

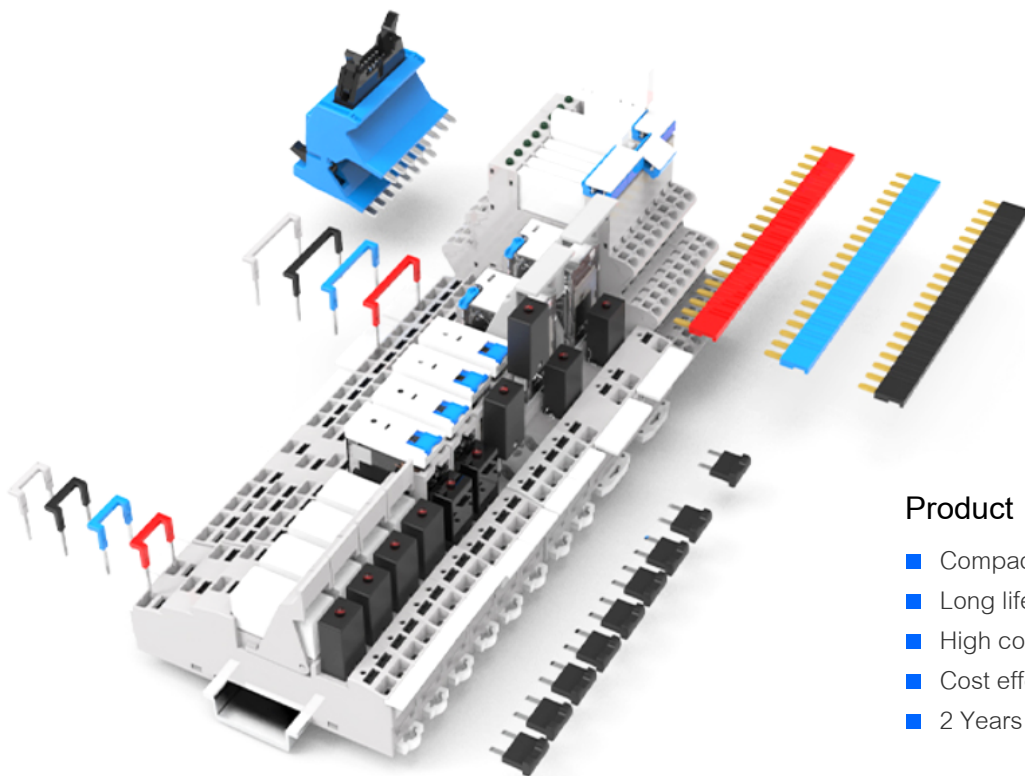
VELMA Industrial relay

Miniature & General purpose relay



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Miniature & General purpose relay



Product Introduction :

- Compact & Small design
- Long life for coil & contact operating
- High contact current up to 16A
- Cost effective product
- 2 Years warranty

BRAND OF THAILAND

Product Introduction

KS32 is a set of SPST-NO DC output PCB or Socket mount Mini type SSR. The SSR has five DC input options 5VDC, 12VDC, 24VDC, 48VDC and 60VDC for selection and provides 2500Vrms photoelectric isolation between input and output pins of the SSR are fully compatible with standard packaged electromechanical relays, thus it will be very convenient for users to install and use.



Order code information

KS32	24	-	24D	3	N	H	(xxx)
Type	Control voltage		Load voltage	Load current	RC: subber N: not include	H: Horizontal Nil: Vertical	Special code
	5: 5VDC 12: 12VDC 24: 24VDC 48: 48VDC 60: 60VDC		24D: 24VDC 48D: 48VDC	3: 3A (Vertical) 4: 4A (Vertical) 5: 5A (Horizontal)			

SSR Specification

Output specification (Ta = 25°C)

