

# prosense® Relay Timers

## Off-Delay Relay Timers T2R-FD Series

### Overview

The T2R-FD series offers a single off-delay timing function in a cost-effective design and compact size. The T2R-FD series is an ideal choice for many industrial applications. They utilize a microprocessor-based design for reliable performance and maximum flexibility. A 10A SPDT relay output can handle most pilot duty and fractional horsepower loads. All products are encapsulated for robust protection of internal components. This series is offered in a wide range of adjustable timing ranges.

### Features

- Cost effective design and compact 2 x 2in enclosure
- Encapsulated for protection
- 10A SPDT relay output contacts
- 24VAC/VDC and 120VAC/VDC models available



**T2R-FD-30-24AD**

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| Part Number                     | Price   | Timer Type | Timing Range      | Voltage     | Output Type          | Drawing Link        |
|---------------------------------|---------|------------|-------------------|-------------|----------------------|---------------------|
| <a href="#">T2R-FD-30-24AD</a>  | \$43.50 | Off-delay  | 0.1 to 10 seconds | 24 VAC/VDC  | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-30J-120A</a> | \$43.50 | Off-delay  | 0.1 to 10 seconds | 120 VAC/VDC | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-31-24AD</a>  | \$43.50 | Off-delay  | 1 to 100 seconds  | 24 VAC/VDC  | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-31J-120A</a> | \$43.50 | Off-delay  | 1 to 100 seconds  | 120 VAC/VDC | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-32-24AD</a>  | \$43.50 | Off-delay  | 0.1 to 10 minutes | 24 VAC/VDC  | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-32J-120A</a> | \$43.50 | Off-delay  | 0.1 to 10 minutes | 120 VAC/VDC | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-33-24AD</a>  | \$43.50 | Off-delay  | 1 to 100 minutes  | 24 VAC/VDC  | (1) SPDT timed relay | <a href="#">PDF</a> |
| <a href="#">T2R-FD-33J-120A</a> | \$43.50 | Off-delay  | 1 to 100 minutes  | 120 VAC/VDC | (1) SPDT timed relay | <a href="#">PDF</a> |

### Off-Delay Relay Timers Specifications

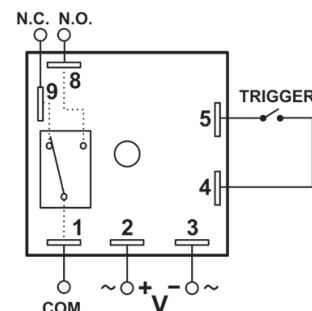
| Models                                  | T2R-FD-3x-24AD                                                                                                                           | T2R-FD-3xJ-120A |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Input Specifications                    |                                                                                                                                          |                 |
| Nominal Voltage                         | 24VAC/VDC                                                                                                                                | 120VAC/VDC      |
| Nominal Consumption                     | Maximum 2VA                                                                                                                              |                 |
| Nominal Frequency                       | 50/60 Hz                                                                                                                                 |                 |
| Voltage Tolerance                       | AC operation: +10/-15% of nominal at 50/60 Hz<br>DC operation: +10/-15% of nominal                                                       |                 |
| Contact Specifications                  |                                                                                                                                          |                 |
| Type                                    | (1) SPDT                                                                                                                                 |                 |
| Switching Capacity                      | 10A @ 240VAC, 30VDC<br>7A @ 28VDC SPDT<br>1/4 HP @ 120VAC (N.O.)                                                                         |                 |
| Electrical Lifetime                     | Full load: 100,000 operations                                                                                                            |                 |
| Mechanical Lifetime                     | 10,000,000 operations                                                                                                                    |                 |
| Reset Time                              |                                                                                                                                          |                 |
| Triggered with Input Voltage            | 0.1 seconds                                                                                                                              |                 |
| Functions Triggered with Control Switch | 0.04 seconds                                                                                                                             |                 |
| Time Circuit Specifications             |                                                                                                                                          |                 |
| Setting Accuracy                        | Maximum setting (adjustable): +5%, -0%<br>Minimum setting (adjustable): +0%, -50%<br>Fixed time delay: ±2% or 50ms, whichever is greater |                 |
| Start-up Time                           | Time from when power is applied until unit is timing:<br>0.05 seconds                                                                    |                 |
| Maintain Function Time                  | Time unit continues to operate after power is removed:<br>0.01 seconds                                                                   |                 |
| Repeat Accuracy                         | Constant voltage and temperature within specifications:<br>±0.1% or ± 0.04 seconds, whichever is greater                                 |                 |

