (980m/s ²)	
	Ambient temperature	-40°C ~ +70°C (non-freezing)	
Ambient humidity		5% ~ 85% RH	
Weight		Approx. 3g	

* The above mentioned minimum switching rating is only referential. The referenced value varies according to the make and break frequency, environmental condition and anticipated credibility level. Therefore, it is recommended that tests be done with actual load value before the production process.



HR705 Series

Cube Type Relays



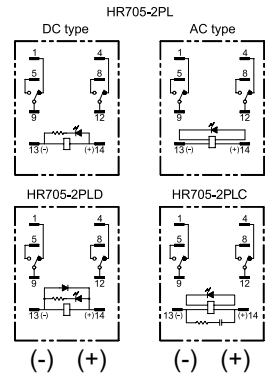
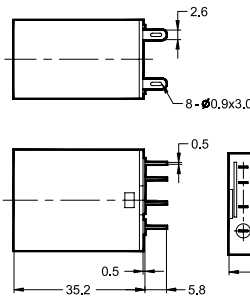
- 705 Series are designed with compact housing & ICE cube style, silver alloy contact, LED indicator, high reliability and long life
- Available Surge protection type to protect malfunction of PLC, electronic devices from back EMF

Specifications

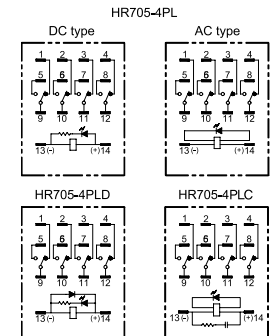
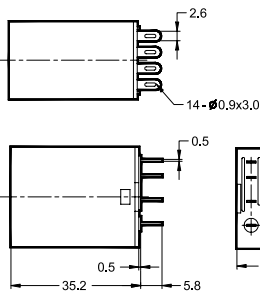
Part Numbers	Standard type	HR705-2PL-220VAC HR705-2PL-110VAC HR705-2PL-24VAC HR705-2PL-110VDC HR705-2PL-24VDC HR705-2PL-12VDC	HR705-4PL-220VAC HR705-4PL-110VAC HR705-4PL-24VAC HR705-4PL-110VDC HR705-4PL-24VDC HR705-4PL-12VDC
	Surge protection type	HR705-2PLD-12VDC HR705-2PLD-24VDC HR705-2PLC-110VAC HR705-2PLC-220VAC	HR705-4PLD-12VDC HR705-4PLD-24VDC HR705-4PLC-110VAC HR705-4PLC-220VAC
Contact	Configuration	DPDT (2NO + 2NC)	4PDT (4NO + 4NC)
	Material	Silver alloy (24K gold plate)	
	Max. Switching current	5A	3A
	Rated Max. Resistive Load	5A at 24VDC/240VAC	3A at 24VDC/240 VAC
	Max. Switching Voltage	125VDC/ 250VAC	
	Min. Switching requirement	100mA 5VDC	
Coil Spec.	Voltage range	12VDC to 110VDC, 12VAC to 240VAC	
	Power consumption	AC: 0.9VA Approx. , DC: 0.9W Approx.	
	Minimum operating voltage	80% of the rated coil voltage	
	Max. Dropout voltage	DC Coil: 10% of rated voltage AC Coil: 30% of rated voltage	
	Operating Time	20ms	
General Info.	Dropout time	20ms	
	Insulation resistance	100MΩ at 500V DC	
	Dielectric Strength	Between Contact: 1,000 Vrms 1Min.	
		Between Contact & Coil: 1,500Vrms 1Min.	
	Mechanical life	1,000,000 operations	
	Electrical life	100,000 operations	
	Vibration resistant	10~55Hz at double amplitude of 1.5mm	
	Ambient temperature	-35 ~ +55°C (-13°F ~ 131°F) at non freezing	
	Ambient humidity	35% ~ 80% RH	
	Weight	33g (1.2oz)	
Socket	Socket part number	KMY2(Rail), KY08-02(PCB)	KMY4(Rail), KY14-02(PCB)
	Terminal Tightened Torque	0.5N • m (5.10kgf • cm)	

Dimensions (unit: mm)

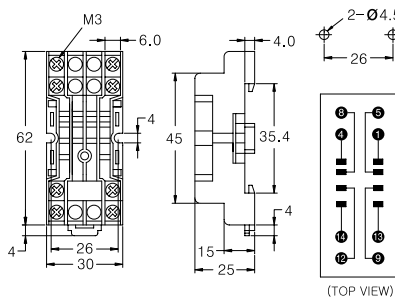
HR705-2PL Series



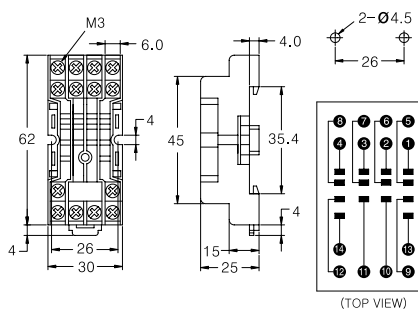
HR705-4PL Series



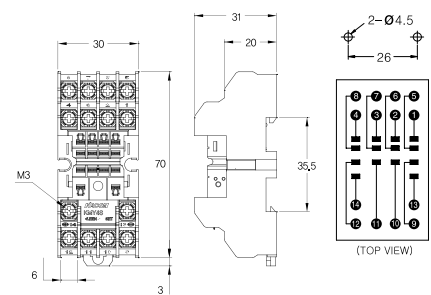
KMY2 Socket



KMY4 Socket



KMY4S Socket





HR710 Series

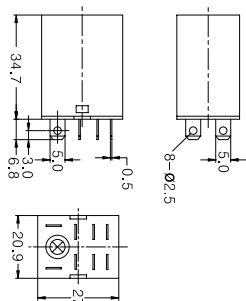
Cube Type Relays



- 710 Series are designed with compact housing & ICE cube style, silver alloy contact, LED indicator, high reliability and long life
- Available Surge protection type to protect malfunction of PLC, electronic devices from back EMF

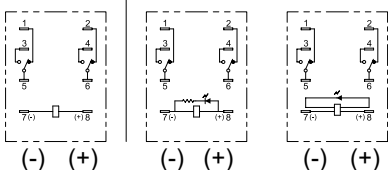
Dimensions (unit: mm)

HR710-2P Series

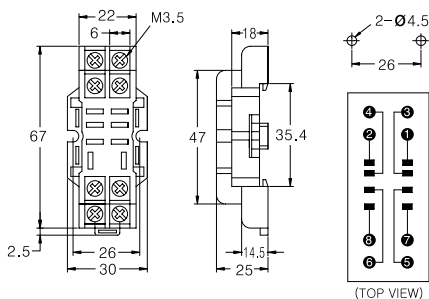


HR710-2P

HR710-2PL



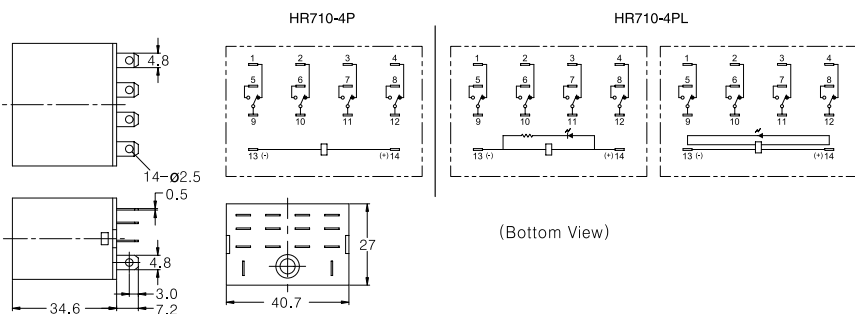
KLY2 Socket



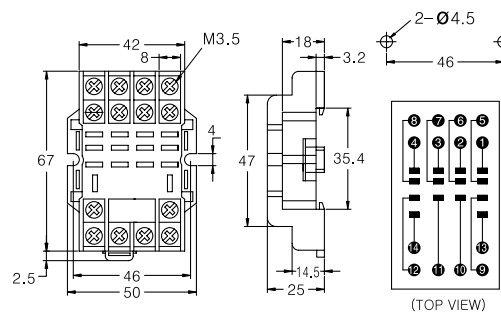
Specifications

Part Numbers	Standard type	HR710-2PL-220VAC HR710-2PL-110VAC HR710-2PL-24VAC HR710-2PL-110VDC HR710-2PL-24VDC HR710-2PL-12VDC	HR710-4PL-220VAC HR710-4PL-110VAC HR710-4PL-24VAC HR710-4PL-110VDC HR710-4PL-24VDC HR710-4PL-12VDC
	Surge protection type	HR710-2PLD-12VDC HR710-2PLD-24VDC HR710-2PLC-110VAC HR710-2PLC-220VAC	HR710-4PLD-12VDC HR710-4PLD-24VDC HR710-4PLC-110VAC HR710-4PLC-220VAC
Contact	Configuration	DPDT (2NO + 2NC)	4PDT (4NO + 4NC)
	Material	Ag alloy (24K gold plate)	
	Max. Switching current	10A	
	Rated Max. Resistive Load	10A at 24VDC/220VAC	
	Max. Switching Voltage	125VDC/ 250VAC 50/60Hz	
Coil Spec.	Min. Switching requirement	100mA 5VDC	
	Voltage range	12VDC to 24VDC, 12VAC to 220VAC	
	Power consumption	AC: approx. 1.2VA DC: approx. 0.9W	AC: approx. 2.5VA DC: approx. 1.5W
	Minimum operating voltage	80% of the rated coil voltage	
	Max. Dropout voltage	DC Coil: 10% of rated voltage AC Coil: 30% of rated voltage	
General Info.	Operating Time	25ms	
	Dropout time	25ms	
	Insulation resistance	100MΩ at 500V DC	
	Dielectric Strength	Between Contact: 1,000 Vrms 1Min.	
		Between Contact & Coil: 1,500Vrms 1Min.	
	Mechanical life	1,000,000 operations	
	Electrical life	100,000 operations	
	Vibration resistant	10~55Hz at double amplitude of 1.5mm	
	Ambient temperature	-25 ~ +55°C (-13°F ~ 131°F) at non freezing	
	Ambient Humidity	35% ~ 80% RH	
Weight	33g(1.2oz)	65g(2.4oz)	
Socket	Socket part number	KLY2(DIN Rail), KT08-0(PCB)	KLY4(Din Rail)
	Terminal Tightened Torque	0.5N · m (5.10kgf · cm)	

HR710-4P Series



KLY4 Socket





K7SR Series

Safety Relay

- Various contact configurations
- Forcibly guided contact type (IEC 61810-3)
- 6A switching capacity, Low power consumption
- Terminal layout for easy wiring of PWB patterns
- High insulation capacity (UL Insulation Class F)

Specifications

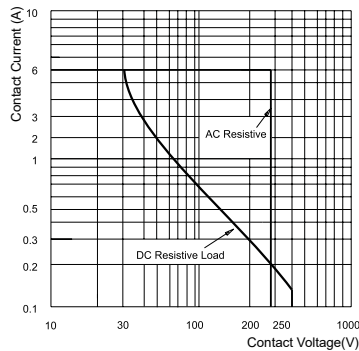
Contact Ratings	Contact Form	4P 2NO + 2NC, 3NO + 1NC	6P 5NO + 1NC, 4NO + 2NC, 3NO + 3NC
	Forcibly Guided Contact Type (Based on IEC 61810-3)	Type A	
	Contact resistance	100mΩ max. (at 1A 6VDC)	
	Material	AgSnO ₂	
	Rating	6A 250VAC / 30VDC (1circuit)	
	Max Switching voltage	400VAC / 30VDC	
	Max Switching current	6A	
	Max Switching power	1500VA / 180W	
	Mechanical Life*	10,000,000	
	Electrical Life*	100,000 (1NO : 6A 30VDC, resistance load, 1sec ON 1sec OFF) 100,000 (1NO : 6A 250VAC, resistance load, 1sec ON 1sec OFF)	
Coil Ratings	Coil Consumption	Approx. 360mW	Approx. 500mW
	General voltage	24VDC	
	Min Operating voltage	18.0VDC	
	Maximum Drop-out Voltage	2.4VDC	
	Minimum Pick Up Voltage**	31.2VDC	26.4VDC
	Coil resistance (Ω)	1600 x (1±10%)	1152 x (1±10%)
Safety Relay General Ratings	Insulation Resistance	1000MΩ at 500VDC (It was measured at the same locations as the dielectric strength was measured.)	
	Grade of insulation	Class F	
	Withstand voltage***	Between Coil & Contacts : 4000VAC 1 min	
		Between Open Contacts : 1500VAC 1 min	
		Between Contact sets : 2500VAC 1 min (34-33/44-43) 4000VAC 1 min (Other)	Between Contact sets : 2500VAC 1 min (54-53/64-63) 4000VAC 1 min (Other)
	Surge voltage	Between Coil & Contacts : 10kV (1.2 / 50μs)	
		Between Contact sets : 5kV (1.2 / 50μs)	
	Operating time (at rated voltage)	20ms max. (The ambient temperature was 23 °C. Contact bounce time is not included.)	
	Breaking time (at rated voltage)	20ms max. (The ambient temperature was 23 °C. Contact bounce time is not included.)	
	Vibration resistance	NO/NC : 10Hz to 55Hz 1.5mm DA NO : 55Hz to 200Hz, 98m/s ² NC : 55Hz to 200Hz, 49m/s ²	
	Shock Resistant	Malfunction : 980m/s ²	Destruction : 100m/s ²
	Ambient temperature****	-40° C to 85° C	
Ambient Humidity	5% to 85% RH		
Wiring	PCB board / Dedicated socket		
Weight	Approx. 20g	Approx. 23g	
Socket General Ratings	Rated voltage	250VAC	
	Rated Current	6A	
	Applicable relay coil voltage	6 ~ 24 VDC	
	Ambient temperature	-25° C to 55° C	
	Specification Torque	1.0N . m	
	Wire thickness	1.5mm 16AWG	
Stripping Length	7mm ²		
Remarks	With LED		

Ordering Information

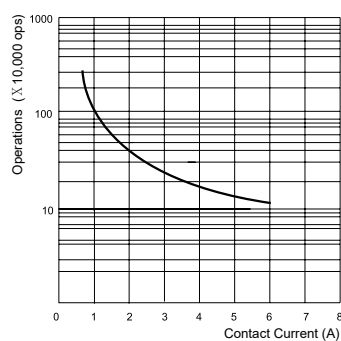
Safety Relay Part Number	Contact Form	Socket Part Number	Number of Terminals
K7SR-3A1B-24VDC	3NO + 1NC	K7SC-10FL-24VDC	10FL : 10 Terminal (4P Relay)
K7SR-2A2B-24VDC	2NO + 2NC		
K7SR-5A1B-24VDC	5NO + 1NC		
K7SR-4A2B-24VDC	4NO + 2NC	K7SC-14FL-24VDC	14FL : 14 Terminal (6P Relay)
K7SR-3A3B-24VDC	3NO + 3NC		

Reference Data

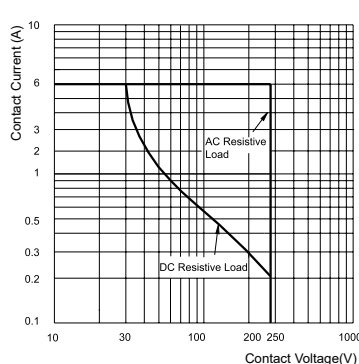
Maximum Switching Power for 4P



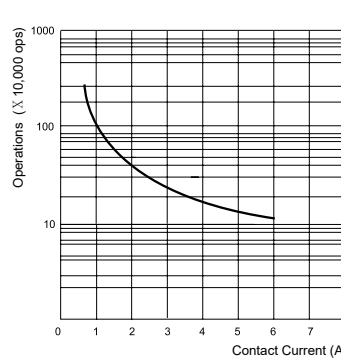
Endurance Curve for 4P



Maximum Switching Power for 6P



Endurance Curve for 6P



Caution: The above figures are the initial values.

