SPECIFICATIONS

SUPPLY	
SUPPLY TERMINALS	A1 - A2
VOLTAGE RANGE	AC/DC 12-240V (AC 50-60 Hz)
POWER INPUT (MAX)	2.5VA/1.5W
SUPPLY VOLTAGE TOLERANCE	–15%; +10%
SUPPLY INDICATION	Green LED
TIME CIRCUIT	
NUMBER OF FUNCTIONS	10
TIME RANGES	50ms - 30 days
TIME SETTING	Rotary Switches and Potentiometer
TIME DEVIATION*	5% - mechanical setting
REPEAT ACCURACY	0.2% - set value stability
TEMPERATURE COEFFICIENT	0.01%/°C, at = 20°C 0.01%/°F, at = 68°F
OUTPUT	
NUMBER OF CONTACTS	3
CONTACT FORM 1	SPDT
CURRENT RATING	
OUTPUT (55°C)	16A/AC1 or 16A General Purpose at 250VAC
OUTPUT (40°C)	Pilot Duty B300
BREAKING CAPACITY	4000VA/AC1, 384W/DC1
ELECTRICAL LIFE (AC1)	100,000 ops.
CONTACT FORM 2 (3)	DPDT
CURRENT RATING	
OUTPUT (55°C)	8A/AC1 or 8A General Purpose at 250VAC
OUTPUT (40°C)	Pilot Duty B300
BREAKING CAPACITY	2000VA/AC1, 192W/DC1
ELECTRICAL LIFE (AC1)	50,000 ops.
SWITCHING VOLTAGE	250VAC / 24VDC
POWER DISSIPATION (MAX)	2.4W
OUTPUT INDICATION	Multifunction Red LED
MECHANICAL LIFE	10,000,000 ops.
CONTROL	
CONTROL TERMINALS	A1-S
LOAD BETWEEN S-A2	Yes
IMPULSE LENGTH	min. 25 ms/max. unlimited
RESET TIME	max. 150 ms
OTHER INFORMATION	
OPERATING TEMPERATURE	-20 to +55°C (-4°F to 131°F)
STORAGE TEMPERATURE	-30 to +70°C (-22°F to 158°F)
OPERATING POSITION	Any
DIELECTRIC STRENGTH	
SUPPLY - OUTPUT 1	4kV AC
SUPPLY - OUTPUT 2 (3)	1kV AC
OUTPUT 1 - OUTPUT 2	1kV AC
OUTPUT 2 - OUTPUT 3	1kV AC
MOUNTING	DIN rail EN 60715
PROTECTION DEGREE	IP40 front panel / IP20 terminals
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	2
MAX CABLE SIZE (MM^2)	solid wire max. 1x 2.5 or 2 x 1.5 with sleeve max. 1 x 2.5 (AWG 12)
DIMENSIONS	90 x 17.6 x 64mm 3.5″ x 0.7″ x 2.5″
WEIGHT	85g (3oz)
STANDARDS	EN 61812-1

RoHS compliant

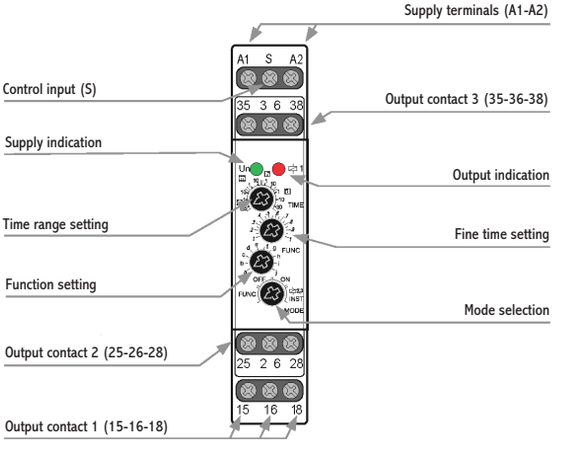
c UL us LISTED
IND. CONT. EQ.
496Y

Multifunction Time Relay w/ Inhibit Delay

- **10 Functions**
- **Time Ranges 50ms - 30 days**
- **Universal Supply Voltage**
- **Slim, Space-saving Design**
- **DIN Rail Mount**
- **3 Discrete Relay Outputs**

- Multifunction time relay for universal use in automation, control and regulation or in house installations.
- Time scale divided into 10 ranges: 50ms - 0.5s / 0.1s - 1s /1s - 10s / 0.1min - 1min / 1min - 10min / 0.1hr - 1 hr / 1 hr - 10hrs / 0.1 days - 1 day / 1 day - 10 days / 3 days - 30 days.
- All functions initiated by the supply voltage, except for the fl asher function, can use the control input to inhibit the delay.
- Mode selection - according to the set function, permanently closed, permanently open, switching of the second output contact according to supply voltage.
- Multifunction red LED flashes or shines depending on the operating status.
- Primary 16A rated contacts are delayed, but the two secondary 8A rated contacts can be set to delayed or instantaneous.

