- · Multi-function with Signal Start and Supply Start.
- 16 Timing Functions selected by DIP switch.
- Two independent relay outputs with either both relays timed or one timed and one instantaneous.
- Wide Input Signal & Supply range 24-240V AC/DC.
- Wide Timing Range 0.1 s to 120 days.
- · High timing Accuracy.
- LED indicators for Power Supply & Relay Status.
- 22.5mm DIN Mount Housing.



Ordering Information

Cat. No. Description

2A8DT6 24-240 VAC / DC, Signal Based Multi - Function,

1 C/O (Delayed) & 1 C/O (Configurable as either Delayed or Instant)



Cat. No.		2A8DT6				
Paramo	eters					
Timer E	Description	Multi-function with Signal Start and Supply Start				
Supply	Voltage (中)	24-240 VAC / DC				
Supply	Variation	- 20% to +10% (of 中)				
Freque	ncy	50/60 Hz				
Power	Consumption (Max.)	< 2 VA @ 24 VAC / DC, < 4 VA @ 230 VAC / DC				
Initiate	Time	100 ms (Max.)				
Reset 1	Time	200 ms (Max.)				
Signal	Low Range (B1L-A2)	24-60V AC/DC				
Voltage	High Range (B1H-A2)	85-265V AC, 100-265V DC				
Signal	Sensing Time	For AC Signals: 50 ms Max.				
Ū	· ·	For DC Signals: 20 ms Max.				
	stabilization Delay	100 ms (Applicable at Power ON Only)				
	Accuracy	± 5% of Full scale				
Repeat	Accuracy	± 1%				
	Relay Output	1 C/O (Delayed) & 1 C/O (Configurable as either Delayed or Instant)				
	Contact Rating	5A @ 250 VAC / 28 VDC (Resistive)				
Output	Contact Material	AgNi				
	Electrical Life	1x10 ⁵				
	Mechanical Life	1x10 ⁷				
Set Tim	ne (Ts)	0.1 seconds to 120 Days				
Functio	ons	Refer page no. 31 & 32				
LED In	dication on front panel	Green LED ON: Power ON, Amber LED ON :Relay ON for Delayed contact				
Mountii		Base / DIN Rail				
	perating Altitude	2000 m				
Housin	g	Flame retardant (UL 94-V0)				
Operati	ng Temperature	-10°C to +60°C				
Storage	e Temperature	-20°C to +70°C				
Humidi	ty (Non Condensing)	95% (Rh)				
LED In	dication	Green LED→ Power ON, Red LED → Relay ON				
Enclosi	ure	Flame Retardant UL94-V0				
Dimens	sion (W x H x D) (in mm)	22.5 X 75 X 100.5				
Weight (unpacked)		153 g				
Pollutio	n Degree					
Certification		C C Compliant				
Degree	of Protection	IP 20 for Terminals, IP 40 for Enclosure				

1	AC

IEC 61000-3-2
IEC 61000-4-2
IEC 61000-4-3
IEC 61000-4-4
IEC 61000-4-5
IEC 61000-4-6
IEC 61000-4-11
CISPR 14-1
CISPR 14-1

Safety:

Test Voltage between I/P and O/P	IEC 60947-5-1
Test Voltage between all terminals & enclosure	IEC 60947-5-1
Impulse Voltage between I/P and O/F	PIEC 60947-5-1
Single Fault	IEC 61010-1
Insulation Resistance	UL 508
Leakage Current	UL 508
Product Reference Standard	IEC 61812-1

Environmental

Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

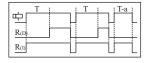


FUNCTIONAL DIAGRAMS

中: Supply Voltage, S: Input Signal, R: Relay Output, R(I): Instant Relay, R(D): Delayed Relay
T: Preset Time, TON: Preset ON Time, TOFF: Preset OFF Time, T-a: Timing Break Before completion

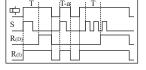
ON DELAY (Non Signal Based)

When supply is applied, timing starts and after the preset time duration 'T', output switches ON and remains ON till the supply is present.



