290.84 mm

200.86 mm

TECHNICAL SPECIFICATIONS

Cat. No.:	2A5DT5*	2A6DT6	2AJDT0/1*	2ANDT0*	2AODT5*	2AADT5*	2B5DT5*	2B6DT6	2ASDT0/1*	2BSDT0/1*	22LDT0	23LDT0	20JDTT	20NDTT
Functions	MULTI-FUNCTION with 5 functions	MULTI-FUNCTION with 6 functions	ASYMMETRIC ON-OFF / OFF-ON	SIGNAL BASED MULTI-FUNCTION	ON DELAY	ASYMMETRIC ON-OFF	MULTI-FUNCTION with 5 functions	MULTI-FUNCTION with 6 functions	STAR - DELTA		MOTOR RESTART CONTROL		SOLID STATE ASYMMETRIC ON-OFF / OFF-ON	SOLID STATE SIGNAL BASED MULTI-FUNCTION
Supply Characteristics :														
Supply Voltage (⇄)	24-240 VAC/DC						240 - 415 VAC		24 - 240 VAC/DC	240 - 415 VAC	240 VAC	110 VAC	110 - 240 VAC	
Supply Variation	-20 % to + 10 % (⇄)													
Supply Frequency	50/60 Hz													
Power Consumption (Max.)	4 VA						7 VA		4 VA	7 VA	4 VA	2 VA	3 VA	
Signal Characteristics :														
Signal Sensing Time	Not Applicable		60 ms	Not Applicable									40 ms	
Signal I/P Impedance			1466 KΩ										1466 KΩ	
Timing and Accuracy :														
Setting Accuracy	+/-5 % of full scale													
Repeat Accuracy	+1%												+1% (10 ms error for all ranges)	
Initiate Time	Max.100 ms								Max. 100 ms		Not Applicable		Max. 100 ms	
Reset Time	Max.200 ms								Max. 200 ms		Not Applicable		Max. 100 ms	
Set Time (Ts)	0.1 s - 10 h								3 s - 120 s		Tm : 0.2 s - 6 s Td : 0.2 s - 60 s Retentive Trip Voltage : 176 VAC, ± 6 VAC Hysteresis : 10 VAC max.	Tm : 0.2 s - 6 s Td : 0.2 s - 60 s Ret. Trip Voltage : 80 VAC, ± 6 VAC Hysteresis : 10 VAC max.	0.06 s - 10 h	
Pause Time (P)	Not Applicable								60 ms, 90 ms, 120 ms, 150 ms		Not Applicable		Not Applicable	
Operating Temperature	-15°C to + 60°C													
Storage Temperature	-20°C to + 80°C													
Max.Operating Altitude	2000 m													
Humidity	⩽ 95% (Rh)										⩽ 80% (Rh)		⩽ 95% (Rh)	
LED Indication	Green LED : Power ON ; Red : Relay ON								λ:Star Relay ON; Δ :Delta Relay ON		Green LED :Power ON ; Red :Relay ON		Green LED : Power ON ; Red LED : Output ON	
Housing	Flame Retardant UL 94-V0													
Dimensions in mm (W X H X D)	22.5 X 75 X 100.5													
Weight (Unpacked)	130 g											100 g	107 g	
Mounting	Base / DIN Rail													
Relay O/P Characteristics :														
Contact Rating	5A (Res.) @ 240 VAC / 28 VDC													Not Applicable
Contact Material	Ag Alloy													
Mechanical Life	10 million													
Electrical Life	0.1 million													
Switching Frequency	Electrical:1800 operations / h at rated load													