DESCRIPTION

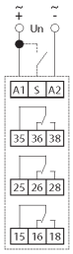


ORDERING INFORMATION

PART NO.	DESCRIPTION
DTB100USD	DIN rail mounted Multifunction Time Relay with Inhibit Delay

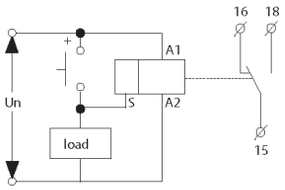
*for adjustable delay <100ms, a time deviation of ±10ms applies

TERMINAL CONNECTIONS

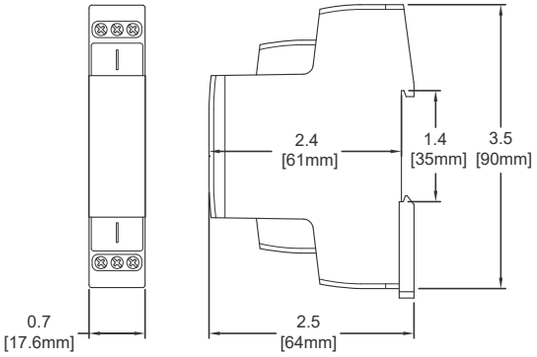


DTB100USD:
The potential difference between the supply terminals (A1-A2), output contact 2 (25-26-28) and output contact 3 (35-36-38) must be a maximum of 250VAC rms/DC.

Possibility to connect load onto controlling input
It is possible to connect the load (e.g.: contactor) between terminals S-A2, without any interruption of correct relay function.

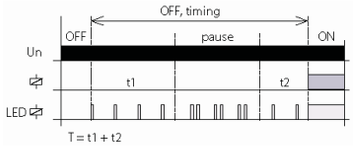


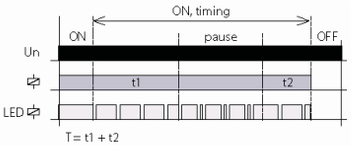
DIMENSIONS



INDICATION OF OPERATING STATES

Examples of status LED operation



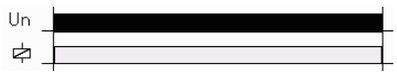


MODE SELECTION

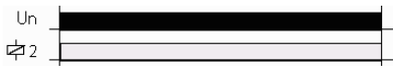
FUNC. Settings Function Mode
The desired function a-j is set with the FUNC rotary switch.

OFF. Output contact open mode

ON Output contact closed mode



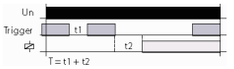
2,3 INST. Second and third output contact instantaneous



The second output contact switches according to the supply voltage.
The first output contact switches according to the function (a-j) set by the trimmer FUNC.

TIMING DIAGRAMS

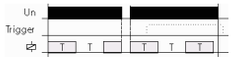
a. ON DELAY
When the supply voltage is applied, the time delay T begins. When the timing is complete, the relay closes and this condition continues until the supply voltage is disconnected.



ON DELAY with Inhibit
If the control contact is closed and the supply voltage is connected, the relay is opened and timing does not start until the control contact opens. When the timing is complete, the relay closes. If the control contact is closed during timing, the timing is interrupted and continues only after the control contact opens.

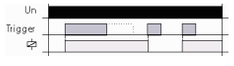
b. INTERVAL ON
After supply voltage relay closes and starts the delay time T. After the end of the timing relay opens and this state lasts until the supply voltage is disconnected.

INTERVAL ON with Inhibit
If the control contact is closed and the supply voltage is connected, the relay will close and the timing will start only after the control contact has been opened. When the timing is complete, the relay opens. If the control contact is closed during timing, the timing is interrupted and continues only after the control contact opens.



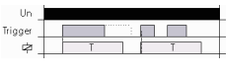
c. FLASHER - ON FIRST
After supply voltage relay closes and starts the delay time T. After the end of the timing relay opens and again runs delay time T. When the timing is complete, the relay closes again and the sequence is repeated until the supply voltage is disconnected. If the control contact is closed during timing, this does not affect the operation of the cycler.

FLASHER - OFF FIRST
If the control contact is closed during timing; this does not affect the operation of the cycler. If the control contact is closed and the supply voltage is connected, the cycler starts with a pause (relay open).

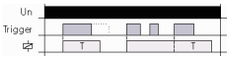


d. MEMORY LATCH
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes. The status does not change when the control contact is opened. When the control contact is closed again, the relay opens. Each time the control contact is closed, the relay changes status.

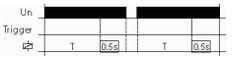
e. OFF DELAY
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes. When the control contact opens, the time delay T begins. If the control contact is closed during timing, the time is reset and the relay remains closed. When the control contact opens, the time delay T starts again and opens when the relay closes.



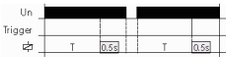
f. SINGLE SHOT
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. Closing the control contact during timing is ignored.



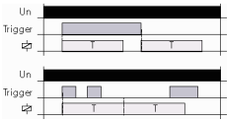
g. WATCHDOG
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. Closing the control contact during timing triggers a new time delay T - the relay closing time is thus increased.



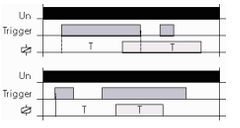
h. PULSE GENERATOR 0.5s
After the supply voltage has been applied, the time delay T begins. When the timing is complete, the relay closes for a fixed time (0.5s).



PULSE GENERATOR 0.5s with Inhibit
After supply voltage starts the time delay T. By closing timing of the control contact during timing is suspended. When the control contact opens, the time interval is completed and the relay closes for a fixed time (0.5s).



i. INTERVAL ON/OFF
When the supply voltage is applied, the relay is open. When the control contact is closed, the relay closes and the time delay T begins. When the control contact is opened, the relay closes and the time delay T begins. If the control contact is open during timing, the relay remains closed for 2T. When the timing is complete, the relay opens. Any other change of control contact status during timing is ignored.



j. ON/OFF DELAY
When the supply voltage is applied, the relay is open. If control contact is closed, time delay T starts. When the control contact is opened, a new time delay T begins. If the control contact is open during timing, the relay closes at the end of the timing and opens the relay after the new time delay. Any other change of control contact status during timing is ignored.

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