REVISIONS

REV	DC NO.	DESCRIPTION	DATE	APPROVED
A	N/A	RE-FORMATTED FOR ATC-DEI	5-28-24	

DRAWN BY:		MARSH BELLOFRAM P.O. BOX 305 ST. ROUTE 2 NEWELL, WV 26050	
CHECKED BY:		TITLE OF PRODUCT INSTRUCTIONS DTA100USD Multifunction Time Relay	
APPROVED BY:			
		PART NO. DTA100USD	REVISION A
ISSUE DATE:		NUMBER OF SHEETS IN THE BODY: 2	

DTA-100-USD
https://rebrand.ly/DTA_PDP

LISTED
E55826

DTA100USD

Multifunction Time Relay

ATC & DIVERSIFIED ELECTRONICS
8019 Ohio River Blvd.
Newell, WV 26050
Tel: 304-387-1200
www.atcdiversified.com

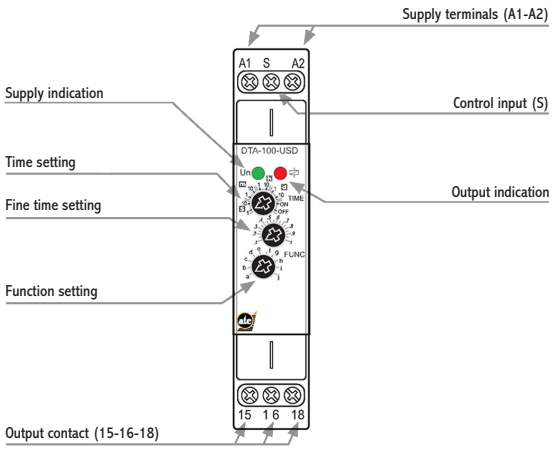
Made in Czech Republic

REV. A 5.28.24

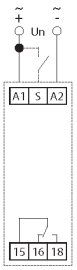
Characteristics

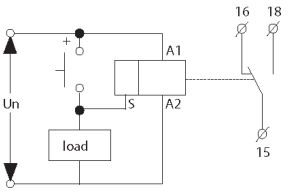
- Multifunction time relay for universal use in automation, control and regulation or in house installations.
- Universal supply voltage AC/DC 12-240V.
- Comfortable and well-arranged function and time-range setting by rotary switches.
- Time scale 0.1s - 10 days divided into 10 ranges:
- (0.1s - 1s / 1s - 10s / 0.1min - 1min / 1min - 10min / 0.1hrs - 1h / 1h - 10hrs / 0.1 day - 1 day / 1 day - 10 days / only ON / only OFF).
- Output contact: 1x changeover / SPDT 16A
- Multifunction red LED flashes or shines depending on operating status.

Description



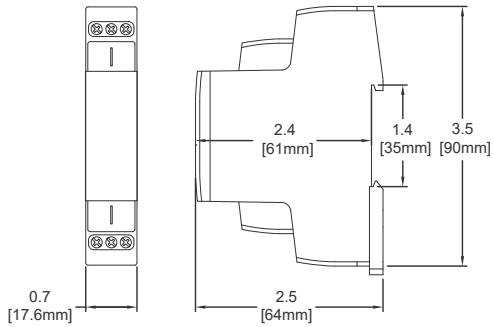
Connection





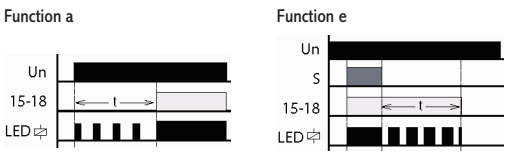
Possibility to connect load onto controlling input
It is possible to connect the load (e.g.: contactor) between terminals S-A2, without any interruption of correct relay function.

Dimensions



Indication of Operating States

Examples of status LED operation



More accurate setting of timing for long periods of time

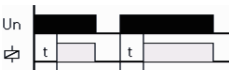
Example of time setting for an 8-hour period:
For rough setting use time scale 1-10s on the potentiometer.
For fine time setting aim for 8s on potentiometer, then re-check accuracy (using stopwatch, etc).
On rough time setting, set potentiometer to originally desired scale 1-10 hours, leave the fine setting as it is.

