

112 Series - Low Coil Power - Industrial Pin Out SPDT, DPDT, 2 Amp



The 112 series relays are capable of sensing extremely low current flow. They are frequently used to detect ground faults or in applications where applied voltage varies significantly. DC versions can sense currents as low as 0.61mA and tolerate voltages up to 10X minimum. AC versions can sense currents as low as 0.74mA and can tolerate voltages up to 5X minimum. Single pole DC coil versions use as little as 12mW of power while double pole versions can be as low as 60mW. Single pole AC coil version use as little as 160mVA while double pole versions can be as low as 800mVA. Pick-up or drop-out current can be fine tuned by end user via knurled thumbwheel after loosening locknut.

Remove all power to make adjustments

GENERAL SPECIFICATIONS (@ 25° C)

Contacts:

Contact Configuration	SPDT, DPDT
Contact Material	Silver
Contact Rating	
120 / 240VAC Resistive	2 Amp
28VDC Resistive	2 Amp
Contact Resistance, Initial	100 milliohms max @ 6VDC

Coil:

Coils Available	AC and DC
Minimum Coil Power	
Single Pole	160mVA 10mW
Double Pole	800mVA 60mW
3 Pole	- -
4 Pole	- -
Duty	Continuous

Timing:

Operate Time (max)	20mS
Release Time (max)	20mS

Dielectric Strength:

Across Open Contacts	500Vrms
Between Mutally Insulated Points	1500Vrms
Insulation Resistance	1,000 Mohms min @ 500VDC

Temperature:

Operating	-20 to 60°C (-4 to 140°F)
Storage	-40 to 105°C (-40 to 221°F)

Life Expectancy:

Electrical (full load operations)	100,000
Mechanical (no load operations)	500,000

Miscellaneous:

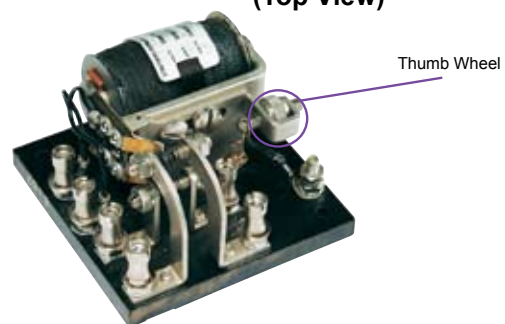
Mounting Position	Any
Mating Socket	27390D (P or PGF versions)

Accessories	
Enclosure	Clear Polycarbonate
Weight	7.5oz (241 grams)

PGF / P
Version



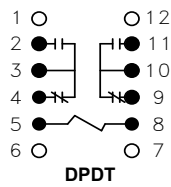
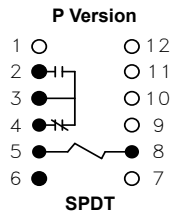
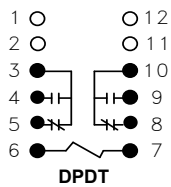
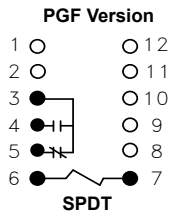
Panel Mount Wire Diagram
(Top View)



Sensitive - Low Input Power Relays

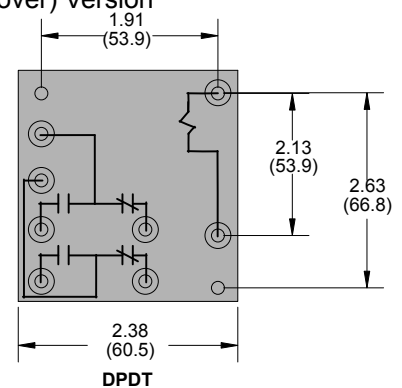
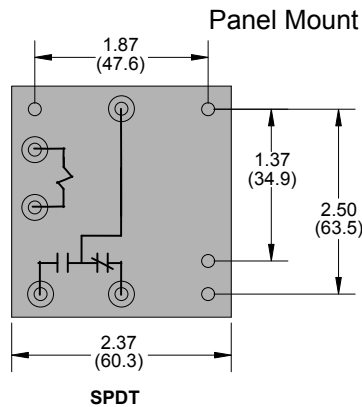
2 to 5 Amps

Wire Diagram



112-PGF relays have front removable covers permitting access to user adjustable fine turning of pick-up or drop out while in socket

112-P relays are covered and adjustable but must be removed from socket to detach cover



Ordering Code	112	XBX	PGF	42mAAC
Series	112			
Contact Arrangement		XAX (SPDT) - (1 form C) XBX (DPDT) - (2 form C)		
Construction			Panel Mount - No CODE Plug-in / Front removable cover - CODE PGF Plug-in - CODE P	
Coil Current				Choose coil from tables on next page based on current or voltage. Specify by current (mAAC or mADC)