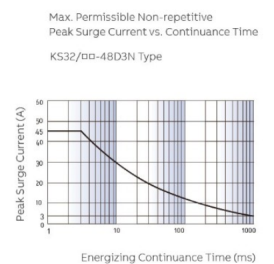
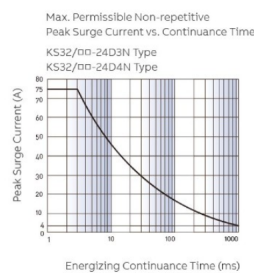
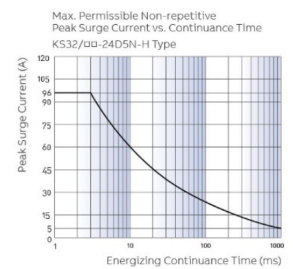
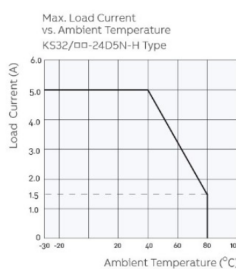
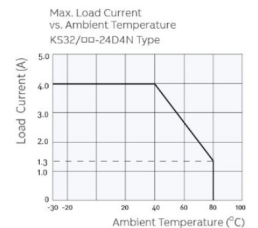
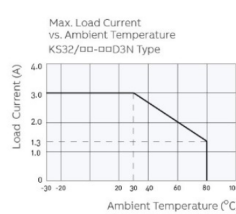
Max. ON-STATE Voltage drop	24D3	0.2Vdc
	24D4	0.35Vdc
	24D5	0.2Vdc
	48D3	0.35Vdc
Max. Turn-on time	50 micro.sec	
Max. Turn-off time	300 micro.sec	

General specification (Ta = 25°C)

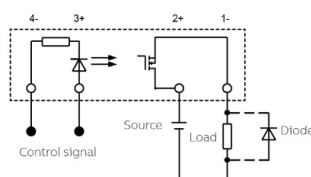
Dielectric strength (input/output)	2500VAC/1min.
Insulation Resistance	1000 M. Ohm(500V)
Max.Capacitance	50pF
Vibration resistance	10-50Hz 1.5mm. DA
Operating temperature	-30 - 100°C
Ambient humidity	45 - 85% RH
Unit weight	11g

Output specification (Ta = 25°C)

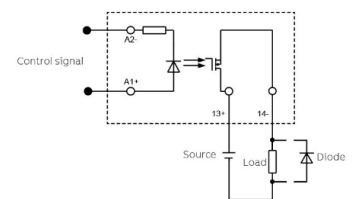
Load voltage range	24Dxx	3-28.8Vdc
	48Dxx	3-57.6Vdc
Max.Transient range	24Dxx	33Vdc
	48Dxx	58Vdc
Load current range	24D3	0.02-3A
	24D4	0.02-3A
	24D5	0.02-3A
	48D3	0.02-3A



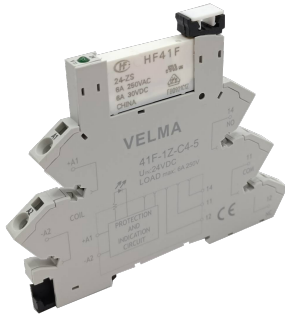
Wiring Diagram



Vertical Type



Horizontal Type



Product Introduction

For PLC's and process control high power contact AgNi with cage clamp terminals 41F-1Z-C4-x Recommended
Max. load 250V 6 A resistive link option.

Product Feature

Relay module up to 6 A 250V, different contact materials
Solid state modules for most loads DC and AC up to 2 A. Coil UC = AC/DC,
no protection circuit required LED status display, Screw terminals or cage clamp terminals
Jumper link and Super small mounting: 6.2 mm..

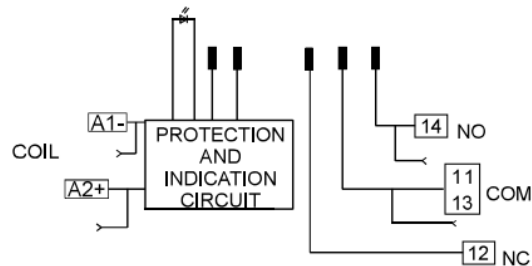
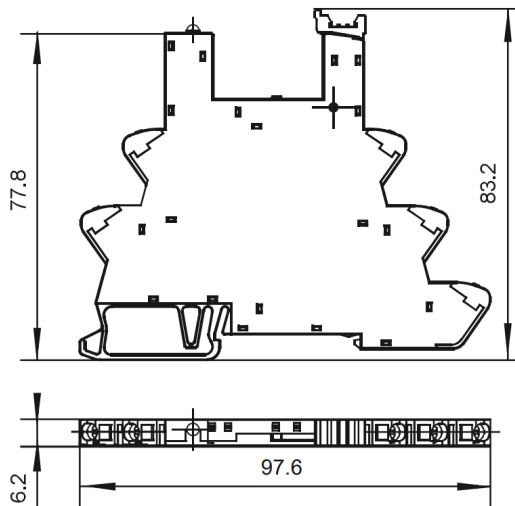
Interface relay specification

