



# Single Shot Q2F Series

## FEATURES

- 100% functionally tested
- Solid state digital timing
- Time delays to 10 hours standard
- 20:1 maximum to minimum timing ratio
- Low cost
- Compact size
- Superior transient protection
- Flame-retardant and solvent-resistant polyester thermoplastic housing
-   File #E65038

**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 pre-set 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 W minimum resistor be used.*

## ORDERING INFORMATION

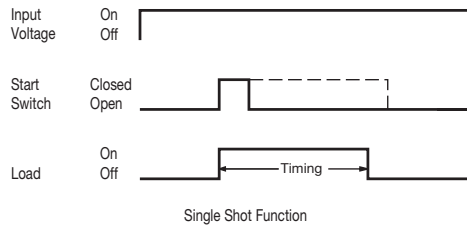
TIME RANGE	12 VDC ±10%	24 VAC/DC ±10%	120 VAC ±10%	240 VAC ±10%
.05 to 1 sec.	Q2F-00001-326	Q2F-00001-327	Q2F-00001-321	Q2F-00001-325
.25 to 5 sec.	Q2F-00005-326	Q2F-00005-327	Q2F-00005-321	Q2F-00005-325
.5 to 10 sec.	Q2F-00010-326	Q2F-00010-327	Q2F-00010-321	Q2F-00010-325
3 to 60 sec.	Q2F-00060-326	Q2F-00060-327	Q2F-00060-321	Q2F-00060-325
15 to 300 sec.	Q2F-00300-326	Q2F-00300-327	Q2F-00300-321	—
30 to 600 sec.	Q2F-00600-326	Q2F-00600-327	Q2F-00600-321	Q2F-00600-325
180 to 3600 sec.	Q2F-03600-326	Q2F-03600-327	Q2F-03600-321	—
.25 to 5 hrs.	Q2F-18000-326	Q2F-18000-327	Q2F-18000-321	Q2F-18000-325
.5 to 10 hrs.	Q2F-36000-326	—	Q2F-36000-321	—

Trigger time (start switch 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 at 1 A	2.1 V	3.2 V	3.3 V	3.3 V
Power consumption	2.6 W	3.7 VA max.	4.3 VA max.	5.8 VA max.
Peak 1 cycle surge	4 A	4 A	20 A	20 A
Protection	8.8j. MOV	8.8j. MOV	30j. MOV	30j. MOV

Optional Potentiometer: Part Number ASY-0001M-450

Consult factory for any special requirements not listed in catalog (minimum order requirement may apply).

## LOGIC FUNCTION DIAGRAM



## SPECIFICATIONS

### TIME DELAY

**Adjustment:** External resistor factory fixed on special order (min. order requirement)

**Range:** 50 ms to 10 hours in 9 ranges

**Repeatability:** ±.5% +8 ms max. (0.25% typical) at constant temperature

### Accuracy:

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

### INPUT

**Operating Voltage:** 120, 240 VAC; 12 VDC; 24 VAC/DC ±10% (DC 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 A 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 min. between terminals and case

### MECHANICAL

**Termination:** .25" x .032" male fast-on terminals

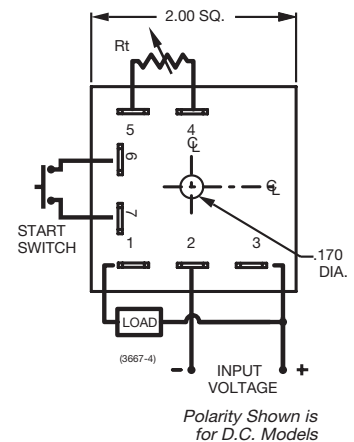
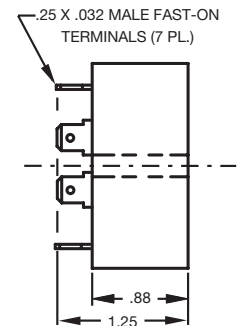
**Mounting:** Surface mount with one #8 screw

### ENVIRONMENTAL

**Storage Temperature:** -40°C to 85°C

**Operating Temperature:** -40°C to 65°C

**Humidity:** 95% relative



### 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:

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

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