

21 Series General Purpose Relays

WERNER

General Purpose Relays

Features:

- Switching Power of 3A, 5A, 7A & 10A
- No Cadmium
- Blade & PC Board mounting
- Built-in LED
- DPDT & 4PDT
- Compact & small in size

Over voltage category

III, as per EN IEC 60947-5-1

Approvals

Approbations and Declaration of conformity

CE

CE



Coil Specifications

DC Coil Ratings

Nominal Voltage (Vn)	Resistance (Ω) (Tolerance ± 10%)	Operating Range (V)			Rated Current Consumption of coil (mA)	Coil Power
		Drop-Out Voltage (Min.30% of Vn)	Vmin (80% of Vn)	Vmax (110% of Vn)		
6V	41	0.6	4.8	6.6	150	0.9W
12V	160	1.2	9.6	13.2	75	
24V	640	2.4	19.2	26.4	37.5	
48V	2640	4.8	38.4	52.8	19	
110V (100/110V)	11K	11	88	121	8.2	
120V (110/120V)	16K	12	96	132	7.5	
220V	54K	22	176	242	4.1	

AC Coil Ratings

Nominal Voltage (Vn)	Resistance (Ω) (Tolerance ± 10%)	Operating Range (V)			Rated Current Consumption of coil (mA)		Coil Power
		Drop-Out Voltage (Min.30% of Vn)	Vmin (80% of Vn)	Vmax (110% of Vn)	50Hz	60Hz	
24V	180	7.2	19.2	26.4	58.3	50	1.2VA (@60Hz) 1.4VA (@50Hz)
48V	640	14.4	38.4	52.8	29.2	25	
110V (100/110V)	3750	33	88	121	13	11	
120V (110/120V)	4430	36	96	132	12	10	
220V (200/220V)	12950	66	176	242	6.4	5.5	
230V	17000	69	184	253	-	-	
240V	18790	72	192	264	6	5	

Weight

Model No.	21.12 & 21.22 (DPDT)	21.14 & 21.24 (4PDT)
Weight (approx.)	35g	39g

21 Series General Purpose Relays

Contact Ratings

Model	Continuous Current	Maximum Switching Power	Rated Load		
			Voltage (V)	Res. Load	Ind. Load
DPDT	5A	1100VA AC 150W	220V AC	5A	2.5 A
			30V DC	5A	2.5 A
	10A	2500VA AC 370W	220V AC	10A	5A
			30V DC	10A	5A
4PDT	3A	1200VA AC 150W	220V AC	3A	1.5A
			30V DC	3A	1.5A
	7A	1750VA AC 125W	220V AC	7A	3.5A
			30V DC	7A	3.5A

Specifications

Operating Temperature	Blade Terminal	DPDT	-25 to +45°C (No freezing)
		4PDT	-25 to +55°C (No freezing)
Operating Temperature	PC Board Terminal	DPDT	-25 to +45°C (No freezing)
		4PDT	-25 to +55°C (No freezing)
Contact Resistance		DPDT	30mΩ maximum
		4PDT	50mΩ maximum
Operating Humidity		-	45 to 85% RH (no condensation)
Insulation Resistance		-	100 MΩ minimum (500V DC megger)
Dielectric Strength	DPDT	4PDT	Between live and dead parts: 2,200V AC, 1 minute
		4PDT	Between contact and coil: 2,200V AC, 1 minute
		4PDT	Between contacts of different poles: 2,200V AC, 1 minute
		4PDT	Between contacts of the same pole: 1,000V AC, 1 minute
Vibration Resistance	-		Damage limits: 10 to 60Hz, amplitude 0.5 mm
			Operating extremes: 10 to 55Hz, amplitude 0.5 mm
Shock Resistance	-		Damage limits: 1,000m/s ²
			Operating extremes: 200m/s ²
Mechanical Durability	AC DC		10,000,000 operations minimum
			500,000 operations minimum (220V AC, 5A)
Electrical Durability	DPDT 4PDT		200,000 operations minimum (220V AC, 3A)
Power Consumption (approx.)	DPDT 4PDT		AC: 1.4 VA (50 Hz), 1.2 VA (60 Hz)
			DC: 0.9W
Operate Time	DPDT 4PDT		20ms maximum
Release Time	DPDT 4PDT		20ms maximum
Minimum Applicable Load	DPDT 4PDT		5V DC, 1 mA (reference value)
			1V DC, 1 mA (reference value)
Contact Material	DPDT 4PDT		Silver
Operating Frequency	-		Electrical: 2000 operations/hour maximum
			Mechanical: 20,000 operations/hour maximum

Measured at 20° C Operating temperature

21 Series General Purpose Relays

Model Number Structure - General Purpose Relays



21.14.31.120

Series	
21 Series General Purpose Relays	

Terminal Type	
1	Plug-in
2	PCB

Number of Poles & Contact Rating	
2	DPDT - 5A
4	4PDT - 3A
5	DPDT - 10A
6	4PDT - 7A

Features	
0	Basic
1	LED Indicator
2	LED+Diode (DC, polarity positive to pin A2/14)
3	LED+Lockable Test Button+Mechanical Indicator
4	LED+Lockable Test Button+Mechanical Indicator +Diode (DC, polarity positive to pin A2/14)

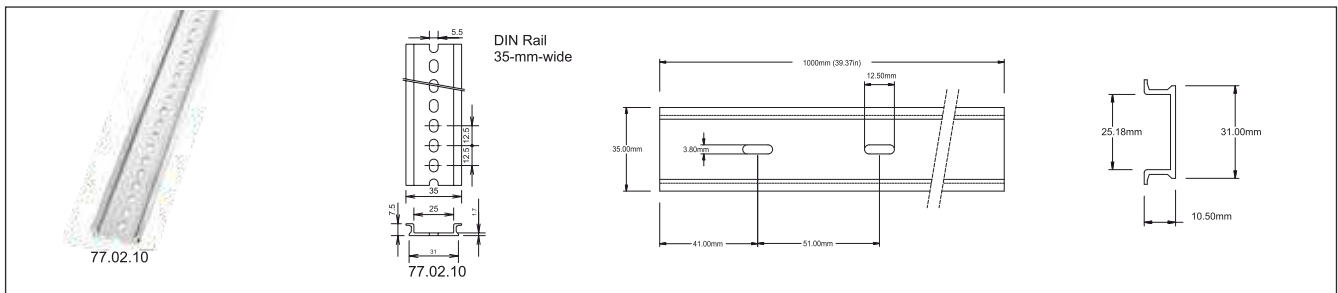
Coil Rating	
006	6V (Only DC)
012	12V (Only DC)
024	24V
048	48V
110	110V (100/110V)
120	120V (110/120V)
220	220V
230	230V (Only AC)
240	240V (Only AC)