Specifications and materials are subject to change without prior notice for quality improvement.

*The Life is for an ambient temperature of 15 to 35°C and an ambient humidity of 25% to 75%.

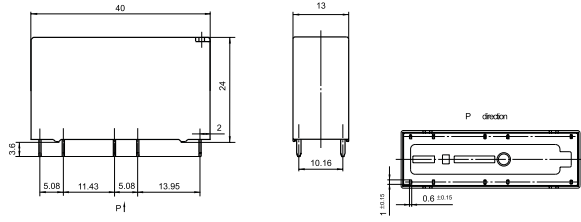
**This is the maximum voltage of the relay coil that can be stably operated.

***When using Socket, the dielectric strength between coil contacts/different poles is 2,500VAC, for 1 min.

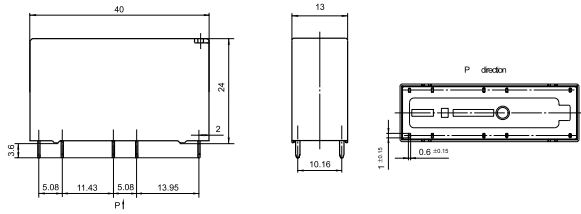
****When operating at a temperature between 50 and 70°C, reduce the rated carry current by 0.3A/°C.

Relay Dimensions

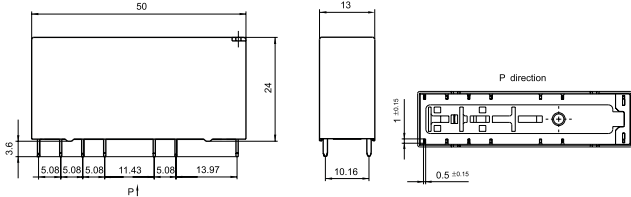
3A1B (unit: mm)



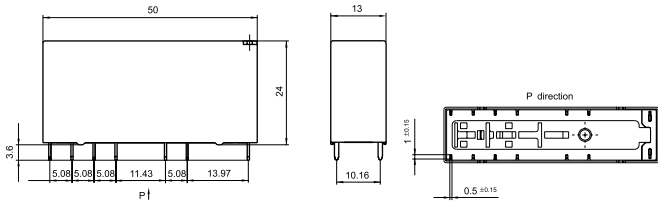
2A2B (unit: mm)



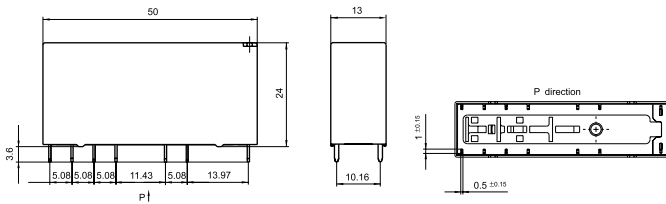
5A1B (unit: mm)



4A2B (unit: mm)

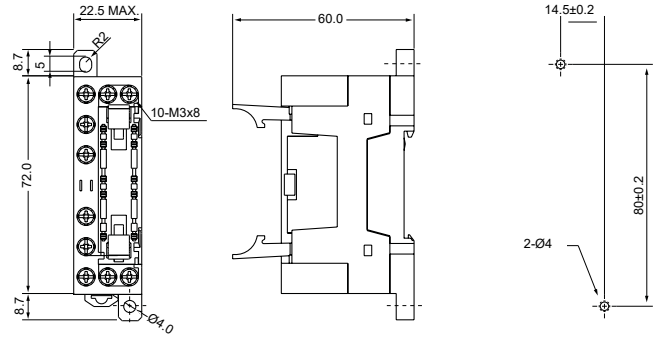


3A3B (unit: mm)

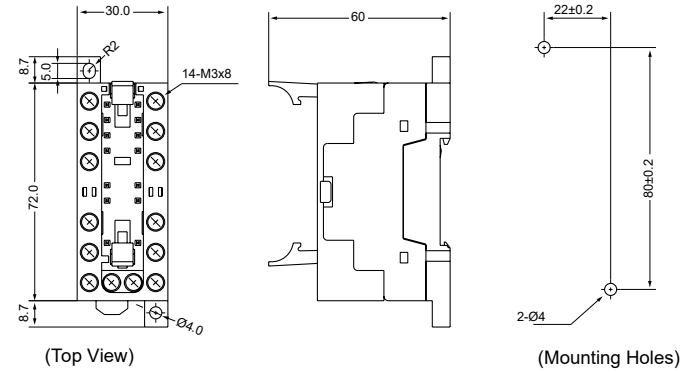


Socket Dimensions

Socket 4P (unit: mm)

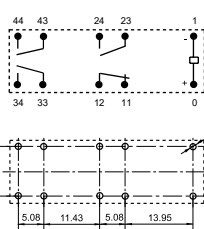


Socket 6P (unit: mm)

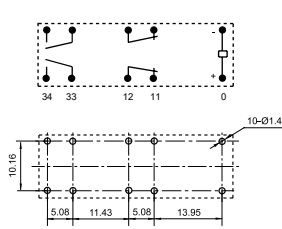


Relay Wiring Diagram

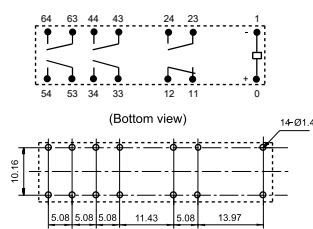
3A1B (unit: mm)



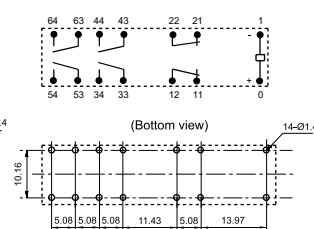
2A2B (unit: mm)



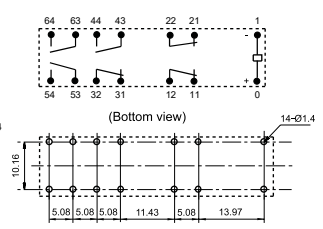
5A1B (unit: mm)



4A2B (unit: mm)

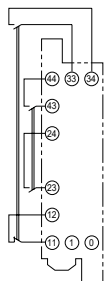


3A3B (unit: mm)

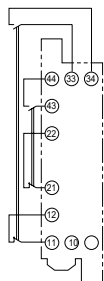


Socket Terminal Layout & Internal Connection Diagram

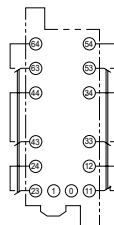
3A1B



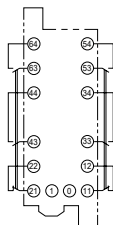
2A2B



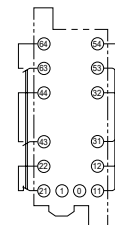
5A1B



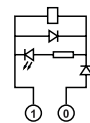
4A2B



3A3B



With LED





K706 Series

Slim & Compact Relays

- Different colored test button for AC or DC
- Switch type On/Off structure for easy test
- LED indicator to show operation
- Socket with safety cover available



Ordering Information

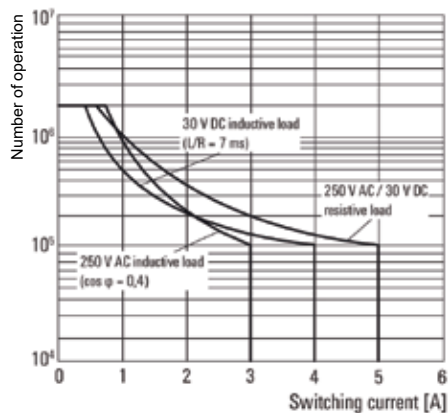
K706 - 1PL D T - 12VDC

① ② ③ ④

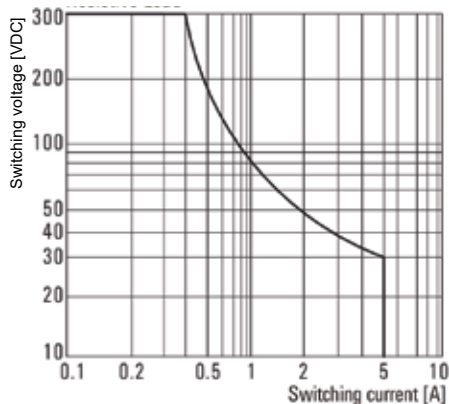
① Contact Ratings	1PL	1NO / 1NC (1C)
	2PL	2NO / 2NC (2C)
② Option	no mark	None
	D	Diode (Only DC)
③ Function	no mark	None
	T	Test Button Type (AC : Red, DC : Blue)
④ Coil Voltage	12VDC	12VDC
	24VDC	24VDC
	24VAC	24VAC
	110VAC	110VAC
	230VAC	230VAC

Reference Data

Life cycle curve



DC load breaking capacity



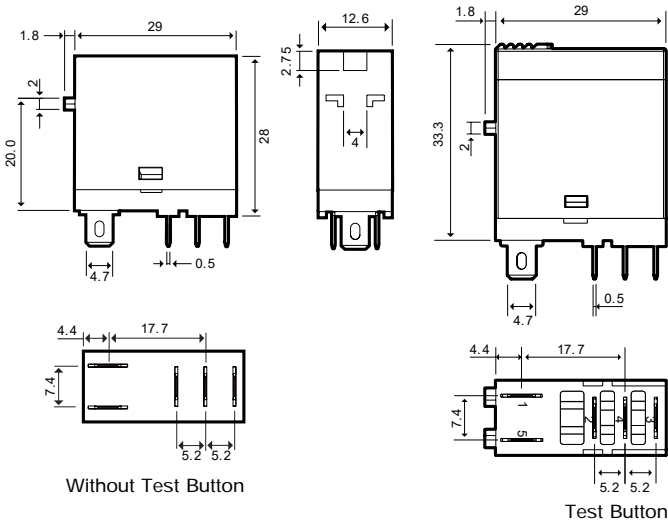
Specifications

Contact	Contact Arrangement	1NO / 1NC (1C)	2NO / 2NC (2C)	
	Contact Material	Ag alloy (24K Gold Plt.)		
	Max. Rated Current (Resistance Load)	10A / 250VAC	5A / 250VAC	
	Max. Switching Current	10A	5A	
	Max. Switching Capacity	3,000VA	2,000VA	
	Min. Switching Current*	100mA 5VDC		
	Initial Contact Resistance	100mΩ (1A 6VDC)		
Coil Spec.	Coil Voltage	12VDC, 24VDC, 24VAC, 100/110VAC, 220/240VAC		
	Coil Consumption	DC(W) : 0.53 / AC(VA) : 1.0		
	Min. Pick-up Voltage	DC : 75% of Nominal Voltage		
		AC : 80% of Nominal Voltage		
	Max. Dropout Voltage	DC : 10% of Nominal Voltage DC		
AC : 30% of Nominal Voltage AC				
General Info.	Operating Time	20ms		
	Release Time	10ms / Standard, 20ms / Diode		
	Insulation Resistance	1,000MΩ at 500VDC		
	Dielectric Strength	Between Contact Points	1,000Vrms 1min.	
		Between poles	3,000Vrms 1min.	
		Between Contact Points and Coil	5,000Vrms 1min	
	Life Cycle	Mechanical	Min. 10,000,000	
		Electrical	Min. 100,000	
	Vibration Resistant	Malfunction	10 ~ 55Hz (Durable Amplitude 1.5mm)	
		Destruction	10 ~ 55Hz (Durable Amplitude 1.5mm)	
Shock Resistant	Malfunction	98 m/s		
	Destruction	980 m/s		
Ambient Temperature	-40 ~ +55°C (with no Condensing)			
Ambient Humidity	35% ~ 85% RH			
Socket	Socket part number	KPX12/ KPX12-P	KPX22/KPX22-P	
	Terminal Tightened Torque	0.5N • m (5.10kgf • cm)		

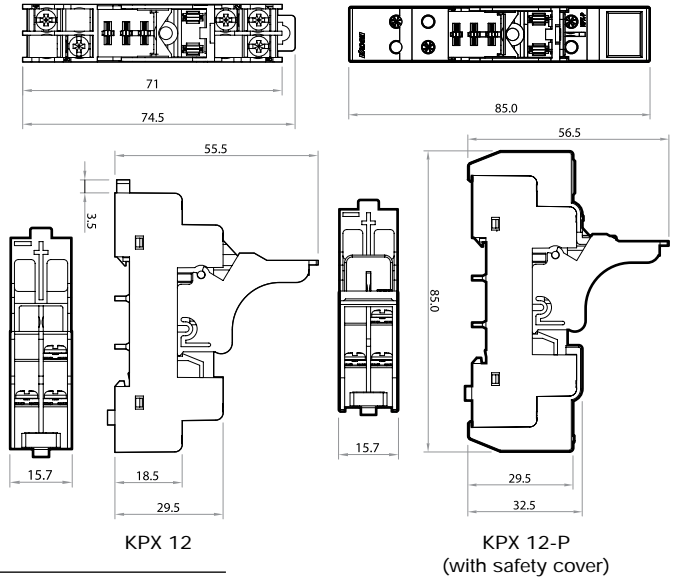
*The minimum switching current is indicated as a standard value. The actual minimum switching rate is variable factor according to the make and break frequency, environmental condition and anticipated credibility level. Therefore, it is recommended that tests be done to test actual load value before the production process.