General specification (Ta = 25°C)

Contact	1CO (1NO/1NC)
Switching current	6A 250Vac (Electronic load only)
Recommend minimal load	100mA / 12V
Switching power DC1-30V	180W
Switching power AC1-230V	1500VA
Switching power DC1-230V	300VA
Peak inrush current	15A / 2.5 ms
Switching cycles: Mech/Electric	50,000,000 Tims
Isolation EN 61810-5	6Kv
Power consumption Pmax.24V/230V	408/900 mW
On-delay / Release time	7 / 15 ms
Temp.Operating / Storage	-40 - 70°C / -40 - 85°C

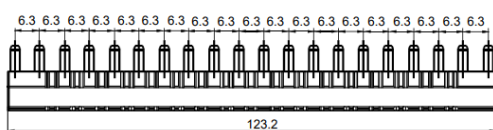
Socket with spring clamp terminal

Nominal voltage	Order no.
12VDC/AC	41F-1Z-C4-1
24VDC/AC	41F-1Z-C4-5
48-60VDC/AC	41F-1Z-C4-2
115VDC/AC	41F-1Z-C4-3
220VDC/AC	41F-1Z-C4-4
Solid state (SSR)	41F-1Z-C4-N-1
Other voltage	Can be generate

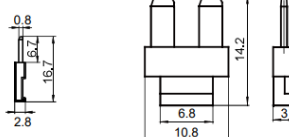


Jumper

41F-J1(blue), 41F-J1R(red), 41F-J1B(black)



41F-J1(blue), 41F-J1R(red)



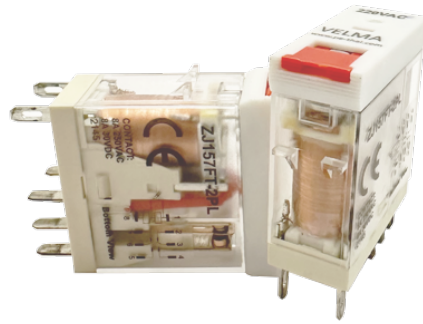
Miniature relay ZJ157 Series

Product Introduction

For PLC's and process control high power contact AgNi
with screw terminals 157F-2Z-C3, 157F-2Z-C4 & 157F-2Z-C5
Recommended Max. load 250V 16 A resistive link option.

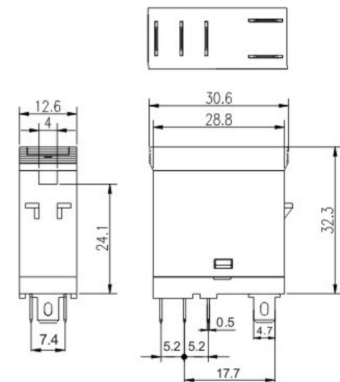
Product Feature

- Relay module up to 8 A 250V, different contact materials
- Lockable test button models available
- Built-in mechanical operation indicator
- LED status display
- High switching power (1-pole: 16 A) (2-pole: 8A) Jumper link 8 pin & Diode protection
(option) Available with working temperature of 105°C.



