Renatta Control Technology

HF41F

c UL us
File No.:E133481

VDE
File No.:40020043

Features

- Slim size (width 5mm)
- High breakdown voltage 4kV (between coil and contacts)
- Surge voltage up to 6kV (between coil and contacts)
- Clearance/creepage distance: 8mm
- High sensitive:170 mW
- Sockets available
- 1 Form A and 1 Form C configurations
- Environmental friendly product (RoHS compliant)
- Outline Dimensions:(28.0 x 5.0 x 15.0) mm

CONTACT DATA

Contact arrangement	1A, 1C
Contact resistance	100mΩ (at 1A 6VDC) Gold plated:30 mΩ (at 1A 6VDC)
Contact material	AgNi, $AgSnO_2$
Contact rating (Res. load)	6A 250VAC/30VDC
Max. switching voltage	400VAC / 125VDC
Max. switching current	6A
Max. switching power	1500VA / 180W
Mechanical endurance	1 x 10^7OPS
Electrical endurance	1A:6 x 10^4OPS (at 85°C) 1C:(NO) 3 x 10^4OPS (at 85°C) (NC) 1 x 10^4OPS (at 85°C)

COIL

Coil power	5 to 24VDC:170 mW 48VDC, 60VDC:210 mW

COIL DATA

at 23°C

Nominal Voltage VDC	Pick-up Voltage VDC	Drop-out Voltage VDC	Max. Allowable Voltage VDC	Coil Resistance Ω
5	3.75	0.25	7.5	147 x (1±10%)
6	4.50	0.30	9.0	212 x (1±10%)
9	6.75	0.45	13.5	476 x (1±10%)
12	9.00	0.60	18	848 x (1±10%)
18	13.5	0.90	27	1906 x (1±15%)
24	18.0	1.20	36	3390 x (1±15%)
48	36.0	2.40	72	10600 x (1±15%)
60	45.0	3.00	90	16600 x (1±15%)

Notes: When require pick-up voltage=70% nominal voltage, special order allowed .

CHARACTERISTICS

Insulation resistance		1000MΩ (at 500VDC)
Dielectric strength	Between coil & contacts	4000VAC 1 min
	Between open contacts	1000VAC 1 min
Operate time (at nomi.volt.)		8ms max.
Release time (at nomi.volt.)		4ms max.
Shock resistance	Functional	49m/s²
	Destructive	980m/s²
Vibration resistance		10Hz to 55Hz 1mm DA
Humidity		5% to 85% RH
Ambient temperature		-40°C to 85°C
Termination		PCB
Unit weight		Approx. 5.4g
Construction		Wash tight, Flux proofed

Notes: 1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves below.
3) When install 1 Form C type of HF41F, please do not make the relay side with 5mm width down.

SAFETY APPROVAL RATINGS

UL&CUL	6A 30VDC Resistive:6A 277 VAC Pilot duty: R300 B300
VDE	6A 30VDC 6A 250VAC

Notes: Only some typical ratings are listed above. If more details are required, please contact us.

ORDERING INFORMATION

HF41F /	12	-H	8	S	T	G	(XXX)	

Type

Coil voltage 5, 6, 9, 12, 18, 24, 48, 60VDC

Contact arrangement **H:** 1 Form A **Z:** 1 Form C

Version **8:** Flat pack version **Nil:** Vertical version

Construction [1] **S:** Wash tight **Nil:** Flux proofed

Contact material **T:** $AgSnO_2$ **Nil:** AgNi

Contact plating **G:** Gold plated **Nil:** No gold plated

Customer special code

Notes: 1) We recommend flux proofed types for a clean environment (free from contaminations like H_2S, SO_2, NO_2, dust, etc.).
We suggest to choose wash tight types and validate it in real application for an unclean environment (with contaminations like H_2S, SO_2, NO_2, dust, etc).
If water cleaning is required after the relay is assembled on PCB, please contact us for suggestion about suitable parts.

