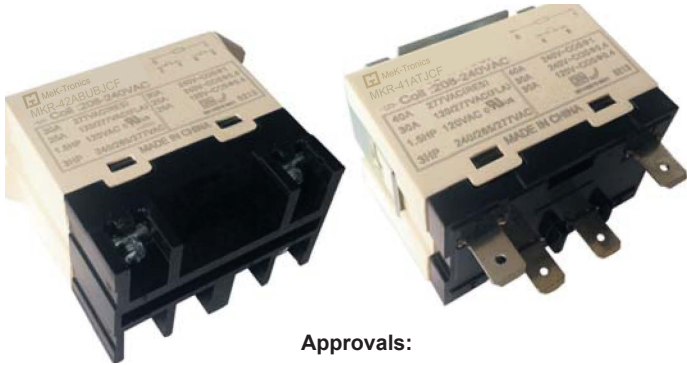


Product Data Sheet

Features

- ✓ A2L Refrigerants (UL 60335-2-40) compliant
- ✓ Quick-connect, screw, and PCB terminals available
- ✓ Miniature hinge for maximum switching capacity, particularly for inductive loads
- ✓ No contact chattering for momentary voltage drops up to 50% of rated voltage
- ✓ Flame resistant materials (UL94V-0 qualifying) used for all insulation material
- ✓ Wide-range AC-activated coil that handles 100 to 120 or 200 to 240 VAC at either 50 or 60 Hz



Approvals:



To Order: Select the part number and add the desired coil voltage rating (e.g., MKR-41ATUBCF-AC120)

Mounting Type	Contact Form	Quick-Connect 	Screw 	PCB 
E bracket	SPST-NO	MKR-41ATCF	MKR-41ABCF	-
	DPST-NO	MKR-42ATCF	MKR-42ABCF	-
E bracket (with test button)	SPST-NO	MKR-41ATJCF	MKR-41ABJCF	-
	DPST-NO	MKR-42ATJCF	MKR-42ABJCF	-
Upper Bracket	SPST-NO	MKR-41ATUBCF	MKR-41ABUBCF	-
	DPST-NO	MKR-42ATUBCF	MKR-42ABUBCF	-
Upper bracket (with test button)	SPST-NO	MKR-41ATUBJCF	MKR-41ABUBJCF	-
	DPST-NO	MKR-42ATUBJCF	MKR-42ABUBJCF	-
PCB mounting	SPST-NO	-	-	MKR-41APCF
	DPST-NO	-	-	MKR-42APCF

Ordering Number:

MKR - 4 2A B NB J CB 1 -AC24

Packaging Type: “-” – Bulk Packaging “Y”– Individually Packed

Pole Form:
1A – N.O., Single Pole, Single Throw 2A – N.O., Double Pole, Single Throw

Terminal Type:
B – Screw Terminals P – PCB Terminals T – Quick-connect Terminals

Mounting Construction:
Blank – E-bracket Type NB – Without Bracket UB – Upper Bracket Type

Special Function:
Blank – Without Test Button J – With Test Button

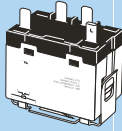
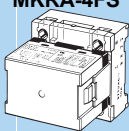
Insulation Class:
CF – Class F Insulation

Contact Material:
1 – Silver Tin Oxide Indium Oxide

Coil Voltage Type:
-DC12V – 12 VDC -AC24V - 24 VAC
-DC24V – 24 VDC -AC36V – 36 VAC
-DC36V – 36 VDC -AC100/120V – 100-120 VAC
-DC100/120V – 100-120 VDC -AC208/240V – 208-240 VAC
-DC208/240V – 208-240 VDC -AC277 – 277 VAC
-DC277 – 277 VDC

Product Data Sheet

Accessories(Order Separately)

Terminals	Contact Form	Model	E-brackets MKRA-4EB 	Front connecting socket MKRA-4FS 
Quick-connect terminals	SPST-NO	MKR-41AT	✓	✓
		MKR-41ATJ	✓	✓
	DPST-NO	MKR-42AT	✓	✓
		MKR-42ATJ	✓	✓
Screw terminals	SPST-NO	MKR-41AB	✓	
		MKR-41ABJ	✓	
	DPST-NO	MKR-42AB	✓	
		MKR-42ABJ	✓	

Note: MKRA-4C cover is supplied with the MKRA-4FS socket.

