

# Control & Protect Your Panels with **Precision & Reliability**



## Earth Leakage Relay

***Built on Trust.*** Designed for high performance.

LED Indications for power on, alarm and trip for easy identification

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Ease of programming using dial and dip switches

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MODBUS RS485 communication port available

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Wide trip time setting from 0-10 sec

# ULTIMATE DIGITAL VOLTAGE MONITORING RELAY

WITH ADVANCED NEUTRAL LOSS FEATURE



Phase  
Loss



Phase  
Asymmetry



Phase  
Reverse



Neutral  
Loss



Over  
Voltage




Under  
Voltage

**SWITCH TO DIGITAL VOLTAGE MONITORING RELAY-SM800**

# Timing Devices, Supply Monitors & ELR

## Timers [9107]


		Type	Time	Voltage	Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
 <p><b>Micon 175</b></p>	ON Delay	0.3 sec - 30 hrs	240 VAC/24 VAC/DC	1 C/O	12ODT4	845	
			110 VAC/24 VAC/DC			110DT4	1490
			12 VDC			150DT4	1220
	ON Delay & Interval	0.1 sec - 100 hrs	240 VAC/24 VAC/DC	1 C/O	12WDTC	1225	
	Star Delta Timer	3 sec - 120 sec	240 VAC	1 NO (Star)+1 NO (Delta)	12SDT0	950	
		3 sec - 30 sec	240 - 415 VAC	1 C/O (Star)+1 C/O (Delta)	14SDT1S	1570	
	Signal OFF Delay	0.3 sec - 30 hrs	240 VAC/24 VAC/DC	1 C/O	12RDT4	1155	
		0.3 sec - 30 hrs	12 VDC			15DDT4	1255
	Multifunction Timer	0.1 sec - 100 hrs	12 - 240 VAC/DC	1 C/O	1CMDT0	1965	
				2 C/O	1CMDTF	2095	
	Asymmetrical ON/OFF & OFF/ON	0.1 sec - 100 hrs	12 - 240 VAC/DC	1 C/O	1CJDT0	1965	
	One Shot	0.3 sec - 30 hrs	110 VAC/24 VAC/DC	1 C/O	11BDT4	1465	
			240 VAC/24 VAC/DC			12BDT4	1465
12 VDC			15BDT4			1535	
Forward Pause Reverse Timer	ON time : 6 sec -60 min Pause time : 0.1 sec-200 sec	12 - 240 VAC / DC	2 C/O	1CZDTF	2095		

Pause time for Micon 175 star delta timer is 60 msec

1CMDT0 contains ON Delay, Impulse, Signal ON delay, Cyclic ON/OFF, Cyclic OFF/ON, Signal OFF Delay, Signal OFF/ON, Accumulative Delay ON signal, Impulse ON/OFF, Leading edge impulse, Trailing edge impulse, Leading edge Bistable

## On Delay and Star Delta Timer Precision in Every pulse. Reliability in Every Start



 <b>Micon 225</b>	Type	Timing Range	Voltage	Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	ON Delay	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O	<b>2AODT5</b>	<b>1840</b>
	Star Delta Timer	3 sec - 120 sec	24 - 240 VAC/DC	1 NO (Star)+1 NO (Delta)	<b>2ASDT0</b>	<b>1925</b>
			240 - 415 VAC		<b>2BSDT0</b>	<b>2275</b>
	Multifunction Timer	0.1s to 120 days	24 - 240 VAC/DC	2 C/O (1 Inst+1 Delayed)	<b>2A8DT6</b>	<b>2065</b>
	Multifunction Multirange	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O	<b>2A5DT5</b>	<b>2040</b>
			240 - 415 VAC		<b>2B5DT5</b>	<b>2455</b>
	Signal Base Multi function - Multirange	0.1 sec - 10 hrs	24 - 240 VAC/DC	1 C/O	<b>2ANDT0</b>	<b>2170</b>
	Multifunction Timer 6 Functions	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O (1 Inst+1 Delayed for 6th Mode)	<b>2A6DT6</b>	<b>2185</b>
240 - 415 VAC			<b>2B6DT6</b>		<b>2225</b>	
True OFF Delay	0.6 sec - 600 sec	24 - 240 VAC/DC	2 C/O	<b>23GDT0</b>	<b>3000</b>	
Asymmetrical ON/OFF	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O	<b>2AADT5</b>	<b>2310</b>	