K706-1PL

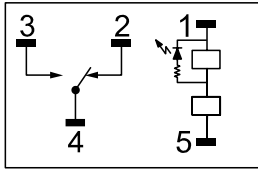
Relays Dimensions (unit: mm)



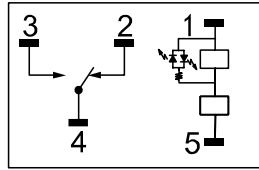
Socket Dimensions (unit: mm)



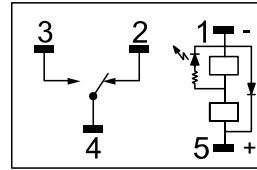
Wiring diagram



LED(AC)



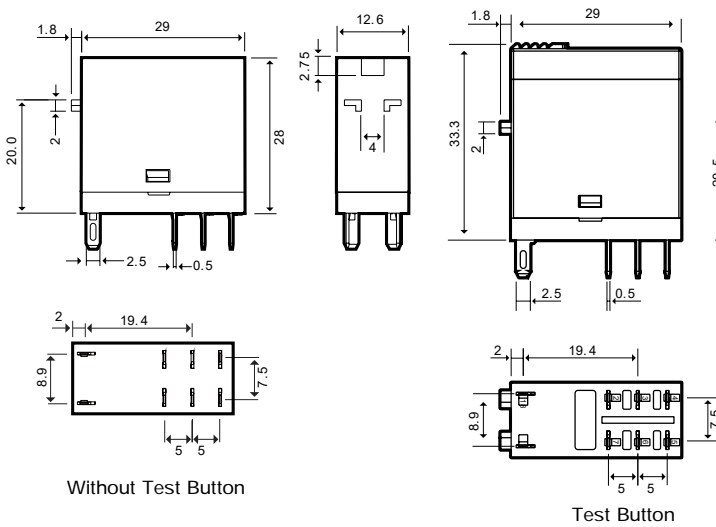
LED(DC)



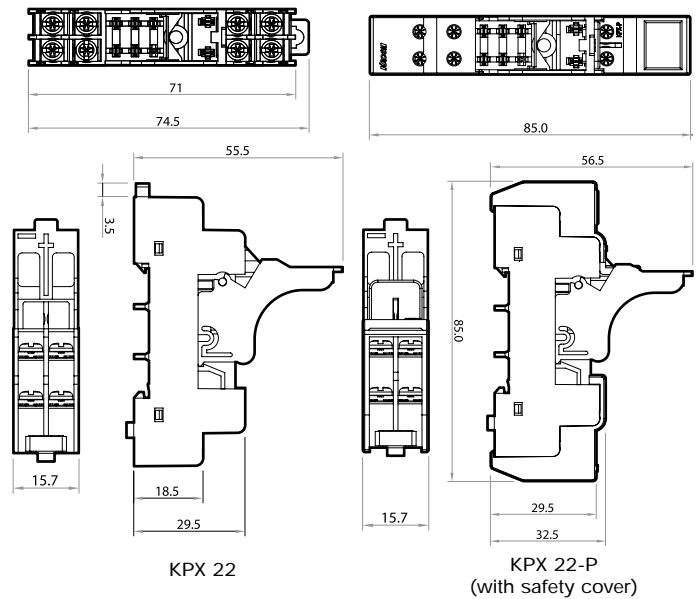
LED + Diode (DC)

K706-2PL

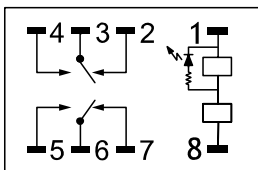
Relays Dimensions (unit: mm)



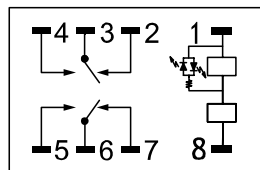
Socket Dimensions (unit: mm)



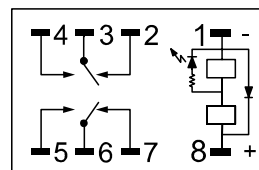
Wiring diagram



LED(AC)



LED(DC)



LED + Diode (DC)



HR707N Series

Octal Base Relays



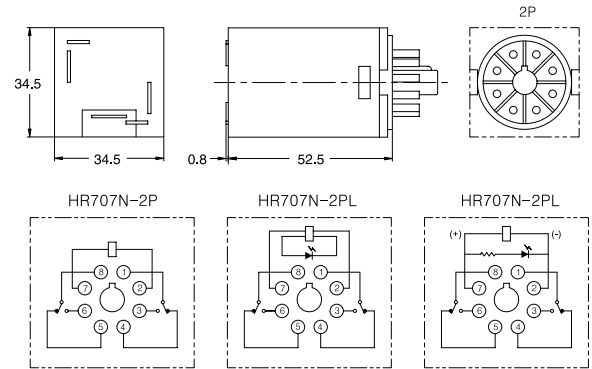
- 707 Series are designed with octal base, silver alloy contact, LED indicator, high reliability and long life
- Available Surge protection type to protect malfunction of PLC, electronic devices from back EMF

Specifications

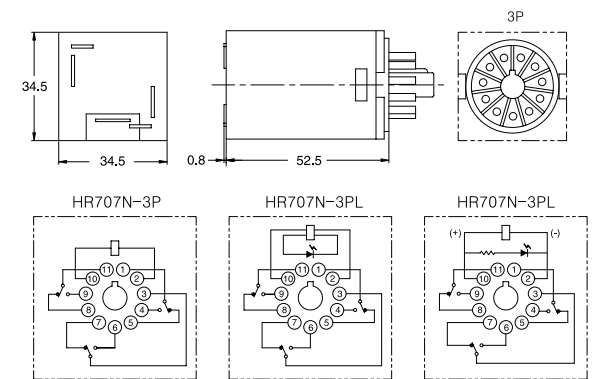
Part Numbers	Standard type	HR707N-2PL-220VAC HR707N-2PL-110VAC HR707N-2PL-24VAC HR707N-2PL-110VDC HR707N-2PL-24VDC HR707N-2PL-12VDC	HR707N-3PL-220VAC HR707N-3PL-110VAC HR707N-3PL-24VAC HR707N-3PL-110VDC HR707N-3PL-24VDC HR707N-3PL-12VDC
	Surge protection type	HR707N-2PLD-12VDC HR707N-2PLD-24VDC HR707N-2PLC-110VAC HR707N-2PLC-220VAC	HR707N-3PLD-12VDC HR707N-3PLD-24VDC HR707N-3PLC-110VAC HR707N-3PLC-220VAC
Contact	Configuration	DPDT (2NO + 2NC)	3PDT (3NO + 3NC)
	Material	Silver alloy (24K gold plate)	
	Max. Switching current	10A	
	Rated Max. Resistive Load	10A at 250VAC	
	Max. Switching Voltage	250VDC/ 250VAC	
Coil Spec.	Min. Switching requirement	100mA 5VDC	
	Voltage range	12VDC to 110VDC, 12VAC to 240VAC	
	Power consumption	AC: Approx. 2.4VA, DC: Approx. 1.6W	
	Minimum operating voltage	80% of the rated coil voltage	
	Max. Dropout voltage	DC Coil: 10% of rated voltage AC Coil: 30% of rated voltage	
General Info.	Operating Time	30ms	
	Dropout time	20ms	
	Insulation resistance	100MΩ at 500V DC	
	Dielectric Strength	Between Contact: 1,000 Vrms 1Min.	
		Between Contact & Coil: 1,500Vrms 1Min.	
	Mechanical life	1,000,000 operations	
	Electrical life	100,000 operations	
	Vibration resistant	10~55Hz at double amplitude of 1.5mm	
	Ambient temperature	-10 ~ +40°C (-14°F ~ 104°F) at non freezing	
	Ambient humidity	35% ~ 80% RH	
Weight	75g (2.6oz)		
Socket	Socket part number	KF083A (DIN Rail)	KF113A (DIN Rail)
	Terminal Tightened Torque	0.5N • m (5.10kgf • cm)	

Dimensions (unit: mm)

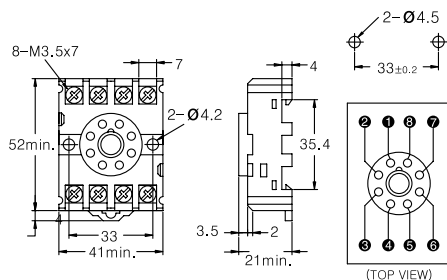
HR707N-2P Series



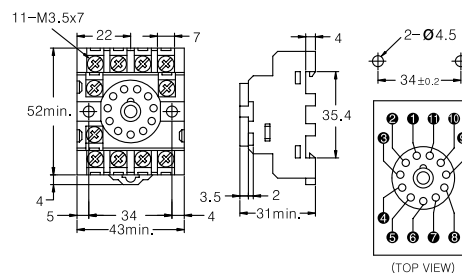
HR707N-3P Series



KF083A Socket



KF113A Socket



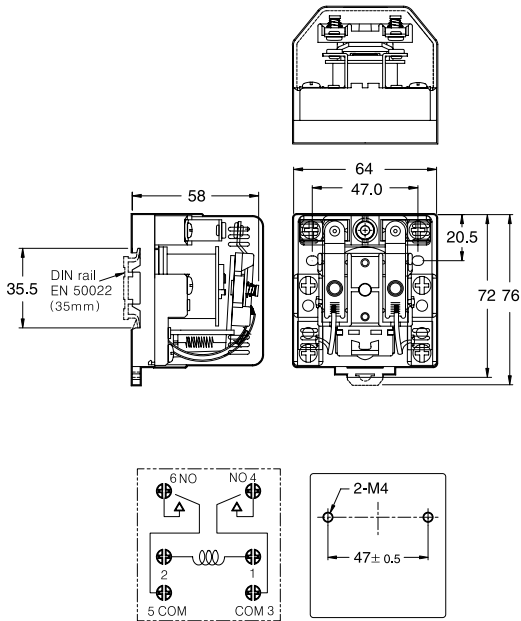


HR723 Series

Heavy Duty Relays

Dimensions (unit: mm)

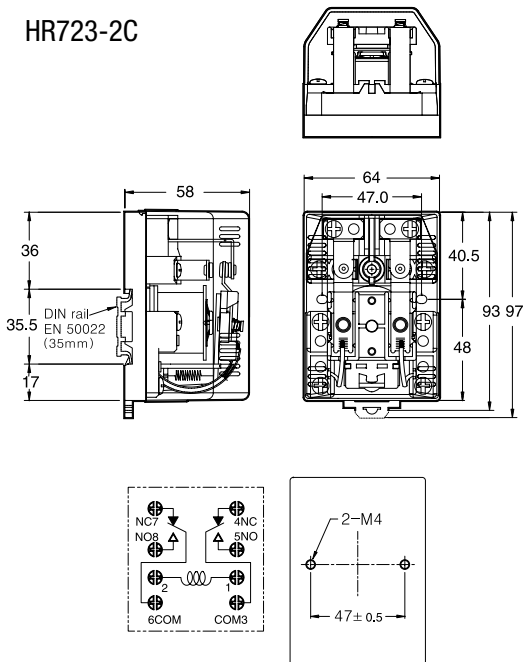
HR723-2A



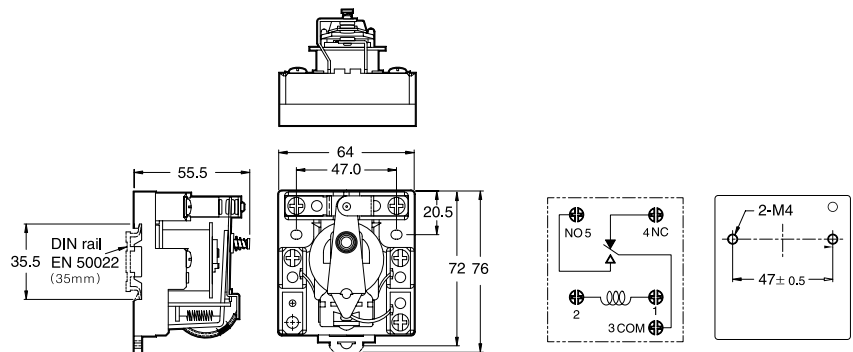
Specifications

Part Numbers		HR723-2A-220VAC HR723-2A-110VAC HR723-2A-24VDC	HR723-1C-220VAC HR723-1C-110VAC HR723-1C-24VDC	HR723-2C-220VAC HR723-2C-110VAC HR723-2C-24VDC
Contact	Configuration	DPST(2NO)	SPDT(1NO+1NC)	DPDT(2NO+2NC)
	Material	Silver alloy		
	Max. Switching current	30A		
	Rated Max. Resistive Load	30A at 24VDC/220VAC		
	Max. Switching Voltage	110VDC/250VAC		
Min. Switching requirement	100mA 5VDC			
Coil Spec.	Voltage range	12VDC to 24VDC, 110VAC to 220VAC		
	Power consumption	AC: approx. 9.6VA, DC: approx. 2.8W		
	Minimum operating voltage	80% of the rated coil voltage		
Max. Dropout voltage	DC Coil:	10% of rated voltage		
	AC Coil:	30% of rated voltage		
General Info.	Operating Time	30ms		
	Dropout time	30ms		
	Insulation resistance	100MΩ at 500V DC		
	Dielectric Strength	Between Contact(2a):	2,000 Vrms 1Min.	
		Between Contact & Coil:	2,500Vrms 1Min.	
	Mechanical life	5,000,000 operations		
	Electrical life	100,000 operations		
	Vibration resistant	10~55Hz at double amplitude of 1.5mm		
	Ambient temperature	-55 ~ +80°C (-67°F ~ 176°F) at non freezing		
	Ambient humidity	5% ~ 80% RH		
Relay Weight	250g (8.8oz)	200g (7oz)	300g (10.6oz)	

HR723-2C



HR723-1C





730 Series

Heavy Duty Relays

730 Series are designed with DIN rail mount & Panel direct mount, and Quick connector (#250) & terminal screw type, reliability and long life, and pushbutton allows manual operation of the relay

