

Description

The 7PA30 1-phase relay is used to monitor the trip circuit of circuit breakers with 1 trip coil.

The trip circuit wiring is supervised from the positive supply to the negative supply whilst the circuit breaker is open or closed.

Applications

Due to the design and quality of the relays, their high durability and functional reliability, the relays are ideally suited for application in critical control systems and ensure proper monitoring of the entire trip circuit.

The high degree of protection ensures absolute reliability during operation within a wide temperature range, even in harsh environmental conditions.

The relay has been tested according to IEC, EN and IEEE standards. It bears the CE marking.

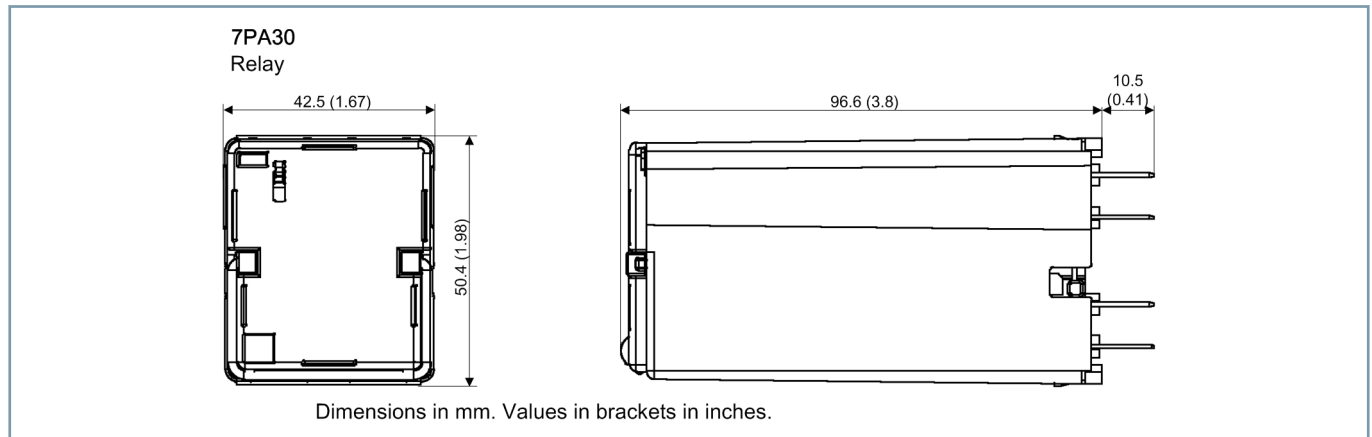


[ph_7PA30-1, 1, ---]

Figure 2.6/1 1-Phase Trip-Circuit Supervision Relay 7PA3032

The monitoring current is always less than 1.4 mA and ensures that there can be no failure of the trip coil. Proper operation is signaled via a green LED.

