SIEMENS

Timer Style QTD4
Safety-Critical Slow-Release Timer (3 to 300 seconds)

All-In-One

The QTD4 timer is a safety-critical, slow-release electronic timer that directly drives an external slave relay—all in a single plug-in Q relay enclosure.

Safety Assured

Even under external or internal component failure, the QTD4 never extends the delay by more than 20% of the set time.

Wide Range, Easy and Accurate

Choose from 3 to 300 seconds in 4 ranges by using straps on the rear of the plugboard. Then, for greater precision, use the multi-turn potentiometer on the front cover.

Benefits
Ideal for safety-critical applications—release time cannot extend by more than 20%
Slave relay powered from the QTD4—no separate supply needed

SAFETY ⚠ **WARNING** The safety-critical specification of this product is not assured unless it is applied in accordance with all the requirements of this datasheet and maintained by Siemens.

Description

The QTD4 is a safety-critical slow-release electronic timer designed to provide a delay between the opening of a control contact and the subsequent release of a normally-energised slave relay, with the assurance that any failure will never increase the delay by more than 20% of the set time.

The QTD4 is operated from a 12 V dc or full-wave-rectified supply.

Internal Slave Supply

The slave relay may be 12, 24 or 50 V dc and is fed from the QTD4—therefore no separate supply is needed.

Timing Adjustment

Timing ranges set by strappings:
- 3–10 seconds
- 11–30 seconds
- 31–100 seconds
- 101–300 seconds

Adjustment within each range is by a multi-turn potentiometer accessible through a screwed plug in the cover. The plug has provision for sealing.

SAFETY WARNING Always re-adjust the potentiometer for the required time whenever the timer is replaced.

Ordering

- QTD4 slow-release timer:
  part number **M25159**
- QTD4 plugboard:
  part number **M22312**

Specifications

Piece number	M25159	
Power	Operating voltage	12 V (±20%) dc or full-wave-rectified
	Operating current	0.5 A
Change of time with temperature	3–100 s ranges	−10% for 20°C change
	100–300 s range	±15% typical (+15% to −40% worst case) for 20°C change
Change of time with voltage	zero for 20% rise, −15% for 20% reduction	
Environmental	Temperature	0 to 60°C
	Humidity	0 to 95% non-condensing
Plugboard	Piece number M22312, code holes BCEGX	

Terminals and strappings

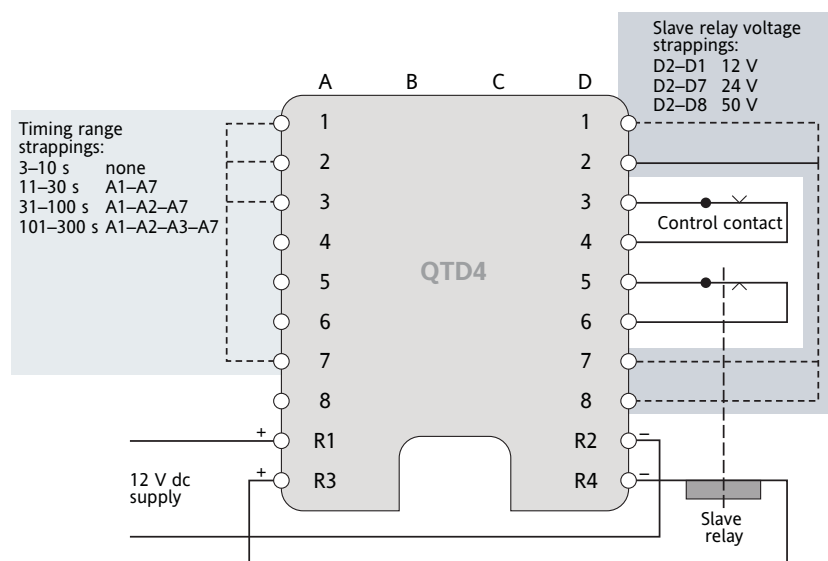|		
Supply	+ R1	− R2
Slave relay coil	+ R3	− R4
Control contact		D3–D4 (opening initiates timing)
Slave relay back contact		D5–D6
Slave relay voltage strapping	12 V	D2–D1
	24 V	D2–D7
	50 V	D2–D8
Timing range strapping	3–10 s	none
	11–30 s	A1–A7
	31–100 s	A1–A2–A7
	101–300 s	A1–A2–A3–A7

SAFETY WARNING Electrical Leakage between the control contacts connected to D3 and D4 and to the reset contacts connected between D5 and D6 can lengthen or inhibit the time delay. External circuits must:
- only use approved signalling cable;
- only use approved signalling relays;
- not have a total cable length of greater than 1 metre and be as short as possible;
- not be installed where this circuit can become damp or contaminated.

SAFETY WARNING Electrical Leakage to terminal A7 could lengthen or inhibit the time delay.
The strappings between A7 and A1, A2 or A3 should be a direct connection using approved signalling cable and be as short as practical, unless you have assessed the risk of any alternative to be acceptable.

Slave relay voltage strappings:
D2–D1 12 V
D2–D7 24 V
D2–D8 50 V

Timing range strappings:
3–10 s   none
11–30 s   A1–A7
31–100 s   A1–A2–A7
101–300 s A1–A2–A3–A7

12 V dc supply

Control contact

Slave relay

Wiring Diagram