COMPANY OVERVIEW

Jinyoung Electro-Mechanics

www.jem-techno.co.kr

JINYOUNG ELECTRO-MECHANICS CO.,LTD. (Head Office)

ADDRESS	413, Shinchon-Ri, Jinbuk-Myun, Masan City, Kyungnam, Korea
EXECUTIVE	Doo-Yung Kim
TEL.	055)271-8838
FAX.	055)271-8839

First Factory

ADDRESS	431, Shinchon-Ri, Jinbuk-Myun, Masan City, Kyungnam, Korea
MAIN PRODUCT	RELAY and SWITCH of an automobile
TEL.	055)271-8836~8838
FAX.	055)271-8839

Second Factory

ADDRESS	430-21, Shinchon-Ri, Jinbuk-Myun, Masan City, Kyungnam, Korea
MAIN PRODUCT	MOLDED PARTS and PRESSED PARTS of an automobile
TEL.	055)272-0205
FAX.	055)272-0206

WENDENG JINYOUNG ELECTRO-MECHANICS CO.,LTD. (1st China Factory)

ADDRESS	No 48, Middle of Guangzhou Road, Wendeng City, Shandong Province, China
MAIN PRODUCT	PCB RELAY, POWER RELAY and SWITCH of an automobile
TEL.	86-631-808-7836~7838
FAX.	86-631-808-7879

ZHUHAI JINYOUNG ELECTRO-MECHANICS CO.,LTD. (2nd China Factory)

ADDRESS	No 28, Ningyue Road, Pingsha Town, Jinwan, Zhuhai City, Guangdong Province, China.
MAIN PRODUCT	SWITCH of an automobile
TEL.	86-756-726-7887
FAX.	86-756-726-7886

JINYOUNG(H.K.) ELECTRO-MECHANICS CO.,LTD.

ADDRESS	Flat E2, 13/F Hoi Bun Industrial Building NO.6 Wing Yip Street, Kwun Tong, Hong Kong
TEL.	852-2191-8373
FAX.	852-2191-8387

HISTORY OF JEM

Jinyoung Electro-Mechanics

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Leap Period

APR.2008	Began to operate assembly line in the 2nd China factory (ZhuHai)
FEB.2008	Began to produce MINI ISO RELAY
DEC.2007	Achieved 20 million dollars export
OCT.2007	Acquired the certificate of ISO/TS 16949 for the China factory (ZhuHai)
JAN.2007	Acquired the certificate of ISO/TS 16949 for the China factory (WenDeng)
JAN.2007	Acquired the certificate of ISO 14001
FEB.2006	Acquired the certificate of ISO/TS 16949

Growth Period

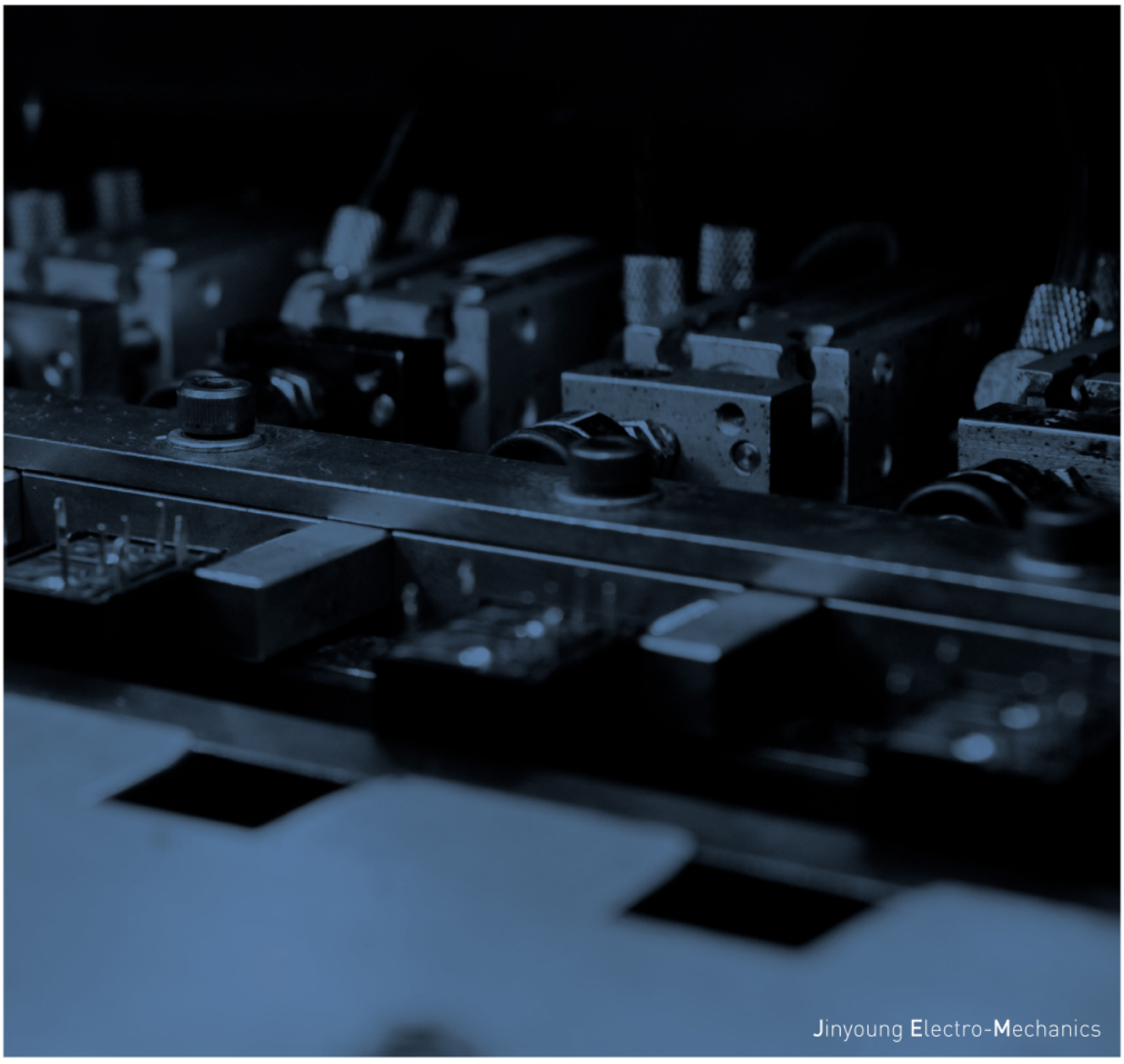
NOV.2005	Achieved 10 million dollars export
NOV.2005	Completed the 2nd China factory in ZhuHai, China
DEC.2003	Completed the automobile parts factory in Masan
NOV.2002	Completed the 1st China factory in WenDeng, China

Foundation Period

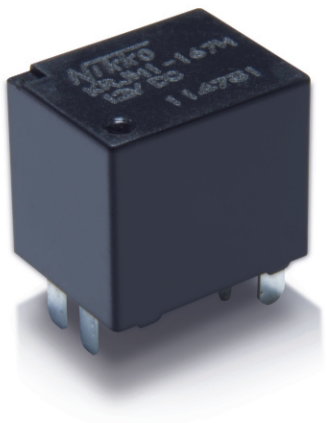
JUN.2000	Began to produce TB2, TA2 RELAY
MAY.2000	Began to produce MICRO ISO RELAY for GMDAT (GM Daewoo Auto&Technology)
DEC.1999	Acquired the certificate of KSA 9001/ISO 9000
NOV.1997	Began to produce SWITCH and RELAY for RSM (Renault Samsung Motors)
MAY.1996	Established in Masan
OCT.1978	Began to produce PCB RELAY of an automobile (KOREA-NISSEN)

PCB RELAY

TB Series, TA Series, TE Series, TX Series, PX Series



JH Series KRJH1 Type



FEATURES

- Small size (L:15.6mm × W:12.1mm × H:13.8mm)
- Contact composition to be suitable for more than 40A
- 1 From U Type (From A)
- Capable of controlling various high current load
- Motor load (25A), Lamp load (20A), Resistive load (40A)
- Inrush current : 100A

PART NUMBER CODE

KRJH1-167H

- Current Type(H : High Current, N : Standard)
- Coil Resistance
- RELAY Type(KRJH1 : Reflow Type, KJH1 : Wave Solder Type)

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage
KRJH1-167H	12VDC	167Ω	7.0V	1.3V
KRJH1-240N	12VDC	240Ω	7.0V	1.3V
KJH1-240N	12VDC	240Ω	7.0V	1.3V

