

## PRODUCT SPECIFICATION

# 26 Series PC Card Relays



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## PC Board Relays



WERNER's 26 Series PC Board Relays are the product of your choice if your designs require SPDT or even DPDT abilities but board space and available heights in your casings is very limited. Like our 24 Series, the 25 Series products are fully sealed for use in harsh surroundings, whilst the 26 series products are not sealed but therefore your right choice when purchase price is the major issue.

### Features Overview

- All models available for direct PC Board Mounting, PCB socket or Panel socket mounting
- All models designed applying MFMS design principles (Max Function Min Space)
- All models designed applying solid modeling and finite elements design methods
- 26 Series available as SPDT, DPDT, SPST-NO as well as DPST-NO
- All models available for use with 50 Hz and 60 Hz cycles

### Highlights

- 26 Series unsealed but cheaper by providing a heights of only 25mm
- All models available in standard current ratings from 6V to 48V (DC)
- Available in SPST with up to 12 Ampere Continuous Load Current
- Available in SPDT with up to 8 Ampere Continuous Load Current
- All models provide Dielectric strength of 5.000V (AC)

26 Series PC Board Relays by WERNER offer you just the right products for those circuits where spaces is ever precious, but the large number of sets needed weigh out a little larger use of panel space against mentionable savings in the purchase invoice of the needed quantities.

# 26 Series PC Board Relays

WERNER

## PC Board Relays

### Features:

- PC Board Relays
- Dielectric strength of 5,000V AC
- Compact and small
- Contact Capacity of 5A & 10A
- SPDT, DPDT, SPST-NO & DPST-NO



### Approvals

Approbations and Declaration of conformity

CE

CE

Overvoltage category

III, as per EN IEC 60947-5-1

## AC Coil Ratings

Voltage	Rated Current (mA) AC 60Hz	Coil Resistance (Ω)	Power Consumption (VA)	Operation Properties		
				Continuous Voltage	Pickup Voltage	Dropout Voltage
6V	150	16	Approx. 0.90	110% max. at 70°C (158°F)	80% max.	30% min.
12V	75	65				
24V	37.50	260				
110V	10.60	4600				
120V	7.50	6500				
220V	4.1	25000				
240V	5.30	30000				

±15% at 20°C

## DC Coil Ratings

Voltage	Rated Current (mA)	Coil Resistance (Ω)	Power Consumption (mW)	Operation Properties		
				Continuous Voltage	Pickup Voltage	Dropout Voltage
6V	88.20	68	Approx. 530	110% max. at 70°C (158°F)	70% max.	15% min.
12V	43.60	275				
24V	21.80	1,100				
48V	11.50	4,170				
110V	4.80	22,900				

±15% at 20°C

## Weight

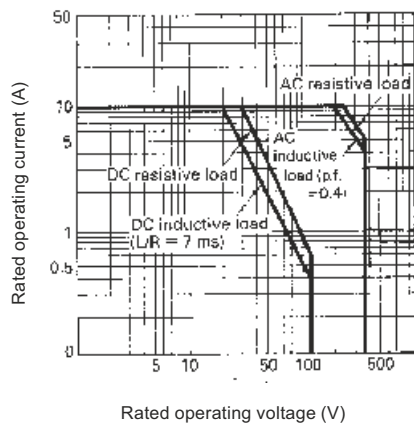
Model No.	26.21 (SPDT)	26.22 (DPDT)	26.23 (SPST-NO)	26.24 (DPST-NO)
Weight (approx.)	17g	18g	15g	16g