Order code information

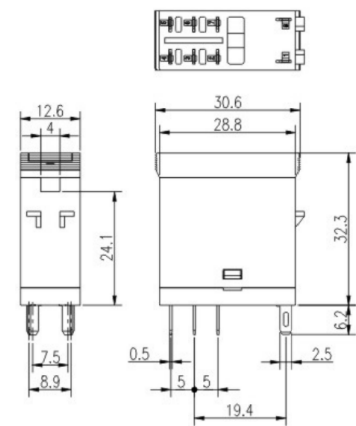
ZJ157F	T	-	2	PL	D	/	24
Type							
Function							
No letter: Standard relay							
T: With test button							
Contact							
1: 1CO (1NO/1NC)							
2: 2CO (2NO/2NC)							
LED signal							
P: Without LED							
PL: With LED							
Coil protection							
No letter: Without diode							
D: With diode							
Coil voltage							
5: 5Vdc 12: 12Vdc 24: 24Vdc 48: 48Vdc							
110: 110Vac 230: 230Vac							



1Z (1CO) 16A

General specification (Ta = 25°C)

Contact	1CO(1NO/1NC)	2CO(2NO/2NC)
Switching current	16A 250V AC	8A 250V AC
Rate voltage	250VAC/30VDC Max.	
Switching power	3000VA 360W	
Contact Material	AgNi	
Initial contact resistance	<50 M Ohm.	
Peak inrush current	15A 2.5ms	
Operating time	<20ms.	
Release time	<10ms.	
Power consumption	DC 0.53W / AC 1.0W	
Electrical endurance	>50,000,000 times	
Temp.operating / storage	-40 - 65°C / -40 - 85°C	
Weight	20g	
Shock resistance	10G	
Vibration resistance	10 - 55Hz	
Insulation resistance	>10000 MOhm (500VDC)	
Socket	157F Series	



2Z (2CO) 8A



Product Introduction

- High capacity (1Pole 16A, 2Pole 10A)
- Various type available
- 1/2 Pole configuration.
- 5Kv dielectric strength

Contact data

General specification (Ta = 25°C)

Contact arrangement	1CO (1NO/1NC), 2CO (2NO/2NC)
Contact resistance	100 MOhm (1A 6VDC)
Contact Material	AgSno2 Alloy (Load R, & L)
Contact rating (Resistance load)	1P 12A 250Vac/30Vdc 2P 8A 250Vac/30Vdc
Max.switching voltage	250Vac / 30Vdc
Max.switching current	1Z: 16A, 2Z 10A
Max.switching power	1Z 4000VA 480W, 2Z 2500VA 300W
Machanical endurance	>50,000,000 times

Coil data

Coil power			DC 0.53W AC0.9VA	
Nomonal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ohms
5	3.5	0.5	5.5	47.2x(1 ± 10%)
6	4.2	0.6	6.6	67.9x(1 ± 10%)
12	8.4	1.2	13.2	271x(1 ± 10%)
24	16.8	2.4	26.4	1080x(1 ± 10%)
36	25.2	3.6	39.6	2445x(1 ± 10%)
48	33.6	4.8	52.8	4340x(1 ± 10%)
60	42	6	66	6792x(1 ± 10%)
100-110	77	11	110-121	18870x(1 ± 10%)

Nomonal Voltage VAC	Pick-up Voltage VAC	Drop-out Voltage VAC	Max. Allowable Voltage VAC	Coil Resistance Ohms
6	4.8	1.8	6.6	16x(1 ± 10%)
12	9.6	3.6	13.2	62.5x(1 ± 10%)
24	19.2	7.2	26.4	243x(1 ± 10%)
48	38.4	14.4	52.8	1085x(1 ± 10%)
60	48	18	66	1750x(1 ± 10%)
110	88	33	121	5270x(1 ± 10%)
220	176	66	242	21530x(1 ± 10%)
230	192	72	264	25570x(1 ± 10%)



HF157

Industrial relay

Miniature relay HF157



Characteristics

Insulation resistance		1000 MOhm 500Vdc
Dielectric Strength	Coil & contact	5000VAC 1 min.
	Open contact	1000VAC 1 min.
	Contact sets	3000VAC 1 min.
Operating time		15ms Max.
Release time		20ms Max.
Shock resistance	Functional	90m/s ²
	Destructive	980m/s ²
Vibration resistance		10Hz to 55Hz 1.5mm. DA.
Humidity		5% - 85% RH
Ambient temperature		-40 - 70°C
Temp.operating / storage		-40 - 65°C / -40 - 85°C
Weight		23.5g
Socket		157F Series

Order code information

HF157F /	A	-	24	1Z	2	5	F	D	2	xxx
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Type