Dimensions and Connections

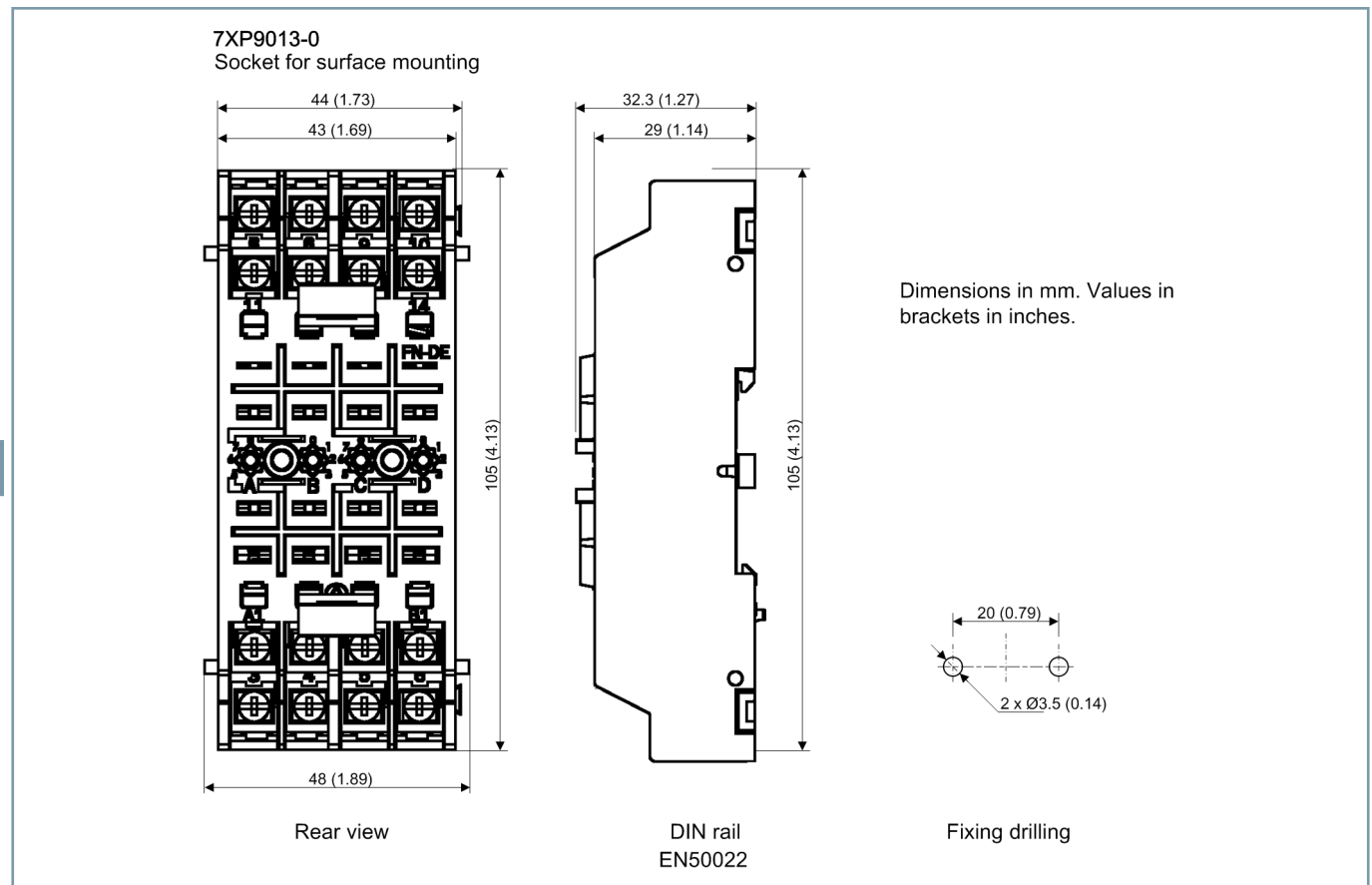


[dw_7pa30-1pls_dimensions_and_panel-mounting-cutout, 2, en_US]