Rated at 20℃ Ambient temperature

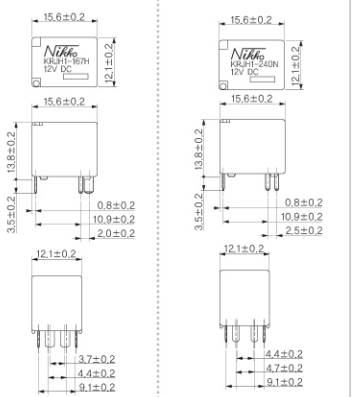
SPECIFICATION

ITEM		SPECIFICATION
Contact Arrangement		1 From U (From A)
Contact Material		$AgSnO_2$
Rated Load		14VDC 40A Resistive Load / 14VDC 30A Resistive Load
Contact Resistance		Max. 100mΩ (at 6VDC 1A voltage drop method)
Max. Switching Current		100A (50A each contact) / 70A (30A each contact)
Max. Carrying Current		40A (20A each contact) / 30A (15A each contact)
Dielectric Strength		500VAC for 1minute (between coil and contact) 500VAC for 1minute (between open contacts)
Insulation Resistance		Min. 100mΩ (at 500VDC)
Operate Time		Max. 10ms (at rated voltage)
Release Time		Max. 5ms (at rated voltage)
Shock	False Operation	Min. 10G (Shock wave 11ms)
	Endurance	Min. 100G (Shock wave 11ms)
Vibration	False Operation	10 to 100Hz 4.4G
	Endurance	10 to 100Hz 4.4G
Mechanical Life		1×10^7 Operations (Switching frequency 300 cycles/minute)
Electrical Life		2×10^5 Operations at rated load (ON:2sec/OFF:2sec)
Ambient Temperature		-40℃ to +125℃ / -40℃ to +85℃
Weight		Approx. 6g

※High Current Type / Standard Type

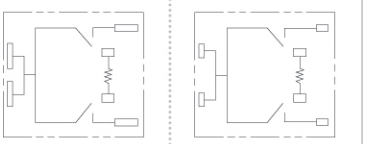
DIMENSIONS (unit : mm)

External Dimensions



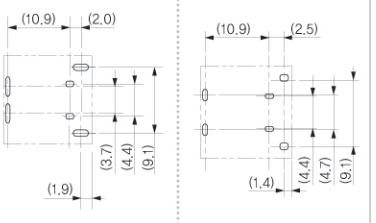
KRJH1-167H | KJH1-240N/KRJH1-240N

Terminal Dimensions



KRJH1-167H | KJH1-240N/KRJH1-240N

PC Board Pin Layout



KRJH1-167H | KJH1-240N/KRJH1-240N

TB Series TB1 Type, TB2 Type

POWER WINDOW, DOOR-LOCK (KEYLESS ENTRY SYSTEM), SEAT CONTROL, SUN ROOF, DOOR MIRROR, FLASHER UNIT

FEATURES

- Small size
  - Compared to the conventional type, miniaturized as 50% in volume, 60% in mounting area, 13.5mm in height.
- Two kinds of contact arrangements are provided as 1 Form C and 2 × 1 Form C for controlling the direction of motor rotation.
- High capacity
  - Employs highly conductive material, sufficient cross area of conductor and heat radiant design capable of 25A switching current.
- Over current protection
  - In case of over current, contacts are designed to open automatically during overload conditions.

PART NUMBER CODE

KTB2-160

Coil Resistance

RELAY Type (KTB1 : 1 Form C, KTB2 : 2 x 1 Form C (H-Bridge))

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage	Rated Power
KTB1-160	12VDC	160Ω	6.5V	0.8V	0.9 W
KTB1-225	12VDC	225Ω	7.7V	0.8V	0.64 W
KTB2-160	12VDC	160Ω	6.5V	0.8V	0.9 W
KTB2-225	12VDC	225Ω	7.7V	0.8V	0.64 W

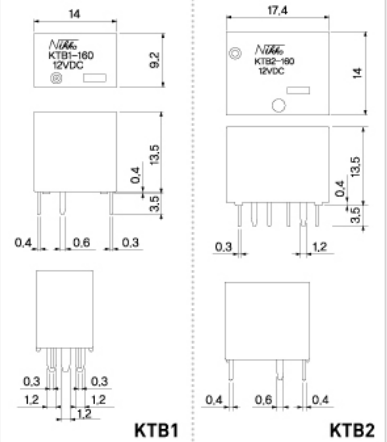
Rated at 20℃ Ambient temperature

SPECIFICATION

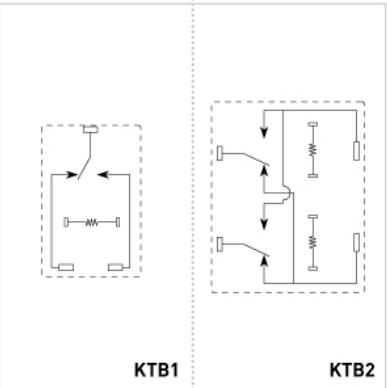
ITEM		SPECIFICATION	
Contact Arrangement		KTB1 : 1 Form C	KTB2 : 2 x 1 Form C
Contact Material		$AgSnO_2$	
Rated Load		25A at 14VDC Motor Load / Locked Rotor	
Contact Resistance		Max. 50MΩ (at 6VDC 1A voltage drop method)	
Max. Switching Current		30A	
Max. Carrying Current		25A for 10minutes at 20℃	
Dielectric Strength		500VAC for 1minute (between coil and contact) 500VAC for 1minute (between open contacts)	
Insulation Resistance		Min. 100MΩ (at 500VDC)	
Operate Time		Max. 10ms (at rated voltage)	
Release Time		Max. 10ms (at rated voltage)	
Shock	False Operation	Min. 10G (shock wave 11ms)	
	Endurance	Min. 100G (shock wave 11ms)	
Vibration	False Operation	10 to 500Hz 4.4G	
	Endurance	10 to 500Hz 4.4G	
Mechanical Life		10×10^6 Operations (switching frequency 300 cycles/minute)	
Electrical Life		0.1×10^6 Operations at rated load (on:1sec/off:9sec)	
Ambient Temperature		-40℃ to +85℃	
Weight		KTB1 : Approx. 5g	KTB2 : Approx. 9.5g

DIMENSIONS (unit : mm)

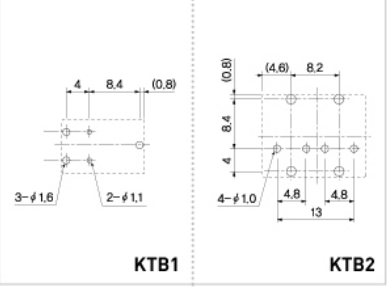
External Dimensions



Wiring Diagram



PC Board Pin Layout



TA Series TA1 Type, TA2 Type

POWER WINDOW(KTA2), DOOR-LOCK(KTA2), INTERMITTENT WIPER(KTA1)

FEATURES

- Twin coil automotive relay for controlling the direction of motor rotation(KTA2)
- For the application of intermittent windshield wiper, achieved the same quietness level as CX Type having a big track record(KTA1)
  - Designed especially to be quiet in the state of actual use.
  - Employs the flat type net copper wire and the double cover construction is the same as CX Type.
- Almost same mounting space as KTX2 Type
  - Despite double cover construction, achieved almost the same mounting space as KTX2 Type by incorporating KTB2 RELAY.
- Over current protection
  - In case of over current, contacts are designed to open automatically during the overload conditions.

PART NUMBER CODE

KTA2-160

- Coil Resistance
- RELAY Type (KTA1 : 1 Form C, KTA2 : 2 x 1 Form C (H-Bridge))

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage	Rated Power
KTA1-160	12VDC	160Ω	6.5V	0.8V	0.9 W
KTA1-225	12VDC	225Ω	7.7V	0.8V	0.64 W
KTA2-160	12VDC	160Ω	7.0V	0.8V	0.9 W
KTA2-225	12VDC	225Ω	8.0V	0.8V	0.64 W

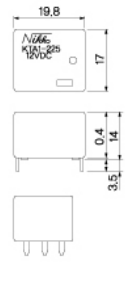
Rated at 20℃ Ambient temperature

SPECIFICATION

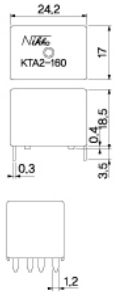
ITEM		SPECIFICATION	
Contact Arrangement		KTA1 : 1 Form C	KTA2 : 2 x 1 Form C
Contact Material		$AgSnO_2$	
Rated Load		25A at 14VDC Motor Load / Locked Rotor	
Contact Resistance		Max. 50MΩ (at 6VDC 1A voltage drop method)	
Max. Switching Current		30A	
Max. Carrying Current		20A for 10minutes at 20℃	
Dielectric Strength		500VAC for 1minute (between coil and contact)	
		500VAC for 1minute (between open contacts)	
Insulation Resistance		Min. 100MΩ (at 500VDC)	
Operate Time		Max. 10ms (at rated voltage)	
Release Time		Max. 10ms (at rated voltage)	
Shock	False Operation	Min. 10G (shock wave 11ms)	
	Endurance	Min. 100G (shock wave 11ms)	
Vibration	False Operation	10 to 500Hz 4.4G	
	Endurance	10 to 500Hz 4.4G	
Mechanical Life		10×10^6 Operations (switching frequency 300 cycles/minute)	
Electrical Life		0.1×10^6 Operations at rated load (on:1sec/off:9sec)	
Ambient Temperature		-40℃ to +85℃	
Weight		KTA1 : Approx. 8g	KTA2 : Approx. 13g

DIMENSIONS (unit : mm)