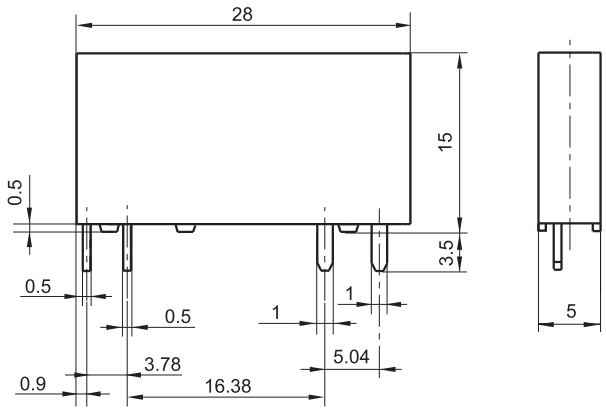
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

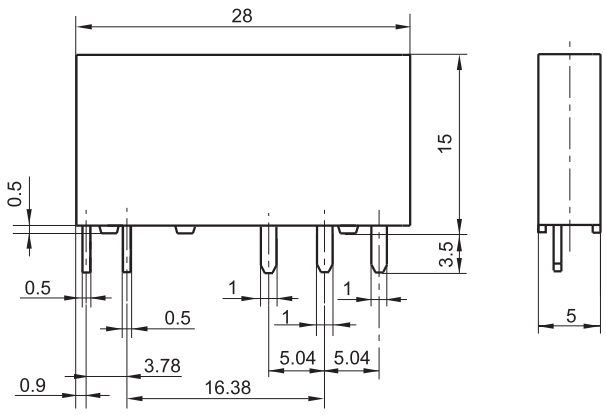
Outline Dimensions

1 Form A

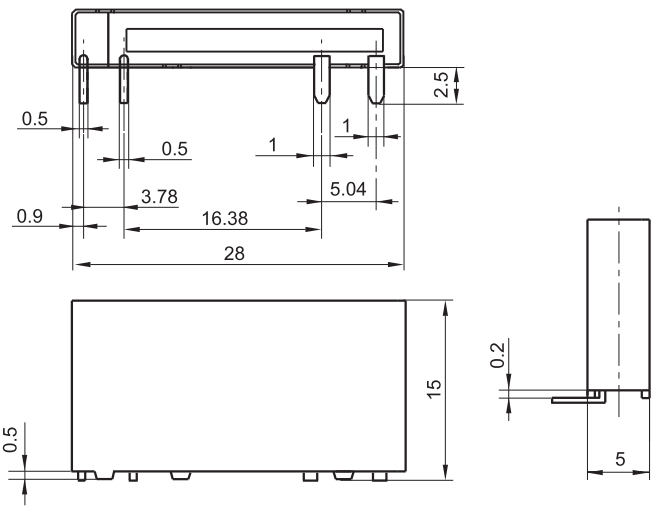
Vertical version

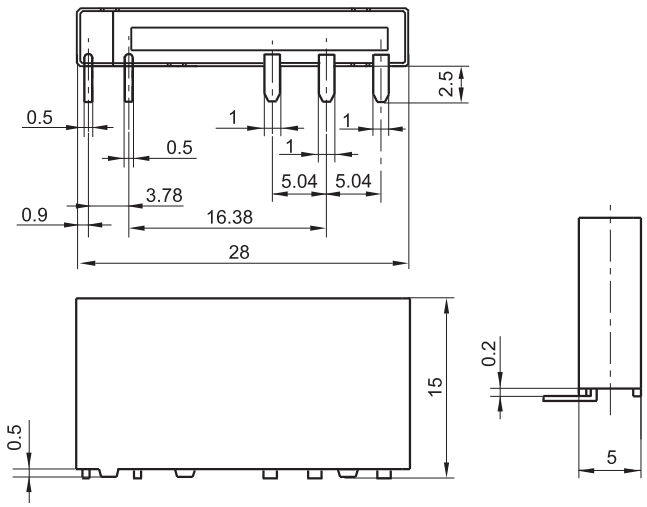


1 Form C



Flat pack version





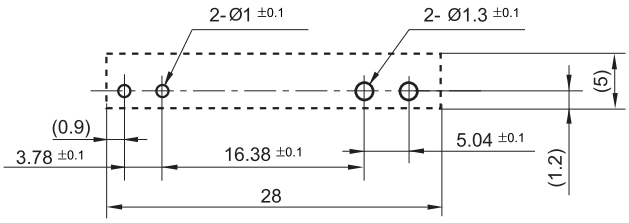
OUTLINE DIMENSIONS, WIRING DIAGRAM AND PC BOARD LAYOUT

Unit: mm

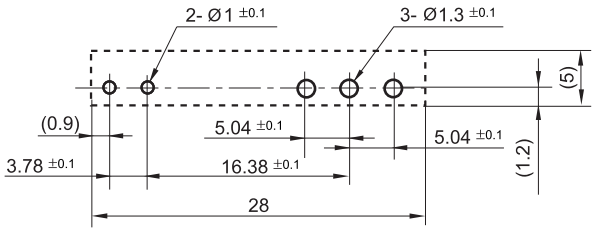
PCB Layout (Bottom view)

