

## Time Delay Relays

### Sprecher + Schuh Time Delay Relays

- Available with many different output functions applicable to all types of industrial control.
- Rugged construction and high level of timing accuracy established through rigorous design and testing.
- Various timing ranges from 0.05 seconds to 60 hours allowing fine control of switching requirements.

Sprecher + Schuh's RZ7-FS precision electronic timing relays offer 19 different output functions applicable to all types of industrial control. In addition to standard ON-Delay and OFF-Delay relays, the series also includes many specials such as an OFF-Delay that operates for a delay after supply voltage is removed (TRUE OFF-Delay). Various timing ranges from 0.05 seconds to 60 hours are available, with many relays offering multi-time setting capability in the same device.

Every RZ7 accepts a broad range of AC and DC supply voltages as standard and each relay is equipped with an LED that indicates four output status conditions. The terminals are captive and supplied in the open position, also providing finger and back of hand protection meeting IP 40.

#### RZ7-FE Time Delay Relays

The RZ7-FE electronic timing relays offer seven popular output functions in an economical package. This series is especially designed for applications where a high quality, yet basic timing relay is required.

##### ON Delay Relays

The RZ7-FEA relay provides the functionality of turning on your output after a delay period. When supply voltage is applied, output contact(s) change state after time delay t.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 10h	1 NO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24V DC		RZ7-FEA 1T U22	275.00
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC		RZ7-FEA 3T U23	301.00



RZ7-FEA 1T U22

##### OFF Delay Relays

The RZ7-FEB relay provides the functionality of turning off your output after a delay period. When control contact B1 closes, the output contact changes state immediately. When control contact B1 opens, the output contact changes state after time delay t. Constant supply voltage required on terminals A1/A2 or A3/A2.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Timing Function	Item Type	Catalogue No.	\$AU
50ms ... 10h	1 NO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24V DC	OFF Delay		RZ7-FEB 1T U22	301.00
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC	Fleeting OFF Delay		RZ7-FEE 3T U23	322.00
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC	OFF Delay		RZ7-FEB 3T U23	329.00



RZ7-FEB 1T U22

##### Multifunction Relays

The RZ7-FEM multifunction relay combines four timing functions in one device. Each timing function and timing range is selectable from the face of the relay with a screwdriver actuated knob. The RZ7-FEM offers the following timing functions: On-Delay Off-Delay, One Shot/ Watchdog and Symmetric Flasher Starting with a pulse.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 10h	1 NO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24V DC		RZ7-FEM 1T U22	350.00
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC		RZ7-FEM 3T U23	407.00



RZ7-FEM 1T U22

##### One Shot Relays

The RZ7-FED relay provides the functionality of turning on your output once for a delay period. When supply voltage is applied, output contact(s) change state for time delay t.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 10h	1 NO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24V DC		RZ7-FED 1T U22	283.00
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC		RZ7-FED 3T U23	301.00



RZ7-FED 1T U22

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RZ7-FEF 3T U23

**Symmetrical Recycling Relays**

The RZ7-FEF relays provide the functionality of repeating a symmetrical on/off 50% duty cycle output. When supply voltage is applied, the output contact changes state immediately and then repeatedly changes after every time period  $t$ , continuing until supply voltage is removed.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 10h	1 CO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC		RZ7-FEF 3T U23	301.00



RZ7-FEY 2Q U23

**Star Delta Relays**

The RZ7-FEY relays provide the timing sequence to start a load in star and transition to delta. When supply voltage is applied, output contact Y closes for time period  $t$ . After time period  $t$ , plus a fixed time period  $t_u$  (50-65 ms) the output contact closes.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
0.15s ... 10min	2 NO	DIN-35 Rail Mount	80 x 17.5 x 70	24 - 240V AC / 24 - 48V DC		RZ7-FEY 2Q U23	400.00

**RZ7-FS High Performance Time Delay Relays**

The RZ7-FS timing relays are built with solid state electronics for timing controlled by a microprocessor that operates an electromechanical output. They are accurate to within 0.2 percent. Their ruggedness and high level of accuracy is due to the thorough testing of function, timing characteristics and surge voltage strength performed on each device prior to shipment. In addition, RZ7-FS relays function reliably from 15% under rated operating voltage to 10% over rated voltage (AC). Voltage tolerance is even greater in DC applications.

**On Delay**

The RZ7-FSA relay provides the functionality of turning on your output after a delay period. When supply voltage is applied, output contact(s) change state after time delay  $t$ .