Pause time for Micon 225 star delta timer is 60 msec, 90 msec, 120 msec, 150 msec

Major timing functions


2A5DT5, 2B5DT5, 2A6DT6\* and 2B6DT6\* contains ON Delay, Interval, Cyclic ON/OFF, Cyclic OFF/ON, One Shot, ON Delay, On Delay (1 Inst + 1 Delayed)\*

2ANDT0 contains ON Delay, Interval, Signal ON Delay, Accumulative ON Delay, Signal OFF Delay, Signal OFF/ON Delay, Leading edge impulse


2A8DT6 contains ON Delay, Impulse, Signal ON delay, Signal OFF delay, Step mode, One shot, Interval, Cyclic ON/OFF, Cyclic OFF/ON, Signal OFF Delay, Accumulative Delay ON signal, Impulse ON/OFF.

 <b>Digital Timer DIGICON</b>	Functions	Timer	Voltage	Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	8 Functions	0.1 sec - 999 hrs	24 - 240 VAC/DC	1 C/O	<b>V0DDTS</b>	<b>2285</b>
			24 - 240 VAC/DC	2 NO	<b>V0DDTD</b>	<b>2285</b>
	18 Functions	0.1 sec - 999 hrs	24 - 240 VAC/DC	1 C/O	<b>V0DDTS1</b>	<b>2585</b>
24 - 240 VAC/DC			2 NO	<b>V0DDTD1</b>	<b>2585</b>	


V0DDTS and V0DDTD contains On Delay, Signal OFF Delay, Cyclic ON/OFF, Signal OFF/ON, Cyclic OFF/ON, Interval, Signal ON/OFF, One Shot output  
V0DDTS1 and V0DDTD1 contains ON Delay, Cyclic OFF/ON, Cyclic ON/OFF, Impulse on energizing, Accumulative Delay ON Signal, Accumulative Delay on Inverted signal, Accumulative Impulse ON signal, Signal ON Delay, Inverted Signal On delay, Signal OFF Delay, Impulse ON/OFF, Signal OFF/ON, Leading edge impulse, Trailing edge impulse, Delayed impulse, Negative edge impulse.

 <b>Motor Restart Timer</b>	Functions	Timer	Voltage	Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	Motor Restart Timer	Memory time Tm: 0.2 to 6 sec	110 VAC	1 C/O	<b>23LDT0</b>	<b>2415</b>
Delay time Td: 0.2 to 60 sec		240 VAC	<b>22LDT0</b>		<b>2415</b>	

## Time Switches [9107]


 <b>FM1 / Quartz</b>	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	FM1 / Quartz Daily	110 VAC - 240 VAC Base/DIN Mounting		

150 Hrs Battery Backup

 <b>Digital Time Switch</b>	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	Time Switch (Crono)	110 - 240 VAC 1 C/O Base/DIN 25 ON/OFF Each		
Time Switch (Crono Pro)	24 VDC 1 C/O Base/DIN 25 ON/OFF Each	6GHDT0	3615	
	12 VDC 1 C/O Base/DIN 25 ON/OFF Each	69HDT0	3805	
	110 - 240 VAC 2 C/O Base/DIN 50 ON/OFF Each	WT2DCDS	4335	
Time Switch (Pulse) *	110 - 240 VAC 1 C/O Base/DIN 16 Pulse	67DDT9	3555	
	24V DC 1 C/O Base /Din 16 Pulse	6GHDT9	4010	
	12V DC 1 C/O Base /Din 16 Pulse	69HDT9	4215	

Crono Pro Crono / Pulse

\* For bell and siren application

 <b>Astro</b>	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	Astro Mini	110 - 240 VAC 1 Phase - 2W 1 C/O , Base/Din		
Astro Pro	110 - 240 VAC 1 Phase - 2W 2 C/O , Base/Din 50 ON/OFF Each	AS2DCDS	7275	
Astro	110 - 240 VAC 3 Phase - 4W 3 Channel 3 N/O , Base/Din	T3DDT0*	14990	

Astro Pro Astro Mini

\* Available till stock lasts.