Electrical/Mechanical Characteristics

Contact resistance		50mΩ max
Operate time		30ms max
Release time		30ms max
Max. Operating frequency	Mechanical	1,800 operations/hour
	Electrical	1,800 operations/hour (under rated load)
Insulation resistance		1000MS2 min. (at 500 VDC)
Dielectric strength		4,000 VAC, min. 5,000 VAC typical, 50/60 Hz for 1 minute between coil and contacts 2,000 VAC, 50/60 Hz for minute between contacts of same pole 2,000 VAC, 50/60 Hz for minute between contacts of different poles (DPST-NO)
Impulse withstand voltage		Between coil and contact: 10,000V (impulse wave used: 1.20 X 50 s)
Vibration	Mechanical durability	10 to 55 Hz; 1.50mm (0.06 in) double amplitude
	Malfunction durability	10 to 55 Hz; 1.50mm (0.06 in) double amplitude
Shock	Mechanical durability	1,000 m/s2 (approx. 100G)
	Malfunction durability	1,00 m/s ² (approx. 10G)
Life expectancy	Mechanical	5,000,000 operations min. (at 1,800 operations /hour)
	Electrical	100,000 operations min. (at 1,800 operations/hour under rated load)
Ambient temperature		-20°C to +85°C (-4 to 185F)
Humidity		35% to 85% RH
Weight		Quick-connect terminal approx. 90 g (3.17 oz) PCB terminal approx. 100 g (3.52 oz) Screw terminal: approx. 120 g (4.23 oz)

Note: Data shown are of initial value.

Product Data Sheet

Contact/Coil Ratings

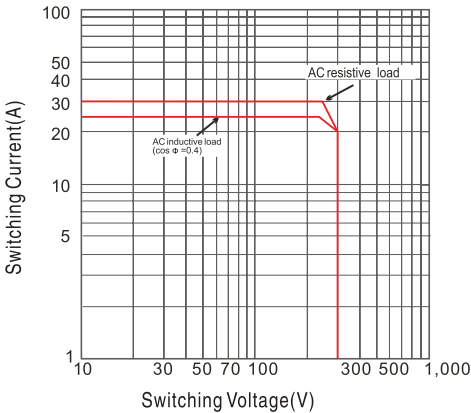
Model	Contact form	Terminal type	Contact rating
MKR-41ATCF MKR-41ATJCF MKR-41ATUBCF MKR-41ATUBJCF	SPST NO	Quick-connect	1A: single pole 40A @ 277VAC Resistive 30A FLA/150A LRA @ 120VAC 30A FLA/60A LRA @240/265/277VAC 1.5hp @ 120VAC 1 phase 3hp @ 240/265/277VAC
MKR-41ABCF MKR-41ABJCF MKR-41ABUBCF MKR-41ABUBJCF		Screw	
MKR-41APCF		PCB	
MKR-42ATCF MKR-42ATJCF MKR-42ATUBCF MKR-42ATUBJCF	DPST NO	Quick-connect	2A: Double pole 30A @ 277VAC Resistive 25A FLA/125A LRA @ 120VAC 25A FLA/60A LRA @240/265/277VAC 1.5hp @ 120VAC 1 phase 3hp @ 240/265/277VAC
MKR-42ABCF MKR-42ABJCF MKR-42ABUBCF MKR-42ABUBJCF		Screw	
MKR-42APCF		PCB	