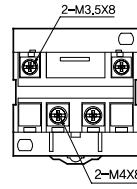


Specifications

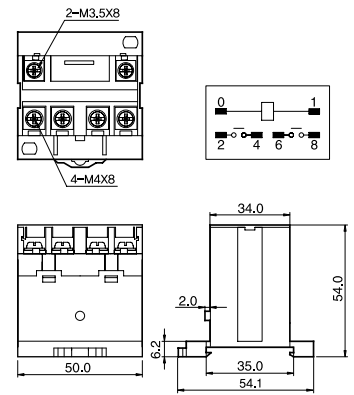
Part Numbers	Screw Terminal & DIN Rail Mount Type	730-1TR - 220VAC 730-1TR - 110VAC 730-1TR - 24VDC 730-1TR - 12VDC	730-2TR - 220VAC 730-2TR - 110VAC 730-2TR - 24VDC 730-2TR - 12VDC
	Quick Connector (#250) & DIN Rail Mount Type	730-1QR - 220VAC 730-1QR - 110VAC 730-1QR - 24VDC 730-1QR - 12VDC	730-2QR - 220VAC 730-2QR - 110VAC 730-2QR - 24VDC 730-2QR - 12VDC
	Screw Terminal & Panel Mount Type	730-1TB - 220VAC 730-1TB - 110VAC 730-1TB - 24VDC 730-1TB - 12VDC	730-2TB - 220VAC 730-2TB - 110VAC 730-2TB - 24VDC 730-2TB - 12VDC
	Quick Connector (#250) & Panel Mount Type	730-1QB - 220VAC 730-1QB - 110VAC 730-1QB - 24VDC 730-1QB - 12VDC	730-2QB - 220VAC 730-2QB - 110VAC 730-2QB - 24VDC 730-2QB - 12VDC
Contact	Configuration	SPST (1NO)	DPST (2NO)
	Material	Silver alloy	
	Max. Switching current	30A	25A
	Rated Max. Resistive Load	30A at 30VDC/277VAC	25A at 30VDC/277VAC
Coil Spec.	Min. Switching requirement	100mA 5VDC	
	Coil Voltage	12VDC, 24VDC, 100/120 VAC 50/60Hz, 220.240 VAC	
	Power consumption	DC: approx. 1.9W 6-48VAC: 1.7-1.9VA 100/120VAC: 1.9-2.7VA 200/240VAC: 1.8-2.6VA	
	Minimum operating voltage	80% of Nominal	
	Dropout voltage	DC Coil: 10% of Nominal AC Coil: 30% of Nominal	
	Operating Time	30ms	
	Dropout time	30ms	
	Insulation resistance	100MΩ at 500V DC	
	Dielectric Strength	Between Contact(2a): 2,000 Vrms 1Min. Between Contact & Coil: 4,000Vrms 1Min.	
	General Info.	Mechanical life	Min. 1,000,000 operations
Electrical life	Min. 100,000 operations		
Vibration resistant	10~55Hz (width of vibration 105mm)		
Ambient temperature	-10 ~ +60°C (-14°F ~ 140°F) (with no icing)		
Ambient humidity	35% ~ 80% RH (with no icing)		
Weight	TB Type: 210g (7.40oz), QB Type: 160g (5.6oz)		

Dimensions (unit: mm)

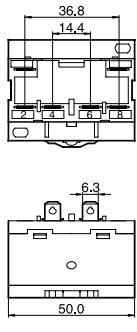
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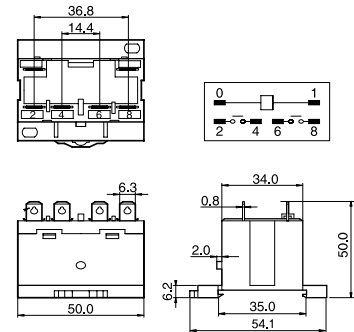
730-2TR



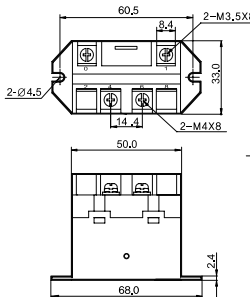
730-1QR



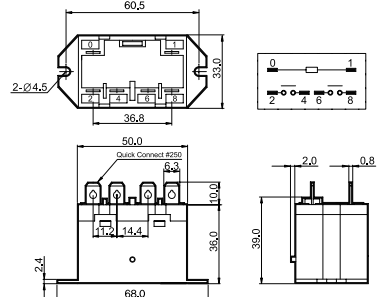
730-2QR



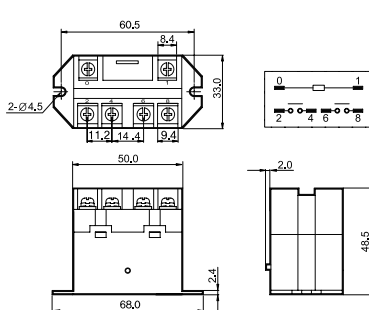
730-1TB



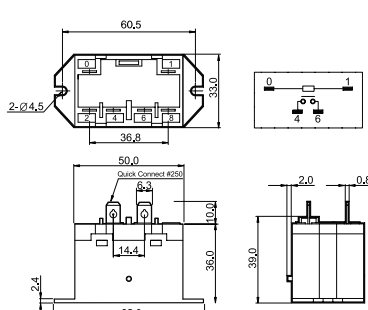
730-2QB



730-2TB



730-1QB

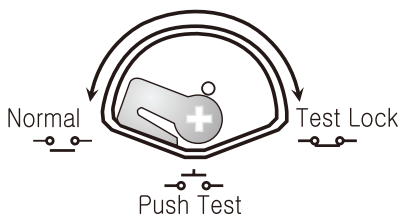
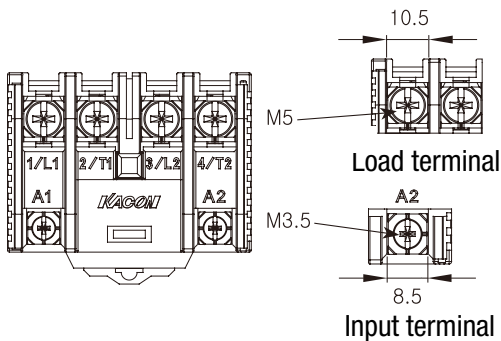
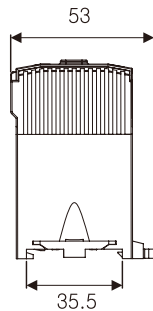
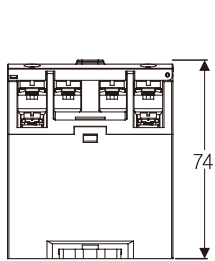
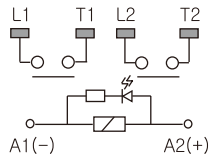
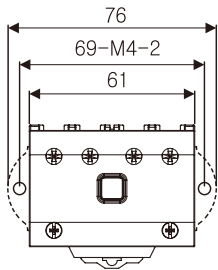


K750 Series

Heavy Duty Relays



Dimensions (unit: mm)



Specifications

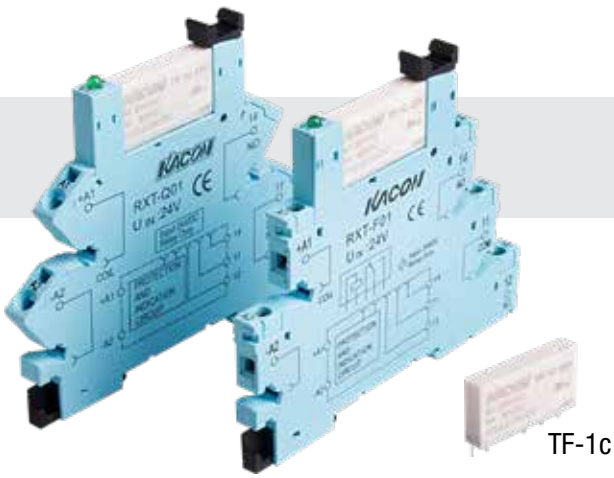
Part Numbers	DC	K750-2A-12VDC	K750-2A-24VDC
	AC	K750-2A-110VAC	K750-2A-220VAC
Contact	Configuration	2N/C or 2N/O	
	Material	Tri-Composite Silver Alloy	
	Maximum Contact	100mΩ	
	Rated Current	30A at 30VDC	40A at 250VAC
	Max. Switching Current	40A	
Coil Spec.	Min. Switching requirement	100mA 5VDC	
	Coil Voltage	12VDC, 24VDC 100/110VAC 50/60Hz, 220/240VAC 50/60Hz	
	Coil consumption	DC: approx. 1.9W AC: 1.8-27VA	
	Minimum Pick-up voltage	80% of nominal voltage	
	Maximum Dropout voltage	DC Coil: 10% of rated voltage AC Coil: 30% of rated voltage	
General Info.	Operating Time	30ms	
	Dropout time	30ms	
	Insulation resistance	100MΩ	
	Dielectric Strength	Between Contact(2a): 2,000 Vrms 1Min.	
		Between Contact & Coil: 4,000Vrms 1Min.	
	Mechanical life	1,000,000 operations	
	Electrical life	100,000 operations	
	Vibration resistant	Malfunction 10-55Hz dual amp:1.0mm Destruction 10-55Hz dual amp:1.5mm	
	Ambient temperature	-40 ~ 60°C at non freezing	
Ambient humidity	10% ~ 80% RH		

Terminal Specifications

	LOAD 2a	INPUT
Terminal	8.0 - 5.0	2.0 - 3.5
Screw	M5.0	M3.5
Torque (MAX/N.m)	2.00	0.8

Test Button

Push test	Momentary
Test lock	Contact ON
Normal	Contact OFF



RXT Series

Relay Terminal Blocks



Ordering Information

RXT - ①	①	F01
	Description	Q01

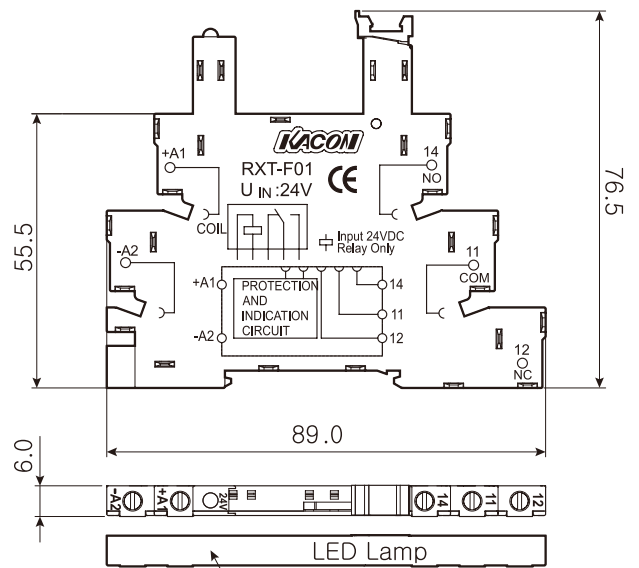
Relay Specifications (TF-1c)

Contact Ratings	Contact Form		1N/O + 1N/C
	Contact Material		Silver Alloy
	Maximum Contact Resistance		30mΩ
	Rated Current (Resistance Load)		6A 250VAC , 6A 30VDC
	Maximum Contact Capacity	DC	180W
		AC	1500VA
	Maximum Rated Voltage		6A 250VAC
	Minimum Switching Current		1mA 5VDC
Coil Ratings	Coil Voltage		5V 12V 24V
	Coil Consumption		170mW 24VDC
	Minimum Pick Up Voltage		70% of Nominal Voltage
	Maximum Drop-Out Voltage		5% of Nominal Voltage
General Ratings	Operating Time	Pick-up	8ms
		Drop-out	4ms
	Insulation Resistance		100MΩ
	Dielectric Strength	Btwn Contacts and Coil	4000VAC 1 minute
		Btwn Contacts	1000VAC 1 minute
	Life Cycles	Mechanical	Min. 10,000,000
		Electrical	Min. 100,000
	Vibration Resistance		10Hz to 55HZ 1mm DA
	Ambient Temperature		-40°C to 85°C
	Ambient Humidity		5% to 85% RH
	Weight		Approx. 3g
	Approval		CE , VDE , UL

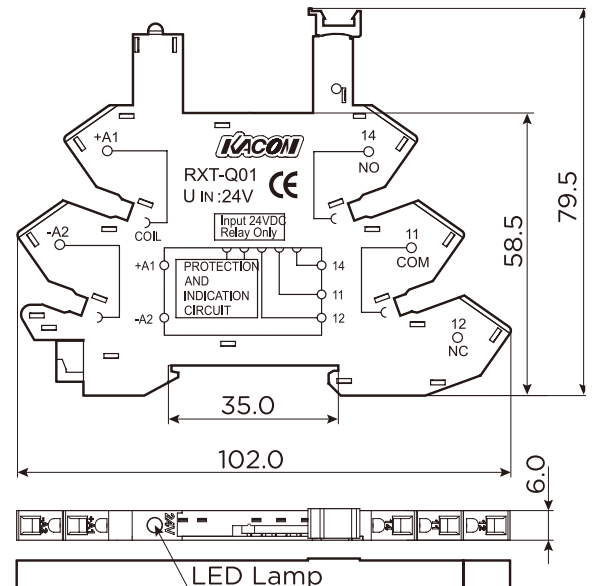
Dimensions

unit: mm

RXT - F01 screw type



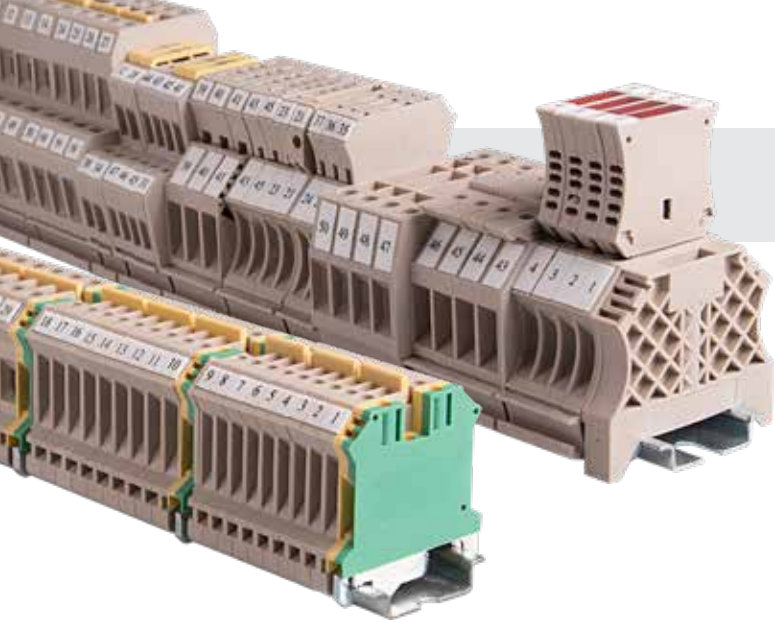
RXT - Q01 pin type



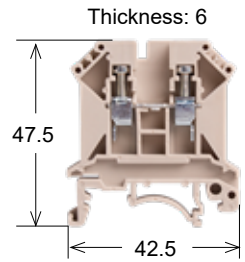
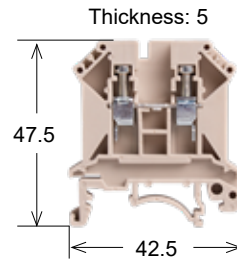
RXT-QS (Jumper)

• **Note** •

A series of horizontal dotted lines for writing notes, contained within a larger dotted-line border.