### Off-Delay Relay Timers Specifications

|                                  |                                                                               |
|----------------------------------|-------------------------------------------------------------------------------|
| <b>General Specifications</b>    |                                                                               |
| Connection                       | 0.25 inch male quick-connect terminals                                        |
| Ambient Temperature              | -28 to +65°C<br>[-18 to +149°F]                                               |
| Storage Temperature              | -40 to +85°C<br>[-40 to +185°F]                                               |
| Protection Rating                | IP00                                                                          |
| Mounting                         | Surface with one #8 or #10 screw and a maximum tightening torque of 15 in•lb. |
| Mounting Orientation             | Any                                                                           |
| Weight                           | 0.15 lb                                                                       |
| Agency Approvals and Standards * | cURus File E191059, CE                                                        |

\*To obtain the most current agency approval information, see the Agency Compliance & Certifications Checklist section on the specific part number's web page.

### Wiring Diagram



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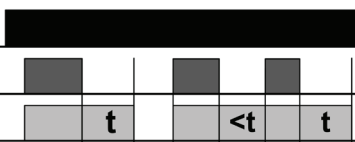
## Timing Charts

### T2L Series (-4X Suffix)

| Function                            | Series              | Operation                                                                                                                                                                                                      | Timing Chart  |                                                                                     |
|-------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|
| <b>ON DELAY</b><br>Delay on Operate | T2L<br>(-4x Suffix) | Upon application of input voltage, the time delay (t) begins. At the end of the time delay (t), the output is energized. Input voltage must be removed to reset the time delay relay & de-energize the output. | INPUT VOLTAGE |  |

Note: Please see inserts for more information

### T2L, T2R, & T2S Series

| Function                                                                           | Product Series             | Operation                                                                                                                                                                                                                                                                                                                                                                              | Timing Chart  |                                                                                       |
|------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------|
| <b>ON DELAY</b><br>Delay on Operate                                                | T2L-ND<br>T2R-ND<br>T2S-ND | Upon application of input voltage, the time delay (t) begins. At the end of the time delay (t), the output is energized. Input voltage must be removed to reset the time delay relay & de-energize the output.                                                                                                                                                                         | INPUT VOLTAGE |    |
| <b>INTERVAL ON</b><br>Interval                                                     | T2S-TT                     | Upon application of input voltage, the output is energized and the time delay (t) begins. At the end of the time delay (t), the output is de-energized. Input voltage must be removed to reset the time delay relay.                                                                                                                                                                   | INPUT VOLTAGE |    |
| <b>SINGLE SHOT</b><br>One Shot<br>Momentary<br>Interval                            | T2R-SST<br>T2S-SST         | Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output is energized and the time delay (t) begins. During the time delay (t), the trigger is ignored. At the end of the time delay (t), the output is de-energized and the time delay is ready to accept another trigger.                                       | INPUT VOLTAGE |  |
| <b>OFF DELAY</b><br>Delay on Release<br>Delay on Break<br>Delay on De-Energization | T2R-FD<br>T2S-FD           | Upon application of input voltage, the time delay relay is ready to accept a trigger. When the trigger is applied, the output is energized. Upon removal of the trigger, the time delay (t) begins. At the end of the time delay (t), the output is de-energized. Any application of the trigger during the time delay will reset the time delay (t) and the output remains energized. | INPUT VOLTAGE |  |

Note: Please see inserts for more information