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BKR SERIES BINARY DIGITAL POWER TIME DELAY RELAYS

FEATURES

- Microcontroller Circuitry
- Time Delays From 0.1 Seconds to 10,230 Minutes
- Eight Different Modes of Operation
- 0.5% Repeat Accuracy
- Wide Voltage Selection: 24-230 VAC, 12-24/28 VDC
- Encapsulated to Withstand Harshesht Environments
- Contacts Rated Up to 30 Amps, 2HP @ 240 VAC
- UL/cUL Recognized, CE Mark

SPECIFICATIONS

1. Time Delay

- 1.1 Type: Microcontroller Circuitry
- 1.2 Range: From 0.1 Seconds to 10,230 Minutes in 5 Ranges or Fixed Delay (See Ordering Information)
- 1.3 Adjustment: 10 Position, Binary DIP Switch
- 1.4 Repeat Accuracy: $\pm 0.5\%$ Under Fixed Conditions
- 1.5 Setting Accuracy: $\pm 1\%$
- 1.6 Reset Time: 350 milliseconds
- 1.7 Recycle Time: 300 milliseconds During Timing, 350 milliseconds After Timing
- 1.8 Initiate Time: 25 milliseconds Maximum, Customizable Per Customer Request
- 1.9 Time Delay vs. Voltage and Temperature: $\pm 2\%$

2. Input

- 2.1 Operating Voltage: 24, 120 & 230 VAC, 12 & 24/28 VDC
- 2.2 Tolerance: $\pm 20\%$ of Nominal
- 2.3 Frequency: 50-60 Hertz

3. Output

- 3.1 Type: Electromechanical Relay
- 3.2 Form: SPST or SPDT (See Ordering Information)
- 3.3 Rating: See Output Rating Chart
- 3.4 Life: Electrical - Full Load - 100,000 Operations
 Mechanical - 10,000,000 Operations

4. Protection

- 4.1 Electrical Fast Transient Immunity: IEC 61000-4-4
- 4.2 Surge Immunity: IEC 61000-4-5
- 4.3 Dips, Shorts, and Interruptions Immunity: IEC 61000-4-11
- 4.4 Polarity: DC Units Are Reverse Polarity Protected
- 4.5 Dielectric Breakdown: 1500 Volts RMS Minimum

5. Mechanical

- 5.1 Mounting: One #8 or #10 Screw
- 5.2 Termination: 1/4" Quick Connect Terminals
- 5.3 Style: Surface Mount/Encapsulated

6. Environmental

- 6.1 Operating Temperature: -20°C to $+80^{\circ}\text{C}$
- 6.2 Storage Temperature: -30°C to $+85^{\circ}\text{C}$
- 6.3 Humidity: 95% Relative, Non-Condensing

MODE OF OPERATION

DELAY ON MAKE

Upon application of power to the input terminals, the time delay begins. At the completion of the pre-selected time delay, the output contacts transfer. Reset is accomplished by removal of input power. There is no false output when reset during timing.

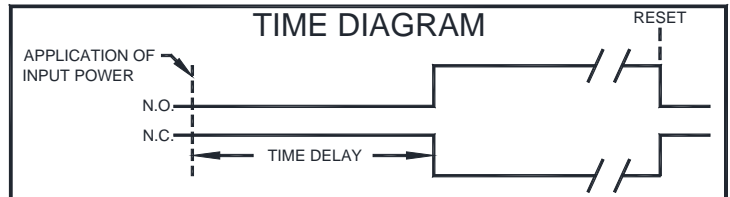
SERIES

BMKR



DELAY ON MAKE CONT'D

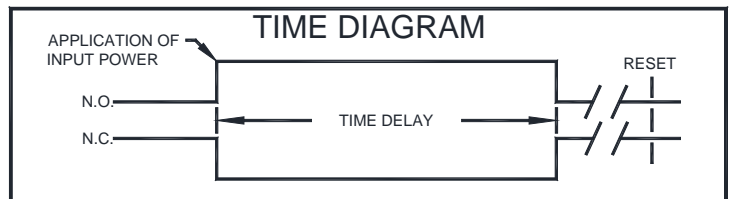
BMKR



INTERVAL

BIKR

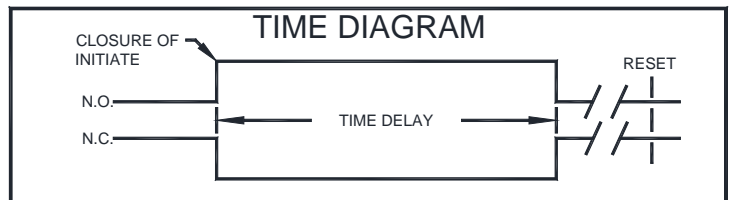
Upon application of power to the input terminals, the output contacts immediately transfer and the time delay begins. At the completion of the pre-selected time delay, the output contacts revert to their original position. Reset is accomplished by removal of input power.



