same sky

Additional Resources: Product Page | PCB Footprint

date 09/12/2024

page 1 of 6

SERIES: PR28 | DESCRIPTION: POWER RELAY

#### **FEATURES**

- 20 amp
- 1 form A
- 1 form C
- · class F





MODEL	coil voltage typ (Vdc)	coil resistance $(\Omega \pm 10\%)$	operating voltage¹ min (Vdc)	release voltage max (Vdc)	continuous voltage max (Vdc)	coil power max (mW)
PR28-3V-360	3	25	2.25	0.3	3.3	360
PR28-5V-360	5	70	3.8	0.5	5.5	360
PR28-6V-360	6	100	4.5	0.6	6.6	360
PR28-9V-360	9	225	6.8	0.9	9.9	360
PR28-12V-360	12	400	9.0	1.2	13.2	360
PR28-15V-360	15	625	11.25	1.5	16.5	360
PR28-18V-360	18	900	13.5	1.8	19.8	360
PR28-24V-360	24	1,600	18.0	2.4	26.4	360
PR28-36V-360	36	3,600	27.0	3.6	39.6	360
PR28-48V-360	48	6,400	36.0	4.8	52.8	360

### PART NUMBER KEY

PR28 - XX - 360 - XX - X

Base Number

Coil Voltage (Vdc):

3V = 3

5V = 5

6V = 6

9V = 9

12V = 12

15V = 15

18V = 18

24V = 24

36V = 36

48V = 48

Contact Form: Sealing:

"blank" = Flux Protection 1A = 1 Form A

1C = 1 Form C

E = Epoxy Sealed

<sup>1.</sup> Relay may pull in with less than operating voltage.

<sup>2.</sup> All specifications are measured at 23°C unless otherwise specified.

# **COIL SPECIFICATIONS**

parameter	conditions/description	min	typ	max	units
coil power	nominal		360		mW
con power	at pickup voltage		207		mW
temperature rise	at nominal coil voltage		42		K

### **CONTACT SPECIFICATIONS**

parameter	conditions/description	min	typ max	units
contact form	1 Form A, 1 Form C			
contact material	AgSnO₂ (silver tin oxide)			
contact rating	1 Form A 17 A @ 277 Vac 12 A @ 250 Vac			
-	1 Form C 17/10 A @ 277 Vac NO/NC			
contact resistance	at 1 A, 6 V, voltage drop method		100	mΩ
max switching voltage			277 30	Vac Vdc
max switching current	Vac Vdc		20 16	A A
max switching power	Vac Vdc		4,700 480	VA W
life	electrical: at 277 Vac, 16 A (1 Form A/1 Form C (NO), 7 A (1 Form C (NC), resistive	100,000		operations
	mechanical	10,000,000		operations

### **GENERAL SPECIFICATIONS**

parameter	conditions/description	min	typ	max	units
insulation resistance	at 500 Vdc, 23 °C, 50% RH	100			МΩ
dielectric strength	between coil and contacts at sea level for 1 minute		2,000		Vrms
operate time	at nominal coil voltage		-	10	ms
release time	at nominal coil voltage, without coil suppression		-	5	ms
shock resistance			10		G
vibration resistance	10~55 Hz, 1.5 mm double amplitude				
operating temperature	at nominal coil voltage	-40		85	°C
storage temperature	at nominal coil voltage	-40		130	°C
weight		9.5		g	
safety approvals	UL/cUL 508				
flammability rating	UL94V-D				
RoHS	yes				
packaging	box: 100 pcs per box carton QTY: 1,000 pcs per carton				

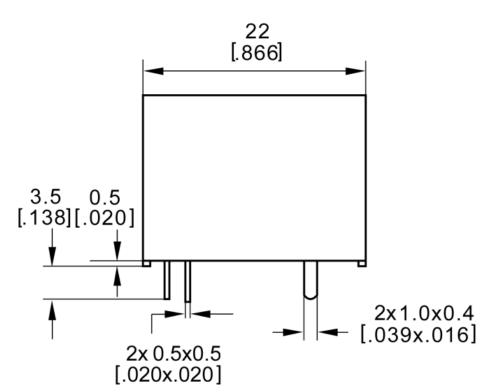
## **SOLDERABILITY**

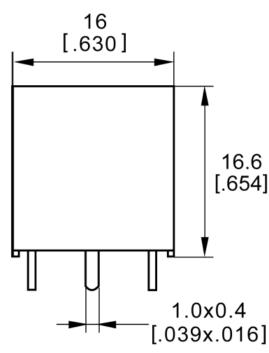
parameter	conditions/description	min	typ	max	units
wave soldering	for max 5 seconds			260	°C
washable	only on epoxy sealed models max imersion time of 30 seconds			80	°C

