

# Dold Relay Timers

## Relay Timers RK Series

### Overview

The RK series timers are timing relays that have been designed to be economical and compact to meet the demands of all the modern time control needs. With a few variants of single function and a multi-function model, the RK series covers all common timing functions, time ranges and voltage needs. These timers are suitable for time-dependent control needs in most industrial automation and building automation systems.

### Features

#### **RK7814**

- 4 time ranges up to 120 sec
- LED indicator for state of contact
- Dual-voltage version 110 – 127VAC + 24 VAC/VDC
- 1 changeover contact

#### **RK7815, RK7816**

- Time ranges up to 10 sec
- LED indicator for state of contact
- 1 changeover contact
- Dual voltage version 110 – 127 VAC + 24 VAC/VDC

#### **RK7817**

- 8 time ranges adjustable from 0.02 sec to 300 hr via rotational switches
- Dual-voltage-version 110 – 127VAC + 24 VAC/VDC
- 1 changeover contact

8 selectable functions via rotational switches

- Delay on energization (AV)
- Fleeting on make (EW)
- Delayed pulse (IE)
- Flasher, start with pulse (BI)
- Delay on de-energization (RV)
- Pulse forming function (IF)
- Fleeting on break (AW)
- Delay on energization and de-energization (AV / RV)



**RK7814-81-61**



**RK7815-71-61**



**RK7816-81-61**



**RK7817-81-61**

### On-Delay Relay Timer RK Series

| Part Number                | Price   | Timer Type | Timing Range                   | Voltage                    | Output Type          | Drawing Link        |
|----------------------------|---------|------------|--------------------------------|----------------------------|----------------------|---------------------|
| <b><u>RK7814-81-61</u></b> | \$36.50 | On-delay   | 0.05 to 120 seconds selectable | 24 VAC/VDC and 110-127 VAC | 1 changeover contact | <a href="#">PDF</a> |

### Fleeting (single shot) Relay Timer RK Series

| Part Number                | Price   | Timer Type             | Timing Range    | Voltage                    | Output Type          | Drawing Link        |
|----------------------------|---------|------------------------|-----------------|----------------------------|----------------------|---------------------|
| <b><u>RK7815-71-61</u></b> | \$34.00 | Fleeting (single-shot) | 1 to 10 seconds | 24 VAC/VDC and 110-127 VAC | 1 changeover contact | <a href="#">PDF</a> |

### Flasher Relay Timer RK Series

| Part Number                | Price   | Timer Type | Timing Range    | Voltage                    | Output Type          | Drawing Link        |
|----------------------------|---------|------------|-----------------|----------------------------|----------------------|---------------------|
| <b><u>RK7816-81-61</u></b> | \$34.00 | Flasher    | 1 to 10 seconds | 24 VAC/VDC and 110-127 VAC | 1 changeover contact | <a href="#">PDF</a> |

### Multi-Mode Relay Timer RK Series

| Part Number                | Price   | Timer Type | Timing Range                         | Voltage                    | Output Type          | Drawing Link        |
|----------------------------|---------|------------|--------------------------------------|----------------------------|----------------------|---------------------|
| <b><u>RK7817-81-61</u></b> | \$43.50 | Multi-mode | 0.02 seconds to 300 hours selectable | 24 VAC/VDC and 110-127 VAC | 1 changeover contact | <a href="#">PDF</a> |