## Specifications

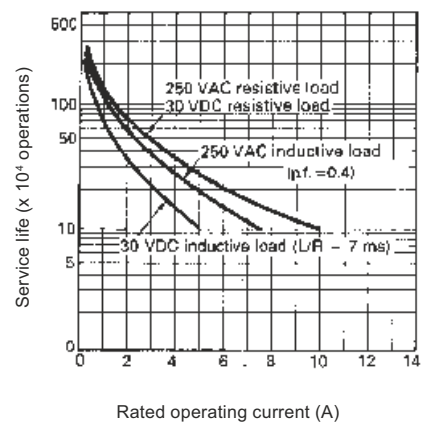
Operating Temperature	SPDT	-35 to +85°C (No freezing)
	DPDT	-35 to +85°C (No freezing)
Contact Resistance	-	100mΩ
Operating Humidity	-	5% to 85% RH
Insulation Resistance	-	1000MΩ minimum (at 500 VDC)
Dielectric Strength	-	5,000 VAC, 50/60 Hz for 1 minute between coil and contacts
	-	1,000 VAC, 50/60 Hz for 1 minute across contacts of same pole
	-	3,000 VAC, 50/60 Hz for 1 minute between contact sets, 2-pole non-latching
	-	1,000 VAC, 50/60 Hz for 1 minute between set and reset coils of dual coil latching
Vibration Resistance	-	10 to 55 Hz; 1.50 mm (0.06) double amplitude
	-	10 to 55 Hz; 1.50 mm (0.06) double amplitude
Shock Resistance	-	1,000 m/s <sup>2</sup> (approx. 100G)
	-	200 m/s <sup>2</sup> (approx. 20 G) when energized, 100 m/s <sup>2</sup> (approx. 10 G) when de-energized
Mechanical Durability	-	10,000,000 operations min. DC: 20,000,000 operations min. (at 18,000 operations/hour)
Electrical Durability	-	100,000 operations min. (at 1,800 operations /hr) at rated load. See "Characteristics Data"
Operate Time	SPDT	15ms maximum
	DPDT	15ms maximum
Release Time	SPDT	AC: 10 ms max.; DC: 5 ms max.
	DPDT	AC: 10 ms max.; DC: 5 ms max.
Contact Ratings	SPDT	10A, 30 VDC (Resistive), 250 VAC ( General use)
	DPDT	5A, 30 VDC (Resistive), 250 VAC ( General use)
Contact Material	-	Silver cadmium oxide
Operating Frequency	-	Electrical: 1,800 operations/hour (under rated load)
	-	Mechanical: 18,000 operations/hour

## Electrical Characteristics

SPDT



DPDT



Model Number Structure - PC Board Relays



26.22.01.120

Series	
26	26 Series Relays

Terminal Type	
2	PC Board

Number of Poles	
1	SPDT
2	DPDT
3	SPST-NO
4	DPST-NO

Types	
0	Basic

Voltage	
006	6V
012	12V
024	24V
048	48V
110	110V
120	120V
220	220V
240	240V

Coil	
1	AC
2	DC

# 26 Series PC Board Relays

## Model Number Selection

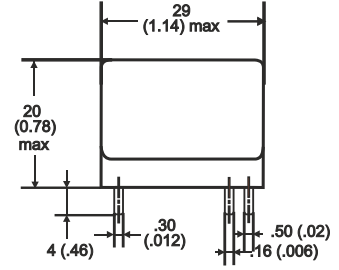
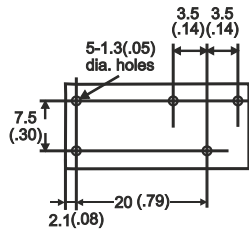
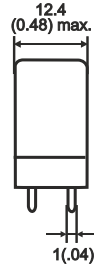
Appearance	Terminal Type	Types	Voltage	Model No.	
				AC	DC
 <p>SPDT</p>	PC Board	Basic	6V	26.21.01.006	26.21.02.006
			12V	26.21.01.012	26.21.02.012
			24V	26.21.01.024	26.21.02.024
			110V	26.21.01.110	26.21.02.110
			120V	26.21.01.120	–
			220V	26.21.01.220	–
			240V	26.21.01.240	–
 <p>DPDT</p>	PC Board	Basic	6V	26.22.01.006	26.22.02.006
			12V	26.22.01.012	26.22.02.012
			24V	26.22.01.024	26.22.02.024
			110V	26.22.01.110	26.22.02.110
			120V	26.22.01.120	–
			220V	26.22.01.220	–
			240V	26.22.01.240	–
 <p>SPST-NO</p>	PC Board	Basic	6V	26.23.01.006	26.23.02.006
			12V	26.23.01.012	26.23.02.012
			24V	26.23.01.024	26.23.02.024
			110V	26.23.01.110	26.23.02.110
			120V	26.23.01.120	–
			220V	26.23.01.220	–
			240V	26.23.01.240	–
 <p>DPST-NO</p>	PC Board	Basic	6V	26.24.01.006	26.24.02.006
			12V	26.24.01.012	26.24.02.012
			24V	26.24.01.024	26.24.02.024
			110V	26.24.01.110	26.24.02.110
			120V	26.24.01.120	–
			220V	26.24.01.220	–
			240V	26.24.01.240	–