Rated Voltage (V)		Rated current (mA)	Resistance Ω	Must operate	Must release	Max. voltage	Power consume	Coil internal circuit
				% of rated voltage				
AC (~)	6	283	18.9				1.70-2.50 VA	
	12	142	75					
	24	71	303	75% max.	15% min.	110% max.		
	50	34	1310					
	100/120	17.0/20.4	5260	75V	18V	132V		
	200/240	8.5/9.2	21000	150V	36V	264V		
DC (=)	6	317	18.9	75% max.	15% min.	110% max.	1.90 W	
	12	158	75					
	24	79	303					
	48	40	1220					
	100	19	5260					

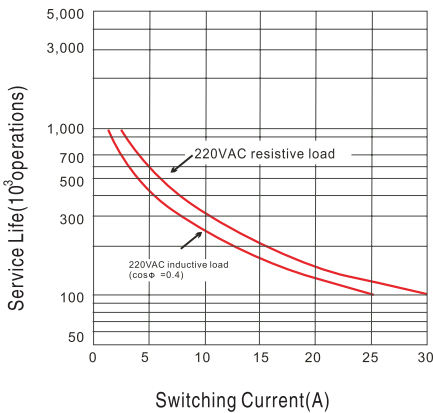
Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73 F) with tolerances of+ 15%/-20% for AC rated current and + 15% for DC coil resistance.
2. Performance characteristic data are measured at a coil temperature of 23°C (73 F).

Characteristics Curves

Maximum switching capacity



Electrical service life



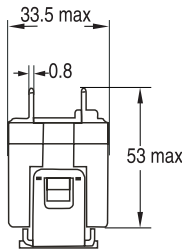
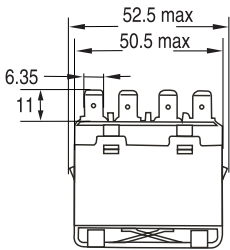
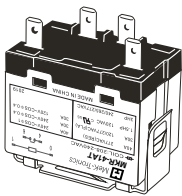
Product Data Sheet

Mechanical Drawings

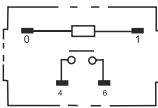
Quick-connect Terminals with E-bracket

(All units are in millimeters unless otherwise indicated.)
(*E-bracket must be ordered separately)

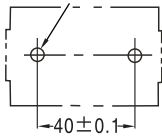
MKR-41AT
(E Bracket Attached)*



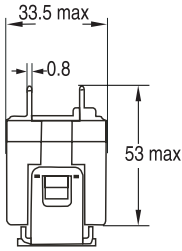
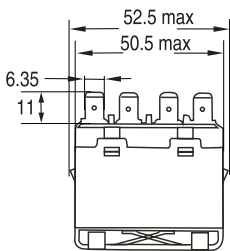
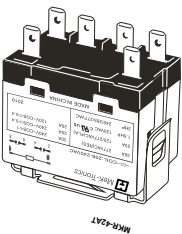
Terminal arrangement /
Internal connections
(Top View)



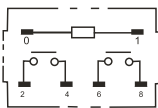
Mounting holes
(Bottom View)
Two, 4.5-dia. holes or
M4 tapped holes



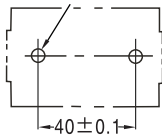
MKR-42AT



Terminal arrangement /
Internal connections
(Top View)

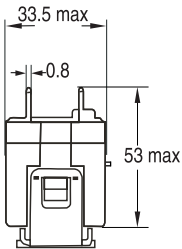
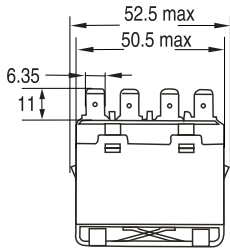
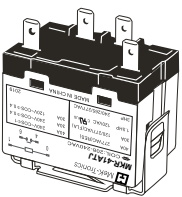


Mounting holes
(Bottom View)
Two, 4.5-dia. holes or
M4 tapped holes

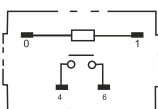


MKR-41ATJ

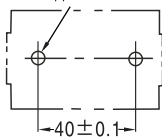
(with test button)



Terminal arrangement /
Internal connections
(Top View)