Form

A: AC
Nil: DC

Coil voltage

AC: 6 - 240Vac
DC: 5 - 110Vdc

Contact arrangement

1Z: 1 FORM C
2Z: 2 FORM C

Termination

2: QC
D: With diode

Contact material

5:AgSno2

Insulation standard

F: Class F

Component code

D: With LED DJ1: With diode (1: +) DJ: With LED & diode (1: -)
DE: LED, RC circuit

Mounting Termination

1: Button type
2: Without button type

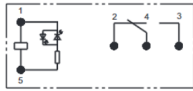
Customer special code

XXX: Customer special requested

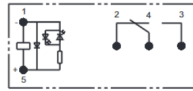
Wiring diagram

1Z (16A)

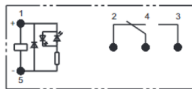
HF157F/□□□□-1Z25FD2(□□□)
(With LED)



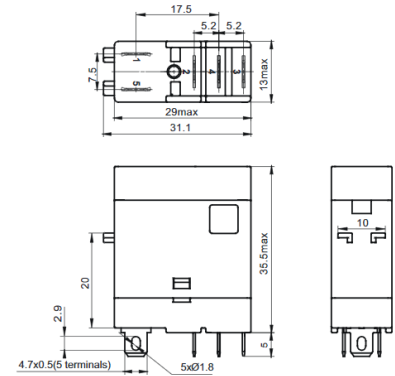
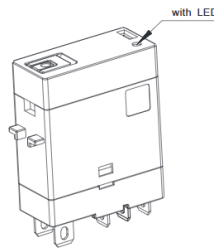
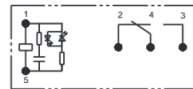
HF157F/□□□□-1Z25FDJ2(□□□)
(With LED, fly-wheel diode1: "-")



HF157F/□□□□-1Z25FDJ12(□□□)
(With LED, fly-wheel diode1: "+")

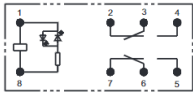


HF157F/□□□□-1Z25FDE2(□□□)
(With LED, RC circuit)

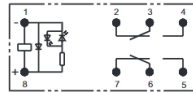


2Z (10A)

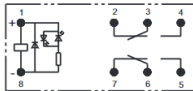
HF157F/□□□□-2Z25FD1(□□□)
(With LED)



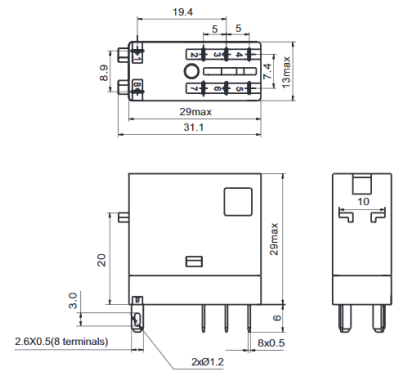
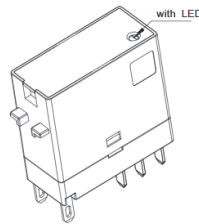
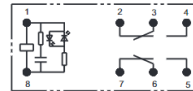
HF157F/□□□□-2Z25FDJ1(□□□)
(With LED, fly-wheel diode1: "-")



HF157F/□□□□-2Z25FDJ11(□□□)
(With LED, fly-wheel diode1: "+")



HF157F/□□□□-2Z25FDE1(□□□)
(With LED, RC circuit)