Coil Type	
1	AC (50 / 60Hz)
2	DC

21 Series General Purpose Relays

Accessories

DIN Rails



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

Sockets - Blade Terminal Models

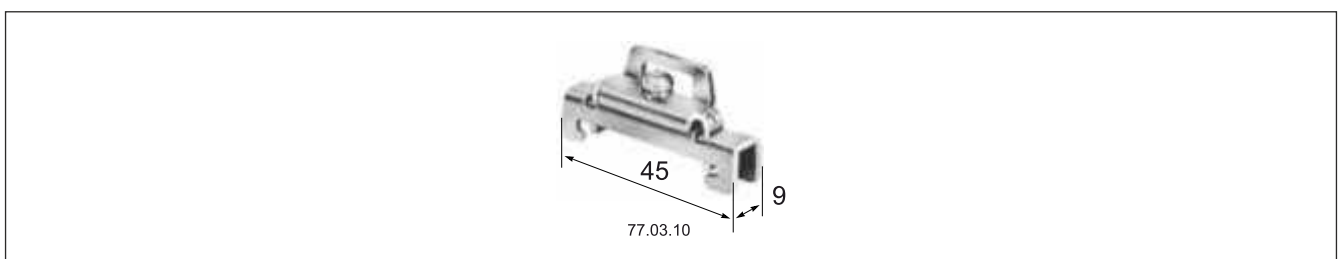
Socket Specifications

Mounting Type	Terminal	Torque	Wire Size	Model No.	
				2 Poles	4 Poles
DIN Rail	With Finger-safe M3 screws - coil M3.5 screws - contact	5.5 - 9in•lbs	up to 2 - 14AWG	71.12.01	71.14.01
	Without Finger-safe M3 screws - coil M3.5 screws - contact	5.5 - 9in•lbs	up to 2 - 14AWG	71.12.00	71.14.00
PCB Mount Socket	-	-	-	71.22	71.24

Poles	2 Poles			4 Poles		
	No Finger-safe	Finger-safe	PCB	No Finger-safe	Finger-safe	PCB

Voltage	250V	250V	250V	250V	250V	250V
A	7	10	7	7	10	7

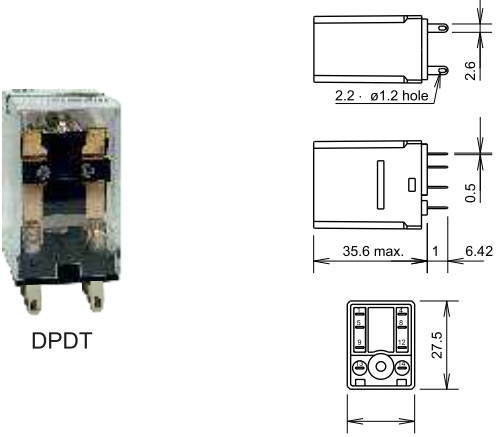
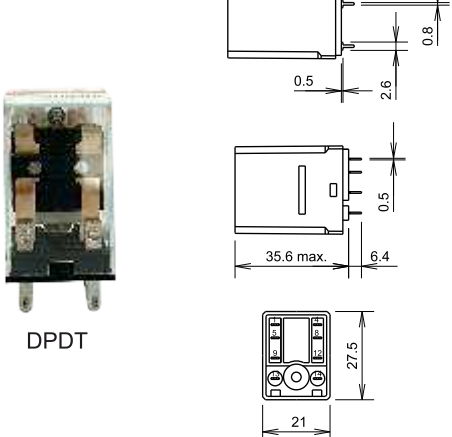
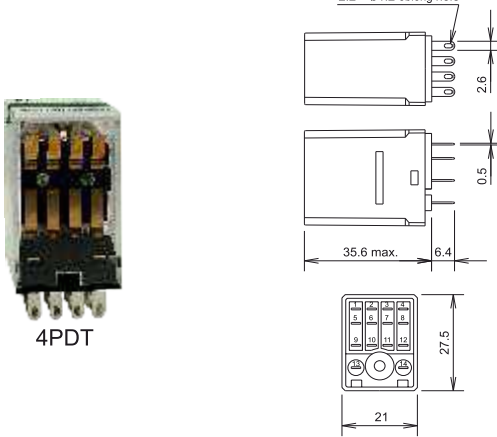
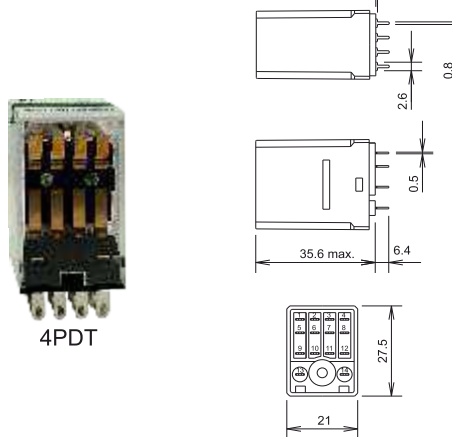
Mounting Clips



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

21 Series General Purpose Relays

Dimensions

Blade Terminal	PC Board Terminal
21.12 (DPDT)	21.22 (DPDT)
 <p>DPDT</p>	 <p>DPDT</p>
21.14 (4PDT)	21.24 (4PDT)
 <p>4PDT</p>	 <p>4PDT</p>

Relays

Features:

- Compact housing only 12.7mm wide
- Non-polarized LED indicator
- Excellent electrical and mechanical life
- Provided with nameplate
- Environmental friendly, RoHS directive compliant
- Diode type:
Diode reverse withstand voltage: 1000V
- High switching power (1-pole: 12 A)



Approvals

Approbations and Declaration of conformity

CE CE
RoHS

Overvoltage category

III, as per EN IEC 60947-5-1

AC Coil Ratings

Voltage (V)	Rated Current (mA)		Coil Resistance (Ω)	Coil Inductance (H) (reference value)		Operation Properties		
	AC 50Hz	AC 60Hz		Arm. OFF	Arm. ON	Released Voltage	Continuous Voltage	Operate Voltage
12V	87.8	75	62.5	0.17	0.38	30% min.	110% max	80% min.
24V	43.7	37.6	253	0.81	1.55			
110V	9.6	8.2	5566	13.33	26.83			
230V	4.4	3.8	27172	72.68	143.90			

±15% at 20°C

DC Coil Ratings

Voltage (V)	Rated Current (mA)	Coil Resistance (Ω)	Coil Inductance (H) (reference value)		Operation Properties		
			Arm. OFF	Arm. ON	Released Voltage	Continuous Voltage	Operate Voltage
12V	43.2	278	0.98	2.35	10% min.	110% max	80% min.
24V	21.6	1100	3.60	8.25			
110V	5.8	22830	19.2	32.10			