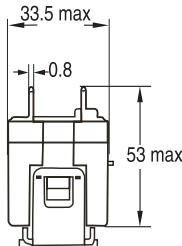
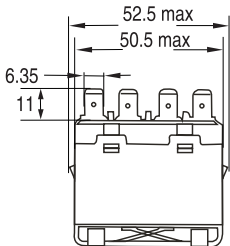
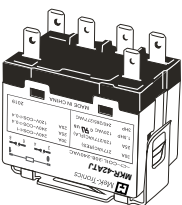


Mounting holes
(Bottom View)
Two, 4.5-dia. holes or
M4 tapped holes

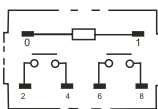


MKR-42ATJ

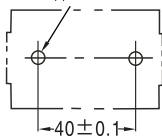
(with test button)



Terminal arrangement /
Internal connections
(Top View)

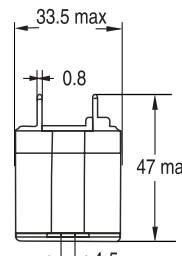
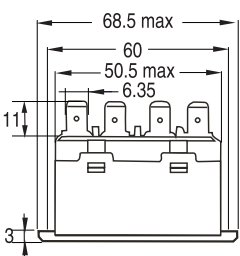
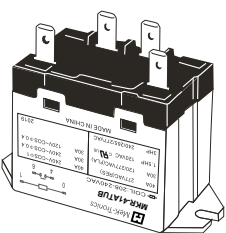


Mounting holes
(Bottom View)
Two, 4.5-dia. holes or
M4 tapped holes

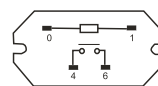


Quick-connect Terminals with Upper Bracket

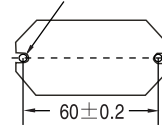
MKR-41ATUB



Terminal arrangement /
Internal connections
(Top View)

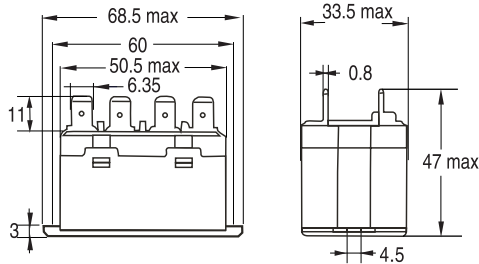
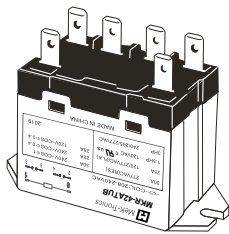


Mounting holes
(Bottom View)
Two, 4.5-dia. holes or
M4 tapped holes

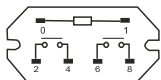


Product Data Sheet

MKR-42ATUB

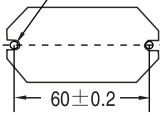


Terminal arrangement /
Internal connections
(Top View)

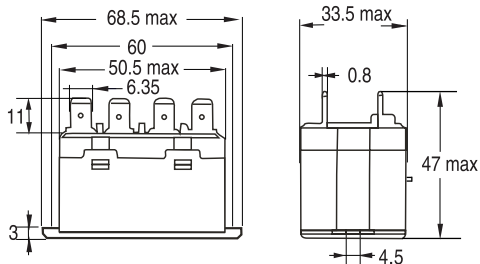
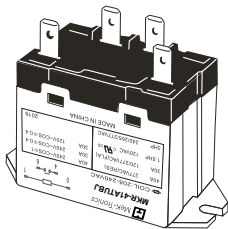


Mounting holes
(Bottom View)

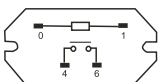
Two, 4.5-dia. holes or
M4 tapped holes



MKR-41ATUBJ
(with test button)

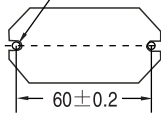


Terminal arrangement /
Internal connections
(Top View)