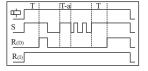
SIGNAL ON DELAY TYPE 1

When the input supply & signal are applied, timing starts and after preset time duration 'T' output switches ON & remains ON till the supply is present. Changing the state of signal during 'T' does not affect the output.



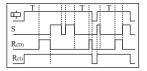
SIGNAL ON DELAY

Time commences as supply and signal is present. When input signal is opened, the timing resets. The output is switched ON at the end of the preset time duration 'T'. When output is ON if signal is opened then the output switches OFF.



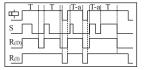
INVERTED SIGNAL ON DELAY

When supply is applied and signal is opened, preset time duration 'T' starts. On completion of the 'T', output switches ON. If the signal is closed during timing 'T', timing resets.



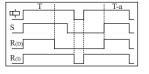
INTERVAL

When supply voltage is applied & signal is closed, output switches ON & timing function starts. If signal is opened and closed during the preset time, the timing restarts. After preset time 'T' has elapsed, the output switches OFF.



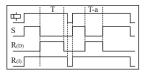
LEADING EDGE IMPULSE

When the supply applied and signal is closed, the output switches ON for preset time T'. After the completion of preset time 'T', the output switches OFF. If signal closed or opened during preset time duration 'T', the output remains unaffected.



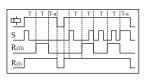
TRAILING EDGE IMPULSE

When supply voltage is applied and signal is opened, output switches ON for the preset time duration 'T'. After completion of preset time 'T', output switches OFF. If the signal is closed during preset timing 'T', output switches OFF & timing stops.



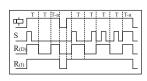
CYCLIC OFF/ON

When the supply applied and signal is closed, output switches OFF for the preset time duration 'T' and then switches ON for preset time duration 'T'. This cycle repeats while the supply is present. Changing the state of signal during 'T' does not affect the output.



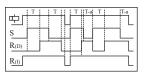
CYCLIC ON/OFF

When the supply applied and signal is closed, output switches ON for the preset time duration 'T' and then switches OFF for preset time duration 'T'. This cycle repeats while the supply is present. Changing the state of signal during 'T' does not affect the output.



SIGNAL ON/ OFF Delay

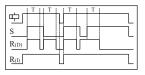
Signal ON/OFF Delay: When the supply is applied and signal is closed, outputs switches ON after preset time 'T'. During the timing 'T' if signal is opened, the output switches ON immediately and OFF delay starts. Once this time period has elapsed



starts. Once this time period has elapsed the output switches OFF. During this OFF delay if signal is closed, the output switches OFF immediately and ON Delay restarts.

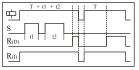
IMPULSE ON/OFF

When supply is applied and if signal closed or opened, output switches ON for Preset time duration 'T'. During time period 'T', changing state of input signal does not affect the output but resets the timing.



ACCUMULATIVE DELAY ON SIGNAL

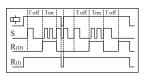
Accumulative Delay ON Signal: On application of the supply voltage, the preset timing commences. Whenever signal is closed, timing pauses & resumes back only



when the input signal is opened. The output switches ON at the end of the preset time duration 'T'.

DELAYED IMPULSE

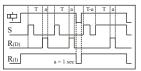
Delayed Impulse: When supply voltage is applied and signal is closed, output switches ON at the end of the preset time 'TOFF'. Then the preset ON time 'TON' starts irrespective of the signal state and remains ON till the completion of preset time



duration 'TON'. If signal closed during the timing 'TOFF', the timing restarts but the output state remains unaffected. The signal change does not have any effect during the timing period 'TON'.

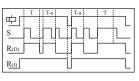
ONE SHOT

One Shot: When the supply voltage is applied and signal is closed,timing starts and after the preset time duration'T', output switches ON for One sec. only.