**Note :** Astro Mini / Astro Pro is used for lighting control based on sunrise / sunset timings by latitude / longitude settings primarily used in streetlight application




# Smart Timing for Brighter Nights

## Supply Monitoring Devices [9032]

› SPP includes single phasing, phase sequence and phase unbalance monitoring with auto reset

Voltage Monitoring Relay Series	Type	Supply Monitoring Type	Time delay	Asymmetry	Voltage & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	 <p><b>SM 301</b></p>  <p><b>SM 500</b></p>  <p><b>SM 500 with Neutral Loss Protection</b></p>  <p><b>SM 501</b></p> <p><b>Digital VMR Series</b></p>  <p><b>SM 800</b></p>  <p><b>SM 600 (MMR)</b></p>	SM301 (3Ph, 3W)	Single Phasing Preventor (SPP*) Fail Safe	ON Delay 2 sec and OFF Delay 7 sec	65 VAC Asymmetry	415 VAC, 1 C/O	MA51BC
					415 VAC, 2 C/O	MC21B5	1960
					415 VAC, 1 C/O	MA51BK	1340
SM301 (3Ph, 3W)		Phase loss monitoring Non Fail Safe Type	OFF Delay 500 msec and Recover Delay 2 Sec	30% Fixed	415 VAC, 1 C/O	MA59B5	1540
		Selectable Under Voltage + Selectable Over Voltage	Selectable ON Delay (0 to 15 min)	-	240 VAC, 1 C/O	MD71B9	2080
			Selectable ON Delay (0 to 15 sec)	-		MD71BH	2080
			Selectable OFF Delay (0 to 15 sec)	-		MD71BF	2435
SM500 (3 Ph / 1 Ph, 4W)		Single Phasing Preventor + Selectable Under Voltage + Selectable Over Voltage	Selectable ON Delay (0 to 15 min) & OFF Delay 5 sec	Phase Asymmetry 10% fixed	240 VAC, 2 C/O	MG73B9	2540
			Selectable ON Delay (0 to 15 sec) & OFF Delay 5 sec	Phase Asymmetry 10% fixed		MG73BH	2540
			Selectable OFF Delay (0 to 15 sec) & ON Delay 5 sec	Phase Asymmetry 10% fixed		MG73BF	2540
	SPP + UV/OV, with fixed UV (173 V) & OV (288 V)	Selectable ON (10 Sec) and OFF Delay (5 Sec)	Phase Asymmetry 20% fixed	MG73BR		2540	
	SPP + Selectable UV + Selectable OV with Neutral Loss Protection	ON Delay 5 sec and OFF Delay 5 sec, 500ms-1s for Neutral fail	94 VAC Asymmetry	415 VAC, 3 Ph 4W, 2 C/O	MAC04 D0100	2600	
SM501 (3 Ph, 3W)	SPP + Under Voltage (80% of $\varnothing$ )	Selectable ON Delay and OFF Delay 15 sec	Selectable Asymmetry (5% to 17%)	415 VAC, 2 C/O	MB53BM	2585	
	Single Phasing Preventor + Selectable Under Voltage + Selectable Over Voltage	Selectable ON Delay 15 sec & OFF Delay 5 sec	Phase Asymmetry 10%		MG53BH	2585	
		Selectable OFF Delay 15 sec & ON Delay 5 sec	Phase Asymmetry 10%		MG53BF	2585	
		ON Delay 5 sec and OFF Delay 5 sec	65 VAC Asymmetry		MG53BI	2440	
		ON Delay 3 min and OFF Delay 5 sec UV 85% of $\varnothing$ OV 110% of $\varnothing$	Phase Asymmetry 10%		MG53BO	2440	
SM 800 (3PH/ 3W, 4W)	Single Phasing Preventor + Selectable Under Voltage + Selectable Over Voltage + Neutral Loss ( Applicable for 3P4W).	Power ON Delay (0 to 999 sec) , OFF Delay (0.1 to 999 sec) & ON delay (0.5 to 999 sec)	Voltage: 5 to 99 VAC (Default 60V) , Percentage : 2 to 50% (Default 10%)	145-500 VAC ( Line Voltage), 1C/O	DMS110	2475	
				145-500 VAC ( Line Voltage), 2C/O	DMS120	2680	
				85-300 VAC/DC (Auxiliary Supply) (P-N), 2 C/O	DMA220	2890	
SM 600 (3P, 3W)	Phase loss + Phase Sequence + Phase Asymmetry + UV + OV + 3 phase interruption	Power ON delay (5s Fixed), ON delay (1-30 sec or Fixed), OFF delay (0.1 - 30 sec or Fixed)	Voltage $\pm$ 1% of set value	500V -1000V AC 2 C/O	SMB110	11935	

