



## Time Delay Relay

Ver 2.0 1202

When triggered, this board will activate a mechanical relay for a specified period of time. This time is controlled by a "timing resistor" which is easily replaceable by the user. (See below for a table of resistor values and associated time delays) Time delays can range from less than a second to about 50 minutes. The trigger can be a switch closure, sensor or even another control relay contact closure. An LED indicates when the NO contacts of the relay are closed.

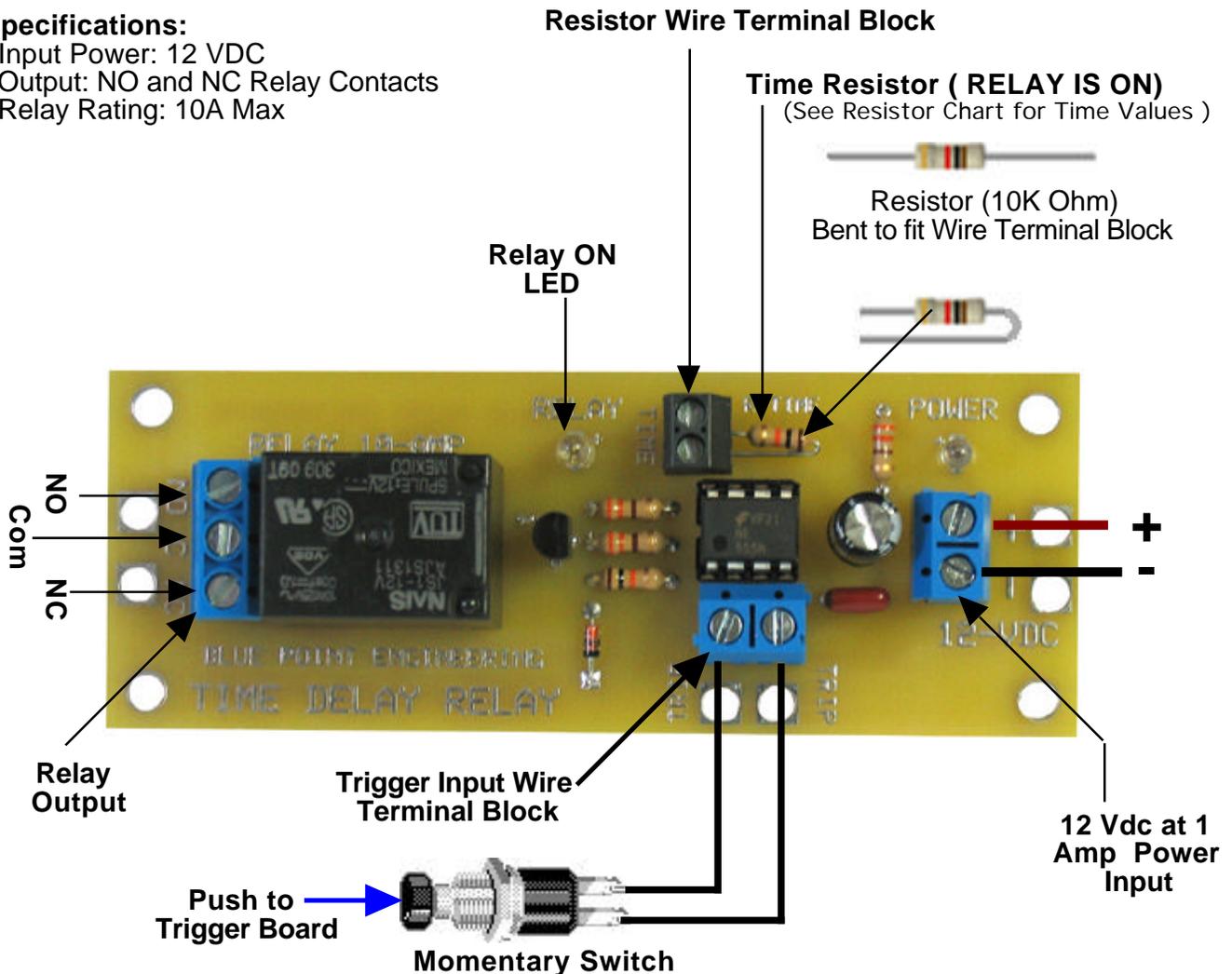
This board is based on the 555 Timer and the relay is rated for up to 10 amps. The relay has Normally Open (NO) and Normally Closed (NC) load terminal connections. The board requires 12VDC for operation.