Type of load	cos φ ≥ 0.95 AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	HAL. 230V AC5b	AC6a	AC7b	AC12
mat. contacts AgNi, contact 16 A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	x	800W	x	250V / 3A	250V / 10A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
mat. contacts AgNi, contact 16 A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

Technical parameters

SUPPLY	
SUPPLY TERMINALS	A1 - A2
VOLTAGE RANGE	AC/DC 24-240V (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	.01s - 10 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	1
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/DC
ELECTRICAL LIFE (AC1)	100,000 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
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

Functions

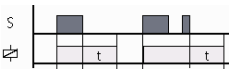


a. ON DELAY
When the input voltage U is applied, timing delay t begins. Relay contacts R change state after time delay is complete. Contacts R return to their shelf state when input voltage U is removed. Trigger switch is not used in this function.

b. INTERVAL ON
When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage U is removed, contacts will also return to their shelf state. Trigger switch is not used in this function.

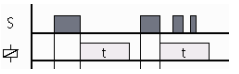
c. FLASHER - OFF FIRST
When input voltage U is applied, time delay t begins. When time delay t is complete, relay contacts R change state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.

d. FLASHER - ON FIRST
When input voltage U is applied, relay contacts R change state immediately and time delay t begins. When time delay t is complete, contacts return to their shelf state for time delay t. This cycle will repeat until input voltage U is removed. Trigger switch is not used in this function.

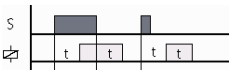


e. OFF DELAY
Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. When trigger switch S is opened, delay t begins. When delay t is complete, contacts R return to their shelf state. If trigger switch S is closed before time delay t is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.

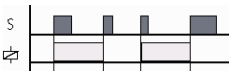
f. SINGLE SHOT
Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. During time-out, the trigger signal S is ignored. The relay resets by applying the trigger switch S when the relay is not energized.



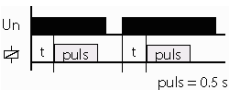
g. SINGLE SHOT FALLING EDGE
Upon application of input voltage U, the relay is ready to accept trigger signal S. Upon application of the trigger signal S, the relay contacts R transfer and the preset time t begins. At the end of the preset time t, the relay contacts R return to their normal condition unless the trigger switch S is opened and closed prior to time out t (before preset time elapses). Continuous cycling of the trigger switch S at a rate faster than the preset time will cause the relay contacts R to remain closed. If input voltage U is removed, relay contacts R return to their shelf state.



h. ON/OFF DELAY
Input voltage U must be applied continuously. When trigger switch S is closed, time delay t begins. When time delay t is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.



i. MEMORY LATCH
Input voltage U must be applied continuously. Output changes state with every trigger switch S closure. If input voltage U is removed, relay contacts R return to their shelf state.



j. PULSE GENERATOR
Upon application of input voltage U, a single output pulse of 0.5 seconds is delivered to relay after time delay t. Power must be removed and reapplied to repeat pulse. Trigger switch is not used in this function.

Warning

The device is designed for single-phase main installations of AC/DC 12-240V and must be installed in accordance with applicable local, state, and national regulations and standards. Installation, connection, setting, and servicing should be performed by qualified electrical staff only, who have been trained in these instructions and the functions of the device. This device contains protection against over-voltage peaks and disturbances in the supply. For the correct functioning of this device's protection, suitable higher-degree protections (A, B, C) must be installed upstream. According to standards, the elimination of disturbances must be ensured. Before installation, the main switch must be in the "OFF" position, and the device should be de-energized. Do not install the device near sources of excessive electromagnetic interference. For proper installation in cases of permanent operation and higher ambient temperatures, ensure adequate air circulation so that the maximum operating temperature of the device is not exceeded. For installation and adjustment, use a screwdriver approximately 2 mm in size. Proper functioning also depends on the methods of transportation, storage, and handling. If you notice signs of damage, deformation, malfunction, or missing parts, do not install the unit and notify your seller immediately. After use, properly discard according to local, state, and national regulations and standards.