SINGLE SHOT

BSKR

Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch (momentary or maintained) the output contacts transfer and the time delay begins. At the completion of the pre-selected delay period, the output contacts revert to their original position. Removal of input power will reset the control



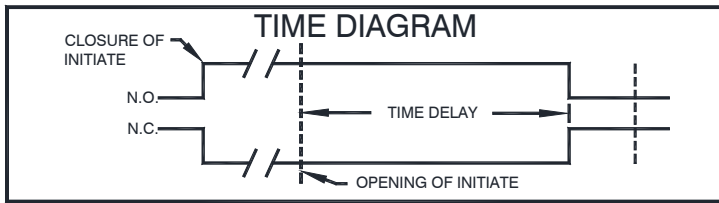
DELAY ON BREAK

BBKR

Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch, the output contacts transfer and remain transferred if no further action is taken. When the initiate switch is opened, the time delay begins. At the completion of the pre-selected delay period the output contacts revert to their original position. Closure of initiate during timing will reset the delay period. Removal of input power will reset the control

DELAY ON BREAK CONT'D

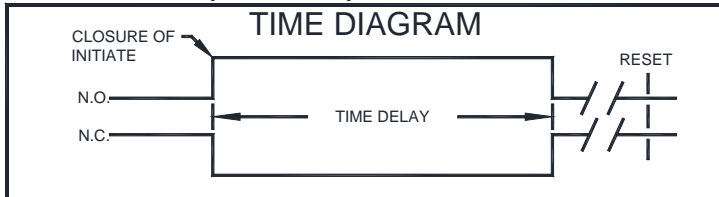
BBKR



TOGGLE/SINGLE SHOT

BFKR

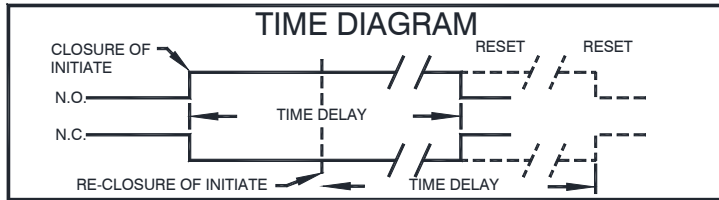
Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch (momentary or maintained) the output contacts transfer and the time delay begins. Upon re-closure of the initiate switch or at the completion of the pre-selected time delay period, the output contacts revert to their original position. The unit is now reset and ready for a new cycle.



RETRIGGERABLE ONE-SHOT

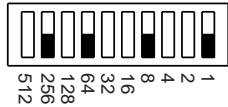
BOKR

Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch (momentary or maintained) the output contacts transfer and the time delay begins. At the completion of the pre-selected time delay period, the output contacts revert to their original position. **NOTE:** Momentary or maintained closure of initiate switch during timing will reset the time delay.



DIP SWITCH SETTINGS

STYLE 2
Ex. 329 Sec.

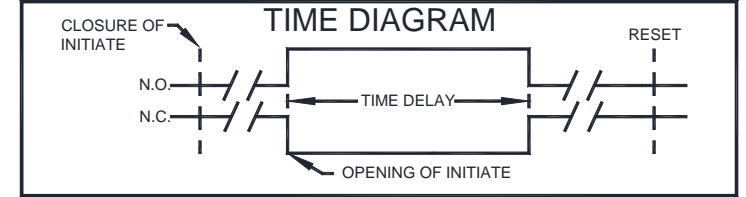


Combine "ON" switches to set time delay.

TRAILING EDGE TRIGGERED

BTKR

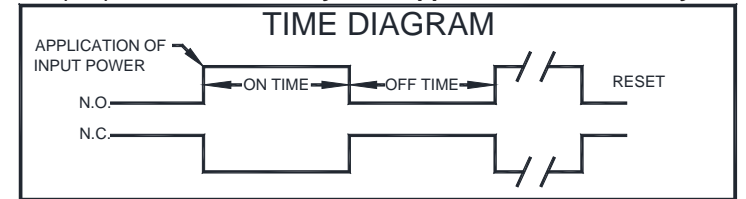
Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch, nothing happens. When the initiate switch is opened, the time delay begins and the output contact transfers. At the completion of the pre-selected delay period the output contact reverts to its original position. Removal of input power will reset the control. If the initiate switch is closed during timing, the output contact reverts to its original position and the time delay is reset.