±15% at 20°C

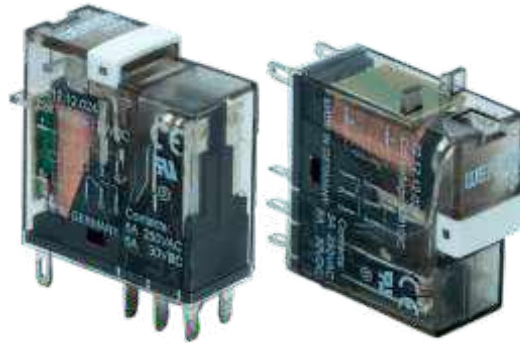
Contact Ratings

Maximum Contact Capacity

Model	Continuous Current	Allowable Contact Power		Rated Load		
		Inductive Load	Resistive Load	Voltage	Ind. Load	Res. Load
SPDT	12A	1875VA AC 180W DC	3000VA AC 360W DC	250V AC	7.5 A	12 A
				30V DC	6A	12 A
				220V DC	–	0.5A
DPDT	5A	1000VA AC 120W DC	2000VA AC 240W DC	250V AC	2.5 A	5 A
				30V DC	2.5 A	5 A
				220V DC	–	0.2A

Specifications

Operating Temperature	SPDT	–40 to +70°C (No freezing)	
	DPDT	–40 to +70°C (No freezing)	
Contact Resistance	–	50mΩ maximum at 5V DC, 1A	
Operating Humidity	–	5% to 85% RH (No condensation)	
Insulation Resistance	–	1000MΩ minimum	
Dielectric Strength	SPDT DPDT	Between contact and coil:	5,000V AC, 1 minute
		Between contacts of different poles:	3,000V AC, 1 minute
		Between contacts of the same pole:	1,000V AC, 1 minute
Vibration Resistance	–	Damage limits:	10 to 55Hz, amplitude 0.75 mm
		Operating extremes:	10 to 55Hz, amplitude 0.75 mm
Shock Resistance	–	Damage limits:	1,000m/s ² (100G)
		Operating extremes:	NO contact: 200m/s ² (20G) NC contact: 100m/s ² (10G)
Mechanical Durability	–	AC coil: 30,000,000 operations minimum DC coil: 50,000,000 operations minimum	
Electrical Durability	–	AC load: 200,000 operations minimum DC load: 100,000 operations minimum	
Power Consumption (approx.)	SPDT	AC: 1.1VA (50Hz), 1.2VA (60Hz)	DC: 0.9W
	DPDT	AC: 1.4 VA (50 Hz), 1.2 VA (60 Hz)	DC: 0.9W
Operate Time	SPDT	15ms maximum at 20°C	
	DPDT	15ms maximum at 20°C	
Release Time	SPDT	10ms maximum at 20°C (with diode: 20 ms maximum)	
	DPDT	10ms maximum at 20°C (with diode: 20 ms maximum)	
Minimum Applicable Load	–	24V DC, 30 mA 5V DC, 100 mA (reference value)	
Contact Material	–	Silver cadmium oxide	
Operating Frequency	–	Electrical:	1,800 operations/hour maximum
		Mechanical:	18,000 operations/hour maximum
Weight (approx.)	–	20g	



22.12.12.024

Series	
22 Series Relays	

Terminal Type	
1	Blade

Number of Poles	
1	SPDT
2	DPDT

Types	
0	Basic
1	LED
2	LED & Diode

Voltage	
012	12V
024	24V
110	110V
230	230V

Coil	
1	AC
2	DC

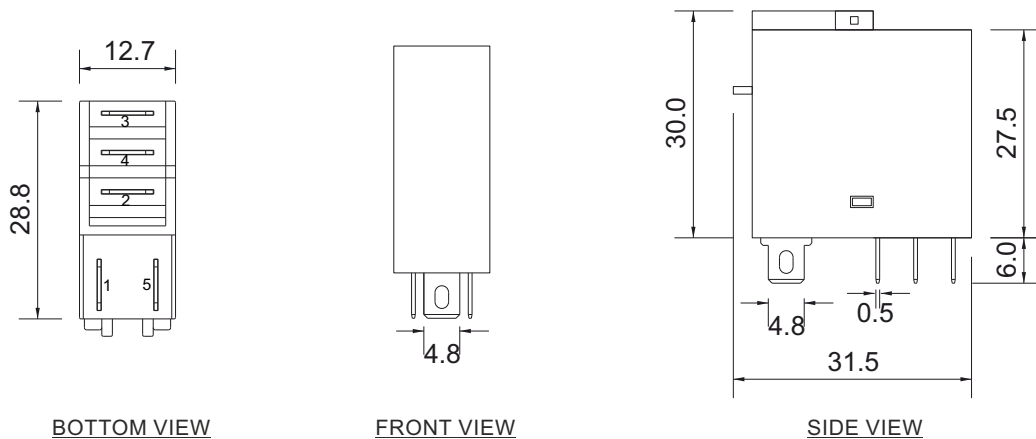
Model Number Selection

Types	Voltage	Model No.		Model No.	
		SPDT		DPDT	
		AC	DC	AC	DC
Basic	12V	22.11.01.012	22.11.02.012	22.12.01.012	22.12.02.012
	24V	22.11.01.024	22.11.02.024	22.12.01.024	22.12.02.024
	110V	22.11.01.110	22.11.02.110	22.12.01.110	22.12.02.110
	230V	22.11.01.230	-	22.12.01.230	-
LED	12V	22.11.11.012	22.11.12.012	22.12.11.012	22.12.12.012
	24V	22.11.11.024	22.11.12.024	22.12.11.024	22.12.12.024
	110V	22.11.11.110	22.11.12.110	22.12.11.110	22.12.12.110
	230V	22.11.11.230	-	22.12.11.230	-
LED & Diode	12V	22.11.21.012	22.11.22.012	22.12.21.012	22.12.22.012
	24V	22.11.21.024	22.11.22.024	22.12.21.024	22.12.22.024
	110V	22.11.21.110	22.11.22.110	22.12.21.110	22.12.22.110
	230V	22.11.21.230	-	22.12.21.230	-