External Dimensions

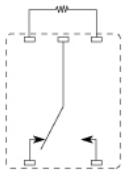


KTA1

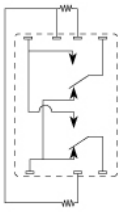


KTA2

Wiring Diagram

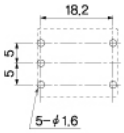


KTA1

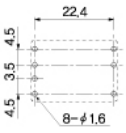


KTA2

PC Board Pin Layout



KTA1



KTA2

TE Series TE1 Type, TE2 Type

FEATURES

- Microminiature type (L:12.0mm x W:7.2mm x H:13.5mm)
- Two kinds of contact arrangements are provided as 1 Form C and 2 × 1 Form C for controlling the direction of motor rotation
- High capacity
  - Employs highly conductive material, sufficient cross area of conductor and heat radiant design capable of 25A switching current
- Over current protection
  - In case of over current, contacts are designed to open automatically during overload conditions

PART NUMBER CODE

TE1-160 □ □

- Sealing Type (N/A : Sealed Type, T : No 2nd Seal)
- Contact Arrangement (N/A : 1 Form C or 2 x 1 Form C, M : 1 Form A)
- Coil Resistance
- RELAY Type (TE1/TE2 : Standard Type, RTE1/RTE2: Through-hole Reflow Type)

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage
TE1	12VDC	160Ω	6.5V	0.8V
TE2	12VDC	160Ω	6.5V	0.8V

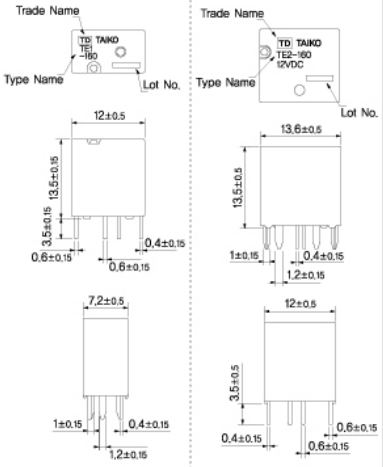
Rated at 20℃ ambient temperature

SPECIFICATION

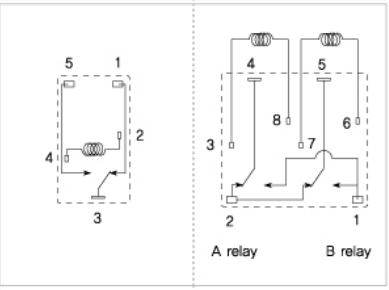
ITEM		SPECIFICATION	
Contact Arrangement		TE1 : 1 Form C	TE2 : 2 x 1 Form C (H-bridge)
Contact Material		$AgSnO_2$	
Rated Load		25A at 14VDC Motor Load / Locked Rotor	
Contact Resistance		Max. 50MΩ (at 6VDC 1A voltage drop method)	
Max. Switching Current		30A	
Max. Carrying Current		25A for 2minutes at 20℃	
Dielectric Strength		500VAC for 1minute (between coil and contact) 500VAC for 1minute (between open contacts)	
Insulation Resistance		Min. 100MΩ (at 500VDC)	
Operate Time		Max. 10ms (at rated voltage)	
Release Time		Max. 10ms (at rated voltage)	
Shock	False Operation	Min. 10G (shock wave 11ms)	
	Endurance	Min. 100G (shock wave 11ms)	
Vibration	False Operation	10 to 500Hz 4.4G	
	Endurance	10 to 500Hz 4.4G	
Mechanical Life		10×10^6 Operations (switching frequency 300 cycles/minute)	
Electrical Life		0.1×10^5 Operations at rated load (on:0.5sec/off:9.5sec)	
Ambient Temperature		-40℃ to +85℃, 85%RH or less	
Weight		TE1 : Approx. 3.2g	TE2 : Approx. 6.3g

DIMENSIONS (unit : mm)

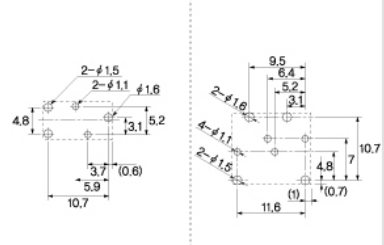
External Dimensions



Wiring Diagram

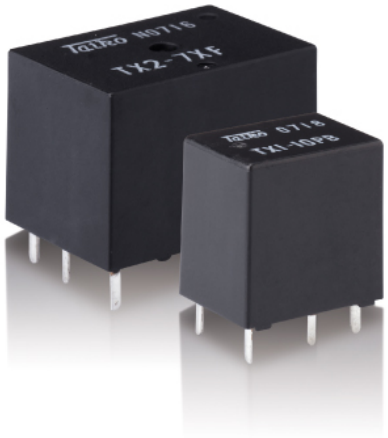


PC Board Pin Layout



TX Series TX1 Type, TX2 Type

POWER WINDOW, DOOR-LOCK (KEYLESS ENTRY SYSTEM), SEAT CONTROL, SUN ROOF



FEATURES

- KTX1 : miniature high power relay with single coil for controlling the direction of motor rotation.
- KTX2 : miniature high power relay with twin coil for controlling the direction of motor rotation.
- High caracity 30A 16VDC switching current
- Small foot print
- Washable

PART NUMBER CODE

KTX2-8XFZ

- Contact Terminal (N/A : Standard, Z : Independent N.C. Contact)
- Coil Terminal (N/A : 3Pins, F : 4Pins)
- Contact Material (N/A : Standard, X : Special Contact)
- Coil Voltage
- RELAY Type (KTX1 : 1 Form C, KTX2 : 2 x 1 Form C)

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage	Rated Power
KTX1-8	12VDC	200Ω	6.0 V	0.8V	0.72 W
KTX1-9	12VDC	250Ω	6.75V	0.9V	0.58 W
KTX1-10	12VDC	320Ω	7.5 V	1.0V	0.45 W
KTX2-8	12VDC	200Ω	6.0 V	0.8V	0.72 W
KTX2-9	12VDC	250Ω	6.75V	0.9V	0.58 W
KTX2-10	12VDC	320Ω	7.5 V	1.0V	0.45 W

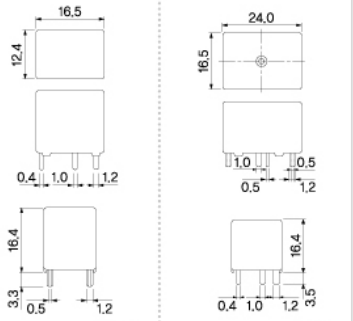
Rated at 20℃ Ambient temperature

SPECIFICATION

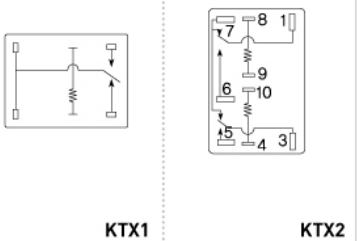
ITEM		SPECIFICATION	
Contact Arrangement		KTX1 : 1 Form C (1C)	KTX2 : 2 x 1 Form C (1C)
Contact Material		$AgSnO_2$	
Rated Load		14VDC 25A Motor Load	
Contact Resistance		Max. 50MΩ (at 6VDC 1A voltage drop method)	
Max. Switching Current		30A	
Max. Carrying Current		30A for 5minutes at 20℃	
Dielectric Strength		1,000VAC for 1minute (between coil and contact) 1,000VAC for 1minute (between open contacts)	
Insulation Resistance		Min. 100MΩ (at 500VDC)	
Operate Time		Max. 10ms (at rated voltage)	
Release Time		Max. 10ms (at rated voltage)	
Shock	False Operation	Min. 10G (shock wave 11ms)	
	Endurance	Min. 100G (shock wave 11ms)	
Vibration	False Operation	10 to 400Hz 4.4G	
	Endurance	10 to 400Hz 4.4G	
Mechanical Life		10×10^6 Operations (switching frequency 300 cycles/minute)	
Electrical Life		0.1×10^6 Operations at rated load (on:5sec/off:25sec)	
Ambient Temperature		-40℃ to +85℃	
Weight		KTX1 : Approx. 8g	KTX2 : Approx. 15g

DIMENSIONS (unit : mm)

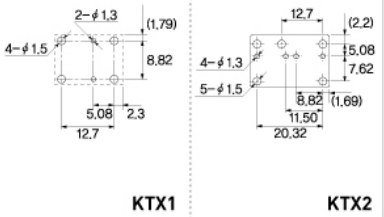
External Dimensions



Wiring Diagram



PC Board Pin Layout



PX Series PX Type, PXE Type, PXC Type

POWER WINDOW, DOOR-LOCK, INTERMITTENT WIPER, TILT STEERING, AUTO DEFOGGER

FEATURES

- 24V type having 1mm contact gap is available for the directional control of 24V system motor rotation.
- Contact arrangement 1 Form A and 1 Form C are available.
- PX RELAYs are designed for low cost and high performance.