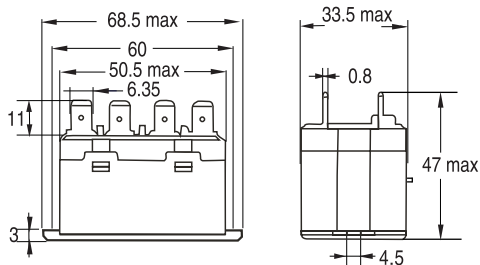
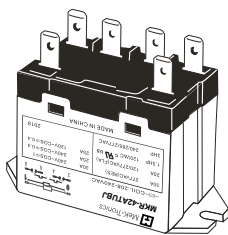


Mounting holes
(Bottom View)

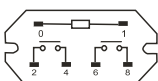
Two, 4.5-dia. holes or
M4 tapped holes



MKR-42ATUBJ
(with test button)

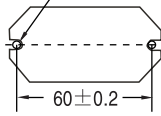


Terminal arrangement /
Internal connections
(Top View)



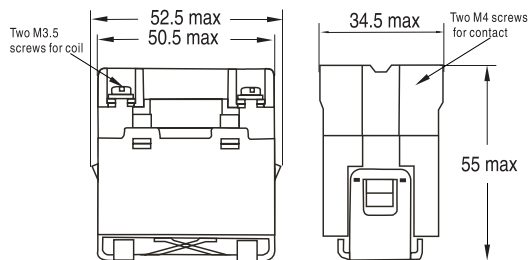
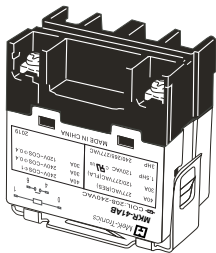
Mounting holes
(Bottom View)

Two, 4.5-dia. holes or
M4 tapped holes

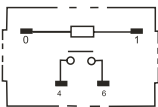


Screw Terminals with E-bracket

MKR-41AB

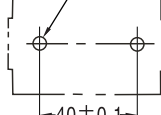


Terminal arrangement /
Internal connections
(Top View)

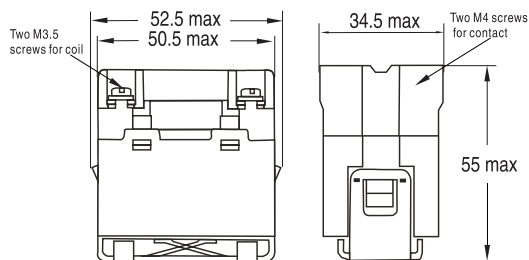
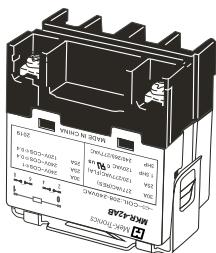


Mounting holes
(Bottom View)

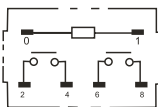
Two, 4.5-dia. holes or
M4 tapped holes



MKR-42AB

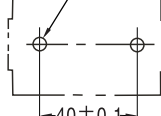


Terminal arrangement /
Internal connections
(Top View)



Mounting holes
(Bottom View)

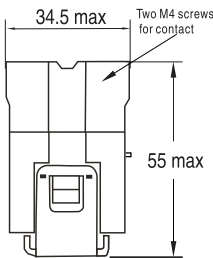
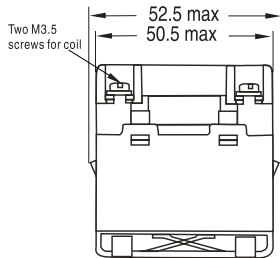
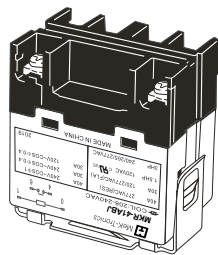
Two, 4.5-dia. holes or
M4 tapped holes



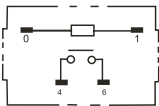
Product Data Sheet

MKR-41ABJ

(with test button)

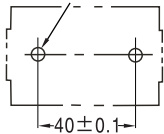


Terminal arrangement /
Internal connections
(Top View)