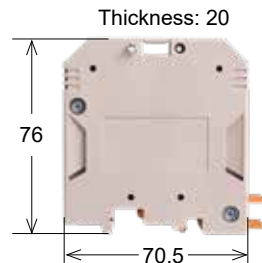
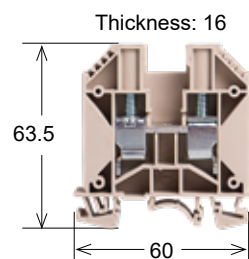
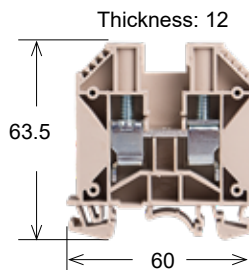
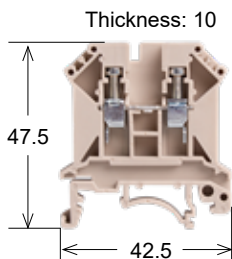
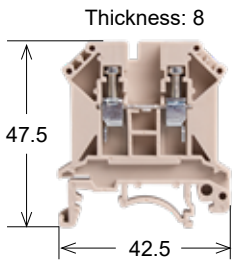
Screw Clamp Terminal Blocks



Key Features

- Housing made of high quality Polyamide 6.6
- Molded from UL94-V0 material with flame and shock resistance
- Mount on any standard 35mm DIN Rails
- Vibration proof to avoid loosening
- Strong contact force, low voltage drop and excellent connection.
- Low contact resistance
- Suitable for a broad range of cross-section and types of wires
- Easy handling and wiring
- Green-yellow color coded ground terminal blocks.
- Corrosion proof contact points.

Model	CDU 2.5N			CDU 4N		
	Rated Voltage	Rated Current	Wire Size	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	20A	AWG12-28	600V	30A	AWG10-22
IEC	800V	24A	0.5-2.5mm ²	800V	32A	0.5-4mm ²
Torque (lb-in)	7			7.7		
Clamping Screw	M2.6			M3		
Stripping length	8-10mm			8-10mm		
Available colors	Beige, Grey, Blue			Beige, Grey, Blue		
Accessories						
End Bracket	SEW35			SEW35		
	CEW35/2			CEW35/2		
End Cover	CEP6			CEP6		
Cross Jumper	CQV 2.5/2		CQV 2.5/3	CQV 4/2		CQV 4/3
	CQV 2.5/4		CQV 2.5/10	CQV 4/4		CQV 4/10
Comb Link	CQB 2.5/2, CQB 2.5/3, CQB 2.5/10		CQB 4/2, CQB 4/3, CQB 4/10		CQB 4/10	
Warning Cover	WSS 2.5			WSS4		
Marking Tags	W5 W5Z W5K			W6 W6Z W6K		



Model	CDU 6N		
	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	50A	AWG8-26
IEC	800V	57A	0.5-6mm ²
Torque (lb-in)	14		
Clamping Screw	M4		
Stripping length	10-12mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
	CEW35/2		
End Cover	CEP6		
Cross Jumper	CQV 6/2		CQV 6/3
	CQV 6/4		CQV 6/10
Comb Link	CQB 6/2, CQB 6/3, CQB 6/10		
Warning Cover	WSS6		
Marking Tags	W6 W6Z W6K		

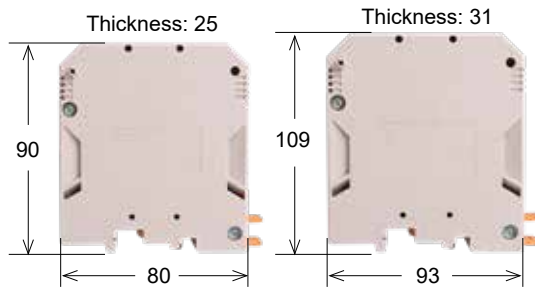
Model	CDU 10N		
	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	65A	AWG6-24
IEC	800V	76A	0.5-10mm ²
Torque (lb-in)	19		
Clamping Screw	M4		
Stripping length	10-12mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
	CEW35/2		
End Cover	CEP6		
Cross Jumper	CQV 10/2		CQV 10/3
	CQV 10/4		CQV 10/10
Comb Link	CQB 10/2, CQB 10/3, CQB 10/10		
Warning Cover	WSS10		
Marking Tags	W6 W6Z W6K		

Model	CDU 16		
	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	78A	AWG4-14
IEC	1000V	76A	2.5-16mm ²
Torque (lb-in)	31		
Clamping Screw	M5		
Stripping length	15-17mm		
Available colors	Beige		
Accessories			
End Bracket	SEW35		
	CEW35/1		
End Cover	CEP2		
Cross Jumper	CQV 16/2		CQV 16/3
	CQV 16/4		
Comb Link	CQB 16/2, CQB 16/3, CQB 6/10		
Warning Cover	WS-16		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

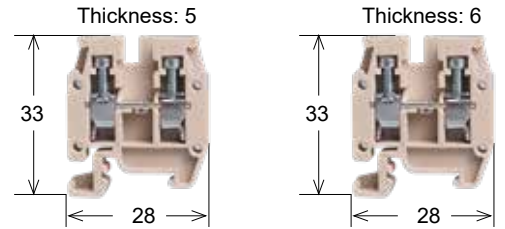
Model	CDU 35		
	Rated Voltage	Rated Current	Wire Size
UL/CSA	1000V	114A	AWG2-10
IEC	1000V	125A	4-35mm ²
Torque (lb-in)	51		
Clamping Screw	M6		
Stripping length	16-18mm		
Available colors	Beige		
Accessories			
End Bracket	SEW35		
	CEW35/1		
End Cover	CEP2		
Cross Jumper	CQV 35/2		CQV 35/3
	CQV 35/4		
Comb Link	CQB 35/2, QB 35/3, CQB 35/10		
Warning Cover	WS-35		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Model	CDU 50		
	Rated Voltage	Rated Current	Wire Size
UL/CSA	1000V	150A	AWG1/0-6
IEC	1000V	150A	16-50mm ²
Torque (lb-in)	53		
Clamping Screw	M6		
Stripping length	25-30mm		
Available colors	Beige		
Accessories			
End Bracket	SEW35		
	CEW35/1		
End Cover	CEP2		
Cross Jumper	CQV 50/2		
	CQV 50/3		
Comb Link	CQB 50/2, CQB 50/3		
Warning Cover	WS-35		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Screw Clamp Miniature Terminal Blocks

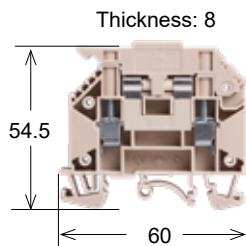


Model	CDU 95			CDU 150		
Technical Data	Rated Voltage	Rated Current	Wire Size	Rated Voltage	Rated Current	Wire Size
UL/CSA	1000V	230A	AWG4/0-2	600V	275A	AWG2-300
IEC	1000V	232A	35-95mm ²	1000V	309A	35-150mm ²
Torque (lb-in)	150			165		
Clamping Screw	M8			M10		
Stripping length	30-35mm			30-40mm		
Available colors	Beige			Beige		
Accessories						
End Bracket	SEW35			CEW35/1		
	CEW35/1					
Comb Link	CQB 95/2, CQB 95/3			CQB 105/2		
Marking Tags	W6 W6Z W6K			W6 W6Z W6K		
	W8 W8Z W8K			W8 W8Z W8K		



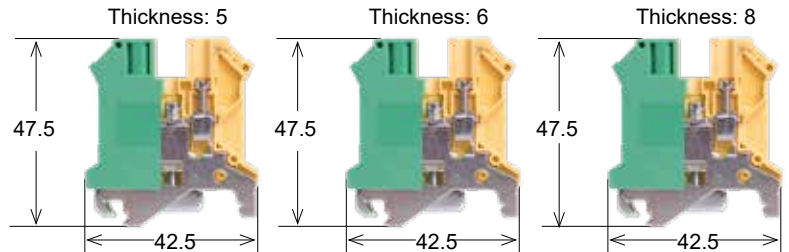
Model	CDU 2.5M			CDU 4M		
Technical Data	Rated Voltage	Rated Current	Wire Size	Rated Voltage	Rated Current	Wire Size
UL/CSA	300V	20A	AWG12-22	300V	30A	AWG10-22
IEC	400V	24A	0.2-2.5mm ²	500V	30A	0.5-4mm ²
Torque (lb-in)	7			7.7		
Clamping Screw	M2.6			M3		
Stripping length	6mm			6mm		
Available colors	Beige			Beige		
Accessories						
End Bracket	CEW15			CEW15		
End Cover	CEP7			CEP7		
Cross Jumper	CQVM 2.5/2			CQVM 4/2		
	CQVM 2.5/3			CQVM 4/3		
	CQVM 2.5/10			CQVM 4/10		
Comb Link	CQB 2.5/2, CQB 2.5/3			CQB 4/2, CQB 4/3		
Marking Tags	W5 W5Z W5K			W6 W6Z W6K		

Fuse Holder

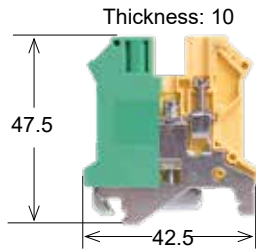


Model	CTR4SI-EN		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	7.5A	AWG10-22
IEC	800V	10A	0.5-4mm ²
Torque (lb-in)	7.7		
Clamping Screw	M3		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2		
	SEW35		
End Cover	CEP5		
Comb Link	CQB 6/2, CQB 6/3, CQB 6/10		
Diode Plug	-		
Marking Tags	W6 W6Z W6K		
	W8 W8Z W8K		

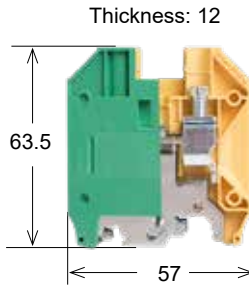
Screw Clamp Ground Terminal Blocks



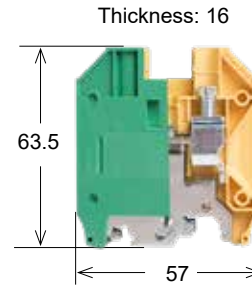
Model	CPE 2.5N	CPE 4N	CPE 6N
UL/CSA	AWG 12-26	AWG 10-26	AWG 8-26
IEC	0.2-2.5mm ²	0.2-4mm ²	0.2-6mm ²
Torque (lb-in)	7	8.5	16
Clamping Screw	M3	M3	M4
Stripping length	10-14mm	10-14mm	12-16mm
Available colors	Green+Yellow	Green+Yellow	Green+Yellow
Accessories			
End Bracket	SEW35	SEW35	SEW35
	CEW35/2	CEW35/2	CEW35/2
Protection Cover	DP1	DP1	DP1
Retaining Plate	AD1	AD1	AD1
Comb Link	CQB 2.5/2, QB 2.5/3, CQB 2.5/10	CQB 4/2, CQB 4/3, CQB 4/10	CQB 6/2, CQB 6/3, CQB 6/10
Marking Tags	W5 W5Z W5K	W6 W6Z W6K	W6 W6Z W6K
	W7 W7Z W7K	W8 W8Z W8K	W8 W8Z W8K



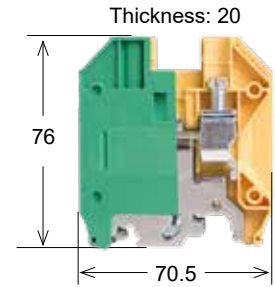
Model	CPE 10N
UL/CSA Wire Size	AWG 6-16
IEC Wire Size	0.5-10mm ²
Torque (lb-in)	18
Clamping Screw	M4
Stripping length	12-16mm
Available colors	Green+Yellow
Accessories	
End Bracket	SEW35
	CEW35/2
Protection Cover	DP1
Retaining Plate	AD1
Comb Link	CQB 10/2, CQB 10/3, CQB 10/4
Marking Tags	W6 W6Z W6K
	W8 W8Z W8K



Model	CPE 16
UL/CSA Wire Size	AWG 6-14
IEC Wire Size	2.5-16mm ²
Torque (lb-in)	35
Clamping Screw	M5
Stripping length	14-18mm
Available colors	Green+Yellow
Accessories	
End Bracket	SEW35
	CEW35/1
Protection Cover	DP1
Retaining Plate	AD2
Comb Link	-
Marking Tags	W6 W6Z W6K
	W8 W8Z W8K

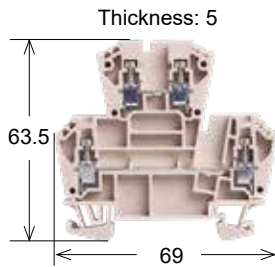


Model	CPE 35
UL/CSA Wire Size	AWG 2-10
IEC Wire Size	4-35mm ²
Torque (lb-in)	51
Clamping Screw	M6
Stripping length	14-18mm
Available colors	Green+Yellow
Accessories	
End Bracket	SEW35
	CEW35/1
Protection Cover	DP1
Retaining Plate	AD2
Comb Link	-
Marking Tags	W6 W6Z W6K
	W8 W8Z W8K

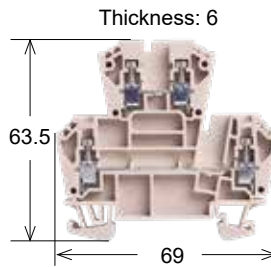


Model	CPE 50
UL/CSA Wire Size	AWG 1/0-6
IEC Wire Size	16-50mm ²
Torque (lb-in)	70
Clamping Screw	M6
Stripping length	20-25mm
Available colors	Green+Yellow
Accessories	
End Bracket	SEW35
	CEW35/1
Protection Cover	-
Retaining Plate	-
Comb Link	-
Marking Tags	W6 W6Z W6K
	W8 W8Z W8K