PART NUMBER CODE

PXE-2410

- Design Order
- Coil Voltage (12 : For 12V, 24 : For 24V)
- RELAY Type

COIL RATING

Part No.	Rated Voltage	Coil Resistance (±10%)	Pull-in Voltage	Drop-out Voltage	Rated Power	Contact Gap
PX*-1201	12VDC	85Ω	8.0V	0.6V	1.7W	0.4mm
PX*-1203	12VDC	140Ω	9.6V	0.6V	1.0W	0.4mm
PX*-1225	12VDC	140Ω	6.3V	0.6V	1.0W	0.4mm
PX*-2410	24VDC	380Ω	16.8V	1.2V	1.5W	1.0mm
PX*-2416	24VDC	450Ω	16.0V	1.2V	1.3W	1.0mm
PX*-2417	24VDC	380Ω	16.8V	1.2V	1.5W	1.2mm
PX*-2419	24VDC	450Ω	16.0V	1.2V	1.3W	1.0mm

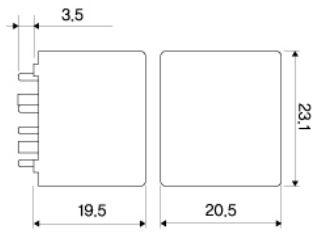
Rated at 20℃ Ambient temperature

SPECIFICATION

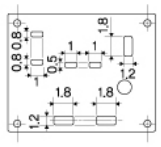
ITEM		SPECIFICATION	
Contact Arrangement		1 Form A	1 Form C
Contact Material		$AgSnO_2$	
Rated Load		10A at 28VDC Motor Load / Locked Rotor	
Contact Resistance		Max. 100MΩ (at 6VDC 1A voltage drop method)	
Max. Switching Current		30A (continuous carrying current 15A)	
Max. Carrying Current		30A for 10minutes at 20℃	
Dielectric Strength		750VAC for 1minute (between coil and contact)	
		750VAC for 1minute (between open contacts)	
Insulation Resistance		Min. 100MΩ (at 500VDC)	
Operate Time		Max. 10ms (at rated voltage)	
Release Time		Max. 10ms (at rated voltage)	
Shock	False Operation	Min. 10G (shock wave 11ms)	
	Endurance	Min. 100G (shock wave 11ms)	
Vibration	False Operation	10 to 55Hz (double amplitude 1.5mm)	
	Endurance	10 to 55Hz (double amplitude 1.5mm)	
Mechanical Life		50×10^6 Operations (switching frequency 300 cycles/minute)	
Electrical Life		0.1×10^6 Operations at rated load (on:1sec/off:5sec)	
Ambient Temperature		-40℃ to +85℃	
Weight		Approx. 17g	

DIMENSIONS (unit : mm)

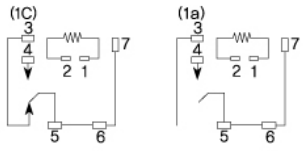
External Dimensions



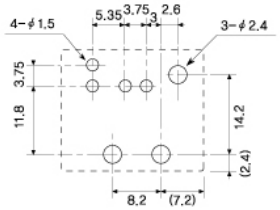
Terminal Dimensions



Wiring Diagram

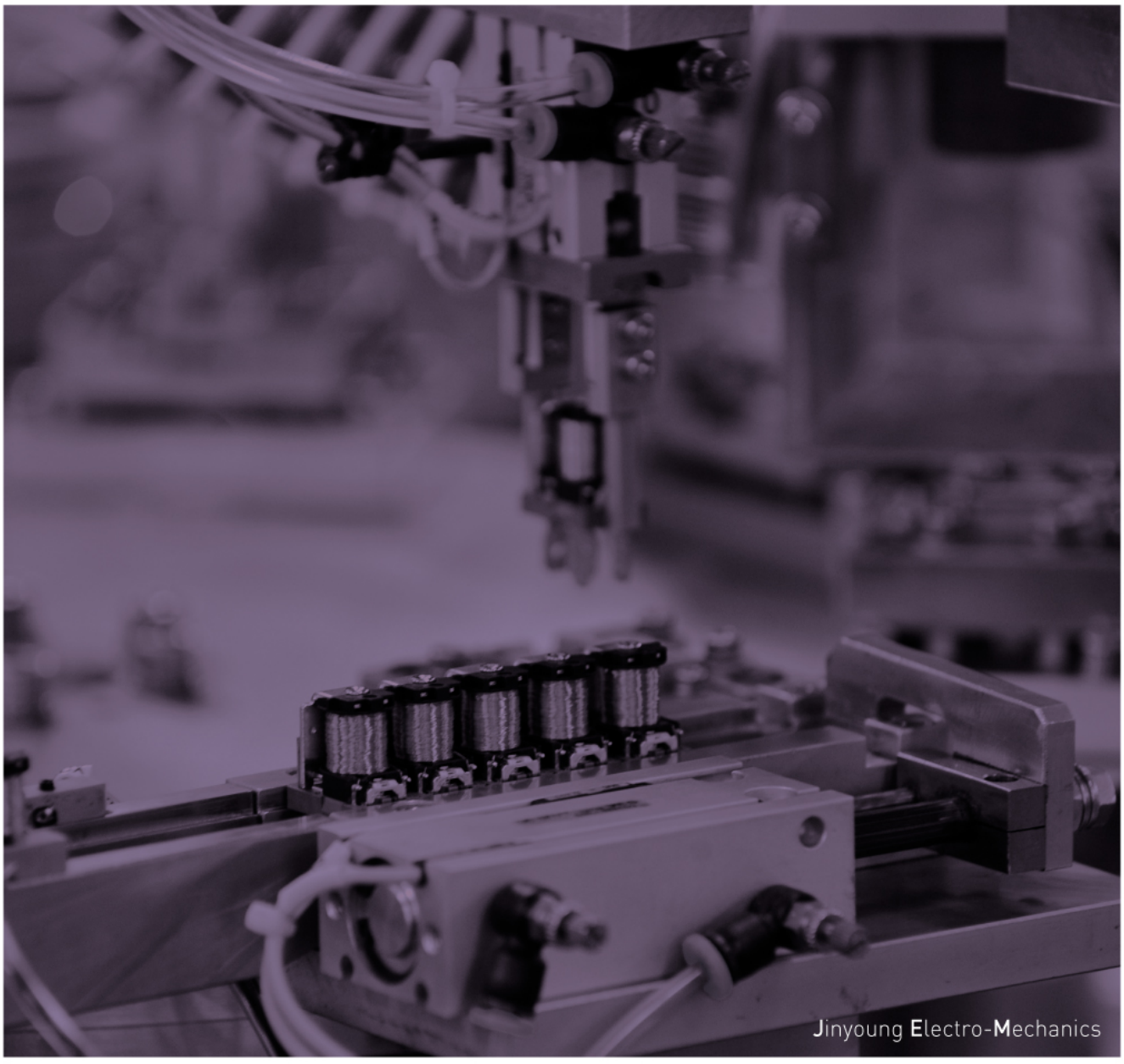


PC Board Pin Layout



PLUG-IN RELAY

MICRO ISO Series, MINI ISO Series, RELAY 2M,
RELAY HORN, MICRO 280 Series



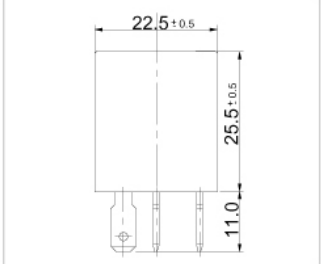
MICRO ISO Series

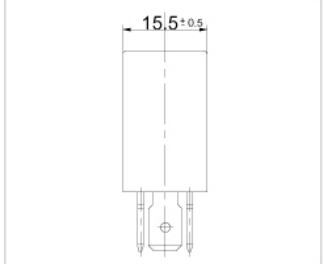
ACC, EGI, FUEL PUMP, SUN ROOF, WIPER MOTOR, COMBIMETER, BLOWER FAN, LAMP, FRONT/REAR/FOG, etc.