Figure 2.6/2 Dimensions and Installation Dimensions

Auxiliary Relays

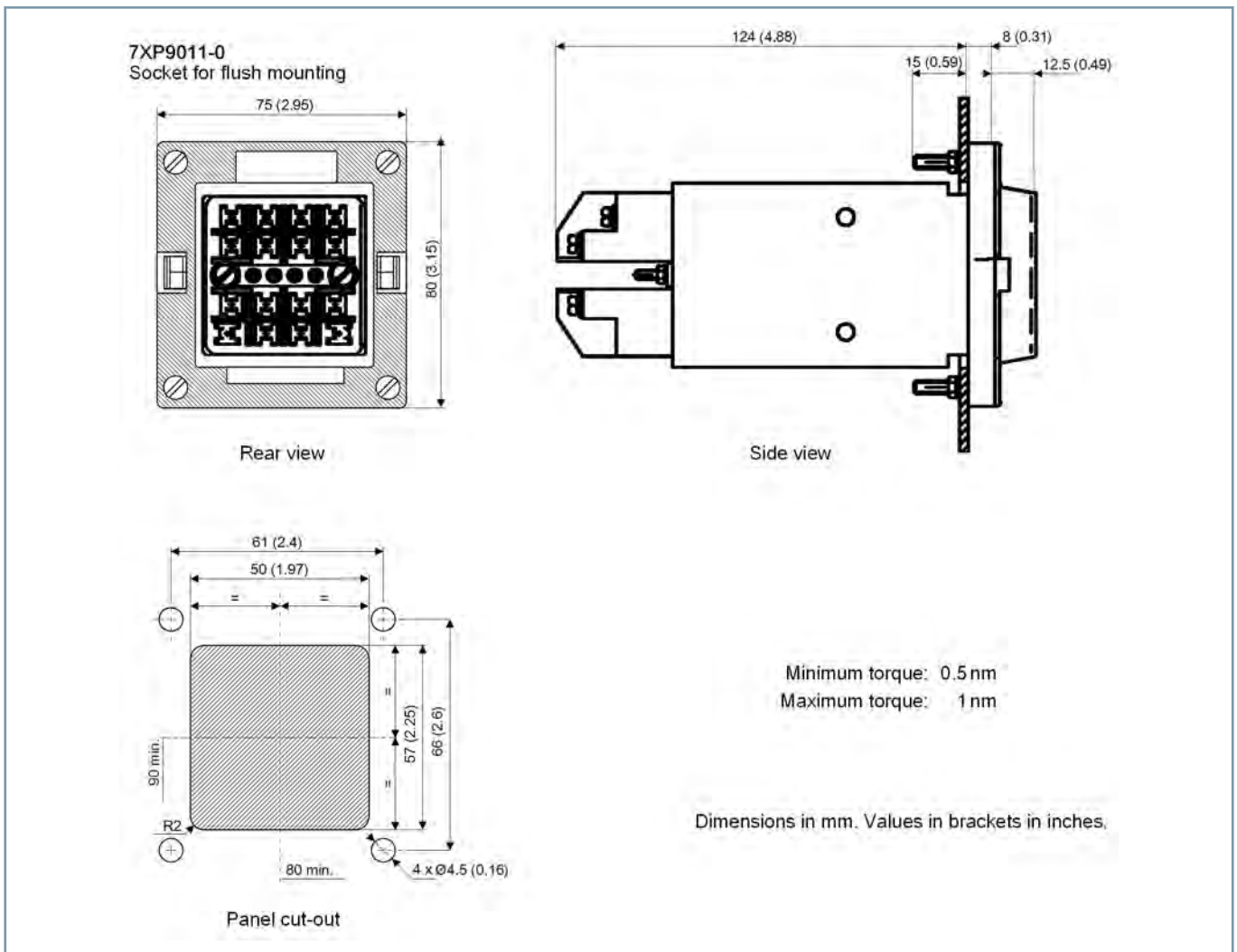
Trip-Circuit Supervision Relay – 7PA30 1-phase



[dw_7pa23_27_30-1phs_socket_for_surface-mounting, 2, en_US]

Figure 2.6/3 Surface-Mounting Base

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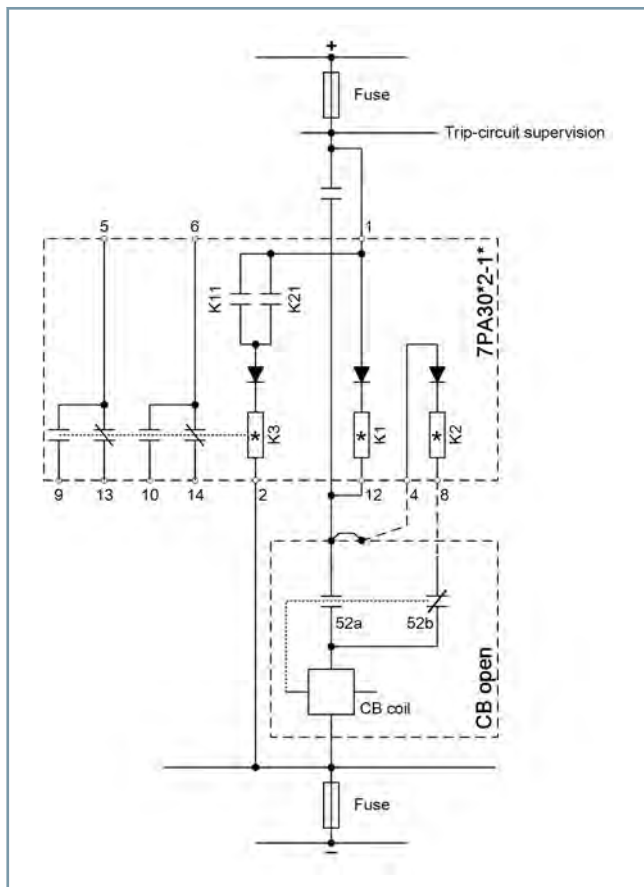
[dw_7pa30-1ph_socket_for_flush-mounting_2_en_US]

Figure 2.6/4 Flush-Mounting Base

Auxiliary Relays

Trip-Circuit Supervision Relay – 7PA30 1-phase

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[dw_7pa30-1phs_connection_2_en_US]