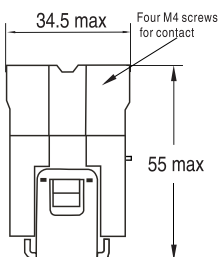
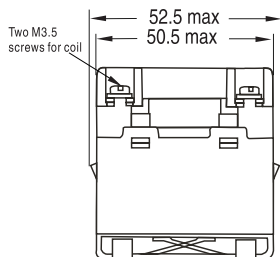
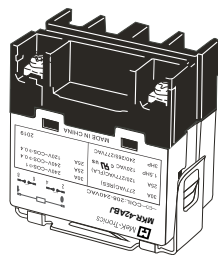
Mounting holes
(Bottom View)

Two, 4.5-dia. holes or
M4 tapped holes

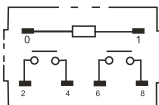


MKR-42ABJ

(with test button)

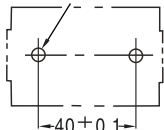


Terminal arrangement /
Internal connections
(Top View)



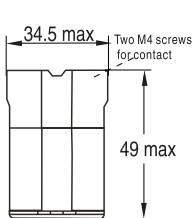
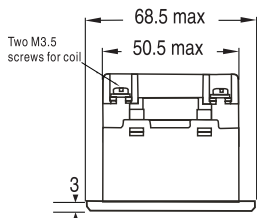
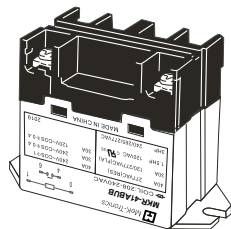
Mounting holes
(Bottom View)

Two, 4.5-dia. holes or
M4 tapped holes

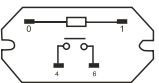


Screw Terminals with Upper Bracket

MKR-41ABUB

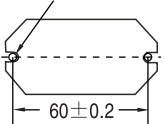


Terminal arrangement /
Internal connections
(Top View)

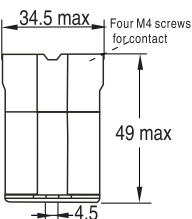
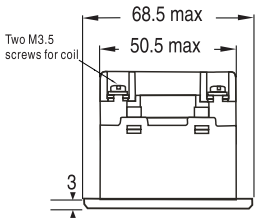
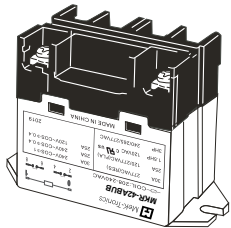


Mounting holes
(Bottom View)

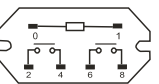
Two, 4.5-dia. holes or
M4 tapped holes



MKR-42ABUB

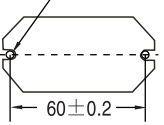


Terminal arrangement /
Internal connections
(Top View)



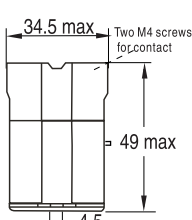
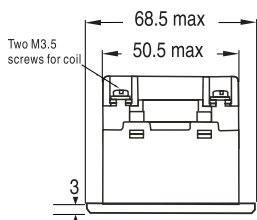
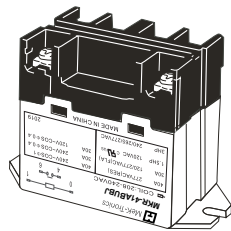
Mounting holes
(Bottom View)

Two, 4.5-dia. holes or
M4 tapped holes

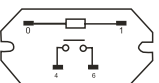


MKR-41ABUBJ

(with test button)

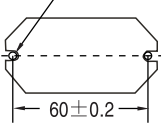


Terminal arrangement /
Internal connections
(Top View)



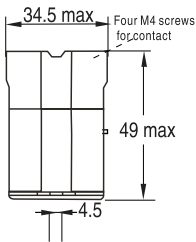
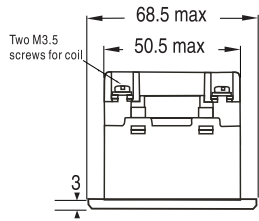
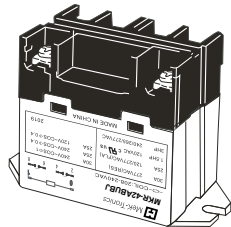
Mounting holes
(Bottom View)