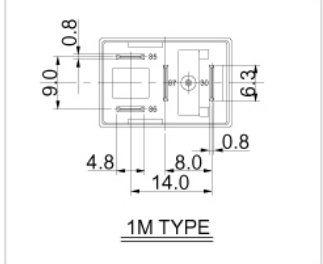
SPECIFICATION

ITEM		SPECIFICATION				
Contact Arrangement		1 Form A			1 Form C	
Contact Material		Ag Alloy (cadmium free)				
Rated Voltage		12V		24V	12V	24V
Operating Voltage		Max. 7.2V		Max. 16.0V	Max. 7.2V	Max. 16.0V
Release Voltage		Min. 1.0V		Min. 2.0V	Min. 1.0V	Min. 2.0V
Rated Current		Standard 20A	High Current 35A	Standard 10A	Standard 10A/20A	Standard 5A/10A
Coil Resistance	None	100Ω ±10%		354Ω ±10%	100Ω ±10%	354Ω ±10%
	Resistor	90Ω ±10%			90Ω ±10%	
	Diode	100Ω ±10%		354Ω ±10%	100Ω ±10%	354Ω ±10%
Voltage Drop At Rated Current	N.O. Contact	Initial 150mV Max.			Initial 150mV Max.	
		After Life Test 200mV Max.			After Life Test 200mV Max.	
	N.C. Contact				Initial 200mV Max.	
					After Life Test 250mV Max.	
Ambient Temperature Range		-40℃~ + 125℃				
Operate Time		Max. 10ms				
Release Time		Max. 10ms				
Insulation Resistance		Min. 20MΩ (at 500VDC)				
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)				
Mechanical Endurance (Without Load)		Min. $1x10^6$				
Electrical Endurance (At Rated Load)		Min. $0.1x10^6$				
Rated Load	Resistor	20A	35A	10A	10A/20A	5A/10A
	Lamp	15A	20A	5A	7A/15A	7A
	Motor	15A	20A	5A	7A/15A	7A

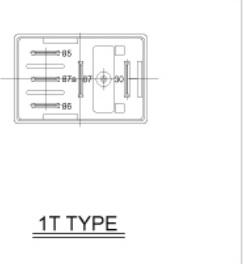
DIMENSIONS (unit : mm)







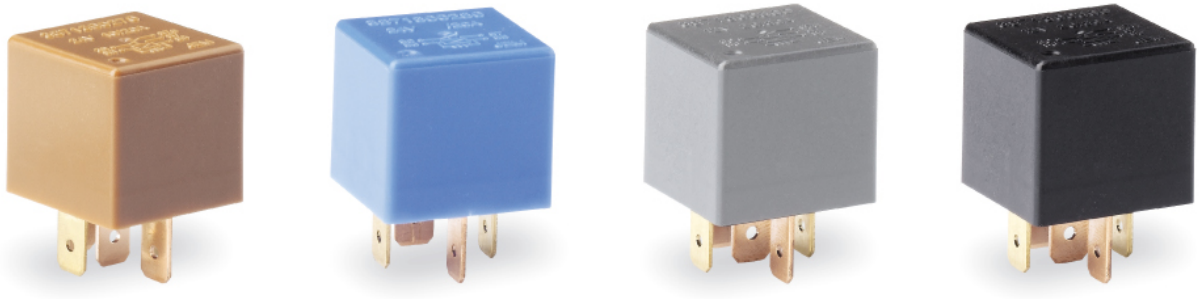
1M TYPE



1T TYPE

MINI ISO Series

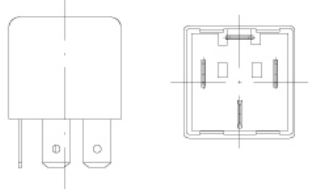
ABS CONTROL, BLOWER FAN, COOLING FAN, FUEL PUMP, LAMPS FRONT/REAR/FOG, etc.



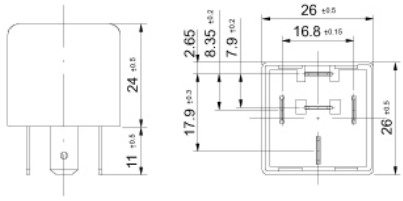
SPECIFICATION

ITEM		SPECIFICATION			
Contact Arrangement		1 Form A		1 Form C	
Contact Material		Ag Alloy (cadmium free)			
Rated Voltage		12V	24V	12V	24V
Operating Voltage		Max. 8.5V	Max. 19.0V	Max. 8.5V	Max. 19.0V
Release Voltage		Min. 1.0V	Min. 2.0V	Min. 1.0V	Min. 2.0V
Rated Current		35A	20A	20A/35A	10A/20A
Coil Resistance	None	90Ω ±10%	360Ω ±10%	90Ω ±10%	360Ω ±10%
	Resistor	79.5Ω ±10%	317.6Ω ±10%	79.5Ω ±10%	317.6Ω ±10%
	Diode	90Ω ±10%	360Ω ±10%	90Ω ±10%	360Ω ±10%
Voltage Drop At Rated Current	N.O. Contact	Initial 150mV Max.		Initial 150mV Max.	
		After Life Test 200mV Max.		After Life Test 200mV Max.	
	N.C. Contact			Initial 200mV Max.	
				After Life Test 250mV Max.	
Ambient Temperature Range		-40℃~ + 125℃			
Operate Time		Max. 10ms			
Release Time		Max. 10ms			
Insulation Resistance		Min. 20MΩ (at 500VDC)			
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)			
Mechanical Endurance (Without Load)		Min. $1x10^6$			
Electrical Endurance (At Rated Load)		Min. $0.1x10^6$			
Rated Load	Resistor	35A	20A	20A/35A	10A/20A
	Lamp	20A	14A	10A/20A	7A/14A
	Motor	20A	14A	10A/20A	7A/14A

DIMENSIONS (unit : mm)



1M TYPE



1T TYPE

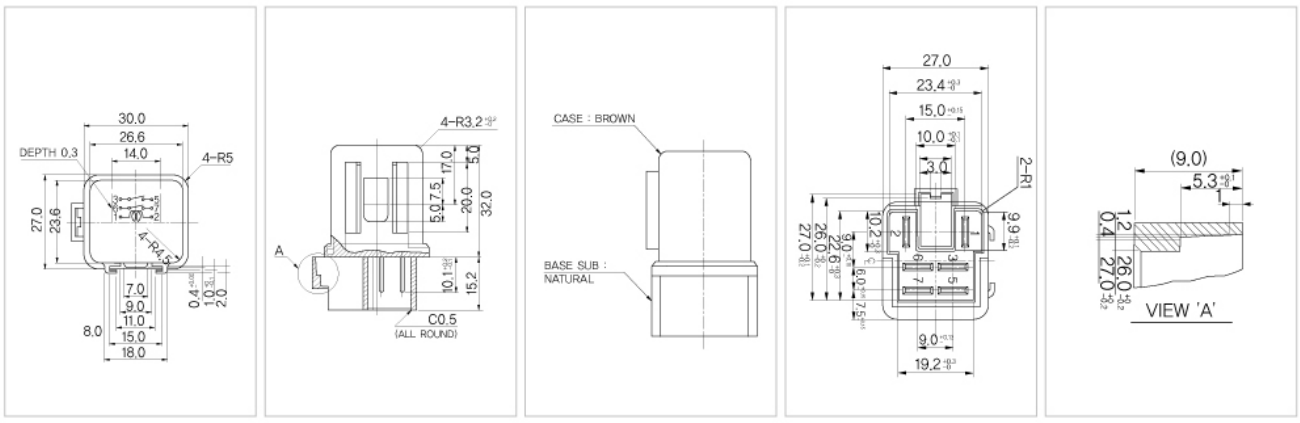
RELAY 2M

ABS CONTROL, BLOWER FAN, COOLING FAN, FUEL PUMP, LAMPS FRONT/REAR/FOG, etc.

SPECIFICATION

ITEM		SPECIFICATION
Contact Arrangement		2 Form A
Contact Material		Ag Alloy (cadmium free)
Rated Voltage		12V
Operating Voltage		Max. 7.0V
Release Voltage		Min. 1.0V
Rated Current		20A + 10A
Coil Resistance	None	80Ω ±10%
	Resistor	74Ω ±10%
Voltage Drop At Rated Current	N.O. Contact	Initial 150mV Max.
		After Life Test 200mV Max.
Ambient Temperature Range		-30℃~ + 100℃
Operate Time		Max. 10ms
Release Time		Max. 10ms
Insulation Resistance		Min. 20MΩ (at 500VDC)
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)
Mechanical Endurance (Without Load)		Min. $1x10^6$
Electrical Endurance (At Rated Load)		Min. $0.1x10^6$
Rated Load	Resistor	20A + 10A
	Lamp	20A + 10A
	Motor	20A + 10A

DIMENSIONS (unit : mm)