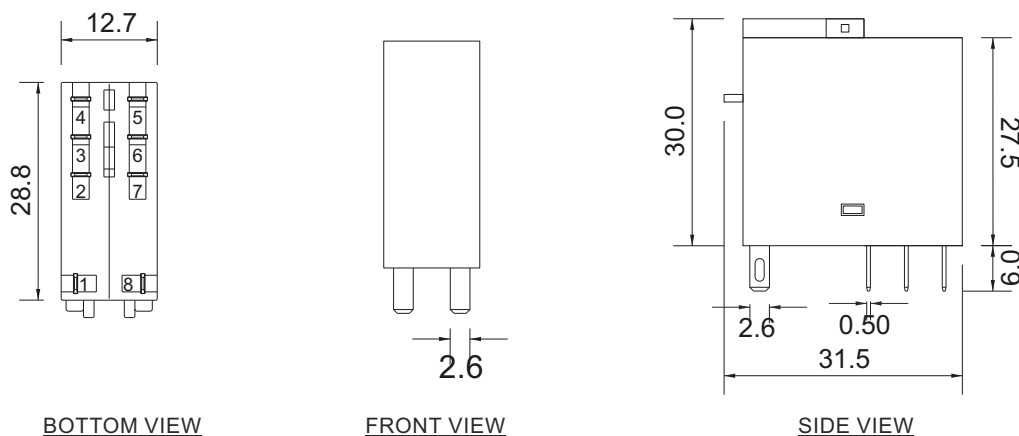
Dimensions

Blade Terminal

22.11 (SPDT)

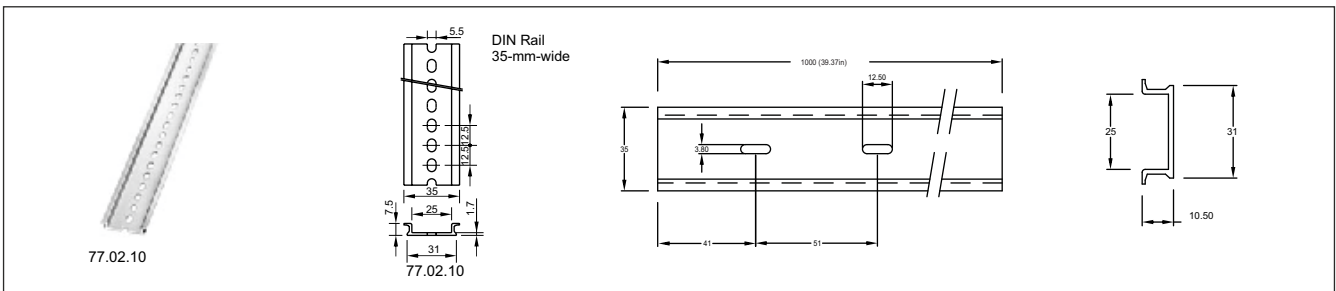


22.12 (DPDT)



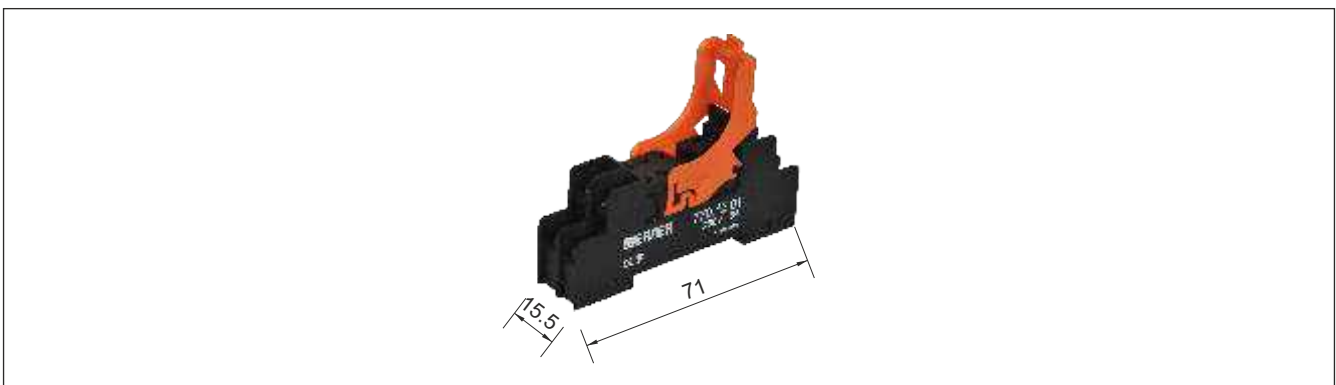
Accessories

DIN Rails



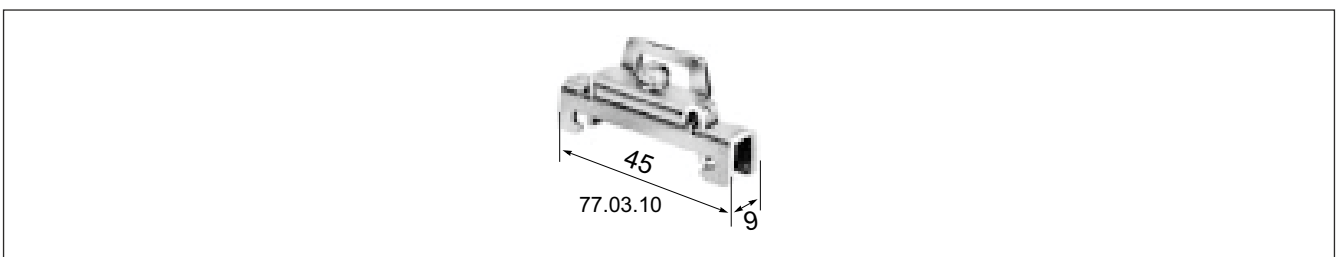
DIN Rail No.	Material	Length	Weight	Width
77.02.10	Aluminum	1000 mm	200 g	374" (9mm)

Socket Specification



Mounting Type		Terminal	Torque	Wire Size	1 Pole	2 Poles
DIN Rail	Without Finger-safe	M3 screws	0.6 to 1.0 N.m	Up to 2.0mm ² (12AWG)	770.11.01	770.12.01

Mounting Clips



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

*dimensions are in mm

24 Series Ultra Slim Relays

WERNER

Ultra Slim Relays

Features:

- Ultra Slim Relay
- High Dielectric strength of 5,000V AC
- Contact Capacity of 6A
- Only 15 mm height
- SPST & SPDT
- Recommended for interface application & Home appliance



Approvals

Approbations and Declaration of conformity

CE

CE

Overvoltage category

III, as per EN IEC 60947-5-1

DC Coil Ratings

Voltage	Rated Current (mA) AC 60Hz	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (watts)	Operation Properties		
				Continuous Voltage	Pickup Voltage	Dropout Voltage
6V	28.3	211	Abt. 0.217	160% max.	70% max.	5% min.
12V	14.2	847				
24V	7.1	3388				
48V	4.5	10617				

$\pm 15\%$ at 20°C

Contact Rating

Model	Contact Form	Continuous Current Resistive load	Allowable Voltage
SPST	NO	6A	250 V DC
SPDT	NO	5A	30 V DC
	NC	5A	