ON/OFF RECYCLE

BRKR

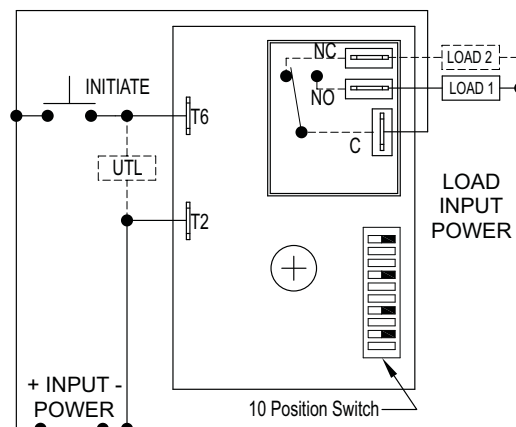
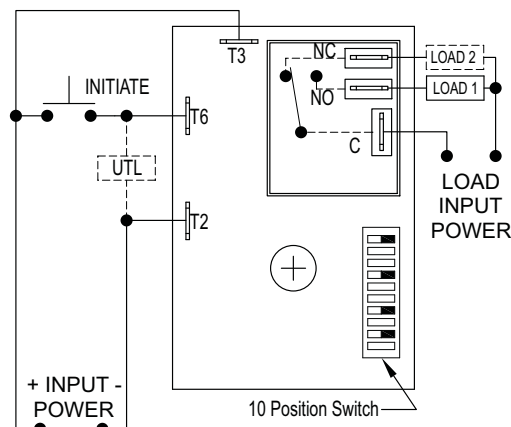
Upon application of power to the input terminals the ON delay begins and the output contacts transfer. Upon completion of the **ON** delay, the output contacts revert back to their original position and the **OFF** delay begins. Upon completion of the **OFF** delay, the output contacts again transfer and the cycle repeats. Reset is accomplished by removal of input power. **OFF/ON Recycle is opposite of ON/OFF Recycle.**



OUTPUT CONTACT RATING CHART

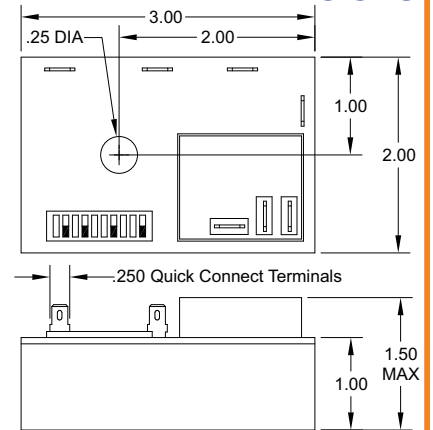
	30 VDC	125 VAC	240 VAC
MEDIUM POWER			
N.O.	10A	10A, 1/4hp	10A, 1/4hp
N.C.	5A	5A, 1/4hp	5A, 1/4hp
HIGH POWER			
N.O.	20A	20A, 1hp	20A, 2hp
N.C.	10A	10A, 1/4hp	10A, 1/2hp
HEAVY DUTY			
N.O.	30A	30A, 1hp	30A, 2hp

CONNECTION DIAGRAMS



Optional: UTL = Untimed Load

DIMENSIONS



ORDERING INFORMATION

SERIES	INPUT VOLTAGE	OUTPUT RATING	ADJUSTMENT	CYCLE	TIME DELAY RANGE
BBKR	1 - 12 VDC	A - Medium Power (Isolated)	1 - Fixed	BRKR SERIES ONLY	1 - 0.1 - 102.3 SECONDS
BFKR	2 - 24/28 VDC	B - High Power (Isolated)	4 - Binary Dip Switch		2 - 1 - 1023 SECONDS
BIKR	4 - 24 VAC	C - Heavy Duty (Isolated)		1 - On Time First	3 - 10 - 10230 SECONDS
BMKR	5 - 120 VAC	E - Medium Power (Non-Isolated)		2 - Off Time First	4 - 1 - 1023 MINUTES
BOKR	6 - 230 VAC	F - High Power (Non-Isolated)			5 - 10 - 10230 MINUTES
BRKR		G - Heavy Duty (Non-Isolated)			BFKR ONLY
BSKR					X - Toggle Only (No Time Delay)
BTKR					