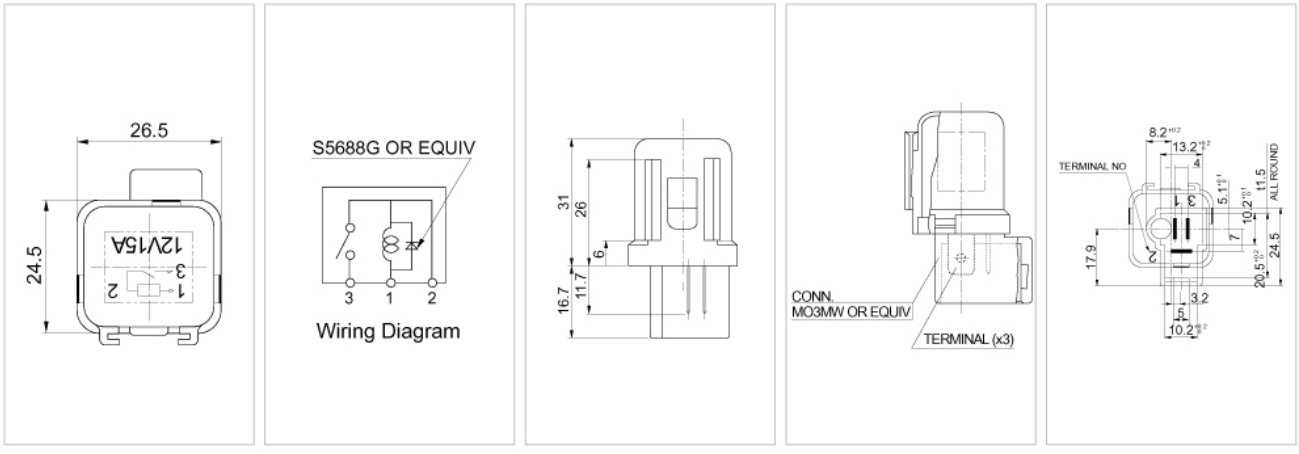
RELAY HORN

HORN

SPECIFICATION

ITEM		SPECIFICATION	
Contact Arrangement		1 Form A	
Contact Material		Ag Alloy (cadmium free)	
Rated Voltage		12V	24V
Operating Voltage		Max. 8.0V	Max. 16.0V
Release Voltage		Min. 1.0V	Min. 2.0V
Rated Current		15A	7A
Coil Resistance	Resistor	34.7Ω ±10%	
	Diode	36Ω ±10%	148Ω ±10%
Voltage Drop At Rated Current	N.O. Contact	Initial 200mV Max.	
		After Life Test 250mV Max.	
Ambient Temperature Range		-30℃~ + 100℃	
Operate Time		Max. 10ms	
Release Time		Max. 10ms	
Insulation Resistance		Min. 20MΩ (at 500VDC)	
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)	
Mechanical Endurance (Without Load)		Min. $1x10^5$	
Electrical Endurance (At Rated Load)		Min. $0.1x10^6$	
Rated Load	Resistor	15A	8A
	Horn	11A	6A

DIMENSIONS (unit : mm)



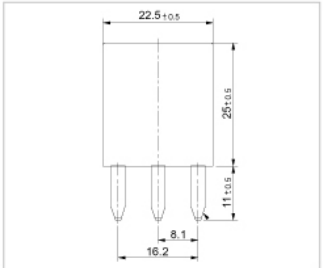
MICRO 280 Series

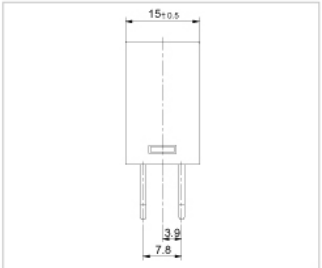
ACC, EGI, FUEL PUMP, AIR CONDITIONER, RAD FAN MOTOR, WIPER MOTOR. STARTER, FOG LAMP, CORNERING LAMP, SUN ROOF, etc.

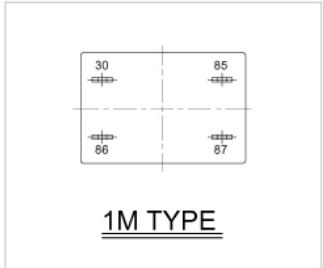
SPECIFICATION

ITEM		SPECIFICATION	
Contact Arrangement		1 Form A	1 Form C
Contact Material		Ag Alloy (cadmium free)	
Rated Voltage		12V	
Operating Voltage		Max. 7.2V	
Release Voltage		Min. 1.0V	
Rated Current		Standard 20A	Standard 10A/20A
Coil Resistance	None	100Ω ±10%	100Ω ±10%
	Resistor	90Ω ±10%	90Ω ±10%
	Diode	100Ω ±10%	100Ω ±10%
Voltage Drop At Rated Current	N.O. Contact	Initial 150mV Max. After Life Test 200mV Max.	Initial 150mV Max. After Life Test 200mV Max.
	N.C. Contact		Initial 200mV Max. After Life Test 250mV Max.
Ambient Temperature Range		-40℃~ + 125℃	
Operate Time		Max. 10ms	
Release Time		Max. 10ms	
Insulation Resistance		Min. 20MΩ (at 500VDC)	
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)	
Mechanical Endurance (Without Load)		Min. $1x10^6$	
Electrical Endurance (At Rated Load)		Min. $0.1x10^6$	
Rated Load	Resistor	20A	10A/20A
	Lamp	15A	7A/15A
	Motor	15A	7A/15A

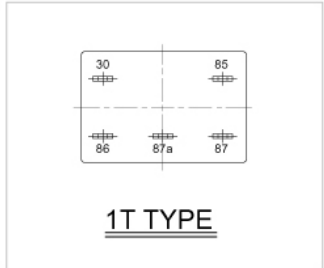
DIMENSIONS (unit : mm)







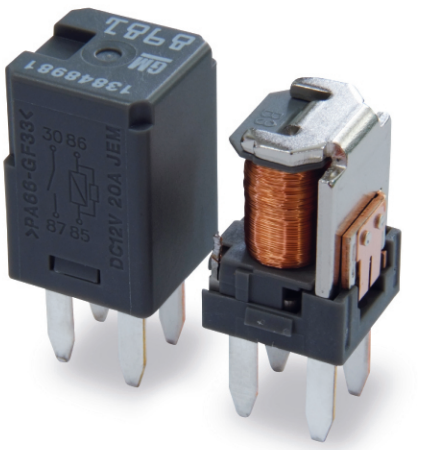
1M TYPE



1T TYPE

280 ULTRA MICRO RELAY

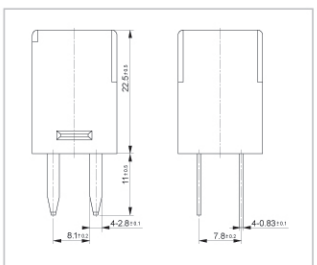
HEAD LAMP WASHER, HEAD LAMP LO/ HI, COLLING PUMP, STARTER, FRONT FOG

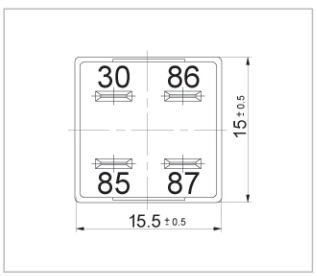


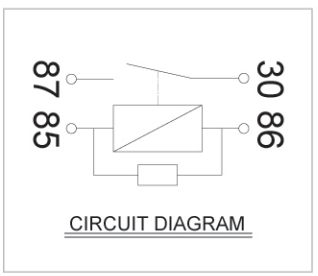
SPECIFICATION

ITEM		SPECIFICATION
Contact Arrangement		1 Form A
Contact Material		Ag Alloy (Cadmium Free)
Rated Voltage		12V
Operating Voltage		Max. 7.0V
Release Voltage		Min. 1.3V
Rated Current		Standard
		20A
Coil Resistance	None	120Ω ±10%
	Resistor	102Ω ±10%
	Diode	120Ω ±10%
Voltage Drop	N.O. Contact	Initial 150mV Max.
At Rated Current		After Life Test 200mV Max.
Ambient Temperature Range		-40℃~ + 125℃
Operate Time		Max. 10ms
Release Time		Max. 10ms
Insulation Resistance		Min. 20MΩ (at 500VDC)
Dielectric Strength		500VAC for 1 minute (between coil and contact, between open contacts)
Mechanical Endurance (Without Load)		Min. $1x10^6$
Electrical Endurance (At Rated Load)		Min. $0.1x10^5$
Rated Load	Resistor	20A
	Lamp	10A
	Motor	15A

DIMENSIONS (unit : mm)







MULTI-FUNCTION SWITCH

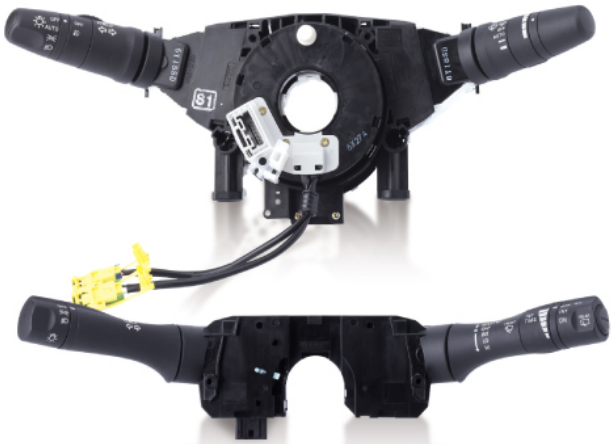
COMBINATION SWITCH,
TURN-SIGNAL SWITCH, WIPER SWITCH

Jinyoung Electro-Mechanics

MULTI-FUNCTION SWITCH

COMBINATION SWITCH

HEAD LAMP, FRONT FOG, TURN SIGNAL, WIPER & WASHER, REAR WIPER & WASHER, WIRE ASSY, SLIP RING for STEERING HEATER



- Modular type mounted with wire assy
- Use the metrix type switch circuit to lighten wire harness
- Knob can be painted with silver.

- Use in the weak current with CAN communication

TURN-SIGNAL SWITCH

HEAD LAMP, FRONT FOG, TURN SIGNAL

- The lever was made of steel to increase the strength.