# Dold Relay Timers

| Relay Timers RK Series Specifications      |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part Number                                | <u><a href="#">RK7814-81-61</a></u>                                                                                                       | <u><a href="#">RK7815-71-61</a></u> | <u><a href="#">RK7816-81-61</a></u>                                                                                                                    | <u><a href="#">RK7817-81-61</a></u>                                                                                                                                                                                                                                                                                                                                      |
| Input Specifications                       |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Nominal Voltage                            | 24 VAC/VDC <sup>1</sup> + 110-127 VAC <sup>2</sup>                                                                                        |                                     |                                                                                                                                                        | 24 VAC/VDC <sup>1</sup> + 110-127 VAC <sup>2</sup>                                                                                                                                                                                                                                                                                                                       |
| Nominal Consumption                        | 24VAC ~ 1VA<br>230VAC ~ 6VA<br>24VDC ~ 0.4 W                                                                                              |                                     |                                                                                                                                                        | 24VAC ~ 1VA<br>230VAC ~ 7.5 VA<br>24VDC ~ 0.5 W                                                                                                                                                                                                                                                                                                                          |
| Nominal Frequency                          | 50/60 Hz                                                                                                                                  |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Frequency Range                            | ± 5%                                                                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Contact Specifications                     |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Type                                       | 1 changeover contact                                                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Switching Capacity<br>(according to AC 15) | N.O. Contact 2A / 230VAC<br>N.C. Contact 1A / 230VAC                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Max Wire Size                              | 22–14 AWG solid or stranded                                                                                                               |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Mechanical Lifetime                        | > 1x10 <sup>7</sup> switching cycles                                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Electrical Lifetime                        | > 1x10 <sup>5</sup> switching cycles                                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Time Circuit Specifications                |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Time Ranges                                | 0.05 ~ 0.5 sec,<br>0.2 ~ 2 sec,<br>1.5 ~ 15 sec,<br>12 ~ 120 sec                                                                          | 1 ~ 10 sec                          | 0.02* ~ 1 sec, 0.06* ~ 6 sec, 0.3 ~ 30 sec<br>0.03 ~ 3 min, 0.3 ~ 30 min, 3 ~ 300 min<br>0.3 ~ 30 hr, 3 ~ 300 hr<br>(* 0.08 s for AV and IE functions) |                                                                                                                                                                                                                                                                                                                                                                          |
| Time Setting                               | Infinite, 1:10 on relative scale                                                                                                          |                                     |                                                                                                                                                        | Infinite, 1:100 on relative scale                                                                                                                                                                                                                                                                                                                                        |
| Recovery Time                              | < 100ms                                                                                                                                   |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Repeat Accuracy                            | ≤ 0.5% of set time delay + 10ms                                                                                                           |                                     |                                                                                                                                                        | ≤ 0.8% of set time delay + 20ms                                                                                                                                                                                                                                                                                                                                          |
| Voltage Influence                          | ≤ 1%                                                                                                                                      |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Temperature Influence                      | 0.25 % / K                                                                                                                                |                                     |                                                                                                                                                        | ≤ 2% at range 0 – 60°C<br>≤ 5% at range -20 – 0°C                                                                                                                                                                                                                                                                                                                        |
| General Specifications                     |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Connection<br>(fixed screw terminal)       | 0.34 – 2 x 2.5 mm <sup>2</sup> / 22–14 AWG solid or<br>0.34 – 2 x 2.5 mm <sup>2</sup> / 22–14 AWG stranded wire with and without ferrules |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Tightening Torque                          | 0.5 N·m                                                                                                                                   |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Ambient Temperature                        | -40 to +60°C [-40 to +140°F]                                                                                                              |                                     |                                                                                                                                                        | -20 to +60°C [-4 to +140°F]                                                                                                                                                                                                                                                                                                                                              |
| Storage Temperature                        | -40 to +70°C [-40 to +158°F]                                                                                                              |                                     |                                                                                                                                                        | -25 to +70°C [-13 to +158°F]                                                                                                                                                                                                                                                                                                                                             |
| Relative Air Humidity                      | 93 % at 40°C                                                                                                                              |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Protection Rating                          | Housing IP40 / Terminals IP20                                                                                                             |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Vibration Resistance                       | Amplitude 0.35 mm frequency 10 – 55Hz                                                                                                     |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Mounting                                   | 35mm DIN rail                                                                                                                             |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Relay Indicator                            | On, when corresponding output relay is active<br>(contact 15–18 closed)                                                                   |                                     |                                                                                                                                                        | Green LED: On, when supply connected<br>Yellow LED "R/I": Shows status of output relay and time delay (15-16-18):<br>-Continuous off: Output relay not active;no time delay<br>-Continuous on: Output relay active no time delay<br>-Flashing (short on, long off) Time delay: output relay not active<br>-Flashing (long on, short off) Time delay: output relay active |
| Weight (g [oz])                            | 65.0 [2.29]                                                                                                                               | 60.0 [2.11]                         | 70.0 [2.46]                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                          |
| Agency Approvals and Standards *           | cULus, CE                                                                                                                                 |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| UL Data                                    |                                                                                                                                           |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| Switching Capacity                         | Ambient temperature 60°C: Pilot duty B300<br>4A 240VAC G.P.<br>4A 30VDC G.P.                                                              |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |
| UL Specified Wire Connection               | 60°C / 75°C copper conductors only<br>AWG 22 – 14 solid or stranded Torque 0.5 N·m                                                        |                                     |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                          |

Notes: <sup>1</sup>at terminals A3-A2 <sup>2</sup>at terminals A1-A2

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