Utilization Category AC-15	Rated Voltage (Ue) : 230 V / 125 V; Rated Current (Ie) : 1.3 A / 2.5 A													
Utilization Category DC-13	Rated Voltage (Ue) : 250 V / 120 V / 24 V; Rated Current (Ie) : 0.1 A / 0.22 A / 2 A													
Contact Arrangement	2C/O	2C/O & 1I+1D	1C/O		2C/O			2C/O & 1I+1D	1NO+1NO		1C/O			
Certification :	CE, RoHS													
Product Reference Standard	IEC 61812-1													
EMI/EMC :														
Harmonic Current Emissions	IEC 61000-3-2 Class A												IEC 61000-3-2 Class A	
ESD	IEC 61000-4-2 Level II										Level III	Level II	IEC 61000-4-2 Level II	
Radiated Susceptibility	IEC 61000-4-3 Level III												IEC 61000-4-3 Level III	
Electrical Fast Transient	IEC 61000-4-4 Level IV												IEC 61000-4-4 Level IV/4 kV,5 kHz	
Surge	IEC 61000-4-5 Level IV											Level III	IEC 61000-4-5 Level IV	
Conducted Susceptibility	IEC 61000-4-6 Level III												IEC 61000-4-6 Level IV	
Voltage Dips & Interruptions (AC)✧	IEC 61000-4-11 (Note: For 24 VAC, Performance Criteria B)												IEC 61000-4-11 All 7 Levels	
Voltage Dips & Interruptions (DC)+	IEC 61000-4-29 (Note: For 24 VDC, Performance Criteria B)												Not Applicable	
Conducted Emission	CISPR 14-1 Class A												CISPR 14-1 Class B	
Radiated Emission	CISPR 14-1 Class A												CISPR 14-1 Class A	
Safety :														
Test Voltage Between I/P & O/P	2.5 kV	1.5 kV	1.5 kV / 2.5 kV	2.5 kV				2.5 kV	1.5 kV / 2.5 kV		Not Applicable		2.5 kV	
Impulse Voltage Between I/P & O/P	4 kV	1.5 kV	1.5 kV / 4 kV	4 kV				4 kV	1.5 kV / 4 kV		Not Applicable		IEC 60947-5-1 2.5 kV	
Single Fault	IEC 61010-01													
Insulation Resistance	UL 508 > 2000 MΩ													
Leakage Current	UL 508 < 3.5 mA													
Degree of Protection	IP - 20 for Terminal; IP - 40 for Housing													
Pollution Degree	II													
Type of Insulation	Reinforced													
Environmental :														
Cold Heat	IEC 60068-2-1													
Dry Heat	IEC 60068-2-2													
Vibration	IEC 60068-2-6 10 Hz to 55 Hz													
Repetitive Shock	IEC 60068-2-27 40 g, 6ms													
Non-repetitive Shock	IEC 60068-2-27 30 g, 15 ms													
Solid State Output :	Not Applicable													
Type													Optical Isolation	
Form													SPST	
Rated Current													1 A AC	
Maximum Admissible Current													20 A (10 mS)	
Leakage Current													< 5 mA	
Voltage Breaking Capacity													110-240 VAC	
Maximum Voltage Drop at Terminals													<=8V	
Minimum Load Current													10 mA	
Electrical Life													1 X 10^6	