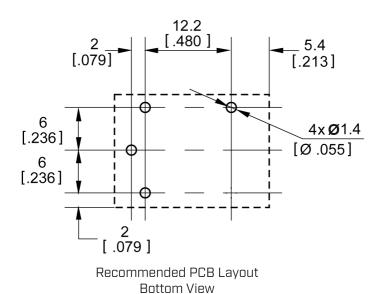
# MECHANICAL DRAWING (1A = 1 FORM A)

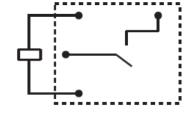
units: mm [inch] tolerance: ±0.254 mm unless otherwise noted

DESCRIPTION	MATERIAL	PLATING/COLOR	
housing	PBT (UL94V-0)	white	
terminals	copper alloy	tin	







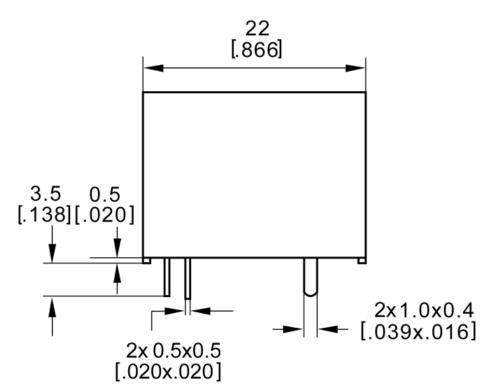


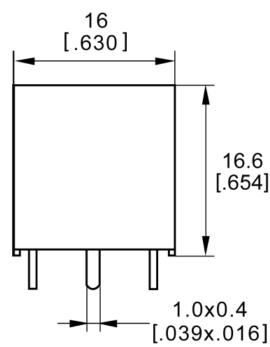
Wiring Diagram Bottom View

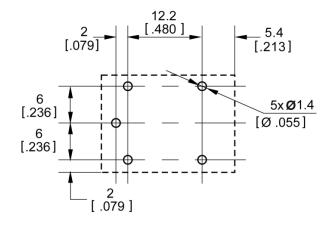
# MECHANICAL DRAWING (1C = 1 FORM C)

units: mm [inch] tolerance: ±0.254 mm unless otherwise noted

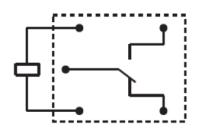
DESCRIPTION	MATERIAL	PLATING/COLOR
housing	PBT (UL94V-0)	white
terminals	copper alloy	tin







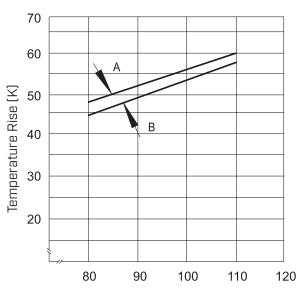
Recommended PCB Layout Bottom View



Wiring Diagram Bottom View

## **CHARACTERISTIC CURVES**

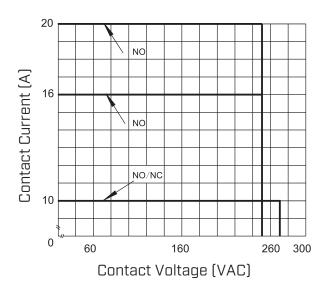
#### Coil Temperature Rise



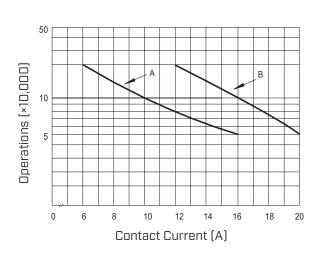
Percentage of Nominal Coil Voltage (%)

Test Conditions: Curve A: 20 A at 85°C Curve B: 16 A at 85°C Mounting Distance: 25 mm

Maximum Switching Power



#### Life Curve



Test Conditions: Curve A: NO, resistive load, 85°C, flux protection, 16 A, 250 Vac, 1 second on 9 seconds off Curve B: NO, resistive load, 85°C, flux protection, 20 A, 250 Vac, 1 second on 9 seconds off Additional Resources: Product Page | PCB Footprint

### **REVISION HISTORY**

rev.	description	date	
1.0	initial release	02/14/2024	
1.01	removed F from part number	05/10/2024	
1.02	CUI Devices rebranded to Same Sky	09/12/2024	

The revision history provided is for informational purposes only and is believed to be accurate.



Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.