HF157

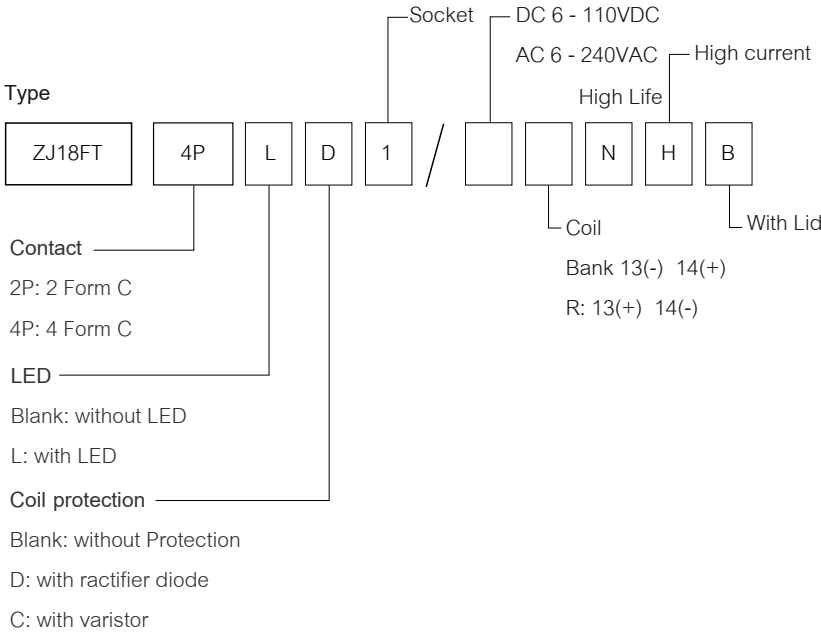
COMPACT & SLIM Design

Industrial relay

Miniature relay ZJ18F

Product Feature

- Relay module up to 10 A 250V, different contact materials
- Lockable test button models available
- Built-in mechanical operation indicator
- LED status display
- High switching power (2-CO: 10 A) (4-CO: 5A)
- Relays with AC and DC coils have different RoHS compliant



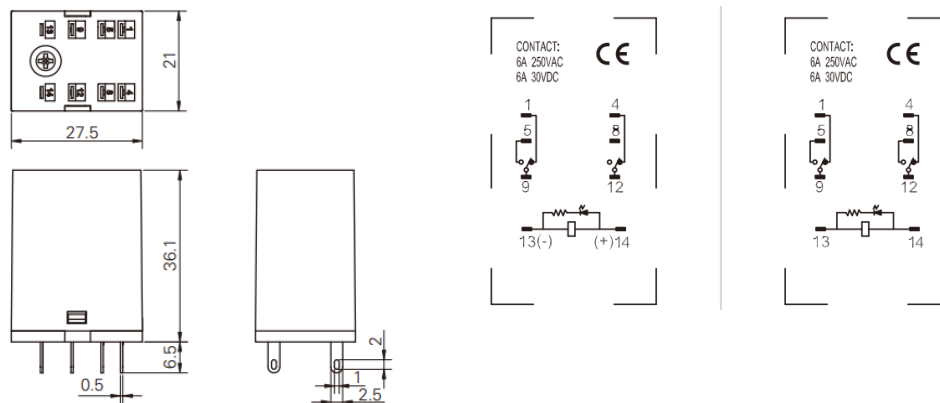
SPECIFICATION

Technical data

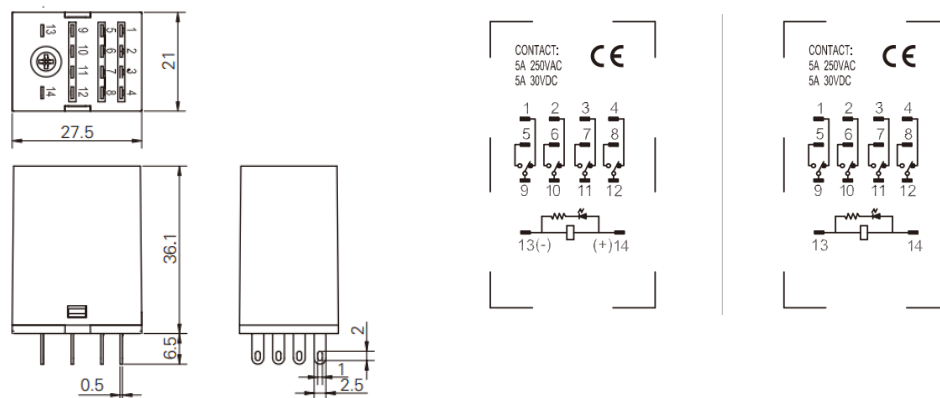
Contact	2 Pole (2-CO)	4 Pole (4-CO)
Load	Resistive load	Resistive load
Contact configutaion	2C Form C	4C Form C
Contact material	AgNi	AgNi
Rate current	10 A	5 A
Maximum switching capacity	2500VA 300W	660VA 72W
Contact resistance	50 mOhms	100 mOhm
Operating time	20ms max	20ms max
Release time	20ms max	20ms max
Dielectric strength	AC2000V 50/60Hz 1min	AC2000V 50/60Hz 1min
Vibration resistance	10 to 55 to 10 Hz,	10 to 55 to 10 Hz,
Shock resistance	200m/s (approx.20g)	200m/s (approx.20g)
Endurance	50,000,000 operations	50,000,000 operations
Ambient humidity	5~85%RH	5~85%RH
Weight	35g	35g
Coil support (Customer order)	12, 24, 48, 60VDC / 24, 250VAC	12, 24, 48, 60VDC / 24, 250VAC