Note : 3 Ph 3W - 3 Phase 3 Wire system; 3 Ph 4W - 3 Phase 4 Wire system.


Voltage Monitoring Relay Series	Type	Supply Monitoring Type	Time delay	Asymmetry	Voltage & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	 <p>SM175 3 Ph, 3W</p>	Phase loss + Phase Sequence Monitoring	Phase loss + Phase Sequence Monitoring	ON Delay 500 msec & OFF Delay 100 msec	-	208 - 480 VAC, 1 C/O (Steps of 208 - 220 - 380 - 400 - 415 - 440 - 480 VAC)	MK21D5
ON Delay 500 msec & OFF Delay 100 msec				Phase Asymmetry (30% fixed)	MC21D5		1600
ON Delay 5 sec & OFF Delay 100 msec (0 to 15s Selectable)				Phase Asymmetry (5% to 15% variable)	MA21DN		2090
Phase Loss + Phase Sequence + Under Voltage + Over Voltage monitoring (UV: -2% to -20% of $\bar{U}$ , OV: 2% to 20% of $\bar{U}$ )		Phase Loss + Phase Sequence + Under Voltage + Over Voltage monitoring (UV: -2% to -20% of $\bar{U}$ , OV: 2% to 20% of $\bar{U}$ )	ON Delay 5 sec and Selectable OFF Delay (0 to 15 sec)	-	MD21DF		2145
			Selectable ON Delay (0.5 to 15 sec) and OFF Delay 5 sec	Phase Asymmetry (10% fixed)	MG21DH		2345
Phase Loss + Phase Sequence + Under Voltage + Over Voltage (UV: -5% to -25% of $\bar{U}$ , OV: 5% to 25% of $\bar{U}$ )		Phase Loss + Phase Sequence + Under Voltage + Over Voltage (UV: -5% to -25% of $\bar{U}$ , OV: 5% to 25% of $\bar{U}$ )	ON Delay 5s and Selectable OFF				MG21DF

# Monitoring Voltage. Safe gaurding system.



## Current Monitoring relay (CMR)

- › Microprocessor based relay protects against Overload, Phase reverse, Phase loss, Phase unbalance faults
- › Auto/ Manual reset selection
- › Fail- safe protection with inbuilt CT upto 45A
- › Inverse time model with underload, locked rotor protection and selectable trip class (10A, 10, 20, 30)
- › Definite time model with underload and selectable start and trip time

Current Monitoring relay	Phase	Type	Current & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
		3 Phase	Inverse Time Current Monitoring Relay	2 - 5A 1 C/O	17A422CB0
3 - 9A, 1 C/O				17A122CB0	
8 - 24A, 1 C/O				17A222CB0	
15 - 45A, 1 C/O				17A322CB0	
Definite Time Current Monitoring Relay			2 - 5A 1 C/O	17B422AA0	
			3 - 9A, 1 C/O	17B122AA0	
		8 - 24A, 1 C/O	17B222AA0		
		15 - 45A, 1 C/O	17B322AA0		
1 Phase		Inverse Time Current Monitoring Relay	2 - 5A 1 C/O	17C412EB0	2820
			3 - 9A, 1 C/O	17C112EB0	
			8 - 24A, 1 C/O	17C212EB0	
			15 - 45A, 1 C/O	17C312EB0	
	Definite Time Current Monitoring Relay	2 - 5A 1 C/O	17D412DA0		
		3 - 9A, 1 C/O	17D112DA0		
8 - 24A, 1 C/O		17D212DA0			
15 - 45A, 1 C/O		17D312DA0			