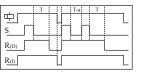
STEP MODE

Step Mode: When the supply voltage is applied and signal closed, output switches ON for preset time duration 'T', removal of the input signal during this time duration 'T' does not affect the output state. But if the signal is closed during time duration 'T', output switches OFF.



SIGNAL OFF DELAY

Signal OFF Delay: When the supply is applied and signal is closed, output is switches ON. When signal is opened, the preset timing commences and output is switches OFF at the end of time duration 'T'. If signal is closed during timing period, then timing stops and restarts when signal.

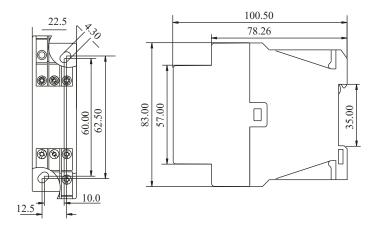




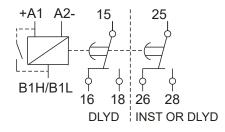
Selection of Function: Operating Mode & timing can be selected by using DIP switches

	Function		Function
1 2 3 4	On Delay (Non Signal)	1 2 3 4	Signal OFF Delay
	Signal On Delay Type 1		Step Mode
	Signal On Delay		One Shot
	Inverted Signal On Delay		Delayed Impulse
	Interval		Accumulative Delay On Signal
	Leading Edge Impulse		Impulse ON / OFF
	Trailing Edge Impulse		Signal ON / OFF Delay
	Cyclic OFF / ON		Cyclic ON / OFF
	or 2D Selection		Multiplier Selection
5	1I + 1D Operation	6	Timing = 'T' X 't' X 1
	2 Delayed Operation		Timing = 'T' X 't' X 12

MOUNTING DIMENSION (mm)



CONNECTION DIAGRAM



TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.5 mm4.0mm	0.6 N.m (5.3 Lb.in)
	1 x 4.0 mm ² Solid/Stranded Wire
AWG	1 x 20 to 10

- · Compact 22.5mm Wide
- Wide Time Range: 0.1s to 10h
- Wide Voltage range for both AC & DC

Multi Function Timer

- With 5 different Functions
- 2 C/O Configuration

- · Flush knobs for better security
- · LED Indications for Power and Relay status
- Excellent Noise Immunity to the latest IEC standards

Multi Function Timer with 1 Instant & 1 Delayed C/O

- With 6 different Functions
- Instant + Delayed output Configuration



Ordering Information

Cat. No.	Description
2A5DT5	24 - 240 VAC/DC, Multi-Function Timer (5 Modes), 2 C/O
2B5DT5	240 - 415 VAC, Multi-Function Timer (5 Modes), 2 C/O
2A6DT6	24 - 240 VAC/DC, Multi-Function Timer (6 Modes), 2 C/O (1 Instant + 1 Delayed for 6th Mode)
2B6DT6	240 - 415 VAC, Multi-Function Timer (6 Modes), 2 C/O (1 Instant + 1 Delayed for 6th Mode)
2AODT5	24 - 240 VAC/DC, ON Delay, 2 C/O