"+": This standard is applicable only for 2A series. ✧: For 22LDT0, Performance Criteria "B". ` * ' marked products have 2.5 kV test voltage between I/P and O/P.

1) MULTI-FUNCTION :

Cat. No.: 2A5DT5 / 2B5DT5 / 2A6DT6 2B6DT6

A) ON DELAY:

When the supply is applied, timing starts. Output Relay turns ON after the set timing (Ts) has elapsed and remains ON till the supply is present.

B) INTERVAL :

When the supply is applied, Output Relay turns ON and timing starts. Output Relay turns OFF after the set Timing (Ts) has elapsed.

C) CYCLIC ON/OFF :

When the supply is applied, Output Relay turns ON and timing starts. Output Relay turns OFF after set Timing (Ts) has elapsed and remains OFF for the same set Timing (Ts) and ON/OFF cycle repeats till the supply is present.

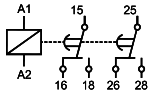
D) CYCLIC OFF/ON :

When the supply is applied, Output Relay is kept OFF for set Timing (Ts). After set Timing (Ts) has elapsed, Output Relay turns ON for the same set timing (Ts) and this OFF/ON Cycle repeats till supply is present.

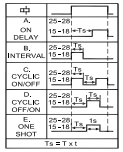
E) ONE SHOT :

When the supply is applied, timing starts. After set Timing (Ts) has elapsed Output Relay turns ON for one second, and Output Relay turns OFF.

Connection Diagram :



Timing Diagram :

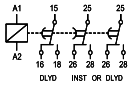


F)1I+1D ON DELAY :

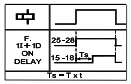
Only for Cat. No.: 2A6DT6/2B6DT6

when supply is applied, Timing starts and Instant Relay (25-28) turns on. After set Timing (Ts),Delayed Relay (15-18) turns on and remains ON till supply is present.

Connection Diagram :



Timing Diagram :



2) ASYMMETRIC ON - OFF/OFF - ON :

Cat. No.: 2AJDT0/2AJDT1/ 20JDTT

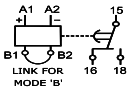
A) ASYMMETRIC OFF - ON :

If the link is not connected at B1-B2 and Supply is turned ON. Timing starts and Output Relay remains OFF for set Time. After set OFF Time has elapsed, Output Relay turns ON and remains ON till the set ON time has elapsed and the cycle repeats.

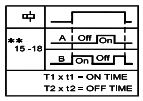
B) ASYMMETRIC ON - OFF :

If the link is connected at B1-B2 and supply is turned ON, Output Relay turns On and Timing starts. Output Relay turns OFF after the Set ON time has elapsed and remains OFF till the Set OFF time has elapsed and the cycle repeats.

Connection Diagram :



Timing Diagram :



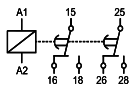
****(Incase of 20JDTT, consider 15= Y1; 18=Y2.)**

3) ASYMMETRIC ON - OFF :

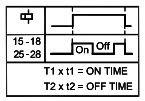
Cat. No.: 2AADT5

Supply is turned ON, Output Relay turns ON and Timing starts. Output Relay turns OFF after Set ON time has elapsed and remains OFF till set OFF time has elapsed and cycle repeats.

Connection Diagram :



Timing Diagram :

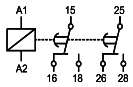


4) ON DELAY :

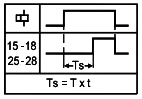
Cat. No.: 2AODT5

After applying the supply, Timing (Ts) starts Output Relay turns ON after the set Timing (Ts) has elapsed and remains ON till the Supply is present.

Connection Diagram :



Timing Diagram :

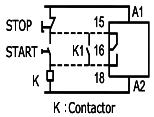


5) MOTOR RESTART CONTROL :

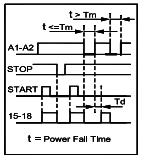
Cat. No.: 22LDT0 / 23LDT0

This product is intended for Instant and delayed restarting of motor in the event of supply interruption for a short time (6 s max.)

Connection Diagram :



Timing Diagram :



Application :

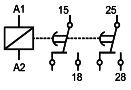
For continuous process control, where a Stop resulting from a short , voltage fault could cause Serious problems. If supply interruption is ≤ 0.2 s, then motor can be restarted immediately due to motor inertia properties. If supply interruption is within 0.2 s to 6 s (Tm settable), then relay is made ON after set delay time (Retentive) as motor requires stabilization period. After set memory time Tm, Relay will not START until START button is pressed.

6 STAR - DELTA :

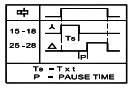
Cat. No.: 2ASDT0/1 & 2BSDT0/1

When the supply is applied, Output Star Relay turns ON. After completion of set Star ON time, Star Relay turns OFF and Delta Relay turns ON after the set Pause Time and remains ON till the Supply is present.