### Miscellaneous Information:

- The relay activates as soon as the trigger occurs but timing begins as soon as the trigger is interrupted. For example, if you have a timing resistor installed to give a delay of 10 seconds and you hold the trigger switch down for 5 seconds, the relay will be activated for 15 seconds.

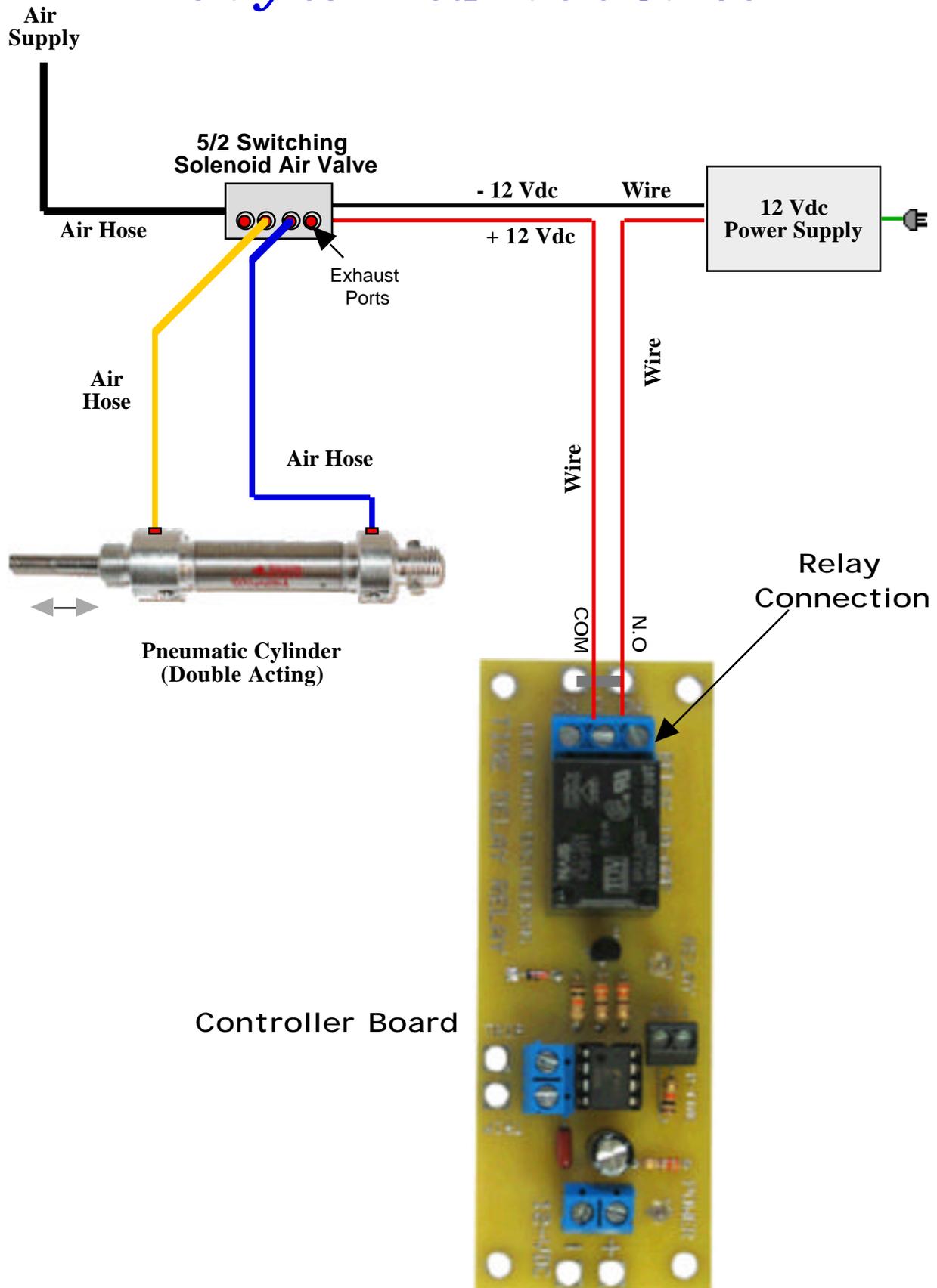
### Specifications:

- Input Power: 12 VDC
- Output: NO and NC Relay Contacts
- Relay Rating: 10A Max





# Relay to Pneumatic Valve







## Time Delay Relay

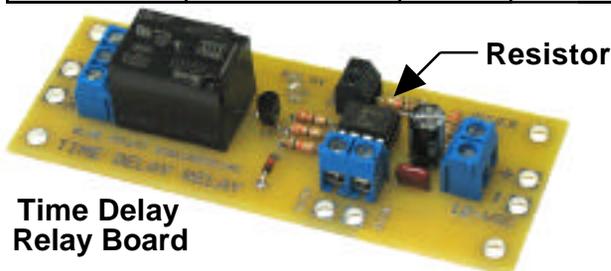
Resistor Values / Time Delay Chart

### Resistor Values / Time Delay Chart



Resistor Value (K)	Seconds	+5%	-5%
10 K	2.2	2.1	2.3
11 K	2.5	2.4	2.6
12 K	2.8	2.6	2.9
13 K	3.1	2.9	3.2
15 K	3.6	3.4	3.8
16 K	3.9	3.7	4.1
18 K	4.5	4.2	4.7
20 K	5.0	4.8	5.3
22 K	5.6	5.3	5.9
24 K	6.2	5.8	6.5
27 K	7.0	6.6	7.3
30 K	7.8	7.5	8.2
33 K	8.7	8.3	9.1
36 K	9.5	9.1	10.0
39 K	10.4	9.9	10.9
43 K	11.5	10.9	12.1
47 K	12.6	12.0	13.3
51 K	13.7	13.1	14.4
56 K	15.2	14.4	15.9
62 K	16.8	16.0	17.7
68 K	18.5	17.6	19.5
75 K	20.5	19.5	21.5
82 K	22.5	21.3	23.6
91 K	25.0	23.7	26.2
100 K	27.5	26.2	28.9
110 K	30.3	28.8	31.9
120 K	33.2	31.5	34.8
130 K	36.0	34.2	37.8
150 K	41.6	39.5	43.7
160 K	44.4	42.2	46.6
180 K	50.0	47.5	52.5
200 K	55.6	52.9	58.4

Resistor Value (K-M)	Minutes	+5%	-5%
220 K	1.02	0.97	1.07
240 K	1.11	1.06	1.17
270 K	1.26	1.19	1.32
300 K	1.40	1.33	1.47
330 K	1.54	1.46	1.61
360 K	1.68	1.59	1.76
390 K	1.82	1.73	1.91
430 K	2.01	1.91	2.11
470 K	2.19	2.08	2.30
510 K	2.38	2.26	2.50
560 K	2.61	2.48	2.75
620 K	2.90	2.75	3.04
680 K	3.18	3.02	3.34
750 K	3.51	3.33	3.68
820 K	3.83	3.64	4.02
910 K	4.25	4.04	4.47
1.0 M	4.68	4.44	4.91
1.1 M	5.15	4.89	5.40
1.2 M	5.61	5.33	5.89
1.3 M	6.08	5.78	6.39
1.5 M	7.02	6.67	7.37
1.6 M	7.49	7.11	7.86
1.8 M	8.43	8.00	8.85
2.0 M	9.36	8.90	9.83
2.2 M	10.30	9.79	10.82
2.4 M	11.24	10.68	11.80
2.7 M	12.64	12.01	13.28
3.0 M	14.05	13.35	14.75
3.3 M	15.46	14.68	16.23
3.6 M	16.86	16.02	17.71
3.9 M	18.27	17.35	19.18
4.7 M	22.02	20.92	23.12
5.1 M	23.89	22.70	25.09
5.6 M	26.24	24.92	27.55
6.2 M	29.05	27.60	30.50
6.8 M	31.86	30.27	33.45
7.5 M	35.14	33.38	36.90
8.2 M	38.42	36.50	40.34
9.1 M	42.64	40.51	44.77
10.0 M	46.86	44.51	49.20



Time Delay Relay Board

Time values are calculated and are approximate. You may have to experiment to get the exact time. Use 1/4 watt resistors – available at any electronics supply store (i.e., Radio Shack). The +/- 5% Values above show approximate range expected when using 5% resistors.