Specifications

Operating Temperature	-40 to +85°C (No freezing)	
Contact Resistance	100mΩ maximum at 6V DC, 1A	
Operating Humidity	45% to 85% RH (No condensation)	
Insulation Resistance	100MΩ minimum at 500V DC	
Dielectric Strength	Between contact and coil:	4,000V AC at 50/60 Hz for 1 minute
	Between Contacts:	1,000VAC at 50/60 Hz for one minute
Vibration Resistance	Damage limits:	10 to 55Hz, amplitude 1.5 mm
	Operating extremes:	10 to 55Hz, amplitude 1.5 mm
Shock Resistance	Damage limits:	100m/s ² (100G)
	Operating extremes:	1000m/s ² (100G)
Mechanical Durability	5x10 ⁷ Operations at No Load condition.	
Electrical Durability	(NO : 5x10 ⁴ , NC : 3x10 ⁴ Operations at Rated Resistive Load.	
Operate Time	10ms maximum at 20°C	
Release Time	5ms maximum at 20°C	
Contact Material	Silver Tin oxide alloy	
Operating Frequency	Electrical:	3600 operations/hour maximum
	Mechanical:	10,000 operations/hour maximum
Weight (approx.)	6g	

Socket Specification

Mounting	Terminal type	Terminal	Torque	Wire Size	Model No.
					1 Pole
DIN Rail	With Finger-safe	M3 screws - coil M3.5 screws - contact	0.6 to 1.0 N.m	Up to 3.5mm ² (12AWG)	74.11.01
	With Finger-safe	With Spring Clamp	-	upto 1.5mm ²	74.11.02

24 Series Ultra Slim Relays

WERNER

Model Number Structure - Ultra Slim Relays



24.11.01.024

Series	
24 Series Relays	

Terminal Type	
1	Ultra Slim

Number of Poles	
0	SPST
1	SPDT



Types	
0	Basic

Voltage	
006	6V
012	12V
024	24V
048	48V

Coil	
1	AC
2	DC

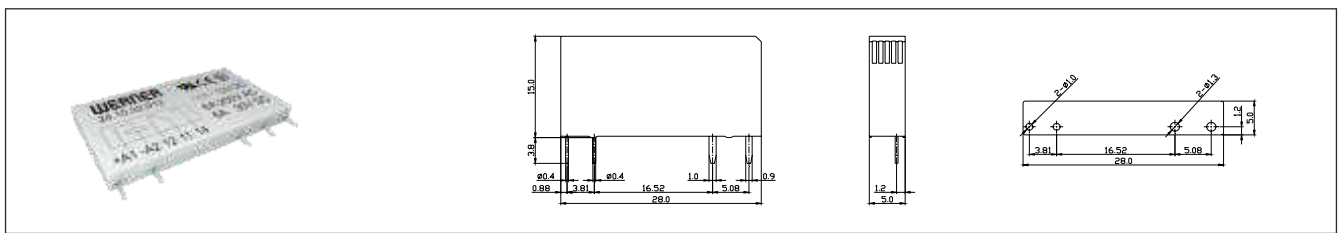
24 Series Ultra Slim Relays

Model Number Selection

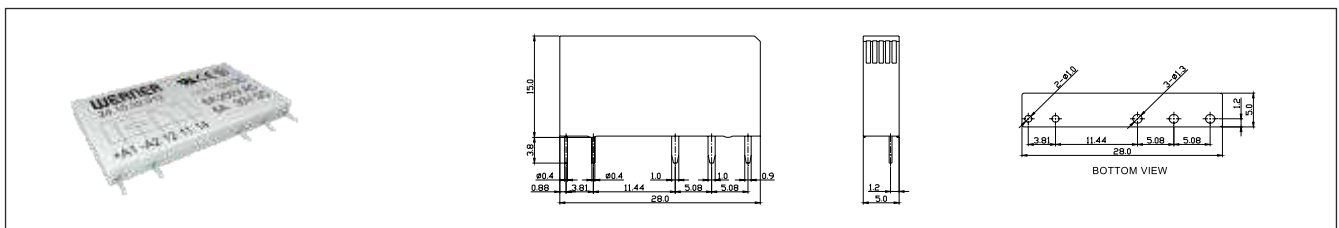
Appearance	Terminal Type	Types	Voltage	Model No.	
				AC	DC
 <p>SPST</p>	Ultra Slim	Basic	6V	24.10.01.006	24.10.02.006
			12V	24.10.01.012	24.10.02.012
			24V	24.10.01.024	24.10.02.024
			48V	24.10.01.048	24.10.02.048
 <p>SPDT</p>	Ultra Slim	Basic	6V	24.11.01.006	24.11.02.006
			12V	24.11.01.012	24.11.02.012
			24V	24.11.01.024	24.11.02.024
			48V	24.11.01.048	24.11.02.048

Dimensions

24.21(SPST)



24.22 (SPDT)



Internal Connection (Bottom View)

SPST

SPDT

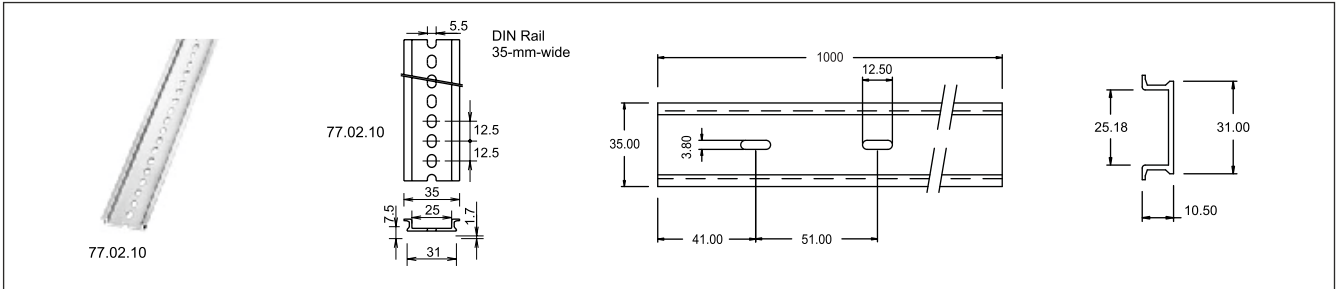


24 Series Ultra Slim Relays

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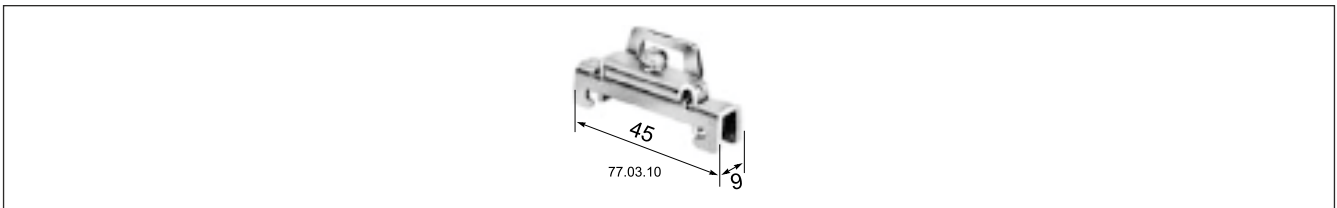
Accessories