Connection Diagram :



Timing Diagram :



7) SIGNAL BASED MULTI-FUNCTION TIMER :

Cat. No. : 2ANDT0 / 20NDTT

A) SIGNAL ON DELAY :

Supply is present . Whenever switch (S) is closed, Timing (Ts) starts. Output Relay energizes at the end of set Timing (Ts). Output Relay de-energizes or Timing reset if switch (S) is opened.

B) ACCUMULATIVE ON DELAY :

Supply is present .Timing (Ts) starts if Switch (S) is open. Closing Switch (S) creates a Pause in Timing. Output Relay energizes at the end of set time (Ts).

C) SIGNAL OFF DELAY :

Supply is present. Whenever Switch (S) is closed, Output Relay energizes. Timing (Ts) starts when Switch is opened and Output Relay de-energizes at the end of set time. Timing (Ts) will reset if Switch (S) is re-opened.

D) SIGNAL OFF / ON DELAY :

Supply is present. Whenever Switch (S) is closed or opened, Timing (Ts) starts. Output Relay changes its state after set time (Ts). If Switch (S) is opened or closed before Timing ends, product will reset Timing (Ts) with Output Relay state unchanged.

E) LEADING EDGE IMPULSE :

Supply is present. If Switch (S) is closed, Output Relay energizes and de-energizes at the end of set Timing (Ts) irrespective of further action on Switch.

Derived Modes :

A) ON DELAY :

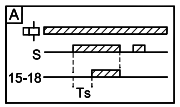
1. Select mode signal On Delay (A) and close Switch (S) or short B1-B2 before power ON, it will work as ON Delay.
2. Select mode Accumulative On Delay (B) keeping signal open before power ON and during execution of time as well, it will work as ON Delay.

E) INTERVAL :

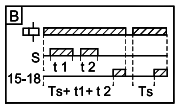
Select mode (E) Leading Edge Impulse. If Switch (S) is closed between B1- B2 before making power supply ON and during execution of timing, it will work as Interval.

Connection Diagram for 2ANDT0 & 20NDTT :

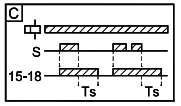
A) SIGNAL ON DELAY :



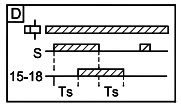
B) ACCUMULATIVE ON DELAY:



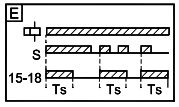
C)SIGNAL OFF DELAY :



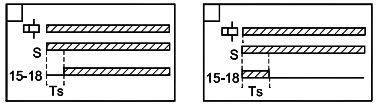
D) SIGNAL OFF / ON DELAY:



E) LEADING EDGE IMPULSE 1 :

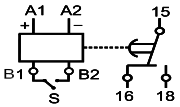


a) ON DELAY : e) INTERVAL :

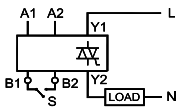


(Incase of 20NDTT & 20JDTT, 15=Y1; 18=Y2)

Connection Diagram For 2ANDT0



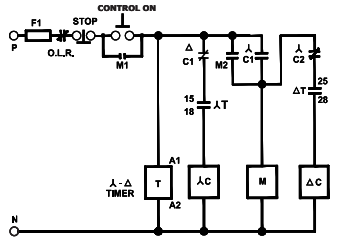
Connection Diagram for 20NDTT & 20JDTT



(For 20JDTT, short "S" for Mode B)

Recommended Star - Delta Control Circuit :

(Below circuit is for STAR - DELTA Timer with 240 VAC Supply.)



1) F1 - Mains Protection Fuse
2) O.L.R - Over Load Relay
3) M1 - First 'NO' Contact of Main Contact or
4) M2 - Second 'NO' Contact of Main Contact or
5) M - Main Contact of driving Motor
6) ⅄C - 'NO' Contact
7) ⅄C1 - 'NO' Contact of Star Contact or
8) ⅄C2 - 'NO' Contact of Star Contact or
9) ΔC - Delta Contact or
10) ΔC1 - 'NC' Contact of Delta Contact or
11) ⅄T - Star Contact of Timer (⅄- Δ)
12) ΔT - Delta Contact of Timer (⅄- Δ)

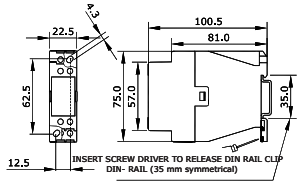
Installation :

A) Base Mounting : Timer should be mounted on a plain surface. Pull out Din Rail clips half way. Mount the device using two M4 screws.