PTC Thermistor Relay Series	Relay Type	Description	Cat. No.	M.R.P. (₹) Per Unit
	Thermistor Relay	110 - 240 VAC, 2 C/O	MJ83BK	2910
		220 - 440 VAC, 2 C/O	MJ93BK	2935
		24 VAC/DC, 2 C/O	MJA3BK	3405
		110 - 240 VAC, 1 C/O	MJ81BK	2690
		220 - 440 VAC, 1 C/O	MJ91BK	2730

## Hour Meter & Counter [9029]

Hour Meters	Product Description	Cat. No.	M.R.P. (₹) Per Unit								
	HM36, 85 - 265 VAC Flush Mounting	LA25F1	1110								
HM 36, 10 - 80 VDC Flush Mounting	LD17F1	1685									
HM36, 92 - 264 / 270 - 460 VAC Base - DIN Mounting	30A6B1	1210									
HM36, 10 - 80 VDC Base/DIN Mounting	30D1B1	1685									
Digital Hour Meter/Digital Counter (Resettable)	Z□□FB□	2020									
<b>Hour Meter / Counter</b> Z □ □ FB □ <table border="0" style="margin-left: 20px;"> <tr> <td>Voltage</td> <td>Bezel</td> </tr> <tr> <td>H 10 - 80 VDC</td> <td>A Round</td> </tr> <tr> <td>7 85 - 265 VAC</td> <td>B 24 x 48</td> </tr> <tr> <td>J 12 - 48 VAC/DC</td> <td>C Screw Mount</td> </tr> </table>				Voltage	Bezel	H 10 - 80 VDC	A Round	7 85 - 265 VAC	B 24 x 48	J 12 - 48 VAC/DC	C Screw Mount
Voltage	Bezel										
H 10 - 80 VDC	A Round										
7 85 - 265 VAC	B 24 x 48										
J 12 - 48 VAC/DC	C Screw Mount										

## Earth Leakage Relay [9032]

Earth Leakage Relays	Current Range	Type	Voltage & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	 <p><b>96 x 96 mm Earth Leakage Relay</b></p>  <p><b>DIN Mounted Earth Leakage Relay</b></p>  <p><b>CBCT</b></p>  <p><b>Rectangular CBCT</b></p>	30mA - 30A	Panel mounted (96 x 96 mm) Earth Leakage Relay	110 - 240 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault)	17K716QF4N
110 - 240 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault) with RS 485				17K716QF4M	7475
240 - 415 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault)				17K726QF4N	5200
240 - 415 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault) with RS 485				17K726QF4M	7475
DIN mounted Earth Leakage Relay			110 - 240 VAC, 110 VDC, Manual reset	17G715GF2	4665
			220 - 415 VAC, 220 VDC, Manual reset	17G745GF2	
			110 - 240 VAC, 110 VDC, Auto reset	17G715KF2	
			220 - 415 VAC, 220 VDC, Auto reset	17G745KF2	
CBCT (moulded case) for Type A & AC Current			38 mm ID	17H7NNHN3	1600
			57 mm ID	17H7NNIN3	2160
			70 mm ID	17H7NNQN3	2460
			92 mm ID	17H7NNJN3	2690
			120 mm ID	17H7NNLN3	2805
			210 mm ID	17H7NNKN3	5290
CBCT (moulded case) for Type AC Current			38 mm ID	17H7NNRN3	1200
			57 mm ID	17H7NNVN3	1340
			70 mm ID	17H7NNSN3	1420
			92 mm ID	17H7NNTN3	1905
	120 mm ID	17H7NNUN3	2205		
Rectangular CBCT (moulded case) for Type AC Current	300 x 50 mm ID	17H9NNWN0	10570		
	350 x 150 mm ID	17H9NNXN0	12850		

\* - Available till stock lasts.

- › CBCT for Type AC : For applications with sinusoidal alternating current from 30mA to 30A.
- › CBCT for Type A and AC : For applications with sinusoidal alternating current (from 30mA to 30A) & pulsating DC current (from 30mA to 3A).
- › Please contact nearest branch office for requirements of higher dimension CBCTs.

These products are manufactured by



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