1 Form A

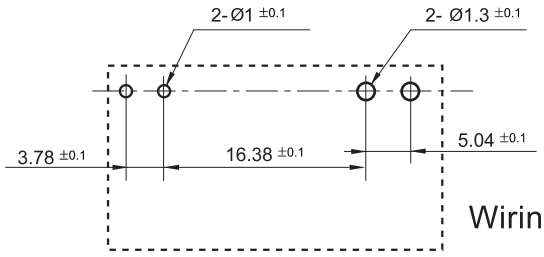
Vertical version

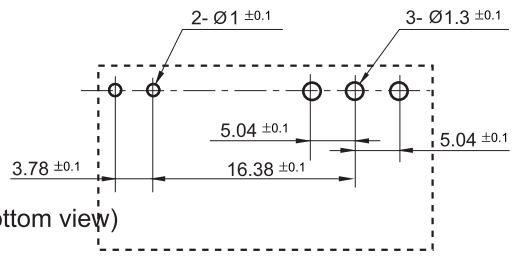


1 Form C



Flat pack version





Wiring Diagram (Bottom view)

1 Form A

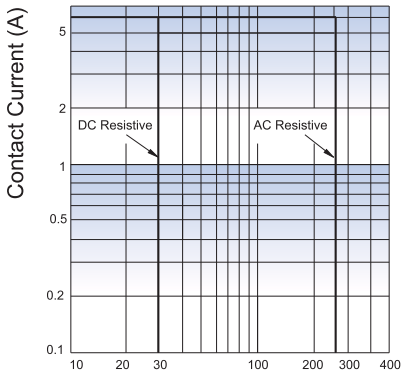
1 Form C

Remark:1) I n case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

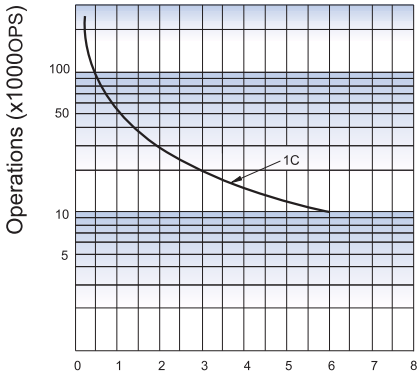
2) The tolerance without indicating for PCB layouts is always ±0.1mm.

CHARACTERISTIC CURVES

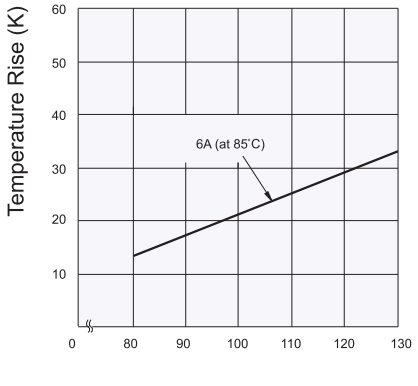
MAXIMUM SWITCHING POWER



ENDURANCE CURVE



COIL TEMPERATURE RISE



Disclaimer

This datasheet is for the customers' reference. All the specifications are subject to change without notice.

We could not evaluate all the performance and all the parameters for every possible application. Thus the user should be in a right position to choose the suitable product for their own application. If there is any query, please contact Hongfa for the technical service. However, it is the user's responsibility to determine which product should be used only.

PCB Solid Satate Relay

renatta

CE

RoHS

IEC:61984

特 性
Product features

- 结构紧凑、体积小
  Smlall compact structure
- 用于印刷线路板安装
  Used for PCB installation
- 机械寿命半永久性
  Mechanical life semi permanent
- 耐腐蚀、耐震、防爆
  Corrosion resistance, shock resistance and explosion-proof
- 功耗小、方便使用
  Low power consumption and convenient using

技术参数 Technical Parameter

控制电压Contrlling Voltage	3V-28VDC 15V-32VDC	
控制电流Contrlling Current	6-15mA	
接通电压Make-on Voltage	1.5DC	
关掉电压Break-off Voltage	1VDC	
反向电压Reverrse Voltage	32VDC	
负载电压Load Voltage	5V-60VDC	24V-280VAC
负载电流Load Current	2A 6A	
瞬间电压Instant Voltage	220VDC	900VAC
通态降压Voltage Dropin On	＜1.2VDC	＜1.6VAC
通断时间On-off Time	≤1mS	≤1mS
断态漏电流Leakage Current in off	≤3mA	≤1mA
介质耐压Dielectric Strength	≥1500VAC	
绝缘电阻Insulation Resistance	100MΩ、500VDC测试	
环境温度Ambient Temp	-30℃~+80℃	
外形尺寸Outline Size	28*5*15mm	
安装方式Installation	PCB印刷板焊接式	

