

7PA26/27/30 Auxiliary Relays for Various Applications/Trip Circuit Supervision



Fig. 14/5 7PA2 auxiliary relays

Description

Due to their quality, reliability and design, these relays are optimal for applications requiring high reliability and availability such as power stations, substations, railway and industrial plants. Typical examples include petrochemical industry, chemical industry, cement industry, rolling mills etc.

The relays comply with the IEC, EN, IEEE standards (type and routine test) and bear the CE mark.

The robust switch contacts are characterized by high make/break capacity, overload capability and continuous current intensity capacity; thus perfect insulation is obtained. Direct control of high-voltage and medium-voltage switchgear is possible.

Technical data for 7PA26 and 7PA27

Switching contacts
 Continuous current 10 A
 Overload capability 80 A/200 ms
 150 A/10 ms
 Switching current/voltage 40 A/0.5 s/110 V DC

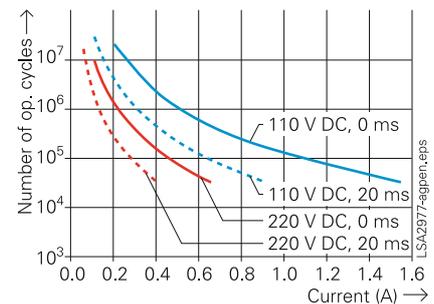
Breaking capacity for 10⁵ operating cycles

V DC	Non-inductive		Inductive, 20 ms	
	1 contact	2 contacts in series	1 contact	2 contacts in series
24	6.6	12.7	3.2	6.0
60	2.6	4.9	1.4	2.7
125	1.2	2.2	0.6	1.1
220	0.6	1.1	0.3	0.6

For details see characteristics

V_{max} , open contact 250 V DC/400 V AC
 Mechanical service life 10⁷ operating cycles
 Operating temperature -10 °C to +55 °C
 14 °F to 131 °F

Max. permissible humidity 93 % at 40 °C/104 °F



Technical data for 7PA30

Contacts
 Permanent current 8 A
 Instantaneous current 15 A
 Making capacity 15 A/4 s/110 V DC
 Breaking capacity 0.3 A/110 V DC
 U_{max} opened contact 250 V DC/400 V AC
 Mechanical life 10⁷ operations
 Operating temperature -10 °C +55 °C
 Storage temperature -30 °C +70 °C
 Operating humidity 93 %/40 °C

Standards

Electrical test performed acc. to IEC 60255-5
 Dielectric test 2 kV / 50 Hz / 1 min
 Surge withstand test 5 kV / 1.2 / 50 μs
 Insulation >100 MΩ / 500 V DC

Inflammability tests UL94: VO
 Plastic materials

Degree of protection Relay: IP40
 acc. to IEC 60529

Climatic stress test acc. to IEC 60068-2
 Dry cold, operation -10 °C
 Dry heat, operation +55 °C
 Storage and transport -25 °C +70 °C

Constructions standards (Cont'd)

Immunity test EMC

- EN 60255-22-1 High frequency 1 MHz burst disturbance test:
Test level: 1 MHz, 400 imp/s, 2 s
Common mode: 2,5 kV
Differential mode: 1 kV
- EN 61000-4-4 Electrical Fast transient burst:
Test level 4 kV, 2.5 kHz,
1 min · 2 kV, 5 kHz, 1 min
- EN 61000-4-5 Surge 8/20 μs (current)
1.2/50 μs (voltage)
Common mode: 2 kV-
Differential mode: 1 kV
- EN 61000-4-3 Radiated electromagnetic field:
Test level: 80-1000 MHz,
10 V/m, 80 % AM (1 kHz)
- EN 61000-4-3 Digital telephones radiated electromagnetic field: Test level:
900 ± 5 MHz, 10 V/m, 50 %
(200 Hz) 1.89 GHz ± 10 MHz,
10 V/m, 50 % (200 Hz)
- EN 61000-4-6 Conducted disturbances induced by radio frequency fields.
Test level: 0.15-80 MHz, 10 V,
80 % AM (1kHz)
- EN 61000-4-2 Electrostatic discharges: Test level: Contact ± 15 kV;
Air mode ± 15 kV
- EN 61000-4-8 Power frequency magnetic field:
Test level: 100 A/m
1 min · 1000 A/m 1 s
- EN 55011 Class A Emission test: 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 val.
0.5-5 MHz, 73 dB(μV)
(quasi peak)/ 60 dB average val.
5-30 MHz, 73 dB(μV)
(quasi peak)/ 60 dB average val.

7PA26 Monostable fast-acting relay

Description

The monostable 7PA26 has eight change-over contacts.

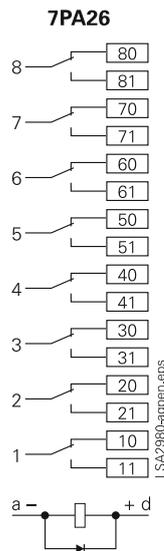


Fig. 14/6 Connection diagram

Technical data

Rated voltages and consumption

V _N	Voltage range	Consumption
V DC	V DC	mA
7PA26□20		
24/30	20 – 33	278
60	48 – 66	100
110/125	88 – 138	55
220	176 – 242	28
		Consumption
		Normal
		Peak
7PA26□21		
24/30	19 – 36	50
60	42 – 72	20
110/125	77 – 150	14
220	154 – 264	7

- Pick-up time: 7PA26□20 < 20 ms
7PA26□21 < 10 ms

- Drop-out time: < 40 ms

General description see page 14/5.
Refer to part 15 for dimension drawings.