CAUTION: DISCONNECT POWER WHILE MAKING ADJUSTMENTS

112 Series - Low Coil Power - Industrial Pin Out

SPDT, DPDT, 2 Amp

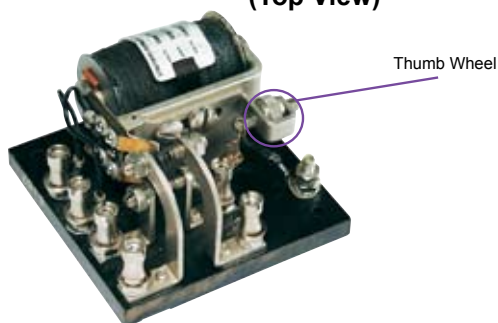
Coil Specifications

112 Coils SPST					
AC Coils, 50/60HZ			DC Coils		
Minimum milliamps	Minimum voltage	Impedance ohms	Minimum milliamps	Minimum voltage	Resistance $\pm 7.5\%$
177.0	1.0	6.0	145.0	0.08	0.55
143.0	1.4	9.0	117.0	0.10	0.84
116.0	1.6	13.0	95.0	0.12	1.26
91.0	2.0	22.0	73.0	0.15	2.10
74.0	2.5	34.0	60.0	0.19	3.10
52.5	3.5	65.0	43.0	0.25	5.80
41.5	4.3	100.0	33.0	0.30	9.0
38.0	5.0	130.0	31.0	0.39	12.50
31.5	6.0	190.0	26.0	0.49	19.0
23.0	8.5	370.0	18.8	0.62	33.0
19.0	12.0	630.0	15.5	0.78	50.0
15.7	13.5	860.0	12.8	0.95	74.0
11.8	16.0	1350.0	9.7	1.30	129.0
9.7	20.0	2070.0	7.9	1.60	197.0
7.7	23.0	3000.0	6.3	2.0	312.0
6.0	33.0	5500.0	4.9	2.50	504.0
4.7	43.0	9230.0	3.8	3.20	840.0
3.9	55.0	14300.0	3.2	3.90	1220.0
3.0	67.0	22500.0	2.4	4.80	1990.0
2.3	87.0	38500.0	1.8	6.40	3450.0
1.9	103.0	53000.0	1.6	8.00	5050.0
1.5	130.0	85000.0	1.3	9.70	7700.0
1.2	146.0	120600.0	1.0	11.70	11700.0
0.95	168.0	177000.0	0.84	16.00	19000.0
0.74	225.0	300000.0	0.61	21.00	34000.0
112 Coils SPDT					
AC Coils, 50/60HZ			DC Coils		
Minimum milliamps	Minimum voltage	Impedance ohms	Minimum milliamps	Minimum voltage	Resistance $\pm 7.5\%$
390.0	2.3	6.0	323.0	0.18	0.55
310.0	2.8	9.0	260.0	0.22	0.84
250.0	3.3	13.0	211.0	0.27	1.26
200.0	4.4	22.0	165.0	0.37	2.10
160.0	5.5	34.0	133.0	0.41	3.10
114.0	6.9	65.0	95.0	0.55	5.80
91.0	9.1	100.0	76.0	0.68	9.0
83.0	10.8	130.0	69.0	0.86	12.50
69.0	13.1	190.0	57.0	1.09	19.0
50.0	20.6	370.0	42.0	1.37	33.0
42.0	26.5	630.0	35.0	1.72	50.0
35.0	30.0	860.0	29.0	2.11	74.0
26.0	35.0	1350.0	22.0	2.77	129.0
22.0	45.5	2070.0	18.0	3.46	197.0
16.4	49.0	3000.0	14.0	4.33	312.0
13.0	72.0	5500.0	11.0	5.47	504.0
10.2	95.0	9230.0	8.5	7.11	840.0
8.5	122.0	14300.0	7.0	8.53	1220.0
6.5	146.0	22500.0	5.5	10.80	1990.0
4.9	190.0	38500.0	4.0	14.10	3450.0
4.3	230.0	53000.0	3.5	17.70	5050.0

Sensitive - Low Input Power Relays

2 - 5 Amp

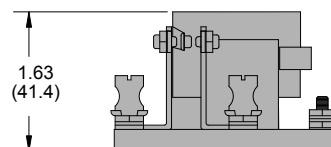
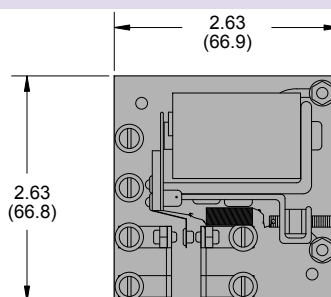
**Panel Mount Wire Diagram
(Top View)**



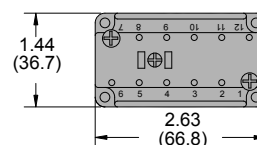
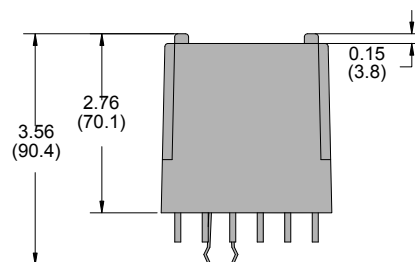
Outline Dimensions

Dimensions Shown in inches & (millimeters)

Panel Mount



PGF / P Versions



**PGF / P
Version**



Maximum AC coil voltage 5 x minimum
Maximum DC coil voltage 10 x minimum
Neither to exceed 300 volts