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

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

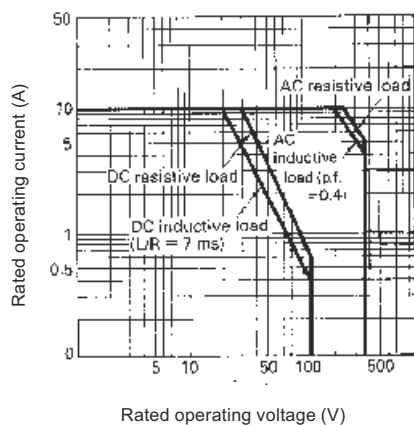
Model No.	26.21 (SPDT)	26.22 (DPDT)	26.23 (SPST-NO)	26.24 (DPST-NO)
Weight (approx.)	17g	18g	15g	16g

Specifications

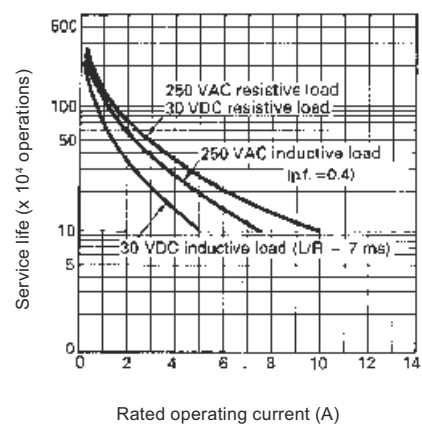
Operating Temperature	SPDT	-35 to +85°C (No freezing)
	DPDT	-35 to +85°C (No freezing)
Contact Resistance	-	100mΩ
Operating Humidity	-	5% to 85% RH
Insulation Resistance	-	1000MΩ minimum (at 500 VDC)
Dielectric Strength	-	5,000 VAC, 50/60 Hz for 1 minute between coil and contacts
	-	1,000 VAC, 50/60 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 ² (approx. 100G)
	-	200 m/s ² (approx. 20 G) when energized, 100 m/s ² (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





26.22.01.120

Series	
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

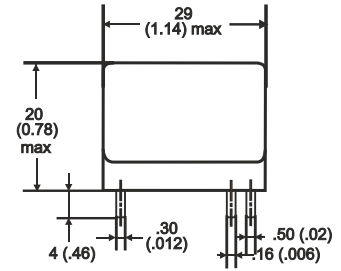
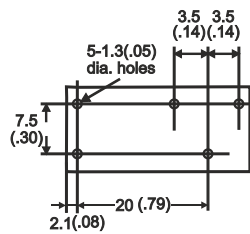
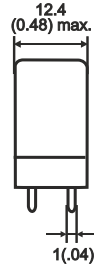
Coil	
1	AC
2	DC

Dimensions

26.21(SPDT)



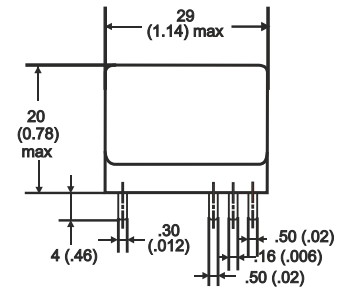
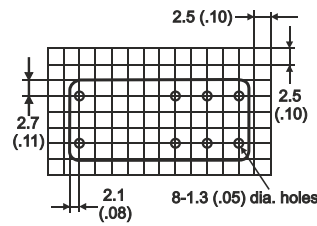
SPDT



26.22(DPDT)



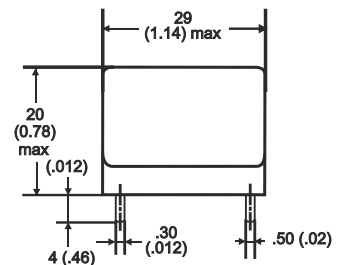
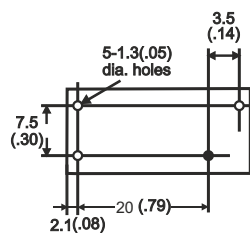
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26.23(SPST-NO)



SPST-NO

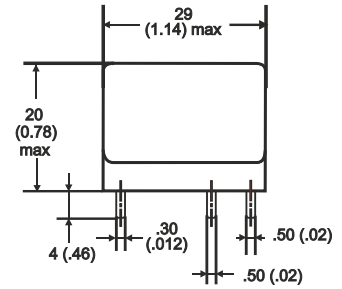
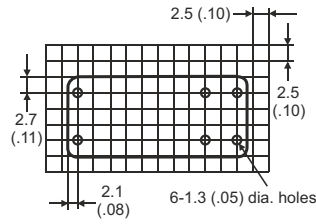


Dimensions

26.24(DPST-NO)

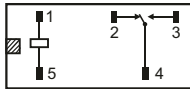


DPST-NO

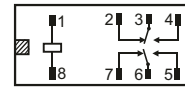


Internal Connection (Bottom View)