Figure 2.6/5 Connections – Contacts for a de-energized Relay

Technical Data

Rated Voltage and Internal Consumption		
V_N (VDC)	Voltage range (VDC)	Internal consumption (mA)
24/30	18 to 33	32
48	38.5 to 52.5	
60	45 to 66	18
110/125	82.5 to 137.5	
220	165 to 242	13

Pre-arcing time for excitation	> 500 ms
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Contacts	
Continuous current	8 A
Overload capability	15 A
Switching power	15 A/4 s/ 110 VDC
Breaking power	0.3 A/110 VDC

V_{max} open-circuited contact	250 VDC/400 VAC
Mechanical endurance	10^7 switching cycles
Operating temperature	-10 °C +55 °C

Storage temperature	-30 °C +70 °C
Max. humidity	93%/40 °C

Weights and packaging	
7PA30 1-phase	100 g
Carton	145x78x71 mm.
7XP9011-0	300 g
7XP9013-0	110 g

Design guidelines	
Electrical tests according to	IEC 60255-27
Insulation	2 kV/50 Hz/1 min
Surge immunity	5 kV/1.2/50 μ s
Insulation resistance	> 100 M Ω /500 VDC
Flame resistance	
Plastics	UL94: V0
Protection class	IEC 60529, EN60529
Relays	IP40
Flush-mounting base	IP10
Surface-Mounting Base	IP10
Environmental conditions	IEC 60068-2
Dry cold, in operation	-10 °C
Dry heat, in operation	+55 °C
Storage and transportation	-30 °C +70 °C

EMC Tests	
High-frequency test:	EN 60255-22-1
Test level: 1 MHz, 400 imp/s, 2 s	
Common mode: 2.5 kV	
Differential mode: 1 kV	
Fast transient bursts	EN 61000-4-4
Test level: 4 kV, 2.5 kHz, 1 min•2 kV, 5 kHz, 1 min	
Energy surge voltages	EN 61000-4-5
8/20 μ s. (current) - 1.2/50 μ s. (voltage) - 8/20 μ s. (current)	
Common mode: 2 kV - differential mode: 1 kV	
Radiated HF field interference,	EN 61000-4-3
amplitude-modulated: Test level: 80-1000 MHz, 10 V/m, 80% AM (1 kHz)	
Radiated HF field interference, pulse-modulated:	EN 61000-4-3
Test level: 900 \pm 5 MHz, 10 V/m, 50% (200 Hz) 1.89 GHz \pm 10 MHz, 10 V/m, 50% (200 Hz)	
Line-conducted HF	EN 61000-4-6
amplitude-modulated: Test level: 0.15-80 MHz, 10 V, 80% AM (1 kHz)	
Electrostatic discharge test: Test level:	EN 61000-4-2
Contact \pm 15 kV, air mode \pm 15 kV	

EMC Tests	
Magnetic Field with Energy Frequency Test level: 100 A/m 1 min•1000 A/m 1 s.	EN 61000-4-8
Emitted interference tests: Test level: Cover: 30-230 MHz, 40 dB (µV/m) (quasi peak) - 10 m 230-1000 MHz, 47 dB (µV/m) (quasi peak) - 10 m Power supply: 0.15-0.5 MHz, 79 dB (µV) (quasi peak)/66 dB average 0.5-5 MHz, 73 dB (µV) (quasi peak)/60 dB average 5-30 MHz, 73 dB (µV) (quasi peak)/60 dB average	EN 55011 Class A

Selection and Ordering Data

Description	Order No.															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1-phase Trip-circuit supervision relay with 2 change-over contacts	7	P	A	3	0	□	2	-	□	A	A	0	0	-	□	
						▲			▲					▲		
<i>Rated voltage</i>						|			|					|		
DC 24/30 V						1			|					|		
DC 60 V						2			|					|		
DC 110/125 V						3			|					|		
DC 220 V						4			|					|		
DC 48 V						8			|					|		
<i>Number of phases</i>									|					|		
1-phase									1					|		
<i>Base</i>														|		
Without base														0		
With base 7XP9011-0 (flush mounting)														1		
With base 7XP9013-0 (surface mounting)														2		
5 x retaining bracket for auxiliary relay with surface mounting base (1 required for each relay/ surface mounting base)	.	.	.	.	.	.	.	.	.	A	Y	R	:	E	4	3