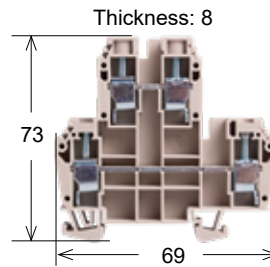
Screw Clamp Double Level Terminal Blocks



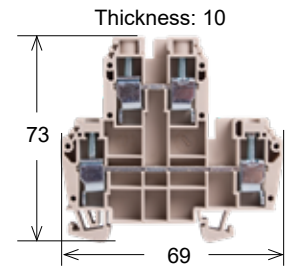
Model	CDK 2.5			
Technical Data	Rated Voltage	Rated Current	Wire Size	
	UL/CSA	600V	20A	AWG12-22
	IEC	800V	24A	0.5-2.5mm ²
	Torque (lb-in)	5		
	Clamping Screw	M2.6		
Stripping length	6mm			
Available colors	Beige			
Accessories				
End Bracket	CEW35/2			
	SEW35			
End Cover	CEP3			
Cross Jumper	CQV 2.5/2	CQV 2.5/3		
	CQV 2.5/4	CQV 2.5/10		
Comb Link	CQB2.5/2, CQB2.5/3, CQB2.5/10			
Warning Cover	WSS-2.5			
Marking Tags	W5Z W5K			



Model	CDK 4		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	30A	AWG10-22
	500V	32A	0.5-4mm ²
Torque (lb-in)	8		
Clamping Screw	M3		
Stripping length	6mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2		
	SEW35		
End Cover	CEP3		
Cross Jumper	CQV 4/2	CQV 4/3	
	CQV 4/4	CQV 4/10	
Comb Link	CQB4/2, CQB4/3, CQB4/10		
Warning Cover	WSS-4		
Marking Tags	W6Z W6K		



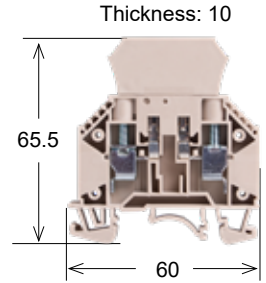
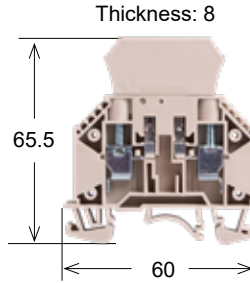
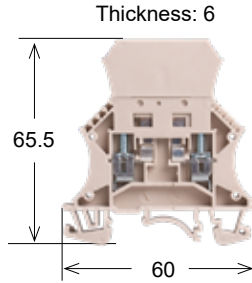
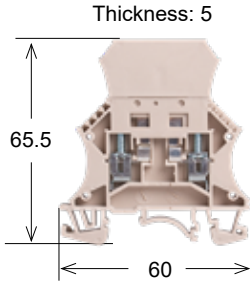
Model	CDK 6		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	41A	AWG 8-20
	500V	50A	0.5-6mm ²
Torque (lb-in)	14		
Clamping Screw	M4		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2		
	SEW35		
End Cover	CEP4		
Cross Jumper	CQV 6/2	CQV 6/3	
	CQV 6/4	CQV 6/10	
Comb Link	CQB6/2, CQB6/3, CQB6/10		
Warning Cover	WSS-6		
Marking Tags	W6Z W6K		



Model	CDK 10		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	65A	AWG 6-16
	500V	76A	1.5-10mm ²
Torque (lb-in)	19		
Clamping Screw	M4		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2		
	SEW35		
End Cover	CEP4		
Cross Jumper	CQV 10/2	CQV 10/3	
	CQV 10/4	CQV 10/10	
Comb Link	CQB10/2, CQB10/3, CQB10/10		
Warning Cover	WSS-10		
Marking Tags	W6Z W6K		



Diode Terminal Blocks



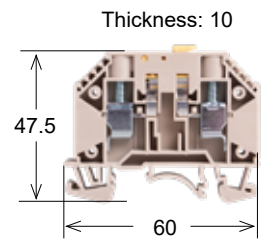
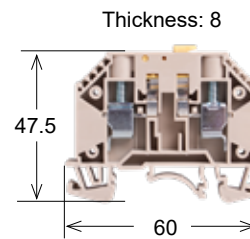
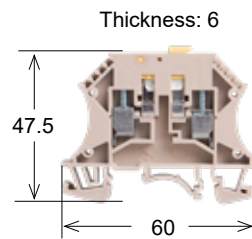
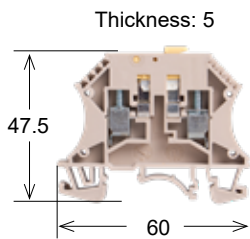
Model	CTR 2.5D		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	2A	AWG12-22
IEC	400V	2A	0.5-2.5mm ²
Torque (lb-in)	4.5		
Clamping Screw	M3		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP1		
Partition	CEP2		
Comb Link	CQB 2.5/2, CQB 2.5/3, CQB 2.5/10		
Diode Plug	CSD2.5		
Marking Tags	W5 W5Z W5K W7 W7Z W7K		

Model	CTR 4D		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	2A	AWG10-22
	800V	2A	0.5-4mm ²
Torque (lb-in)	6		
Clamping Screw	M3		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP1		
Partition	CEP2		
Comb Link	CQB 4/2, CQB 4/3, CQB 4/10		
Diode Plug	CSD4		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Model	CTR 6D		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	3A	AWG12-22
	500V	3A	0.5-6mm ²
Torque (lb-in)	14		
Clamping Screw	M4		
Stripping length	12-14mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP5		
Partition	CEP2		
Comb Link	CQB 6/2, CQB 6/3, CQB 6/10		
Diode Plug	CSD6		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Model	CTR 10D		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	3A	AWG12-22
	500V	3A	1.5-10mm ²
Torque (lb-in)	19		
Clamping Screw	M4		
Stripping length	12-14mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP5		
Partition	CEP2		
Comb Link	CQB 10/2, CQB 10/3, CQB 10/10		
Diode Plug	CSD10		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Screw Clamp Disconnect Terminal Blocks



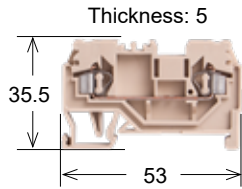
Model	CTR 2.5		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	12A	AWG12-22
IEC	500V	15A	0.5-2.5mm ²
Torque (lb-in)	4.5		
Clamping Screw	M3		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP1		
Comb Link	CQB 2.5/2, CQB 2.5/3, CQB 2.5/10		
Diode Plug	CSD2.5		
Marking Tags	W5 W5Z W5K W7 W7Z W7K		

Model	CTR 4		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	22A	AWG10-22
	800V	22A	0.5-4mm ²
Torque (lb-in)	6		
Clamping Screw	M3		
Stripping length	10-12mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP1		
Comb Link	CQB 4/2, CQB 4/3, CQB 4/10		
Diode Plug	CSD4		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

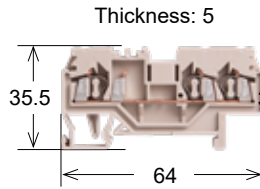
Model	CTR 6		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	24A	AWG8-22
	630V	24A	0.5-6mm ²
Torque (lb-in)	14		
Clamping Screw	M4		
Stripping length	12-14mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP5		
Comb Link	CQB 6/2, CQB 6/3, CQB 6/10		
Diode Plug	CSD6		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

Model	CTR 10		
Technical Data	Rated Voltage	Rated Current	Wire Size
	600V	40A	AWG6-22
	630V	40A	1.5-10mm ²
Torque (lb-in)	19		
Clamping Screw	M4		
Stripping length	12-14mm		
Available colors	Beige		
Accessories			
End Bracket	CEW35/2 SEW35		
End Cover	CEP5		
Comb Link	CQB 10/2, CQB 10/3, CQB 10/10		
Diode Plug	CSD10		
Marking Tags	W6 W6Z W6K W8 W8Z W8K		

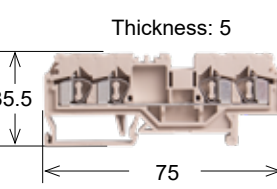
Spring Clamp Terminal Blocks



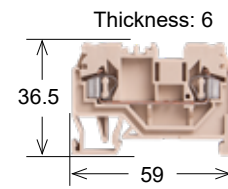
Model	SDU2.5		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	18A	AWG12-28
IEC	800V	24A	0.2-2.5mm ²
Stripping length	8-9mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP1		
Comb Link	SQV2.5/2, SQV2.5/3		
Marking Tags	W5 W5Z W5K		



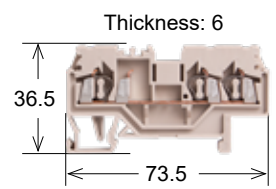
Model	SDU2.5/3		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	18A	AWG12-28
IEC	800V	24A	0.2-2.5mm ²
Stripping length	8-9mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP2		
Comb Link	SQV2.5/2, SQV2.5/3		
Marking Tags	W5 W5Z W5K		



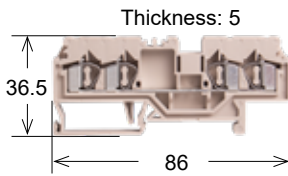
Model	SDU2.5/4		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	18A	AWG12-28
IEC	800V	24A	0.2-2.5mm ²
Stripping length	8-9mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP3		
Comb Link	SQV2.5/2, SQV2.5/3		
Marking Tags	W5 W5Z W5K		



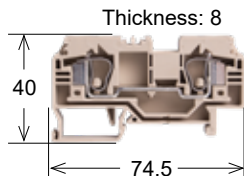
Model	SDU4		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	20A	AWG12-28
IEC	800V	32A	0.2-4mm ²
Stripping length	9-10mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP4		
Comb Link	SQV4/2, SQV4/3		
Marking Tags	W6 W6Z W6K		



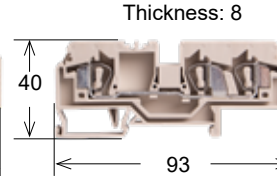
Model	SDU4/3		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	20A	AWG12-28
IEC	800V	32A	0.2-4mm ²
Stripping length	8-9mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP5		
Comb Link	SQV4/2, SQV4/3		
Marking Tags	W6 W6Z W6K		



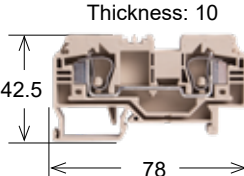
Model	SDU4/4		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	20A	AWG12-28
IEC	800V	32A	0.2-4mm ²
Stripping length	9-10mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP6		
Comb Link	SQV4/2, SQV4/3		
Marking Tags	W6 W6Z W6K		



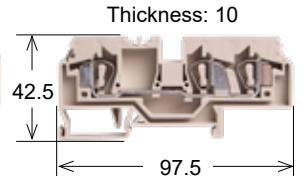
Model	SDU6		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	30A	AWG10-24
IEC	800V	41A	0.2-6mm ²
Stripping length	12-13mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP7		
Comb Link	SQV6/2, SQV6/3		
Marking Tags	W6 W6Z W6K		



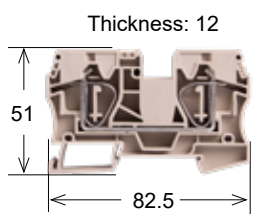
Model	SDU6/3		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	30A	AWG 10-24
IEC	800V	41A	0.2-6mm ²
Stripping length	12-13mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP8		
Comb Link	SQV6/2, SQV6/3		
Marking Tags	W6 W6Z W6K		



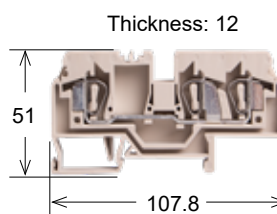
Model	SDU10		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	38A	AWG 8-24
IEC	800V	57A	0.2-10mm ²
Stripping length	15-16mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP9		
Comb Link	SQV10/2, SQV10/3		
Marking Tags	W6 W6Z W6K		



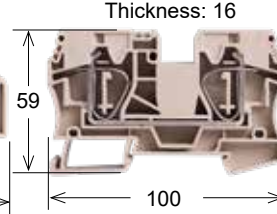
Model	SDU10/3		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	38A	AWG 8-24
IEC	800V	57A	0.2-10mm ²
Stripping length	15-16mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP10		
Comb Link	SQV10/2, SQV10/3		
Marking Tags	W6 W6Z W6K		



Model	SDU16		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	65A	AWG4-16
IEC	1000V	85A	1.5-16mm ²
Stripping length	16-17mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP12		
Comb Link	SQV16/2		
Marking Tags	W6 W6Z W6K		

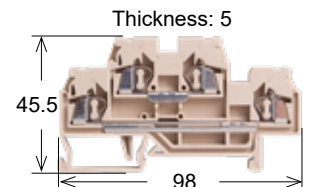


Model	SDU16/3		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	65A	AWG4-16
IEC	1000V	76A	1.5-16mm ²
Stripping length	16-17mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP13		
Comb Link	SQV16/2		
Marking Tags	W6 W6Z W6K		



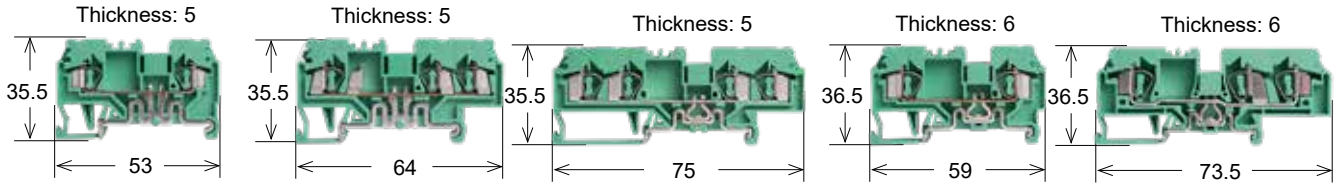
Model	SDU35		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	120A	AWG 2-12
IEC	800V	125A	2.5-35mm ²
Stripping length	25mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP14		
Comb Link	SQV35/2		
Marking Tags	W6 W6Z W6K		