B) DIN - Rail Mounting : The Timer should be mounted on 35 mm symmetrical DIN Rail.

Product overall dimensions and mounting details :

Note : All dimensions are in 'mm'.



NOTE :

- Product innovation being a continuous process, we reserve the right to alter specifications without prior notice.

Terminal Details :

ø 3.5....4.0 mm	0.6 N.m (5.3 Lb.in) Terminal screw - M3
	1 X 4.0 mm² Solid/Stranded Wire
AWG	1 X 20 to 10

Use Cu wire of 75° C only.

AWG	CURRENT (A)
10	5.00
12	5.00
14	3.33
16	1.67
18	1.00
20	1.00

The timers shall be placed in an enclosure that is minimum 200% of the size of the timer in the end use application.

ELECTRONIC TIMER - SERIES MICON™ 225

CE RoHS

Cat. No. : 2A5DT5, 2A6DT6, 2AJDT0, 2AJDT1, 2ANDT0, 2AODT5, 2AADT5, 2B5DT5, 2B6DT6, 22LDT0, 23LDT0, 2ASDT0, 2ASDT1, 2BSDT0, 2BSDT1, 20NDTT, 20JDTT

225 is manufactured to high precision and accuracy. Following types of functions are available in this series:

- MULTI-FUNCTION TIMER
- MULTI-FUNCTION 1I + 1D TIMER
- ASYMMETRIC ON-OFF/OFF-ON TIMER
- SIGNAL BASED MULTI-FUNCTION TIMER
- ON DELAY TIMER
- MOTOR RESTART CONTROL
- STAR-DELTA TIMER
- SOLID STATE ASYMMETRIC ON-OFF/OFF-ON TIMER
- SOLID STATE SIGNAL BASED MULTI-FUNCTION TIMER

Main features :

- Supply Voltage (2A) : 24-240 VAC /DC
- Supply Voltage (2B) : 240-415 VAC
- Supply Voltage (22) : 240 VAC
- Supply Voltage (20) : 110-240 VAC
- Supply frequency : 50/60 Hz
- Timing, Mode, Range and Pause Time wherever applicable can be set before power is applied to the product. Once Timer operation starts, any change in these settings have no effect.
- Range : 0.1 s to 10 h
- Range : 3 s to 120 s (2ASDT0/1, 2BSDT0/1)
- Range : 0.2 s to 60 s (22LDT0 / 23LDT0)
- Range : 0.06 s to 10 h (20JDTT/20NDTT)
- Memory Time : 0.2 s to 6 s (22LDT0 only)
- Output : Solid state output (20JDTT/20NDTT)
- Blinking of Green LED indicates timing is in progress (Except for STAR-DELTA).

Caution :

1. Always follow instructions stated in this product leaflet.
2. Before installation, check that the specifications agree with the intended application.
3. Installation to be done by skilled electrician.
4. Automation and control devices must be installed properly so that they are protected against any risk of involuntary actuations.
5. Suitable dampers should be provided in the event of excessive vibrations.
6. Setting of all the potentiometers should be in clockwise direction only.
7. Do not connect supply between B1 and B2 terminals. For proper signal operation, follow supply polarity as per connection diagram.
8. In 2AJDT0/1, any change at B1-B2 will have no effect once timer starts.
9. Use 250 mA fuse in series with the above mentioned products.
10. In 20NDTT & 20JDTT, use 3 A²s (I²t) fuse externally.
11. In 20NDTT & 20JDTT, Minimum switching operational current is 10 mA.