

Panel Mounted Earth Leakage Relay with CBCT



A Reliable Safety Device for Protection Against Earth Leakages

- › Seven segment LED display for Earth Leakage indication
- › Pre-alarm indication on 60% of leakage current setting with dedicated 1C/O + Earth leakage fault indication with 1 C/O.
- › Discrete LED indication for Power ON, Alarm and Fault.
- › 19 levels of current settings using combination of potentiometer and dip switches on the front facia.
- › Wide range of earth leakage current 30 mA to 30 A
- › Nano Crystalline CBCT measures the leakage current to the highest accuracy
- › Available with RS485 port

ULTIMATE DIGITAL VOLTAGE MONITORING RELAY WITH ADVANCED NEUTRAL LOSS FEATURE



SWITCH TO DIGITAL VOLTAGE MONITORING RELAY-SM800

- › Equipped to detect neutral loss, phase asymmetry, phase sequence, OV and UV
- › Best Suited for 3 Phase (3W/4W) system with voltage range of 145-500V AC
- › Configurable power on delay, off delay & on delay
- › Flexible to adapt to specific application needs.
- › Stores last five fault history and can also be enabled for password protection
- › Configurable output (1&2 C/O) contact for energizes to trip or de-energizes to trip

Timing Devices, Supply Monitors & ELR

Timers [9107]

Micon 175	Type	Time	Voltage	Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
	ON Delay	0.3 sec - 30 hrs	240 VAC/24 VAC/DC	1 C/O	120DT4	795
110 VAC/24 VAC/DC						
12 VDC						
ON Delay & Interval	0.1 sec - 100 hrs	240 VAC/24 VAC/DC	1 C/O	12WDTC	1030	
Star Delta Timer	3 sec - 120 sec	240 VAC	1 NO (Star)+1 NO (Delta)	12SDT0	895	
	3 sec - 30 sec	240 - 415 VAC	1 C/O (Star)+1 C/O (Delta)	14SDT1S	1360	
Signal OFF Delay	0.3 sec - 30 hrs	240 VAC/24 VAC/DC	1 C/O	12RDT4	970	
	0.3 sec - 30 hrs	12 VDC				
Multifunction Timer	0.1 sec - 100 hrs	12 - 240 VAC/DC	1 C/O	1CMDT0	1650	
			2 C/O	1CMDTF	1755	
Asymmetrical ON/OFF & OFF/ON	0.1 sec - 100 hrs	12 - 240 VAC/DC	1 C/O	1CJDT0	1650	
One Shot	0.3 sec - 30 hrs	110 VAC/24 VAC/DC	1 C/O	11BDT4	1230	
		240 VAC/24 VAC/DC				
		12 VDC				
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	1755	



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



 Micon 225	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	2AODT5	1500
	Star Delta Timer	3 sec - 120 sec	24 - 240 VAC/DC	1 NO (Star)+1 NO (Delta)	2ASDT0	1575
			240 - 415 VAC		2BSDT0	1855
	Multifunction Timer	0.1s to 120 days	24 - 240 VAC/DC	2 C/O (1 Inst+1 Delayed)	2A8DT6	1685
	Multifunction Multirange	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O	2A5DT5	1670
			240 - 415 VAC		2B5DT5	2005
	Signal Base Multi function - Multirange	0.1 sec - 10 hrs	24 - 240 VAC/DC	1 C/O	2ANDT0	1770
	Multifunction Timer 6 Functions	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O (1 Inst+1 Delayed for 6th Mode)	2A6DT6	1785
240 - 415 VAC			2B6DT6		1820	
True OFF Delay	0.6 sec - 600 sec	24 - 240 VAC/DC	2 C/O	23GDT0	2620	
Asymmetrical ON/OFF	0.1 sec - 10 hrs	24 - 240 VAC/DC	2 C/O	2AADT5	1890	

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.

 Digital Timer DIGICON	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	V0DDTS	1780
			24 - 240 VAC/DC	2 NO	V0DDTD	1780
	18 Functions	0.1 sec - 999 hrs	24 - 240 VAC/DC	1 C/O	V0DDTS1	2015
24 - 240 VAC/DC			2 NO	V0DDTD1	2015	

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.

 Motor Restart Timer	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	23LDT0	1970
		Delay time Td: 0.2 to 60 sec	240 VAC		22LDT0	1970

Time Switches [9107]

 FM1 / Quartz 150 Hrs Battery Backup	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	FM1 / Quartz Daily	110 VAC - 240 VAC Base/DIN Mounting	J648B1	2615

 Digital Time Switch Crono Pro Crono / Pulse	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	Time Switch (Crono)	110 - 240 VAC 1 C/O Base/DIN 25 ON/OFF Each	67DDT0	2430
24 VDC 1 C/O Base/DIN 25 ON/OFF Each		6GHDT0	2870	
12 VDC 1 C/O Base/DIN 25 ON/OFF Each		69HDT0	3025	
Time Switch (Crono Pro)	110 - 240 VAC 2 C/O Base/DIN 50 ON/OFF Each	WT2DCDS	3345	
Time Switch (Pulse) *	110 - 240 VAC 1 C/O Base/DIN 16 Pulse	67DDT9	2695	
	24V DC 1 C/O Base /Din 16 Pulse	6GHDT9	3040	
	12V DC 1 C/O Base /Din 16 Pulse	69HDT9	3195	