Wiring diagram

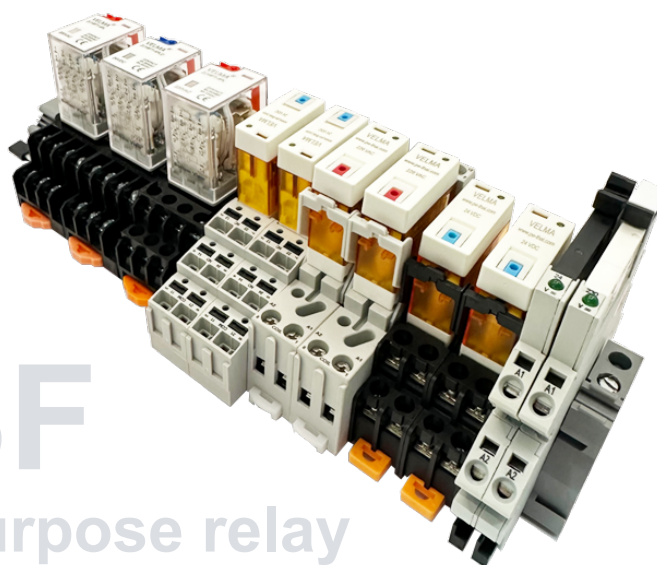
2Z (10A)



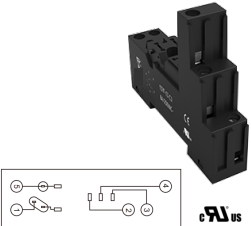
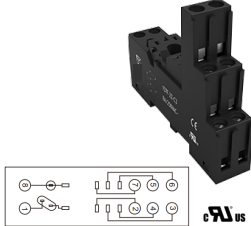
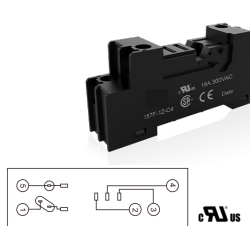
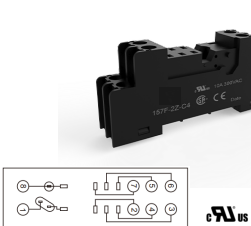
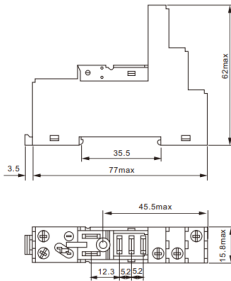
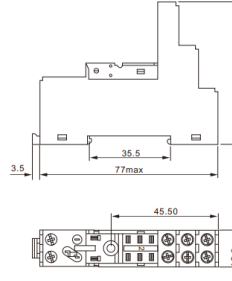
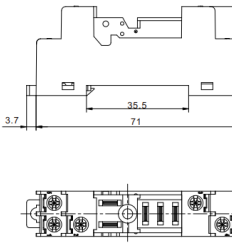
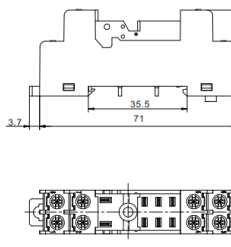
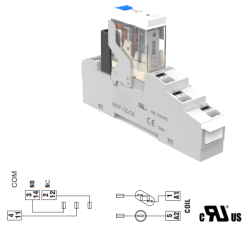
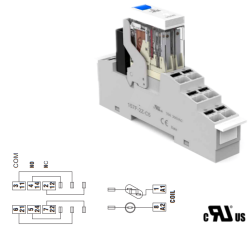
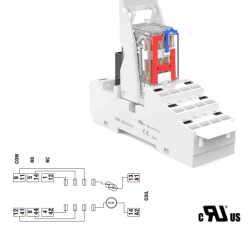
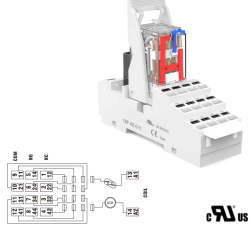
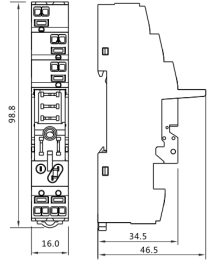
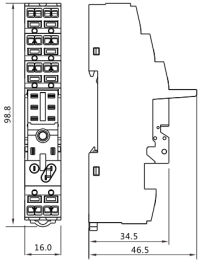
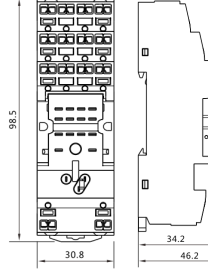
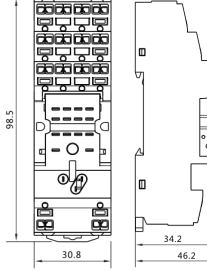
4Z (5A)