Two, 4.5-dia. holes or
M4 tapped holes

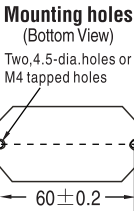
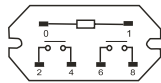


Product Data Sheet

MKR-42ABUBJ
(with test button)

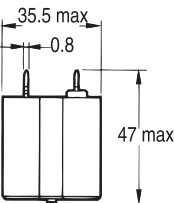
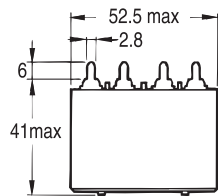
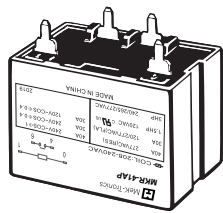


Terminal arrangement /
Internal connections
(Top View)

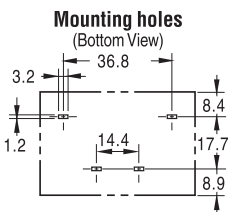
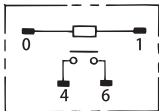


PCB Terminals

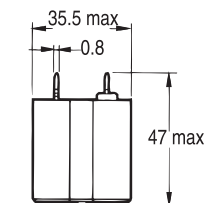
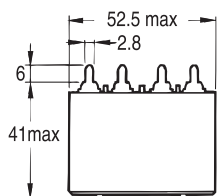
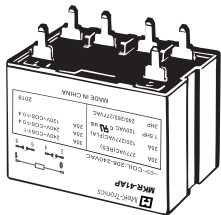
MKR-41AP



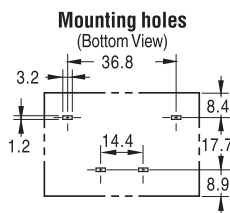
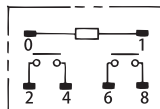
Terminal arrangement /
Internal connections
(Top View)



MKR-42AP



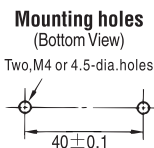
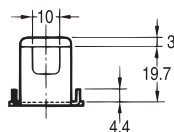
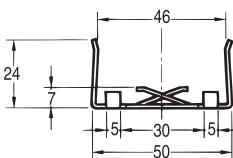
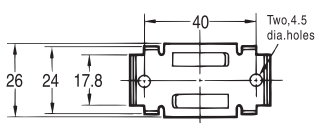
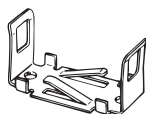
Terminal arrangement /
Internal connections
(Top View)



Accessories

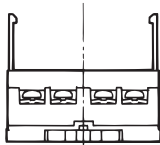
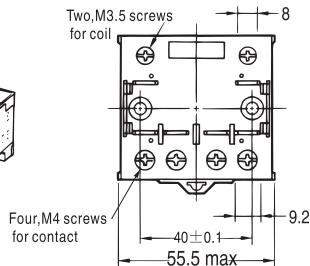
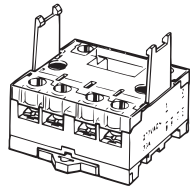
E bracket

MKRA-4EB

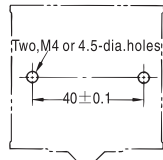


Front connecting socket

MKRA-4FS

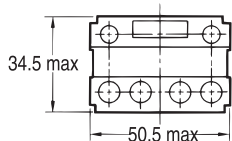
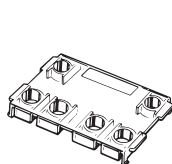


Mounting holes
(Bottom View)



Cover

MKRA-4C



Note: 1. MKRA-4C cover is supplied with MKRA-4FS socket.
2. To protect against electric shock, use the MKRA-4C cover on terminals.