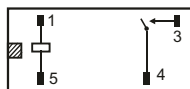
SPDT



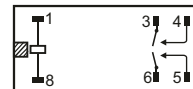
DPDT



SPST-NO



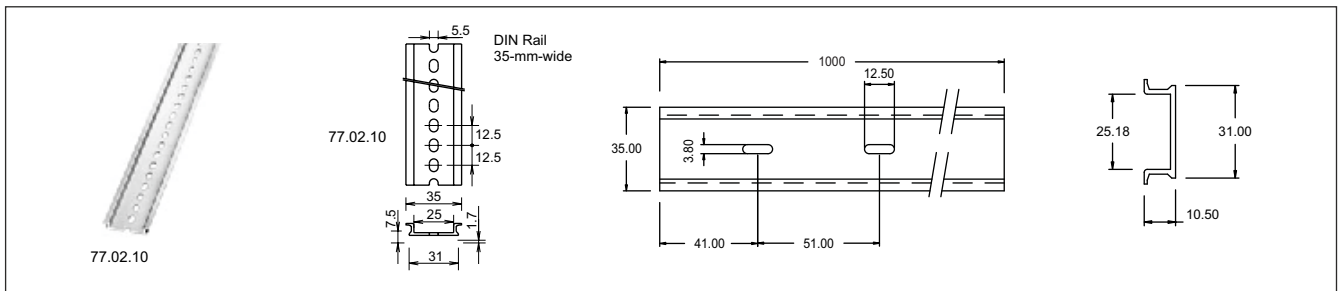
DPST-NO



26 Series PC Board Relays

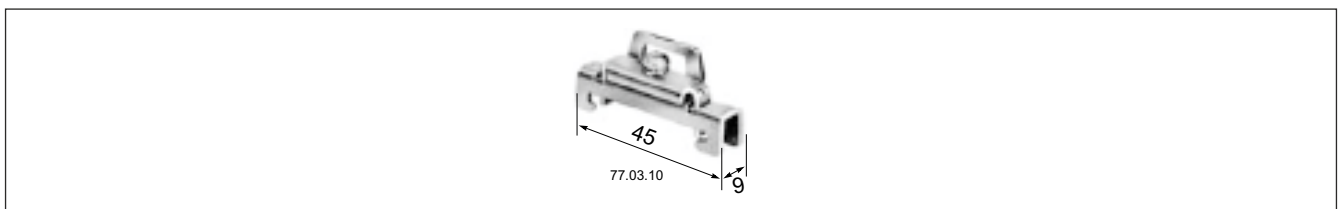
Accessories

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 ² (12AWG)	75.11.01	75.12.01
	With Spring Clamp	-	-	upto 1.5mm ²	75.11.05	75.12.05
PCB Mount Socket	PC Board	-	-	-	75.21	75.22

28 & 29 Series Solid State Relays

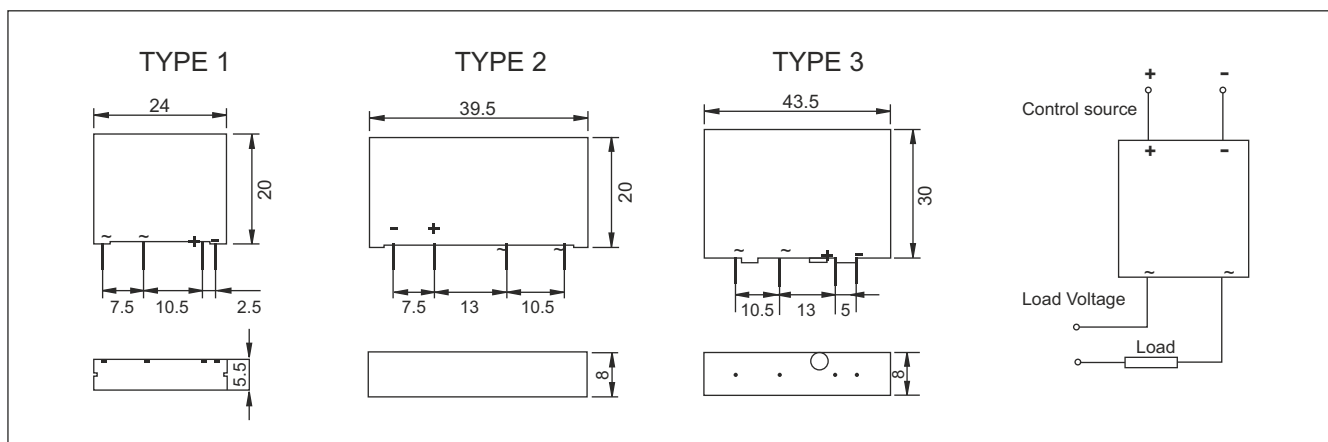
WERNER

PCB Mountable



Model No.	28.01.12.02	28.02.12.02	28.03.23.05
Guarantee close voltage	1 VDC		
Guarantee open voltage	3 VDC		
Load mini current	0.05A		
Control voltage	5 VDC		3-32 VDC
Control current	6-25 mA		4-20 mA
Reverse voltage	-		32VDC
Breakover voltage	≤1VAC		≤1.6 VAC
Output leakage current	≤1 mA		≤5 mA
Load voltage	24-280VAC		24-440 VAC
Load max current	2A		5A
Frequency range	50-60 Hz		
Operating temperature	-20-70°C		
Load current safty factor	resistive load 50-60% Inductive load 30-40%		
Medium withstand voltage	2500 VAC		
Insulating resistance	100MΩ		
Switching time	10ms		

Dimensions



28 & 29 Series Solid State Relays

WERNER

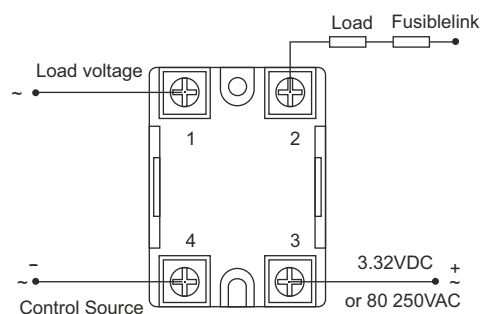
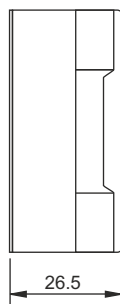
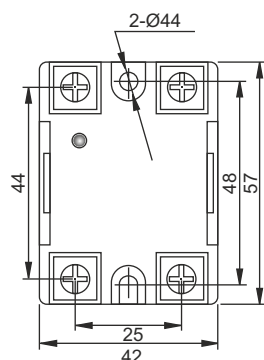
Type 4

Appearances



Model No.	28.04.2* **	28.04.3* **
Guarantee close voltage	1 VDC	30 VAC
Guarantee open voltage	3 VDC	80 VAC
Load mini current	0.05A	
Control voltage	3-32 VDC	80-250 VAC
Control current	4-20 mA	3-20 mA
Reverse voltage	32 VDC	NO
Breakover voltage	≤ 1.6 VAC	
Output leakage current	≤ 5 mA	
Load voltage	24-240VAC 75-480VAC	
Load max current	10A, 20a, 25A, 30A, 40A, 50A, 60A, 70A, 75A, 80A, 90A, 100A	
Frequency range	50-60 Hz	
Operating temperature	-20-70°C	
Load current safty factor	resistive load 50-60% Inductive load 30-40%	
Medium withstand voltage	2500 VAC	
Insulating resistance	100MΩ	
Switching time	10ms	

Dimensions



Note: ** Stands for amps

28 & 29 Series Solid State Relays

Type 4

Appearances

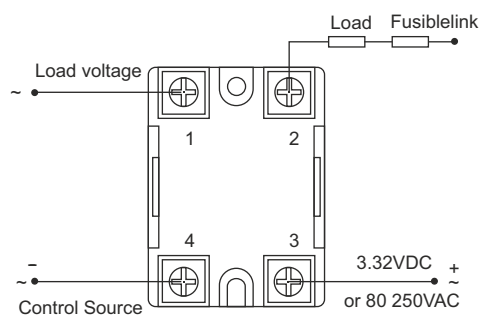
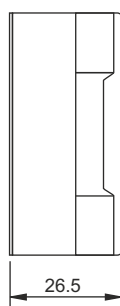
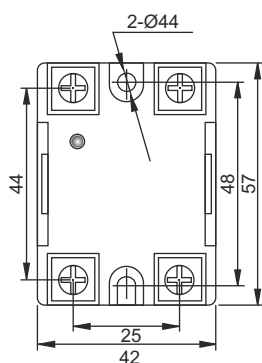


Model No.