* For bell and siren application

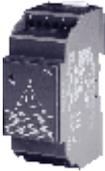
 Astro Astro Pro Astro Mini	Product Description		Cat. No.	M.R.P. (₹) Per Unit
	Astro Mini	110 - 240 VAC 1 Phase - 2W 1 C/O , Base/Din	T2DDT7	4635
Astro Pro	110 - 240 VAC 1 Phase - 2W 2 C/O , Base/Din 50 ON/OFF Each	AS2DCDS	5780	
Astro	110 - 240 VAC 3 Phase - 4W 3 Channel 3 N/O , Base/Din	T3DDT0	11365	

Note : Astro Mini / Astro Pro is used for lighting control based on sunrise / sunset timings by latitude / longitude settings.



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>SM 301</p>  <p>SM 500</p>  <p>SM 500 with Neutral Loss Protection</p>  <p>SM 501</p> <p>Digital VMR Series</p>  <p>SM 800</p>  <p>SM 600 (MMR)</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	1065	
						415 VAC, 2 C/O	MC21B5	1555	
					40 VAC Asymmetry	415 VAC, 1 C/O	MA51BK	1055	
		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	1225	
			Selectable Under Voltage + Selectable Over Voltage	Selectable ON Delay (0 to 15 min)	-	240 VAC, 1 C/O	MD71B9	1635	
				Selectable ON Delay (0 to 15 sec)	-		MD71BH	1635	
				Selectable OFF Delay (0 to 15 sec)	-		MD71BF	1915	
		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	2000	
					Selectable ON Delay (0 to 15 sec) & OFF Delay 5 sec		Phase Asymmetry 10% fixed	MG73BH	2000
					Selectable OFF Delay (0 to 15 sec) & ON Delay 5 sec		Phase Asymmetry 10% fixed	MG73BF	2000
				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	2000
			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	2000	
	SM501 (3 Ph, 3W)	SPP + Under Voltage (80% of ϕ)	Selectable ON Delay and OFF Delay 15 sec	Selectable Asymmetry (5% to 17%)	415 VAC, 2 C/O	MB53BM	2035		
							Single Phasing Preventor + Selectable Under Voltage + Selectable Over Voltage	Selectable ON Delay 15 sec & OFF Delay 5 sec	Phase Asymmetry 10%
			Selectable OFF Delay 15 sec & ON Delay 5 sec	Phase Asymmetry 10%		MG53BF		2035	
			ON Delay 5 sec and OFF Delay 5 sec	65 VAC Asymmetry		MG53BI		1920	
			ON Delay 3 min and OFF Delay 5 sec UV 85% of ϕ OV 110% of ϕ	Phase Asymmetry 10%		MG53BO	1920		
	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	1965		
						145-500 VAC (Line Voltage), 2C/O	DMS120	2080	
						85-300 VAC/DC (Auxiliary Supply) (P-N), 2 C/O	DMA220	2295	
	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 +_ 1% of set value	500V -1000V AC 2 C/O	SMB110	9435		

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

Voltage Monitoring Relay Series



SM175
3 Ph, 3W



SM175
3 Ph, 4W

Type	Supply Monitoring Type	Time delay	Asymmetry	Voltage & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
SM175 (3 Ph, 3W)	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	1285
		ON Delay 500 msec & OFF Delay 100 msec	Phase Asymmetry (30% fixed)		MC21D5	1285
		ON Delay 5 sec & OFF Delay 100 msec (0 to 15s Selectable)	Phase Asymmetry (5% to 15% variable)		MA21DN	1680
	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	1680
	Phase Loss + Phase Sequence + Under Voltage + Over Voltage (UV: -5% to -25% of \bar{U} , OV: 5% to 25% of \bar{U})	Selectable ON Delay (0.5 to 15 sec) and OFF Delay 5 sec	Phase Asymmetry (10% fixed)		MG21DH	1880
		ON Delay 5s and Selectable OFF Delay (0 to 15 sec)			MG21DF	1880
SM175 (3 Ph, 4W)	Phase loss+ Phase Sequence+ Under Voltage + Over Voltage (UV:-2% to -22% of \bar{U} , OV: 2% to 22% of \bar{U})	Selectable ON delay (0 to 15 Sec), Selectable OFF delay (0 to 15 sec)	Phase Asymmetry (10% fixed)	120 to 277 VAC (3P, 4W), 1 C/O	MAG03D0424	2035
	Phase loss+ Phase Sequence+ Under Voltage + Over Voltage (UV:-5% to -25% of \bar{U} / 60% of \bar{U} (Fixed), OV: 5% to 25% of \bar{U} / 110% of \bar{U} (Fixed))			240 VAC (3P, 4W), 1 C/O	MAG03D0425	2035
	Phase loss+ Phase sequence+ Under Voltage + Over Voltage (UV:-5% to -25% / 80% of \bar{U} (Fixed), OV: 110% of \bar{U} (Fixed))	Selectable ON delay (0 to 15 sec/min), Selectable OFF delay (0 to 15 sec/min)	Phase Asymmetry (10% fixed/ 5% to 25% Selectable)	MAG03D0426	2035	
SM175 (3 Ph, 3W)	Phase loss Monitoring	ON delay 750 msec & OFF delay 500 msec	Phase Asymmetry (30% fixed)	415 VAC, 1 C/O	MAG03D0427	1365