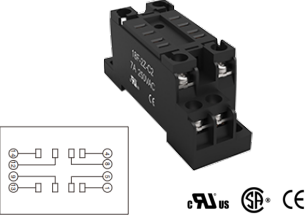
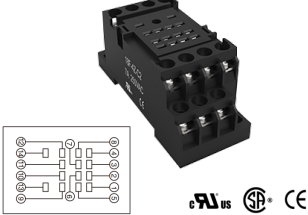
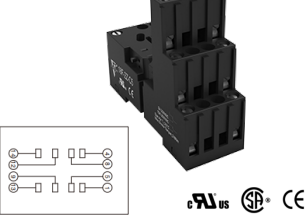
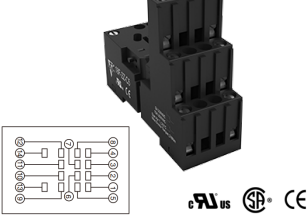
ZJ18F
General purpose relay



Miniature socket relay 157F

157F-1Z-C3		157F-2Z-C3		157F-1Z-C4		157F-2Z-C4	
							
Current	16A	Current	10A	Current	16A	Current	10A
Voltage	300V	Voltage	300V	Voltage	300V	Voltage	300V
Material	PA66	Material	PA66	Material	PA66	Material	PA66
Wire strip length	7 mm.	Wire strip length	7 mm.	Wire strip length	7 mm.	Wire strip length	7 mm.
Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²
Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²
							
157F-1Z-C5		157F-2Z-C5		157F-2Z-C11		157F-4Z-C11	
							
Current	16A	Current	10A	Current	12A	Current	8A
Voltage	300V	Voltage	300V	Voltage	300V	Voltage	300V
Material	PA66	Material	PA66	Material	PA66	Material	PA66
Wire strip length	8 mm.	Wire strip length	8 mm.	Wire strip length	8 mm.	Wire strip length	8 mm.
Wire cross section	1x2.5 mm ²	Wire cross section	1x2.5 mm ²	Wire cross section	1x2.5 mm ²	Wire cross section	1x2.5 mm ²
Casing wire	1x1.5 mm ²	Casing wire	1x1.5 mm ²	Casing wire	1x1.5 mm ²	Casing wire	1x1.5 mm ²
							

Industrial relay
Miniature socket relay 18F

18F-2Z-C2		18F-4Z-C2		18F-2Z-C5		18F-4Z-C5	
							
Current	12A	Current	10A	Current	12A	Current	10A
Voltage	300V	Voltage	300V	Voltage	300V	Voltage	300V
Material	PA66	Material	PA66	Material	PA66	Material	PA66
Wire strip length	7 mm.	Wire strip length	7 mm.	Wire strip length	7 mm.	Wire strip length	7 mm.
Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²	Wire cross section	2x2.5 mm ²
Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²	Casing wire	2x1.5 mm ²