28.04.44.**

Gurantee close voltage	1 VDC
Gurantee open voltage	3 VDC
Load mini current	0.05A
Control voltage	5-30 VDC
Control current	4-20 mA
Reverse voltage	32 VDC
Breakover voltage	≤ 1.6 VAC
Output leakage current	≤ 5 mA
Load voltage	12-250VDC
Load max current	10A, 20a, 25A, 30A, 40A, 50A, 60A, 70A, 75A, 80A, 90A, 100A
Frequency range	50-60 Hz
Operating temperature	-20-70°C
Load current safty factor	resistive load 50-60% Inductive load 30-40%
Medium withstand voltage	2500 VAC
Insulating resistance	100MΩ
Switching time	10ms

Dimensions



Note: ** Stands for amps

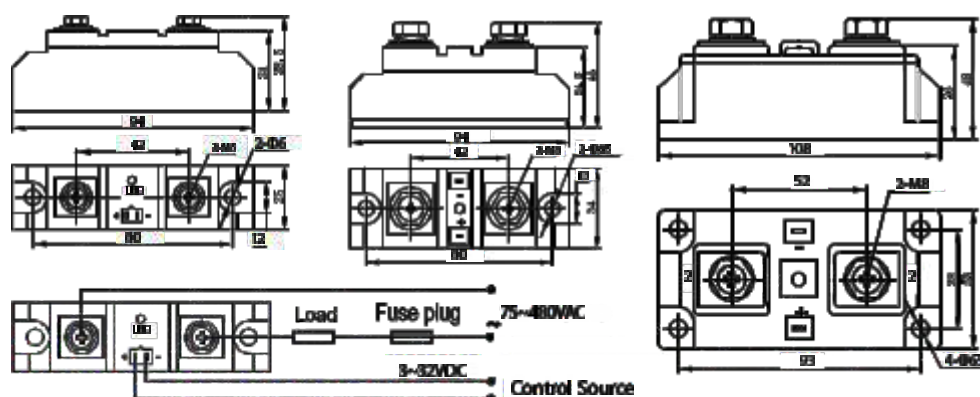
28 & 29 Series Solid State Relays

Solid State Relay



Model No.	29.04.21.90	29.04.21.150	29.04.21.300	29.04.21.400
Gurantee close voltage	1 VDC			
Gurantee open voltage	3 VDC			
Load mini current	0.05A			
Control voltage	3-32 VDC			
Control current	6-25 mA			
Reverse voltage	32 VDC			
Breakover voltage	≤ 1.6 VAC			
Output leakage current	≤ 8 mA			
Load voltage	75-480VAC			
Load max current	60A-90A	100A-150A	160A-300A	300A-400A
Frequency range	50-60 Hz			
Operating temperature	-20-70°C			
Load current safty factor	resistive load 50-60% Inductive load 30-40%			
Medium withstand voltage	2500 VAC			
Insulating resistance	100MΩ			
Switching time	10ms			

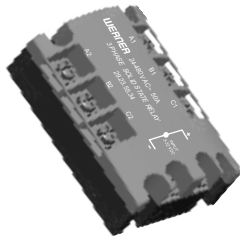
Dimensions



28 & 29 Series Solid State Relays

Solid State Relay

Appearances



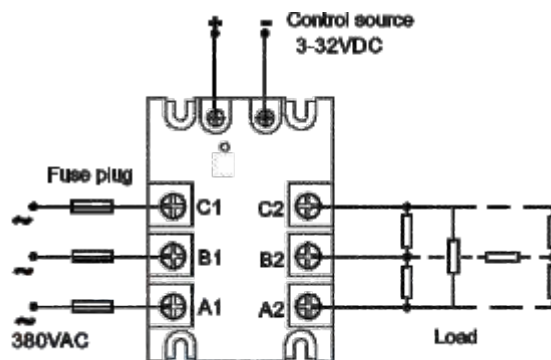
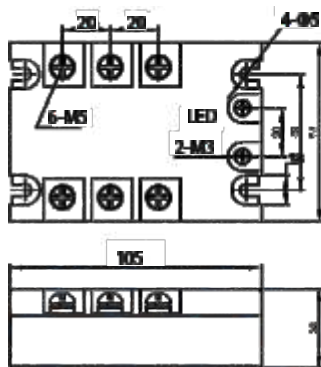
Model No.

29.04.11.**

29.04.21.**

Gurantee close voltage	1 VDC	30 VAC
Gurantee open voltage	3 VDC	80 VAC
Load mini current	0.05A	
Control voltage	3-32 VDC	80-250 VAC
Control current	10-30 mA	8-30 mA
Reverse voltage	32 VDC	NO
Breakover voltage	≤ 1.6 VAC	
Output leakage current	≤ 5 mA	
Load voltage	24-480VAC	
Load max current	10A, 20A, 25A, 30A, 40A, 50A, 60A, 70A, 80A, 90A, 100A	
Frequency range	50-60 Hz	
Operating temperature	-20-70°C	
Load current safty factor	resistive load 50-60% Inductive load 30-40%	
Medium withstand voltage	2500 VAC	
Insulating resistance	100MΩ	
Switching time	10ms	

Dimensions



Note: ** Stands for amps

28 & 29 Series Solid State Relays

Model Number Structure - Relays



28.04.22.05

Series	
28 Series Solid State Relays	

Mounting Type	
01	Type 1
02	Type 2
03	Type 3
04	Type 4

Control Voltage	
2	3-32 VDC
3	80-250 VAC
4	5-30 VDC

Load Current	
02	2A
05	5A
10	10A
16	16A
20	20A
25	25A
30	30A
40	40A
50	50A
60	60A
70	70A
75	75A
80	80A
90	90A
100	100A

Load Voltage	
2	24-240VAC
3	75-480VAC
4	12-250VDC
5	12-400VDC

28 & 29 Series Solid State Relays

Model Number Structure - Relays



29.04.21.90

Series	
29 Series Solid State Relays	

Mounting Type	
01	Type 1
02	Type 2
03	Type 3
04	Type 4
05	Type 5

Control Voltage	
1	3-32 VDC
2	80-250 VAC

Load Current	
10	10A
16	16A
20	20A
25	25A
30	30A
40	40A
50	50A
60	60A
70	70A
80	80A
90	90A
100	100A

Load Voltage	
1	24-480VAC