WIPER SWITCH

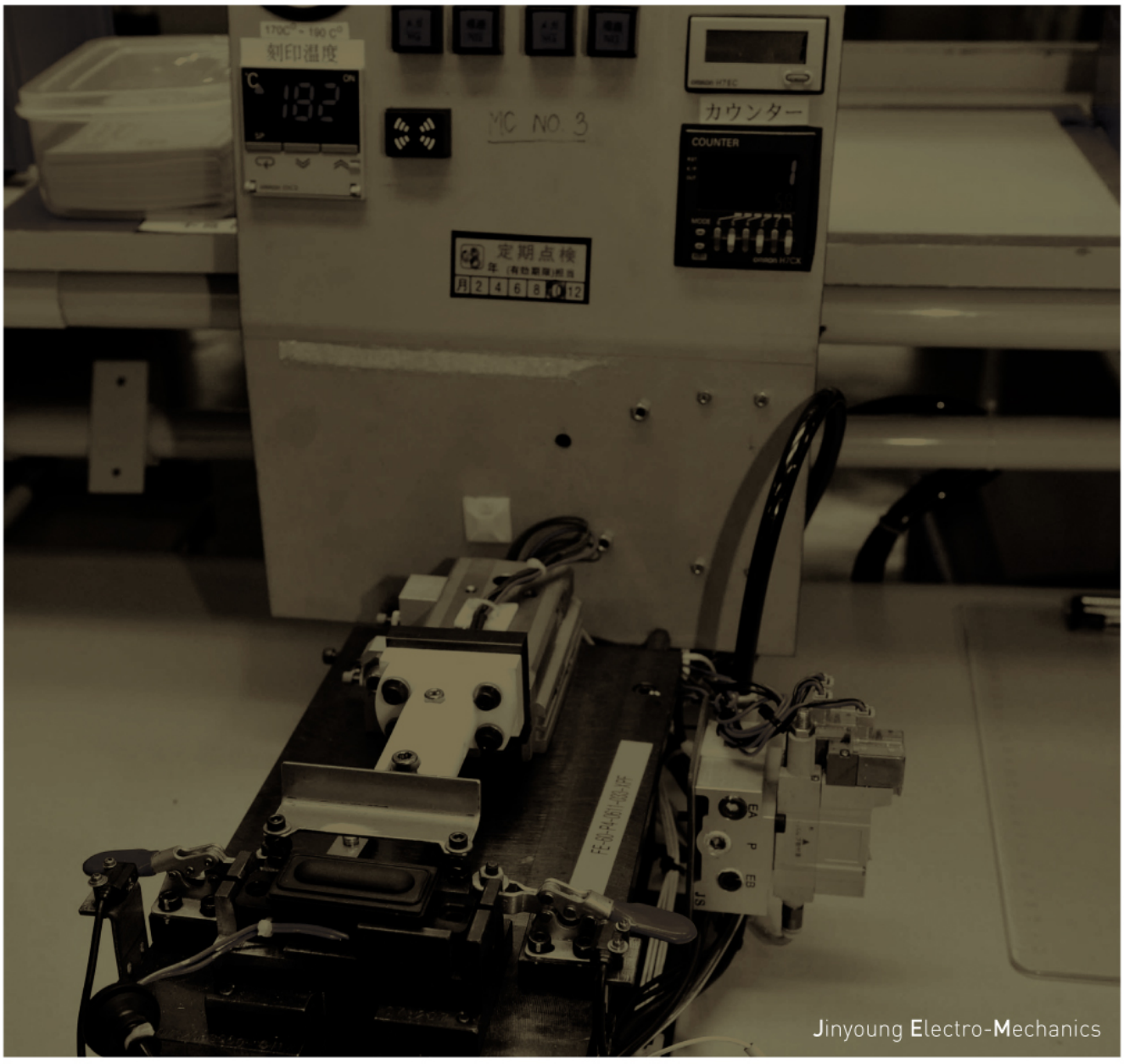
WIPER&WASHER, REAR WIPER&WASHER, EXHAUST BRAKE

- The lever was made of steel to increase the strength.
- 4 stages' exhaust brake

- Inbuilt interval wiper function

SWITCH

SWITCH ASSY FOG, SWITCH ASSY HAZARD, SWITCH ASSY TRUNK OPENER, SWITCH ASSY HOOD, SWITCH ASSY DOOR, SWITCH ASSY STOP LAMP, SWITCH ASSY CLUTCH, SWITCH ASSY ASCD CANCEL, SMART SWITCH, SWITCH ASSY OIL PRESSURE



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SWITCH ASSY FOG

CAR FOG LAMP On/Off

- A high capacity switch that can control FRONT/REAR FOG LAMP simultaneously

SWITCH ASSY HAZARD

WARNING LAMP On/Off

- Manipulation feeling improvement
- Various interior design can be matched easily by only substituting the knob part.
- Use LED in the lighting to increase the lifetime

SWITCH ASSY TRUNK OPENER, etc.

TRUNK OPEN SWITCH, etc.

- Easy mounting can be achieved by using bezel part.
- Various interior design can be matched easily by only substituting the knob part.
- Use LED in the lighting to increase the lifetime

SWITCH ASSY HOOD

HOOD unusual opening detection

- Use of waterproof rubber cover
- Various bracket shape can be applied.

SWITCH ASSY DOOR

DOOR opening/shutting detection and the signal transmission

- Small and lightweight
- 1 circuit type and 2 circuits type

SWITCH ASSY STOP LAMP / CLUTCH / ASCD CANCEL

STOP LAMP On/Off, Detection of CLUTCH Signal of M/T car, Cancel of the cruise mode

- Neutral setting is freely available while mounting
- Use of high arc resistance material at contact

SMART SWITCH

DOOR and TRUNK opening/shutting, REAR WINDOW opening/shutting of SUV

- Both signals detection and prevention by use of SMART KEY
- Auto lock adapted to the distance and time interval between SMART KEY and car

SWITCH ASSY OIL PRESSURE

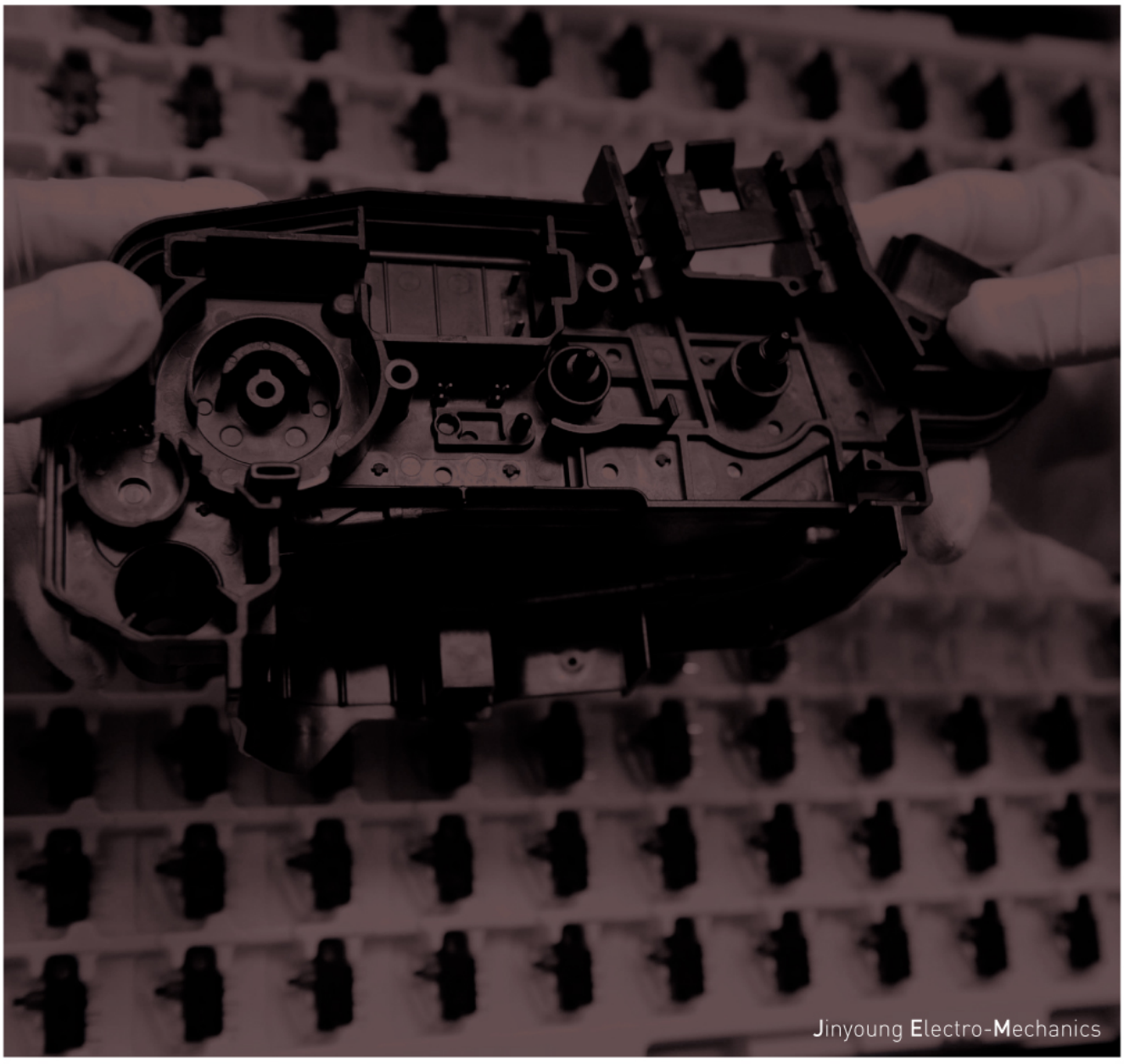
OIL Pressure Detection

- Gasket integrated diaphragm to improve oil sealing
- Lifetime can be increased as the contact is separated from oil to prevent its' influence.
- By the use of waterproof connector, other countermeasure is unnecessary.