Spring Clamp Double Level Terminal Blocks

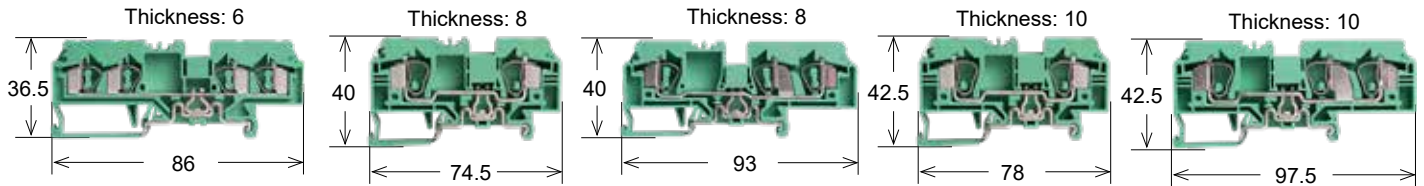


Model	SDK2.5		
Technical Data	Rated Voltage	Rated Current	Wire Size
UL/CSA	600V	20A	AWG 12-28
IEC	800V	24A	0.2-2.5mm ²
Stripping length	8-9mm		
Available colors	Beige, Grey, Blue		
Accessories			
End Bracket	SEW35		
End Cover	SEP11		
Comb Link	SQV2.5/2, SQV2.5/3		
Marking Tags	W5 W5Z W5K		

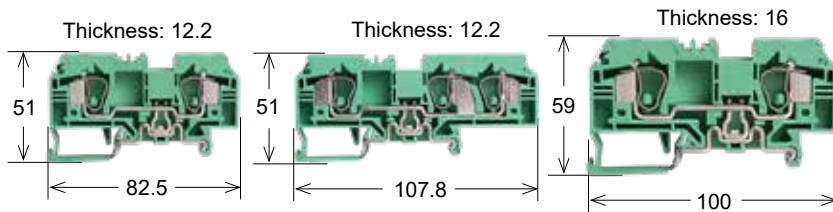
Spring Clamp Ground Terminal Blocks



Model	SPE2.5	SPE2.5/3	SPE2.5/4	SPE4	SPE4/3
UL/CSA Wire Size	AWG 12-28	AWG 12-28	AWG 12-28	AWG 12-28	AWG 12-28
IEC Wire Size	0.2-2.5mm ²	0.2-2.5mm ²	0.2-2.5mm ²	0.2-4mm ²	0.2-4mm ²
Stripping length	8-9mm	8-9mm	8-9mm	9-10mm	8-9mm
Available colors	Green + Yellow	Green + Yellow	Green + Yellow	Green + Yellow	Green + Yellow
Accessories					
End Bracket	SEW35	SEW35	SEW35	SEW35	SEW35
End Cover	SEP1	SEP2	SEP3	SEP4	SEP5
Comb Link	SQV2.5/2, SQV2.5/3	SQV2.5/2, SQV2.5/3	SQV2.5/2, SQV2.5/3	SQV4/2, SQV4/3	SQV4/2, SQV4/3
Marking Tags	W5 W5Z W5K	W5 W5Z W5K	W5 W5Z W5K	W6 W6Z W6K	W6 W6Z W6K



Model	SPE4/4	SPE6	SPE6/3	SPE10	SPE10/3
UL/CSA Wire Size	AWG 12-28	AWG 10-24	AWG 10-24	AWG 8-24	AWG 8-24
IEC Wire Size	0.2-4mm ²	0.2-6mm ²	0.2-6mm ²	0.2-10mm ²	0.2-10mm ²
Stripping length	9-10mm	12-13mm	12-13mm	15-16mm	15-16mm
Available colors	Green + Yellow	Green + Yellow	Green + Yellow	Green + Yellow	Green + Yellow
Accessories					
End Bracket	SEW35	SEW35	SEW35	SEW35	SEW35
End Cover	SEP6	SEP7	SEP8	SEP9	SEP10
Comb Link	SQV4/2, SQV4/3	SQV6/2, SQV6/3	SQV6/2, SQV6/3	SQV10/2, SQV10/3	SQV10/2, SQV10/3
Marking Tags	W6 W6Z W6K	W6 W6Z W6K	W6 W6Z W6K	W6 W6Z W6K	W6 W6Z W6K



Model	SPE16	SPE16/3	SPE35
UL/CSA Wire Size	AWG 4-16	AWG 4-16	AWG 2-12
IEC Wire Size	1.5-16mm ²	1.5-16mm ²	2.5-35mm ²
Stripping length	16-17mm	16-17mm	25mm
Available colors	Green	Green	Green
Accessories			
End Bracket	SEW35	SEW35	SEW35
End Cover	SEP12	SEP12	SEP14
Comb Link	SQV16/2	SQV16/2	SQV35/2
Marking Tags	W6	W6	W6

Accessories

Terminal Rails



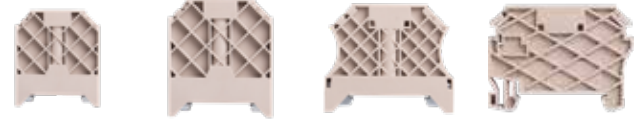
TS-37	TS-31	KTB2-CHB	TS-15
35 x 7.5mm	35 x 15mm	35 x 7.5mm	15 x 5.5 mm
Steel	Steel	Aluminum	Steel

Protection Cover



DP1
CDU2.5 CDU4 CDU6 CDU10 CDU16 CDU35
CDK2.5 CDK4
CDE2.5 CDE4 CDE6 CDE10 CDE16 CDE35
CTR2.5 CTR2.5D CTR4 CTR4D CTR6 CTR6D CTR10 CTR10D

End Brackets (D X W X H)



CEW15	CEW35/1	CEW35/2	SEW35
8 X 28 X 30.7	12 X 56 X 63	8 X 56 X 47	6 X 56 X 42
CDU2.5M CDU4M	CDU16 CDU35 CDU50 CDU95	CDU2.5N CDU4N CDU6N CDU10N	CDK2.5 CDK4 CDK6 CDK10
	CPE16 CPE35 CPE50	CDK2.5 CDK4 CDK6 CDK10	CTR2.5 CTR2.5D CTR4 CTR4D CTR6 CTR6D CTR10 CTR10D CTR4SI/EN
		CTR2.5 CTR2.5D CTR4 CTR4D CTR6 CTR6D CTR10 CTR10D CTR4SI/EN	SPE2.5 SPE2.5/3 SPE2.5/4 SPE4 SPE4/3 SPE4/4 SPE6 SPE6/3 SPE10 SPE10/3
			SDU2.5 SDU2.5/3 SDU2.5/4 SDU4 SDU4/3 SDU4/4 SDU6 SDU6/3 SDU10 SDU10/3

End Covers/Partitions (W X H)



CEP1	CEP2	CEP3	CEP4	CEP5	CEP6	CEP7
55.5 X 35.5	55.5 X 51	69 X 51.5	78 X 61	56.5 X 35.5	40 X 36	27.5 X 26
CTR2.5 CTR2.5D CTR4 CTR4D	CDU16 CDU35 CTR2.5 CTR2.5D CTR4 CTR4D	CDK2.5 CDK4	CDK6 CDK10	CTR2.5 CTR4 CTR6 CTR6D CTR10 CTR10D	CDU2.5N CDU4N CDU6N CDU10N	CDU2.5M CDU4M

End Plates



SEP1	SEP2	SEP3	SEP4	SEP5	SEP6	SEP7	SEP8	SEP9	SEP10	SEP11	SEP12
SDU2.5 SPE2.5	SDU2.5/3 SPE2.5/3	SDU2.5/4 SPE2.5/4	SDU4 SPE4	SDU4/3 SPE4/3	SDU4/4 SPE4/4	SDU6 SPE6	SDU6/3 SPE6/3	SDU10 SPE10	SDU10/3 SPE10/3	SDK2.5	SDU16

Warning Covers



WS-16	WS-35	WSS-2.5
CDU16	CDU35	CDK2.5
WSS-4	WSS-6	WSS-10
CDK4	CDK6	CDK10



Diode Plugs

Type	CSD2.5	CSD4	CSD6	CSD10
Electric Rating	2A600V	2A600V	3A600V	3A600V
Terminal Type	CTR2.5 CTR2.5D	CTR4 CTR4D	CTR6 CTR6D	CTR10 CTR10D

Retaining Plate



AD 1	AD 2
3 X 56.5 X 58	3.5 X 56.5 X 74
CDU2.5 CDU4 CDU6 CDU10	CDU16 CDU35
CPE16 CPE35	CPE16 CPE35
CPE2.5 CPE4 CPE6 CPE10	CTR2.5D CTR4D CTR6D STR10D
CTR2.5 CTR4 CTR6 CTR10	CTK2.5 CTK4

Cross Jumpers



Type	CQV-2.5	CQV-4	CQV-6	CQV-10	CQV-16	CQV-35	CQV-50	CQV-95
Pole	2, 3, 10	2, 3, 4, 10	2, 3, 10	2, 3, 10	2, 3, 4	2, 3, 4	2, 3	-
Terminal Type	CDU 2.5 CDK 2.5	CDU 4 CDK 4	CDU 6 CDK 6	CDU 10 CDK 10	CDU16	CDU35	CDU50	CDU95

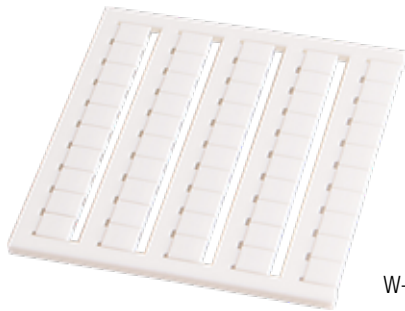
Comb Links



Type	CQB-2.5	CQB-4	CQB-6	CQB-10	CQB-16	CQB-35	CQB-50	CQB-95	
Poles	2, 3, 10	2, 3, 4, 10	2, 3, 10	2, 3, 10	2, 3, 10	2, 3, 10	2, 3	2, 3	
Terminal Type	CDU 2.5 CPE 2.5 CDK 2.5 CTR 2.5	CDU 4 CPE 4 CDK 4 CTR 4 CTR 4D	CDU 6 CPE 6 CDK 6 CTR 6 CTR 6D	CDU 10 CPE 10 CDK 10 CTR 10 CTR 10D		CDU16 CPE16	CDU35 CPE35	CDU50 CPE50	CDU95 CPE95



Type	SQV-2.5	SQV-4	SQV-6	SQV-10
Poles	2, 3	2, 3	2, 3	2, 3
Terminal Type	SDU2.5 SDU2.5/3 SDU2.5/4 SDK2.5	SPE2.5 SPE2.5/3 SPE2.5/4	SDU4 SDU4/3 SDU4/4	SPE4 SPE4/3 SPE4/4
			SDU6/6 SEU6/3	SPE6/3 SPE6/3
			SDU10 SDU10/3	SPE10 SPE6/3



W-6

Blank Marking Tags

Model	Size (mm)	PCS/Sheet	Number of sheets/pkg	Compatible Blocks
W-4	4.5 X 10	40p/s	10	SDU/SPE 2.5 ~ 10
W-5	5 X 6	50p/s	10	SDU/SPE/SDK 2.5 CDU/CDK/CPE/CTR/CSD 2.5
W-6	6 X 6	50p/s	10	CDU/CDK/CPE/CTR/CSD 4 ~ 10
W-7	5 X 12	40p/s	10	CDU/CPE/CTR 2.5
W-8	6 X 12	40p/s	10	CDU/CPE/CTR 4 ~ 10 SDU/SPE 2.5



W5K-1/50

Legend Marking Tags

Model	Size (mm)	Legend	Number of sheets/pkg	Compatible Blocks
W4K-1/40	4.5 X 10	1 to 40	10	SDU/SPE 2.5 ~ 10
W4K-41/80	4.5 X 10	41 to 80	10	SDU/SPE 2.5 ~ 10
W4K-A/Z	4.5 X 10	A to Z	10	SDU/SPE 2.5 ~ 10
W5K-1/50	5 X 6	1 to 50	10	SDU/SPE/SDK 2.5 CDU/CDK/CPE/CTR 2.5
W5K-51/100	5 X 6	51 to 100	10	SDU/SPE/SDK 2.5 CDU/CDK/CPE/CTR 2.5
W5K-A/Z	5 X 6	A to Z	10	SDU/SPE/SDK 2.5 CDU/CDK/CPE/CTR 2.5
W6K-1/50	6 X 6	1 to 50	10	CDU/CDK/CPE/CTR 4 ~ 10
W6K-51/100	6 X 6	51 to 100	10	CDU/CDK/CPE/CTR 4 ~ 10
W6K-A/Z	6 X 6	A to Z	10	CDU/CDK/CPE/CTR 4 ~ 10
W7K-1/40	5 X 12	1 to 40	10	CDU/CPE/CTR 2.5
W7K-41/80	5 X 12	41 to 80	10	CDU/CPE/CTR 2.5
W7K-A/Z	5 X 12	A to Z	10	CDU/CPE/CTR 2.5
W8K-1/40	6 X 12	1 to 40	10	CDU/CPE/CTR 4 ~ 10 SDU/SPE 2.5
W8K-41/80	6 X 12	41 to 80	10	CDU/CPE/CTR 4 ~ 10 SDU/SPE 2.5
W8K-A/Z	6 X 12	A to Z	10	CDU/CPE/CTR 4 ~ 10 SDU/SPE 2.5



W7K-A/Z

KTB1 Series

Barrier Terminal Blocks



Ordering Information

KTB1 - ① ②

10 & 30A

① Rated Current	010	10A	030	30A
② Number of Poles	03	3 poles	04	4 poles
	06	6 poles	10	10 poles

20A

① Rated Current	020		20A	
② Number of Poles	03	3 poles	04	4 poles
	06	6 poles	10	10 poles
	12	12 poles	15	15 poles
	20	20 poles		

60 - 600A

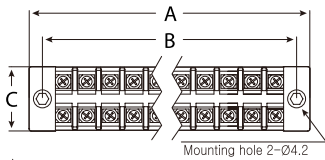
① Rated Current	060	60A	100	100A
	150	150A	200	200A
	300	300A	400	400A
	500	500A	600	600A
② Number of Poles	03	3 poles	04	4 poles

General Specification

Rated Voltage	Max. 600VAC	
Insulation Resistance	Min. 100MΩ	
Dielectric Strength	2,500VAC/Min.	
Material	Body	Flame retardant PC
	Cover	PC (clear)
	Terminal	1st grade brass
	Name Plate	PVC (Pearl white)

