

NCC

National Controls Corporation

Phone **800-323-2593**
630-231-5900
 Fax **630-231-1377**

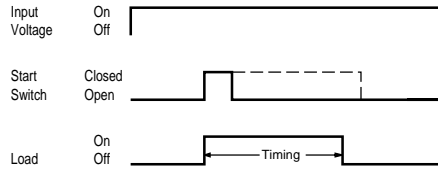
Features

- File #E65038
- Time Delays To 10 Hours Standard
- 100% Life Tested Solid-State Digital Timing
- 20:1 Maximum To Minimum Timing Ratio
- Low Cost Compact Size
- Superior Transient Protection
- Flame-Retardant and Solvent-Resistant Polyester Thermoplastic Housing
- Made in U.S.A.

1



Logic Function Diagram:



Solid-State Cube Timers

- Previous
- Contents
- Next

Single Shot Q2F Series

Operating Logic: Input voltage is applied to the timer at all times. Upon a momentary or maintained closure of a normally open isolated start switch, the load energizes and the time delay starts. At the end of the preset time delay, the load de-energizes and the timer is ready for a new timing cycle. (Start switch supplied by customer)

Note: 1) Remote start switch leads should be shielded when running close to other wires; 2) Remote potentiometer leads should be shielded when running close to other wires; 3) The minimum time setting on external resistor-adjustable time delay relays is obtained by shorting together the external resistor terminals of the relay; 4) The maximum time setting within tolerance limits is obtained by using a 1 megohm resistor; 5) Timing values between the minimum and maximum limits are linear with resistance within 10%; 6) Recommend 1/4 watt minimum resistor be used.

Specifications

Time Delay

Adjustment: External resistor factory fixed on special order (Minimum order requirement)
Range: 50 mS to 10 hours in 9 ranges
Repeatability: ±.5% + 8 mS maximum (0.25% typ) at constant temperature
Accuracy:

Maximum time ± 2% at Rt = 1 megohms
 Minimum time +0%, -30 % at Rt = 0 ohm

Input

Operating Voltage: 120, 240 VAC; 12 VDC; 24 VAC/DC ± 10% (D.C. models have reverse polarity protection. Unfiltered input voltage to them must be full-wave rectified)
Frequency: 50/60 Hz

Output

Type: Solid-state, normally open
Rating: 1 amp, steady state
Life: 100,000,000 operations

Protection

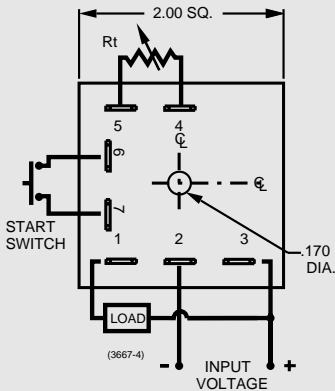
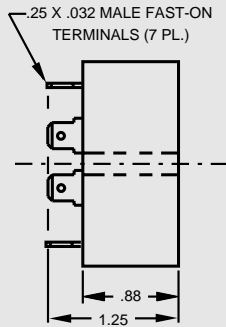
Transient Voltage: Metal oxide varistor, see ratings below
Dielectric Breakdown: 3000 VAC, RMS, terminals to mounting
Insulation Resistance: 100 megohms minimum between terminals and case

Mechanical

Termination: .25" x .032" male fast-on terminals
Mounting: Surface mount with one #8 screw

Environmental

Storage Temperature: -40°C to 85°C
Operating Temperature: -40°C to 65°C
Humidity: 95% relative



Polarity Shown is for D.C. Models

External Resistance/Time Delay Relationship

1 megohm external resistance is required to obtain the maximum time for all ranges. To determine the actual resistance needed to obtain the required time delay, use the following formula:

$$R_t = \frac{T_{\text{required}} - T_{\text{minimum}}}{T_{\text{maximum}} - T_{\text{minimum}}} \times 1,000,000 \text{ ohms}$$

Note: Due to component tolerances, the actual time obtained will normally be within 5% of desired time.

Click for Where to Buy

Input Voltage and Appropriate Part Numbers				
Time Range	12 VDC ± 10%	24 VAC/DC ± 10%	120 VAC ± 10%	240 VAC ± 10%
.05-1 Second	Q2F-00001-326	Q2F-00001-327	Q2F-00001-321	Q2F-00001-325
.25-5 Seconds	Q2F-00005-326	Q2F-00005-327	Q2F-00005-321	Q2F-00005-325
.5-10 Seconds	Q2F-00010-326	Q2F-00010-327	Q2F-00010-321	Q2F-00010-325
3-60 Seconds	Q2F-00060-326	Q2F-00060-327	Q2F-00060-321	Q2F-00060-325
15-300 Seconds	Q2F-00300-326	Q2F-00300-327	Q2F-00300-321	Q2F-00300-325
30-600 Seconds	Q2F-00600-326	Q2F-00600-327	Q2F-00600-321	Q2F-00600-325
180-3600 Seconds	Q2F-03600-326	Q2F-03600-327	Q2F-03600-321	Q2F-03600-325
.25-5 Hours	Q2F-18000-326	Q2F-18000-327	Q2F-18000-321	Q2F-18000-325
.5-10 Hours	Q2F-36000-326	Q2F-36000-327	Q2F-36000-321	Q2F-36000-325

Trigger Time (Start Sw. Closure)	20 mS	20 mS	20 mS	20 mS
Reset Time	200 mS	300 mS	300 mS	200 mS
Min. Load	5 mA	5 mA	2 mA	2 mA
Max. Leakage Current	10 uA	10 uA	200 uA	300 uA
Voltage Drop @ 1A	2.1 Volts	3.2 Volts	3.3 Volts	3.3 Volts
Power Consumption	2.6 Watts	3.7 VA Max.	4.3 VA Max.	5.8 VA Max.
Peak 1 Cycle Surge	4 Amp	4 Amp	20 Amp	20 Amp
Protection	8.8j. MOV	8.8j. MOV	30j. MOV	30j. MOV

Optional Potentiometer: Part Number ASY-0001M-450