UL Approval not applicable for Cat No. 2A6DT6 & 2B6DT6



Cat. No.			2A5DT5		2B6DT6		
Parame	eters						
Timer D	Description		Multi-Function Timer		Multi-Function Timer		
Modes			ON Delay, Interval, Cyclic ON-OFF, Cyclic OFF-ON, One Shot		ON Delay, Interval, Cyclic ON-OFF, Cyclic OFF-ON, One Shot, ON Delay with 1 Instant & 1 Delayed		
Functional Diagram			ON DELAY R T T T T T T T T T T T T T T T T T T	中 R T	R T T T T CYCLIC ON/OFF CYCLIC ON/OFF INST DLYD: T DLYD.)* * Available only with Cat. No. 2A6DT6 & 2B6DT0		
Supply	Voltage (₼)		24 - 240 VAC/DC		240 - 415 VAC		
Supply Variation			- 20% to +10%(of 中)				
Freque			50/60 Hz				
	Consumption (Max.)	4 VA		7 VA		
Timing		· ,	0.1s to 10h				
Reset	Гіте		200 ms (Max.)				
U	Accuracy Accuracy		± 5% of Full scale ± 1%				
	Relay Outpu	t	2 C/O		2 C/O, 1 Instant + 1 Delayed (for 6th mode)		
Output	Contact Rating		5A @ 240 VAC / 28 VDC (Resistive)				
Output	Electrical Life	Э	1x10 ⁵				
	Mechanical Life		1x10 ⁷				
Utilizati	on Category	AC - 15	Rated Voltage (Ue): 230/125 V, Rated Current (Ie): 1.3/2.5 A				
	0 ,	DC - 13	Rated Voltage (Ue): 250/120/24 V, Rated Current (Ie): 0.1/0.22/2 A				
	ing Temperature e Temperature	re	-15°C to +60°C -20°C to +80°C				
	ty (Non Conde	nsing)	95% (Rh)				
LED Indication		- 5/	Green LED → Power ON, Red LED → Relay ON				
Enclosure			Flame Retardant UL94V0				
Dimension (W x H x D) (in mm)) (in mm)	22.5 X 75 X 100.5				
Weight (unpacked)		, ,	130 g				
Mounting			Base / DIN Rail				
Certification			C C CULISTED VEGIES Compliant				
Degree	of Protection		IP 20 for Terminals, IP 40 for Enclosure				

EMI / EMC

LIVII / LIVIO	
Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental Cold Heat IEC 60068-2-1 IEC 60068-2-2 Dry Heat IEC 60068-2-6 Vibration IEC 60068-2-27 IEC 60068-2-27 Repetitive Shock Non-Repetitive Shock

- Signal based Multi-function with Relay / Solid State Output
- Potential Free Signal Input
- Asymmetric Timer with Solid State Output



Ordering Information

Cat. No.	Description
2ANDT0	24 - 240 VAC/DC, Signal Based Multi Function Timer, 1 C/O
20NDTT	110 - 240 VAC, Signal Based Multi Function Timer with Solid State Output
20JDTT	110 - 240 VAC, Asymmetric Timer with Solid State Output



Cat.		2ANDT0		20NDTT	
Parame	eters				
Description			Signal Base	d Multi Function	
Modes		Signal ON Delay, Accumulative ON	Delay, Signal O	FF Delay, Signal OFF/ON Delay, Lea	ading Edge Impuls
Derived	l Modes	ON Delay, Interval			
Functional Diagram		SIGNAL ON DELAY ACCUMUL SIGNAL ON DELAY RT	ATIVE ON DELAY		T DFF/ON DELAY
Supply	Voltage (中)	24 - 240 VAC/DC		110 - 240 VAC	;
	Variation	- 20% to +10% (of中)		-	
Freque		50/60 Hz			
Power (Consumption (Max.)	3 VA			
Timing	Ranges	0.1s to 10h			
Reset Time		100 ms			
Setting Accuracy Repeat Accuracy		± 5% of Full scale ± 1%			
	Relay Output	1 C/O (SPDT)		N A	
Output	Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)		N A	
Output	Electrical Life	1x10 ⁵		N A	
	Mechanical Life	1x10 ⁷		N A	
	Type & Form	N A		Optical Isolation, S	SPST
	Rated Current	N A		1A (AC)	
Solid	Max. Admissible Current	N A		20A (10 ms)	
State Output	Vol. Breaking Capacity	N A		110 to 240 VAC	<u> </u>
Output	Max. Drop @ Terminals	N A		<= 8V	
	Minimum Load Current	N A		20 mA	
	Electrical Life	N A		1x10 ⁶	
Utilizati	on Category AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A			
	ng Temperature	-15° C to +60° C -20° C to +80° C	v, Raled Current	(Ie): 2.0/0.22/0.1 A	
Storage Temperature Humidity (Non Condensing)		95% (Rh)			
LED Indication		Green LED → Power ON Red LED → Relay ON			
Enclosure		Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)		22.5 X 75 X 100.5			
Weight (unpacked)		130 g			
Mountir	` ' /	Base / DIN Rail			
Certifica	•	C C C LISTEN Compliant			
Degree of Protection		IP 20 for Terminals, IP 40 for En	closure		