Selection and ordering data

Description	Order No.
7PA26 monostable relay with 8 changeover contacts	7PA26□2-□AA00-□
<i>Auxiliary voltage</i>	
24 /30 V DC	1
60 V DC	2
110/125 V DC	3
220 V DC	4
Standard, 20 ms	0
Fast, 10 ms	1
<i>Socket</i>	
without socket	0
with flush-mounting socket 7XP9010-3	1
with surface-mounting socket 7XP9012-0	2

Accessories

Description	Order No.
<i>Socket as spare part</i>	
Flush mounting	7XP9010-3
Surface mounting	7XP9012-0

7PA27 Monostable fast-acting relay

Description

The monostable 7PA27 is a fast-acting relay with four changeover contacts.

Technical data

Rated voltages and consumption

V_N	Voltage range	Consumption	
		Normal	Peak
V DC	V DC	mA	
24/30	19 – 36	28	1 A/20 ms
60	42 – 72	12	1 A/20 ms
110/125	77 – 150	8	0,3 A/20 ms
220	154 – 264	6	0,3 A/20 ms

- Pick-up time: < 8 ms
- Drop-out time: < 40 ms

General description see page 14/5.

Refer to part 15 for dimension drawings.

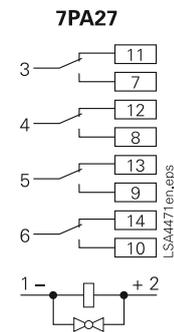


Fig. 14/7 Connection diagram

Selection and ordering data

Description	Order No.
7PA27 monostable fast-acting relay	7PA27□2-0AA00-□
<i>Auxiliary voltage</i>	
24 / 30 V DC	1
60 V DC	2
110 / 125 V DC	3
220 V DC	4
<i>Socket</i>	
without socket	0
with flush-mounting socket 7XP9011-2	1
with surface-mounting socket 7XP9013-0	2

Accessories

Description	Order No.
<i>Socket as spare part</i>	
Flush mounting	7XP9011-2
Surface mounting	7XP9013-0

7PA30 Three-phase Trip circuit supervision

Description

The relay is for supervision of the trip circuit of a circuit breaker with three selective trip coils. The trip circuit wiring is supervised from the positive supply to the negative supply whilst the circuit breaker is open or closed.

Functions

The design, quality and rugged construction of the relay make it suitable for applications requiring high levels of reliability/dependability. The high degree of protection guarantees reliable operation over a wide temperature range, even under extreme environmental conditions.

The relay has been tested in accordance with IEC, EN and IEEE standards. The relay is CE marked. The supervision current is always less than 1.4 mA thus avoiding unwanted operation of the trip coil. Correct operation is shown via a green LED.

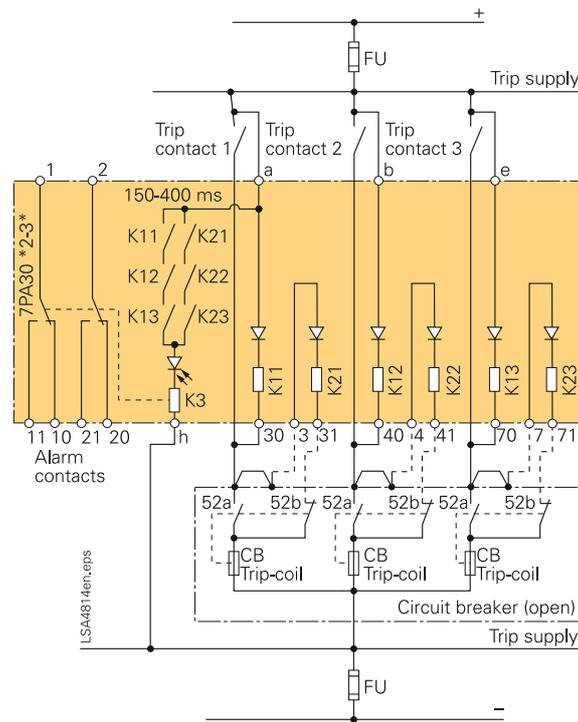


Fig. 14/8 Connection diagram for 3-phase relay

Standard voltages and consumption

V_N	Voltage range	Consumption	Impedance per phase	Pickup Drop out Voltage
V DC	V DC	mA	k Ω /s	V DC
24/30	18 - 33	35	20	between 12 and 18
60	42 - 66	20	44	36 and 42
110/125	77 - 138	20	94	66 and 77
220	154 - 275	15	200	132 and 154

Drop-out time: between 150 ms and 400 ms

Selection and ordering data

Description	Order No.
7PA30 trip circuit supervision (three-phase)	7PA30□2-3AA00-□
<i>Auxiliary voltage</i>	
24/30 V DC	1
60 V DC	2
110/125 V DC	3
220 V DC	4
<i>Socket</i>	
without socket	0
with flush-mounting socket 7XP9010-4	1
with surface-mounting socket 7XP9012-0	2

Accessories

Description	Order No.
<i>Socket as spare part</i>	
Flush mounting	7XP9010-4
Surface mounting	7XP9012-0