## Dimensions

### 26.21(SPDT)



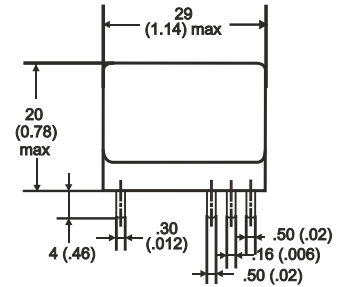
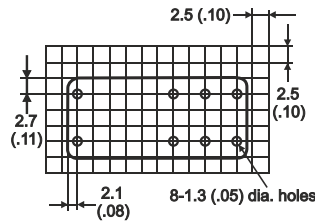
SPDT



### 26.22(DPDT)



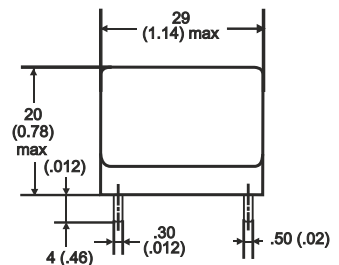
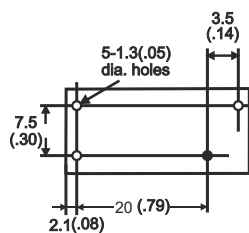
DPDT



### 26.23(SPST-NO)



SPST-NO



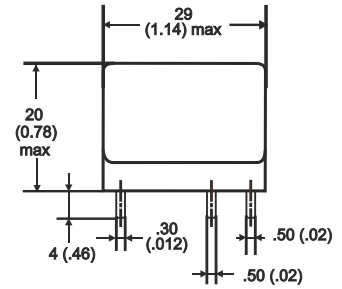
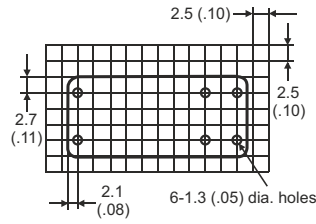
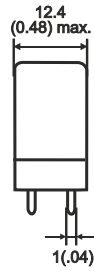


## Dimensions

### 26.24(DPST-NO)

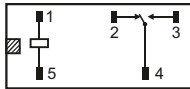


DPST-NO

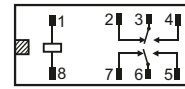


## Internal Connection (Bottom View)

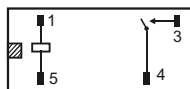
### SPDT



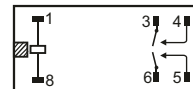
### DPDT



### SPST-NO

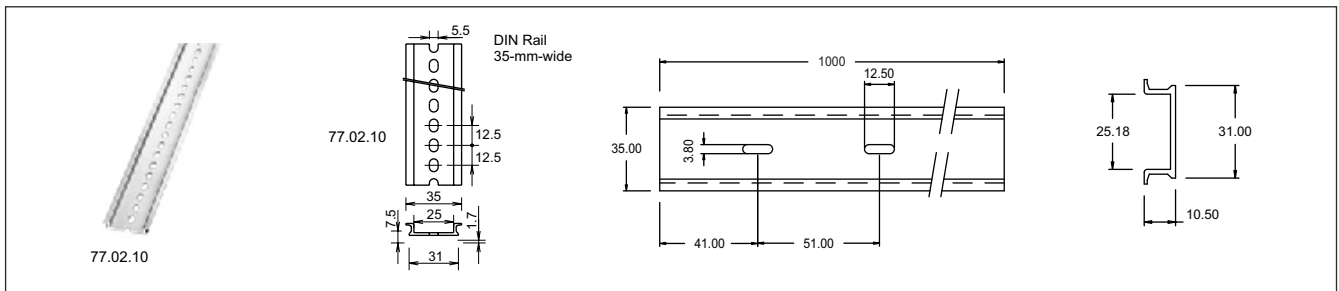


### DPST-NO



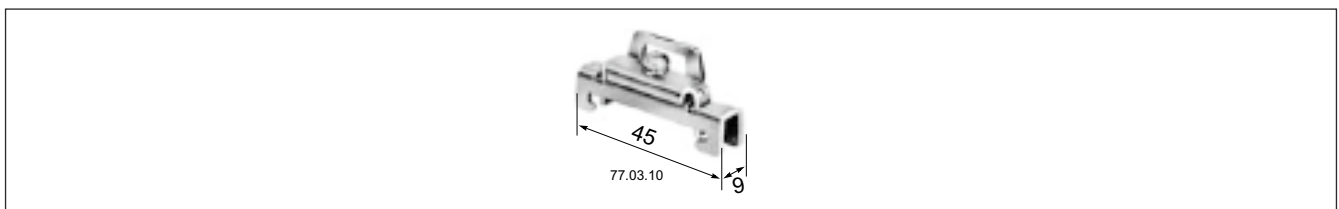
## Accessories

### DIN Rails



DIN Rail No.	Material	Length	Weight	Width
77.02.10	Aluminum	1000 mm	200 g	35 mm

### Mounting Clips



Mounting Clips No.	Rails	Width	Weight
77.03.10	77.02.10	45 mm	15.2 g

### Applicable Clips

Appearance	Description	Relay	Suitable For DIN Mount Socket	Suitable For Feed through Sockets	Suitable For PCB Mount Socket
	Wire Spring	Suitable for all WERNER's 26 Series Relays	-	-	75.02.02