EMI / EMC	
Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1
Environmental	
Cold Heat	IEC 60068-2-1
00.0	

 Cold Heat
 IEC 60068-2-1

 Dry Heat
 IEC 60068-2-2

 Vibration
 IEC 60068-2-6

 Repetitive Shock
 IEC 60068-2-27

 Non-Repetitive Shock
 IEC 60068-2-27

Asymmetric ON-OFF Timer

- · Compact 22.5mm Wide
- Independent settings for ON & OFF time
- · Wide Time Range
- LED Indications for Power and Relay status

Star Delta Timer

- · Settable Start Time
- · Settable Pause Time
- · Indications for Star & Delta
- Excellent Noise Immunity to the latest IEC standards



Ordering Information

Cat. No.	Description
2AADT5	24 - 240 VAC/DC, Asymmetric ON/OFF Timer, 2 C/O
2ASDT0*	24 - 240 VAC/DC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2ASDT1	24 - 240 VAC/DC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2BSDT0*	240 - 415 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)
2BSDT1	240 - 415 VAC, Star Delta Timer, 1 NO (Star) + 1 NO (Delta)

^{*}Note: Product with test voltage between input and output at 1.5 kV



Cat. No.			2AADT5	2ASDT0	
Param	eters				
Timer Description			Asymmetric Timer	Star Delta Timer	
Mode			Asymmetric ON-OFF (A)	Star Delta	
Functional Diagram			R TON TOFF TON	ф Д Д Т, TP	
Supply	Voltage (中)		24 - 240 VAC/DC		
Supply	Variation		- 20% to +10% (of 中)		
Freque			50/60 Hz		
Power	Consumption ((Max.)	4 VA		
Timing Ranges			0.1s to 10h	3s to 120s	
Pause Time (P)			NA	60ms, 90ms, 120ms, 150ms	
Reset	Time		200 ms (Max.)		
Setting Accuracy Repeat Accuracy			± 5% of Full scale ± 1%		
	Relay Outpu	t	2 C/O Star - 1 'NO', Delta - 1 'NO'		
Output	Contact Rating		5A @ 240 VAC / 28 VDC (Resistive)		
Output	Electrical Life		1x10 ⁵		
	Mechanical Life		1x10 ⁷		
l Itilizat	ion Category	AC - 15	Rated Voltage (Ue): 230/125 V, Rated Current (le): 1.		
Otilizat	lion oatogory	DC - 13	Rated Voltage (Ue): 250/120/24 V, Rated Current (le): 0.1/0.22/2 A		
	tin <u>g</u> Temperatu		-15°C to +60°C		
Storage Temperature			-20°C to +80°C		
Humidity (Non Condensing)		ensing)	95% (Rh)		
LED Indication			Green LED → Power ON, Red LED → Relay ON Red LED 1 → '人' ON, Red LED 2 → 'Δ' ON		
Enclosure			Flame Retardant UL94-V0		
Dimension (W x H x D) (in mm)		ט) (in mm)	22.5 X 75 X 100.5		
Weight (unpacked)			130 g		
Mounting			Base / DIN Rail		
Certification			C E C US Koats Compliant		
Degree	e of Protection		IP 20 for Terminals, IP 40 for Enclosure		

EMI	/	ΕM	C
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IEC 61000-3-2
IEC 61000-4-2
IEC 61000-4-3
IEC 61000-4-4
IEC 61000-4-5
IEC 61000-4-6
IEC 61000-4-11
IEC 61000-4-29
CISPR 14-1
CISPR 14-1

Environmental

 Cold Heat
 IEC 60068-2-1

 Dry Heat
 IEC 60068-2-2

 Vibration
 IEC 60068-2-6

 Repetitive Shock
 IEC 60068-2-27

 Non-Repetitive Shock
 IEC 60068-2-27

• True OFF Delay (Power OFF Delay) up to 600 seconds with 2 C/O.