- Features
  - Standard operating pressure:15kPa
  - Circuit : Normal Close Type

UNIT DOOR LATCH PARTS

BUZZER ASSY UNIT, FLASHER UNIT, BRACKET ASSY UNIT, BOX ASSY UNIT, LATCH SUB MM, LATCH SUB M2, LATCH SUB L23, LATCH SUB L07, MOLDED PARTS, INSERT MOLDED PARTS, PRESSED PARTS, PCB ASSY by SMT



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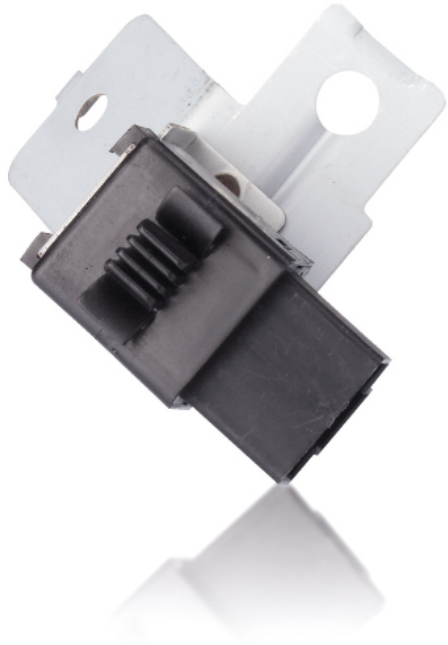
BUZZER ASSY UNIT

- Stable sound pressure
- Excellent reliability

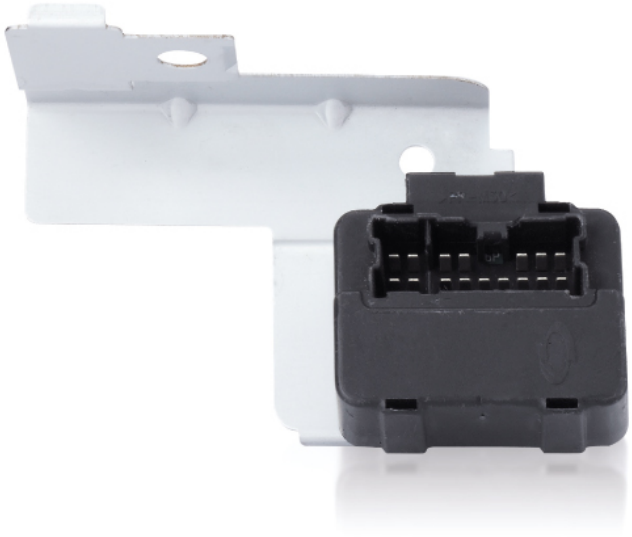
FLASHER UNIT

- Stable sound pressure
- Excellent reliability



BRACKET ASSY UNIT

BOX ASSY UNIT



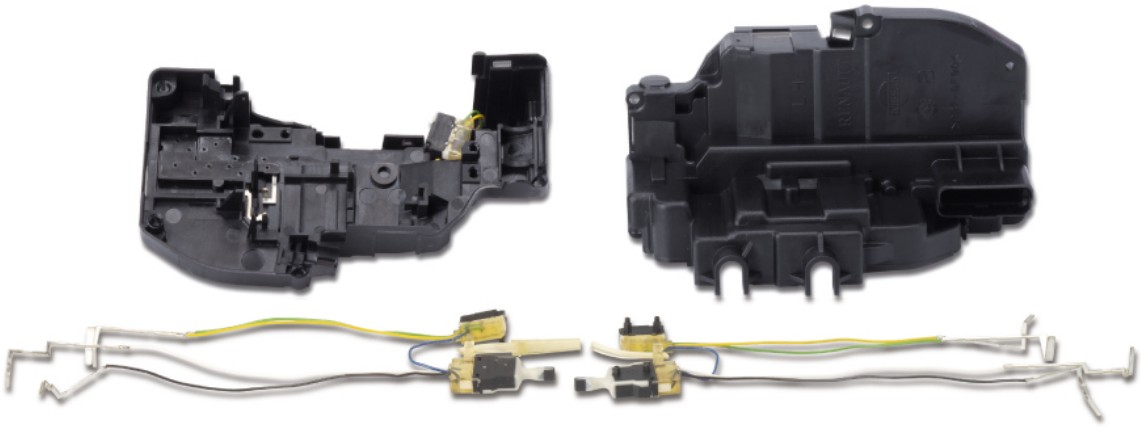
DOOR LATCH

Jinyoung Electro-Mechanics

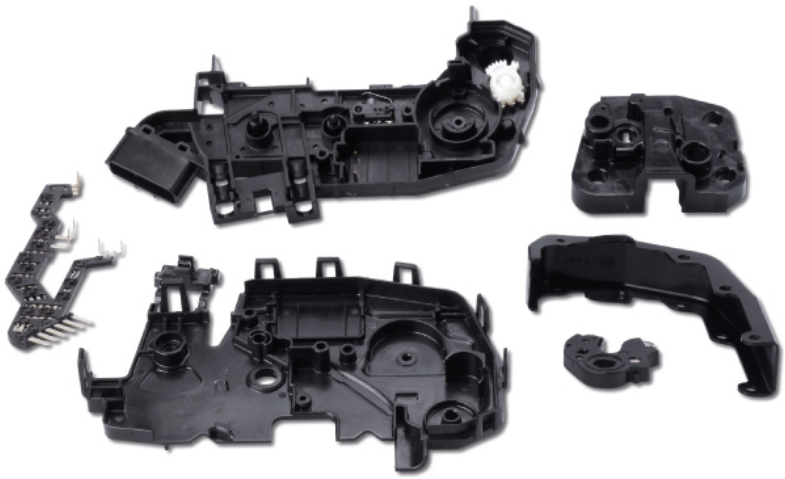
www.jem-techno.co.kr

- Use of MICRO SWITCH to ensure the stable performance
- Waterproof painting to increase water resistance
- Low cost by using ultrasonic welding
- Combine injection molding technology and complicated terminal pressing technology

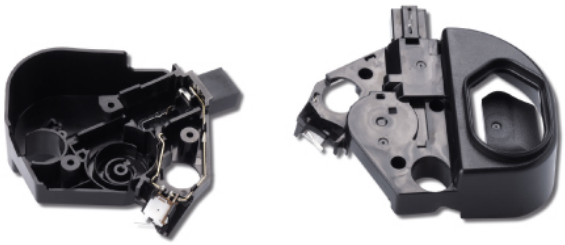
LATCH SUB MM



LATCH SUB M2



LATCH SUB L23

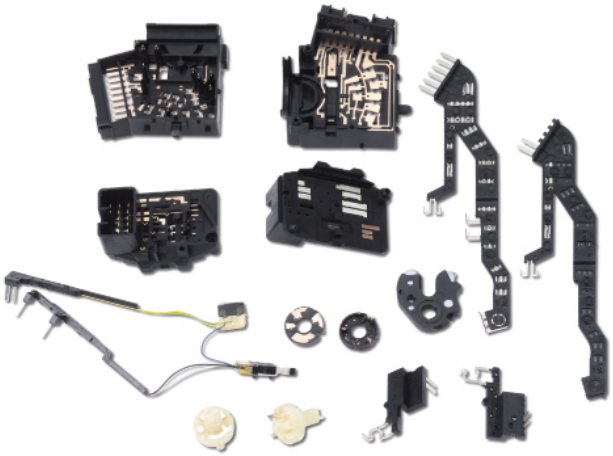


LATCH SUB L07

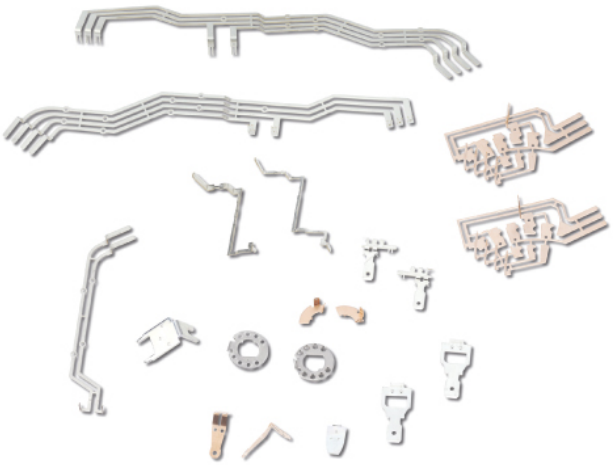
- From the production of varied parts to the final assembly, the whole production line is based on an Integrated Production System to ensure the cost competitiveness.

MOLDED PARTS

INSERT MOLDED PARTS



PRESSED PARTS



PCB ASSY by SMT