订货标记示例 Example Of Order Mark

RY	SSR	1H	-	3	02	□□

企业标识 Enterprise Identity

线路板固态继电器 Circuit Board Type Solid State Relay

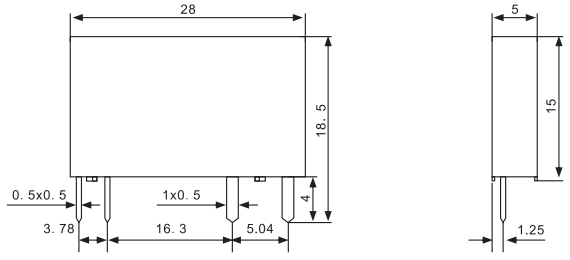
触点形式 Contact Form 一组常开1CO

输出电压 Output Voltage 3=24V-280VAC 6=5V-60VDC

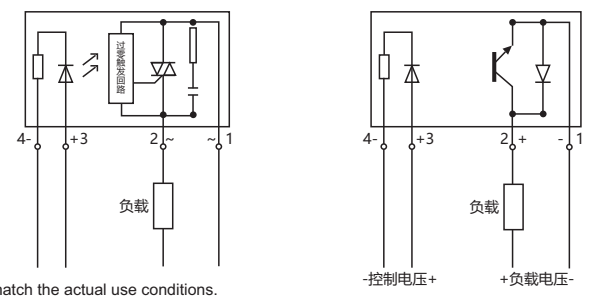
输出电流 Output Current 02:2A 06:6A

DA:直流控制交流DC Control AC DD:直流控制交流DC Control DC

外形安装及尺寸Outline Installation and Dimensions(mm)



接线图Wiring Diagram



Notes on use:
Before installation and use, please carefully check whether the model speciьcations of the solid state relay match the actual use conditions.
Pay attention to the correct wiring:
①The load end and the control end cannot be reversed ② The polarity of the power supply "+" and "-" of the control end cannot be reversed.

Relay matching base

Product features

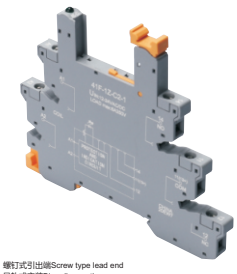
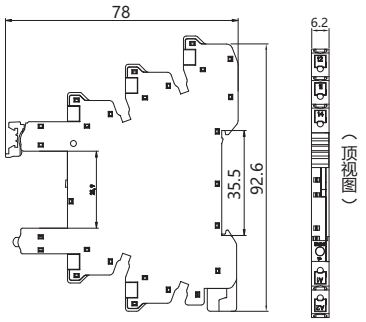
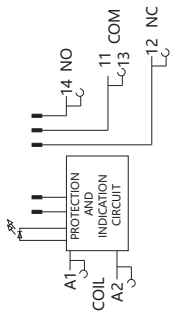
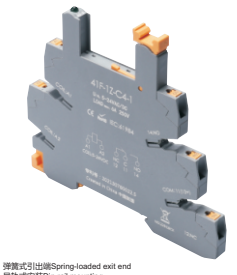
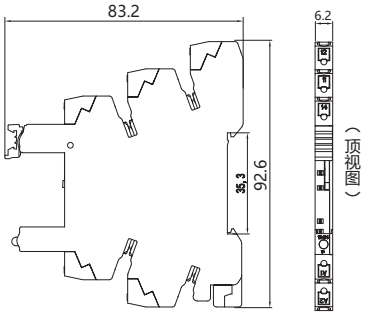
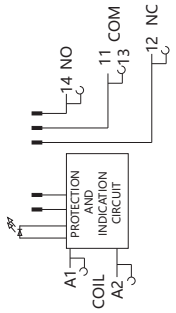
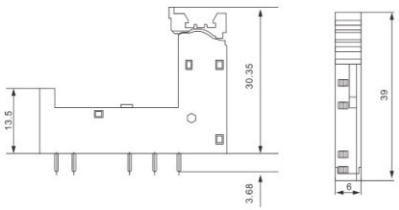
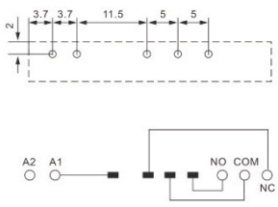
- The dielectric withstand voltage can reach 4000VAC, and the insulation resistance is 1000MΩ
- With Þnger protection
- With relay pulling pliers, lock to prevent falling off, easy to replace
- Built-in protection circuit to realize power indication, line protection, extended relay input voltage range and other functions
- Low power consumption and convenient using
- The shell adopts PA6+G30F environmentally friendly ßame retardant nylon