Ordering Information

Cat. No. Description

23GDT0 24-240 VAC/DC, True OFF Delay (Power OFF Delay) Timer, 2 C/O



Cat.	Cat. No. 23GDT0				
Param	eters				
Timer [Description		True OFF Delay (Power OFF Delay) Timer		
Mode			True OFF Delay (Power OFF Delay)		
Functional Diagram			R T		
Supply	Voltage (中)		24 - 240 VAC/DC		
Supply	Variation		-10 to +20% (of中)		
Freque	ency		50/60 Hz		
Power Consumption (Max.) 2.5 VA		2.5 VA			
Energizing Time 1s (Minimum)		1s (Minimum)			
Timing Range 0.6s to 600s		0.6s to 600s			
			10% of Full scale ± 1%		
	Relay Output		2 C/O		
0	Contact Rating		5A @ 240 VAC / 28 VDC (Resistive)		
Output	Electrical Life		1x10 ⁵		
	Mechanical Life		1x10 ⁷		
Utilization Category AC - 15		AC - 15 DC - 13	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A		
Operating Temperature		re	-15°C to +60°C		
	e Temperature		-20°C to +70°C		
Humidity (Non Condensing) 95% (Rh)					
LED In	LED Indication Green LED → Power ON, Red LED → Relay ON				
Enclos	Enclosure Flame Retardant UL94-V0				
Dimension (W x H x D) (in mm)		D) (in mm)	22.5 X 75 X 100.5		
Weight (unpacked) 130 g					
Mounting Base / DIN Rail		Base / DIN Rail			
Certific	Certification (CE Rolls Compliant		
Degree of Protection IP 20 for Terminals, IP 40 for Enclosure		IP 20 for Terminals, IP 40 for Enclosure			

EMI / EMC

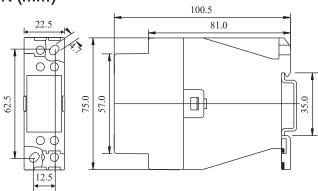
Harmonic Current Emissions	IEC 61000-3-2
ESD	IEC 61000-4-2
Radiated Susceptibility	IEC 61000-4-3
Electrical Fast Transients	IEC 61000-4-4
Surges	IEC 61000-4-5
Conducted Susceptibility	IEC 61000-4-6
Voltage Dips & Interruptions (AC)	IEC 61000-4-11
Voltage Dips & Interruptions (DC)	IEC 61000-4-29
Conducted Emission	CISPR 14-1
Radiated Emission	CISPR 14-1

Environmental

Liivii oiiiioiitai	
Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
Repetitive Shock	IEC 60068-2-27
Non-Repetitive Shock	IEC 60068-2-27

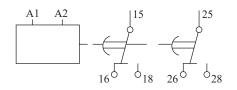


MOUNTING DIMENSION (mm)

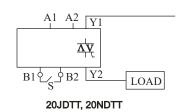


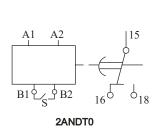
2A5DT5, 2B5DT5, 2AODT5, 2ASDT0, 2ASDT1, 2BSDT0, 2BSDT1, 2AADT5, 20JDTT, 20NDTT, 2ANDT0, 23GDT0, 2A6DT6, 2B6DT6

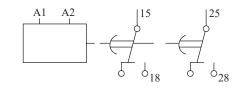
CONNECTION DIAGRAM



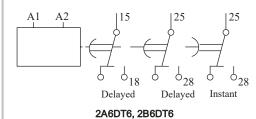
2A5DT5, 2B5DT5, 2AADT5, 23GDT0, 2AODT5







2ASDT0, 2BSDT0, 2ASDT1, 2BSDT1



TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.5 mm4.0mm	0.6 N.m (5.3 Lb.in)
	1 x 4.0 mm ² Solid/Stranded Wire
AWG	1 x 20 to 10