**24-48V DC/24-240V AC**

RZ7-FSA4U U23

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
500ms ... 10s	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSA 3C U23	391.00
1.5 ... 30s	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSA 3D U23	391.00
3s ... 1min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSA 3E U23	391.00
1.5 ... 30min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSA 3H U23	391.00
50ms ... 60h	2 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSA4U U23	499.00

**346-440V AC**

RZ7-FSA 3I A40

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
1.5 ... 30s	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC		RZ7-FSA 3D A40	391.00
3s ... 1min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSA 3E A40	391.00
1.5 ... 30min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSA 3H A40	391.00
3min ... 1h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSA 3I A40	391.00

**Off Delay**

The RZ7-FSB relay provides the functionality of turning off your output after a delay period. When control contact "S" closes, output contact(s) change state immediately. When control contact S opens, output contact(s) change state after time delay  $t$ . Constant supply voltage required on terminals A1/A2.

**24-240V AC/DC**

RZ7-FSQ 3Q U18

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
0.15s ... 10min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 240V DC		RZ7-FSQ 3Q U18	568.00
0.15s ... 10min	2 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 240V DC		RZ7-FSQ 4Q U18	737.00

#### 24-48V DC/24-240V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
150ms ... 3s	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSB 3B U23	449.00
1.5 ... 30s	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSB 3D U23	449.00
3s ... 1min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSB 3E U23	449.00
50ms ... 60h	2 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSB 4U U23	483.00



RZ7-FSB 3E U23

#### 346-440V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
1.5 ... 30min	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC		RZ7-FSB 3H A40	449.00
9min ... 3h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSB 3J A40	449.00

#### On and Off Delay

The RZ7-FSC relay provides the functionality of turning on your output after a delay and then turning off the output after a delay. When control contact "S" closes, output contact changes state after time delay t. When control contact S opens, output contact changes state again after time delay t. Constant supply voltage required on terminals A1/A2. Closure duration of S must be greater than t.

#### 346-440V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
30min ... 10h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSC 3K A40	449.00

#### Multi-function Delay

The RZ7-FSM multifunction relay combines eight timing functions plus ON and OFF functions (for installation and maintenance). Each timing function and timing range is selectable from the face of the relay with a screwdriver actuated knob. The RZ7-FSM offers the following timing functions On Delay, On & Off Delay, Fleeting Off Delay, On-Delay Pulse Generator, On function, Off function, Off Delay, One shot / Watchdog, Impulse Converter, Symmetric flasher starting with pulse.

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 60h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC		RZ7-FSM 3U A40	469.00
50ms ... 60h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSM 3U U23	469.00
50ms ... 60h	2 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSM 4U U23	640.00



RZ7-FSM 3U A40

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#### Symmetrical Recycling Delay

The RZ7-FSF relays provide the functionality of repeating a symmetrical on/off 50% duty cycle output starting with a pulse. The RZ7-FSG relays provide the functionality of repeating a symmetrical on/off 50% duty cycle output starting with a pause. When supply voltage is applied, output contact changes state after time period t and then repeatedly changes again after every period t, continuing until supply voltage is removed.

#### 24-48V DC/24-240V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
50ms ... 60h	1 CO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSH 3V U23	577.00



RZ7-FSH 3V U23

#### Star-Delta

The RZ7-FEY relays provide the timing sequence to start a load in star and transition to delta. When supply voltage is applied, output contact Y closes for time period t. After time period t, plus a fixed time period t<sub>0</sub> (50-65 ms) output contact Δ closes.

#### 24-48V DC/24-240V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
500ms ... 10s	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSY 2C U23	407.00
1.5 ... 30s	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC		RZ7-FSY 2D U23	407.00
3s ... 1min	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	24 - 240V AC / 24 - 48V DC	A	RZ7-FSY 2E U23	407.00



RZ7-FSY 2D U23



RZ7-FSY 2D A40

346-440V AC

Time Range(s)	Contacts	Mounting	H x W x D (mm)	Power Supply (V AC / V DC)	Item Type	Catalogue No.	\$AU
500ms ... 10s	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSY 2C A40	407.00
1.5 ... 30s	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC		RZ7-FSY 2D A40	407.00
3s ... 1min	2 NO	DIN-35 Rail Mount	78.8 x 22.5 x 109	346 - 440V AC	A	RZ7-FSY 2E A40	407.00