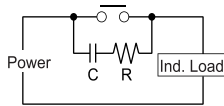
\* For suitable relay please check Sockets catalogue

### Socket Specification

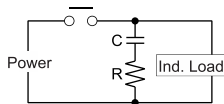
Mounting	Terminal type	Terminal	Torque	Wire Size	Model No.	
					1 Pole	2 Poles
DIN Rail	With Finger-safe	M3 screws - coil M3.5 screws - contact	0.6 to 1.0 N.m	Up to 3.5mm <sup>2</sup> (12AWG)	75.11.01	75.12.01
	With Spring Clamp	-	-	upto 1.5mm <sup>2</sup>	75.11.05	75.12.05
PCB Mount Socket	PC Board	-	-	-	75.21	75.22

## Protection

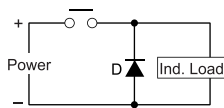
When an inrush current flows through the load, the contact may become welded. The contact ratings show maximum values, Make sure that these values are not exceeded. Contact a contact protection circuit, such as a current limiting resistor as a optional solution.



This protection circuit can be used when the load impedance is smaller than the RC impedance in an AC load power circuit.  
R: Resistor of approximately the same resistance value as the load  
C: 0.1 to 1  $\mu\text{F}$

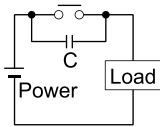


This protection circuit can be used for both AC and DC load power circuits.  
R: Resistor of approximately the same resistance value as the load  
C: 0.1 to 1  $\mu\text{F}$

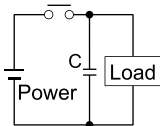


This protection circuit can be used for DC load power circuits. Use a diode with the following ratings.  
Reverse withstand voltage: Power voltage of the load circuit x 10  
Forward current: More than the load current.

## Prevents



This protection circuit is very effective in arc suppression when opening the contact however, the capacitor is charged while the contacts are opened else the capacitor is discharged through the contacts, increasing the possibility of contact welding.



This protection circuit is very effective in arc suppression when opening the contact however, a current flows to charge the capacitor, causing contact welding when the contacts are closed.

## Safety Precautions

Do not drop, shock or remove the relay cover to maintain the initial characteristics.  
The relay cover cannot be removed from the base during normal operation.  
Use the relay in environments free from dust, condensation, dioxide or hydrogen sulfide.

Make sure that the coil voltage does not exceed applicable coil voltage range.  
Prevent usage of relays in the vicinity of strong magnetic field, as that may cause malfunctioning of relays.

Failure to turn off power before wiring, installation, removal and maintenance may cause electrical shock or fire hazard.

Attention on specifications and rated values to prevent electrical shock or fire hazard.  
Use wires of the proper size to meet voltage and current requirements.

Tighten the terminal screws on the relay socket to the proper tightening torque.

Prevent using the check button as a switch.

The durability of the check button is a minimum of 200 operations.

It is advisable to apply a positive voltage to terminals of neighboring poles and a negative voltage to the other terminals of neighboring poles when using DC loads on 4PDT relays to prevent the possibility of short circuits.

A soldering iron of 30 to 60W would be recommended when soldering the relay terminals and the preferred time to complete soldering is within 4 seconds approximately.



# WERNER

Inventing Innovation...

**H.Q.**

**Werner Electric Private Limited**

Plot No.: 166, Hebbal Industrial Area, Mysore - 570016, India.  
Tel: +91 73539 47299, E-mail: info@wernerelektrik.com

**Werner Malaysia Sdn Bhd,**

45-2, Jalan Tiara 2B, Bandar Baru Klang,  
41150, Klang, Selangor, Malaysia.

Tel: +60 13 533 3348, E-mail: info@wernerelektrik.com

**Werner Elektrik Türkiye**

Ayazağa Mah. Mimar Sinan Sok. Seba Office Boulevard.  
D Blok. No.: 21D/45 Sariyer / İstanbul, Türkiye.

Tekefon: +90 539 829 25 07 , E-posta: info@wernerelektrik.com

[www.wernerelektrik.com](http://www.wernerelektrik.com)