Performance Parametersr

型号 Model	额定电压 Rated Voltage	额定电流 Rated Current	环境温度 Ambient Temperature	输入电压 Input Voltage	线圈电压 Coil Voltage	螺钉扭矩 Screw Torque	外接导线 Size Of Wire	插片材料 Insert material	重量 Weight
41F-1Z-C2	250VAC	6A	-35℃~70℃	(6-24)V AC/DC	(6-24)VDC	0.8-1.0N.m	7mm	磷铜	约29g
	250VAC	6A	-35℃~70℃	(48-60)V AC/DC	(48-60)VDC	0.8-1.0N.m	7mm	磷铜	约29g
	250VAC	6A	-35℃~70℃	(110-240)V AC/DC	60VDC	0.8-1.0N.m	7mm	磷铜	约29g
41F-1Z-C4	250VAC	6A	-35℃~70℃	(6-24)V AC/DC	60VDC	-	7mm	磷铜	约27g
	250VAC	6A	-35℃~70℃	(48-60)V AC/DC	60VDC	-	7mm	磷铜	约27g
	250VAC	6A	-35℃~70℃	(110-240)V AC/DC	60VDC	-	7mm	磷铜	约27g
41F-1Z-A1	250VAC	6A	-35℃~70℃	-	-	-	-	磷铜	约4g

Outline drawing, wiring diagram, mounting hole size

单位：mm

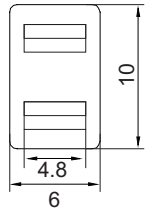
底座 Base	外形尺寸 Form Factor	接线图 Wiring Diagram	可选配件 Optional Accessories
41F-1Z-C2  螺钉式引出端Screw type lead end 导轨式安装Din rail mounting 带手指保护结构With Þnger protection structure 通过CE、ROHS认证Passed CE, ROHS certiÞcation			标识板 41F-M 41F-M1 连接条 41F-H(蓝blue) 41F-HR(红Red) 41F-HB(黑black)
41F-1Z-C4  弹簧式引出端Spring-loaded exit end 导轨式安装Din rail mounting 带手指保护结构With Þnger protection structure 通过CE、ROHS认证Passed CE, ROHS certiÞcation			标识板 41F-M 41F-M1 连接条 41F-H1(蓝blue) 41F-H1R(红Red) 41F-H1B(黑black)
41F-1Z-A1  印制板式引出端Printed plate type lead end 印制板式安装Printed plate mounting			标识板 41F-M 41F-M1

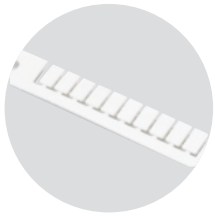
Related accessories are available

单位：mm

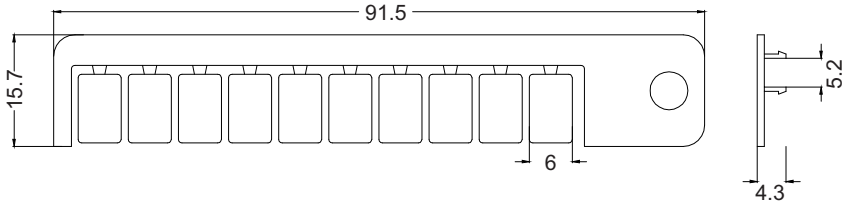
Writing Board

41F-M

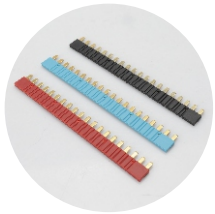




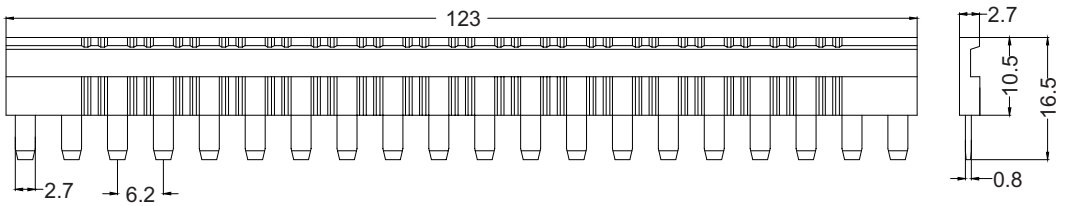
41F-M1



Link Bar



41F-H(蓝blue） 41F-HR(红Red) 41F-HB(黑black）



Link Bar

41F-H1(蓝blue） 41F-H1R(红Red) 41F-H1B(黑black）