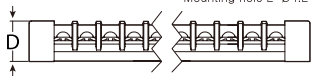
Dimensions

unit:mm

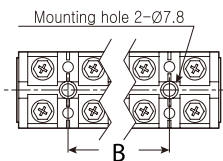


KTB1-010 ~ KTB1-030

Model	A				B				C				D			
	03	04	06	10	03	04	06	10	03	04	06	10	03	04	06	10
KTB1-010	48	57.5	76.5	115	37	46.5	65.5	104	24	24	24	24	17	17	17	17
KTB1-030	67.5	81	108	162	52.5	66	93	147	35	35	35	35	26	26	26	26



Model	A				B				C				D			
	03	04	06	10	03	04	06	10	03	04	06	10	03	04	06	10
KTB1-020	56	68	91	139	44.5	56	79	125	30	30	30	30	19.5	19.5	19.5	19.5
	12	15	20	-	12	15	20	-	12	15	20	-	12	15	20	-
	163	198	254.5	-	147	185.5	242	-	30	30	30	-	19.5	19.5	19.5	-

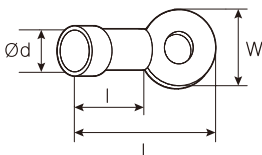


KTB1-060 ~ KTB1-600

Model	A		B		C		D	
	03	04	03	04	03	04	03	04
KTB1-060	85.8	114.5	28.5	57	43	43	31.5	31.5
KTB1-100	102.5	136	34	68	54.5	54.5	36	36
KTB1-150	115	153.5	38	76	66	66	39	39
KTB1-200	132.5	176	43.5	87	72	72	44	44
KTB1-300	165	220	55	110	90	90	51.5	51.5
KTB1-400	165	220	55	110	90	90	51.5	51.5
KTB1-500	206	275	68.5	137	100	100	70	70
KTB1-600	206	275	68.5	137	100	100	70	70

Connection Terminal Specification

unit:mm



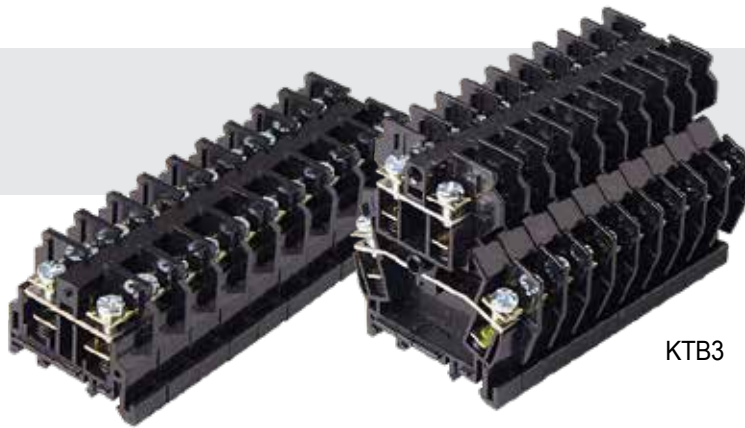
Model	KTB1-010	KTB1-020	KTB1-030	KTB1-060	KTB1-100	KTB1-150	KTB1-200	KTB1-300	KTB1-400	KTB1-500	KTB1-600
Terminal Bolt	M3.0	M4.0		M6.0	M7.0	M8.0		M10.0		M12.0	
W	6.5	8.0	10.2	14.5	19.5	21.5	24.5	35		44.5	
L	20.6	21.5	26.5	35.5	45.6	50.5		55		65.5	
l	10.0		14.5		20.0		26		65.5		
d	Ø3.1	Ø4.1		Ø6.1	Ø8.1	Ø10.1					

KTB2/3 Series

Modular Barrier Terminal Blocks



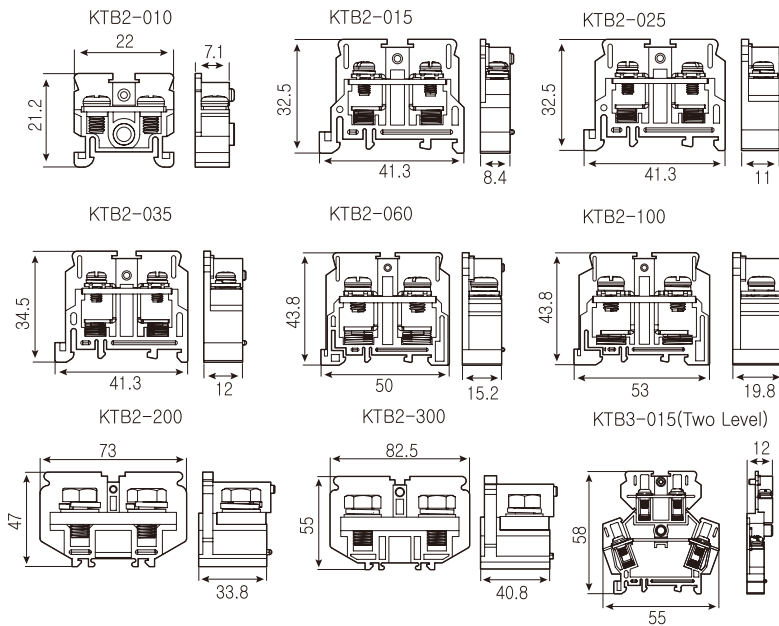
KTB2



KTB3

Dimensions

unit:mm



Ordering Information

KTB ① - ②

① Description	2	Single level		
	3*	Double level		
② Rated Current	010	10A	015*	15A
	025	25A	035	35A
	060	60A	100	100A
	200	200A	300	300A

* KTB3 double level terminal block has only 15A model.

General Specification

Rated Voltage	Max. 600VAC
Insulation Resistance	Min. 100MΩ
Dielectric Strength	2,500VAC/Min.

Accessories

Jumper



KTB2-S2506

KTB2-015	KTB2-S1512K
KTB2-025	KTB2-S2506K
KTB2-035	KTB2-S3508K

Stoppers



KTB2-Sta

15mm	Sta
35mm	Stb
35mm (plastic)	Stc



KTB2-Stb



KTB2-Stc

Separators



KTB2-A10

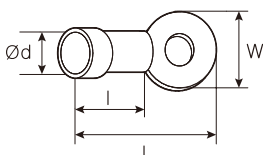
KTB2-A35

KTB3-A15

KTB2-010	KTB2-A10	KTB2-015	KTB2-A15
KTB2-025	KTB2-A25	KTB2-035	KTB2-A35
KTB2-060	KTB2-A60	KTB2-100	KTB2-A100
KTB2-200	KTB2-A200	KTB2-300	KTB2-A300
KTB3-015	KTB3-A15		

Connection Terminal Specification

unit:mm



Model	KTB2-010	KTB2-015	KTB2-025	KTB2-035	KTB2-060	KTB2-100	KTB2-200	KTB2-300	KTB3-015
Terminal Bolt	M3.0	M3.5	M4.0		M6.0		M10.0	M12.0	M3.5
W	6.6	6.8	8.7	9.6	12.4	16.5	24.5	29	6.8
L	20.0		27.0		30.0	45.5		55.5	20.0
l	8.0		14.0		14.5	20.5		25.5	8.0
d	Ø3.1	Ø3.6	Ø4.1		Ø6.1		Ø10.1	Ø12.1	Ø3.6



KF Series

Fuse Holders

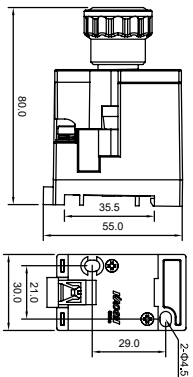


Ceramic Fuse Holders

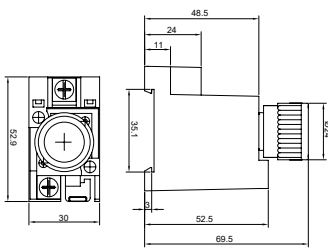
Part Number	KF-30L	KF-30B	KF301	KF-30C	KF-30CL	KF-30CL-B	KF-32L	KF-32K	KF-63K
Operating Mechanism	-Fuse short indicator lamp -Fiber-reinforced nylon resin	Fiber-reinforced nylon resin	Fire retardant(VO) ABS	High density	- Fuse short indicator lamp - Fiber-reinforced nylon resin - Clip type structure for easy installation - Name plate	Din-Rail Bracket	-Fuse short indicator lamp -Fiber-reinforced nylon resin	-Fuse short indicator lamp -Fiber-reinforced nylon resin	-Fuse short indicator lamp -Fiber-reinforced nylon resin
Rated Current	Max. 30A	Max. 30A	Max. 7A	Max. 30A	Max. 30A	Max. 30A	Max. 32A	Max. 32A	Max. 63A
Material	Nylon	Nylon	Nylon	Ceramic	Ceramic Nylon	Nylon	Nylon	Nylon	Nylon
Fuse size	Ø12.5×50mm					-	Ø10×38mm		Ø14×51mm
Applied fuse	KFS-A					-	KFS-B		KFS-C
Rated Voltage	600V					-	690V		
Certification	CE						CE,UL	CE	
Ambient Temperature	-25°C + 60°C (with no icing)								
Ambient Humidity	35% ~ 85% RH (non - condensing)								

Dimensions

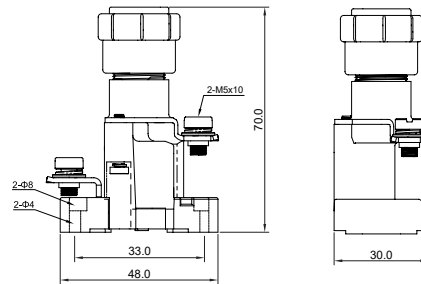
KF-30L KF-30B



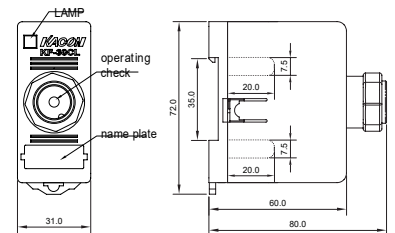
KF301



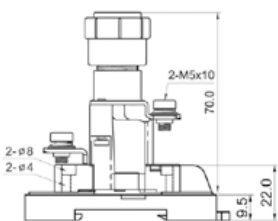
KF-30C



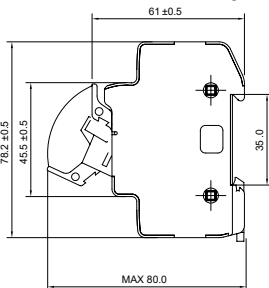
KF-30CL



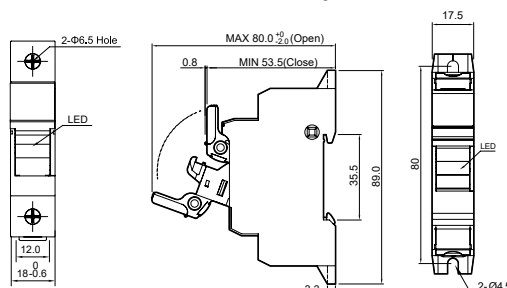
KF-30C-B



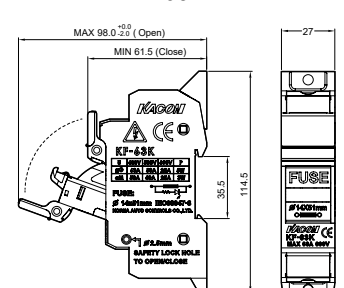
KF-32L



KF-32K



KF-63K



Glass Tube Fuse Holders

Ordering Information



KF - ① ②

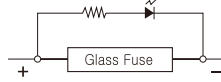
① Description	15A	15A(AC)	30A	30A (AC)*
	10D	10A(DC)	20D	20A (DC)*
② Number of Poles	1	1 Pole		
	2	2 Poles		
	3	3 Poles		

* 1 Pole only

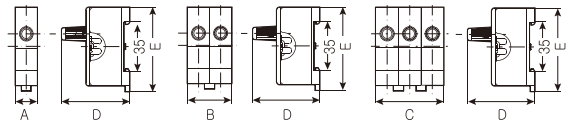
General Specification

Model	Fuse	Material	Tightening Torque
KF-15A	Ø6X30mm	Cover : PC Body : PBT	0.8N-m (8.16kgf-cm)
KF-30A	Ø10X38mm		
KF-10D	Ø6X30mm		
KF-20D	Ø10X38mm		

Diagram



Dimensions (unit:mm)



1 Pole	2 Poles	3 Poles
15A AC 30A AC 10A DC 20A DC	15A AC 10A DC	15A AC 10A DC

Current	10/15A	20/30A
A	16	21
B	32	-
C	48	-
D	48	60
E	60	75

Ceramic Fuse CE

Ordering Information

KFS - ① ②

① Size	A	Ø12.5×50mm	B	Ø10×38mm								
	C	Ø14×51mm										
② Rated Current	01	1A	02	2A	03	3A*	04	4A	05	5A*	06	6A
	07	7A*	08	8A	10	10A	12	12A	15	15A*	16	16A
	25	25A	30	30A*	32	32A	*Japanese standard					

General Specification

Rated Voltage	500VAC/DC		
Rated short-circuit strength	A : 50KA	B : 80KA	C : 80KA

* It is recommended to use 1.6 times or more of the rated operating current.

Product selection Guide

Size	Rated Current	Part Number	Rated Current	Part Number	Rated Current	Part Number	Rated Current	Part Number
Ø12.5×50mm	2A	KFS-A02	5A	KFS-A05	10A	KFS-A10	20A	KFS-A20
	3A	KFS-A03	6A	KFS-A06	15A	KFS-A15	25A	KFS-A25
	4A	KFS-A04	7A	KFS-A07	16A	KFS-A16	30A	KFS-A30
	1A	KFS-B01	5A	KFS-B05	10A	KFS-B10	20A	KFS-B20
Ø10×38mm	2A	KFS-B02	6A	KFS-B06	12A	KFS-B12	25A	KFS-B25
	3A	KFS-B03	7A	KFS-B07	15A	KFS-B15	30A	KFS-B30
	4A	KFS-B04	8A	KFS-B08	16A	KFS-B16	32A	KFS-B32
	2A	KFS-C02	10A	KFS-C10	25A	KFS-C25	-	-
Ø14×51mm	4A	KFS-C04	12A	KFS-C12	32A	KFS-C32	-	-
	6A	KFS-C06	16A	KFS-C16	-	-	-	-
	8A	KFS-C08	20A	KFS-C20	-	-	-	-

Dimensions

(unit:mm)

Part Number	A
KFS-A02 ~ A07	Ø6 ± 0.5
KFS-A10	Ø8 ± 0.5
KFS-A15 ~ A30	Ø10 ± 1.0



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