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	2220
			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			

Insulation Monitoring Relay	Type	Description	Cat. No.	M.R.P. (₹) Per Unit
	 SM 1000 1P, 3P(3W/4W)	Insulation resistance monitoring relay for IT systems suitable for system voltage up to 520V. Adjustable from 1-100K Ω with 2C/O	IMR520	8490

PTC Thermistor Relay Series	Relay Type	Description	Cat. No.	M.R.P. (₹) Per Unit
	 Thermistor Relay	110 - 240 VAC, 2 C/O	MJ83BK	2205
220 - 440 VAC, 2 C/O		MJ93BK	2225	
24 VAC/DC, 2 C/O		MJA3BK	2580	
110 - 240 VAC, 1 C/O		MJ81BK	2040	
220 - 440 VAC, 1 C/O		MJ91BK	2070	

Hour Meter & Counter [9029]

Hour Meters	Product Description	Cat. No.	M.R.P. (₹) Per Unit																												
	HM36, 85 - 265 VAC Flush Mounting	LA25F1	840																												
	HM 36, 10 - 80 VDC Flush Mounting	LD17F1	1275																												
	HM36, 92 - 264 / 270 - 460 VAC Base - DIN Mounting	30A6B1	920																												
	HM36, 10 - 80 VDC Base/DIN Mounting	30D1B1	1275																												
	Digital Hour Meter/Digital Counter (Resettable)	Z□□FB□	1530																												
Hour Meter / Counter Z □ □ FB □ <table border="1" style="margin-left: 20px;"> <tr> <td colspan="2">Voltage</td> <td colspan="2">Bezel</td> </tr> <tr> <td>H</td> <td>10 - 80 VDC</td> <td>1</td> <td>Hour Meter</td> </tr> <tr> <td>7</td> <td>85 - 265 VAC</td> <td>2</td> <td>Counter</td> </tr> <tr> <td>J</td> <td>12 - 48 VAC/DC</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>A</td> <td>Round</td> </tr> <tr> <td></td> <td></td> <td>B</td> <td>24 x 48</td> </tr> <tr> <td></td> <td></td> <td>C</td> <td>Screw Mount</td> </tr> </table>				Voltage		Bezel		H	10 - 80 VDC	1	Hour Meter	7	85 - 265 VAC	2	Counter	J	12 - 48 VAC/DC					A	Round			B	24 x 48			C	Screw Mount
Voltage		Bezel																													
H	10 - 80 VDC	1	Hour Meter																												
7	85 - 265 VAC	2	Counter																												
J	12 - 48 VAC/DC																														
		A	Round																												
		B	24 x 48																												
		C	Screw Mount																												

Earth Leakage Relay [9032]

Earth Leakage Relays	Current Range	Type	Voltage & Contact Arrangement	Cat. No.	M.R.P. (₹) Per Unit
 <p>96 x 96 mm Earth Leakage Relay</p>  <p>DIN Mounted Earth Leakage Relay</p>  <p>CBCT</p>  <p>Rectangular CBCT</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	4090
			110 - 240 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault) with RS 485	17K716QF4M	5880
			240 - 415 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault)	17K726QF4N	4090
			240 - 415 VAC/DC, 1 C/O (Pre-alarm) + 1 C/O (Fault) with RS 485	17K726QF4M	5880
		DIN mounted Earth Leakage Relay	110 - 240 VAC, 110 VDC, Manual reset	17G715GF2	3740
			220 - 415 VAC, 220 VDC, Manual reset	17G745GF2	
			15 VDC, Manual reset	17G755GF2	
			110 - 240 VAC, 110 VDC, Auto reset	17G715KF2	
			220 - 415 VAC, 220 VDC, Auto reset	17G745KF2	
			15 VDC, Auto reset	17G755KF2	
		CBCT (moulded case) for Type A & AC Current	38 mm ID	17H7NNHN3	1285
			57 mm ID	17H7NNIN3	1735
			70 mm ID	17H7NNQN3	1970
			92 mm ID	17H7NNJN3	2160
			120 mm ID	17H7NNLN3	2250
			210 mm ID	17H7NNKN3	4245
		CBCT (moulded case) for Type AC Current	38 mm ID	17H7NNRN3	960
			57 mm ID	17H7NNVN3	1075
70 mm ID	17H7NNSN3		1140		
92 mm ID	17H7NNTN3		1525		
120 mm ID	17H7NNUN3		1770		
Rectangular CBCT (moulded case) for Type AC Current	300 x 50 mm ID	17H9NNWN0	8475		
	350 x 150 mm ID	17H9NNXN0	10305		

- › CBCT for Type AC : For applications with sinusoidal alternating current from 30mA to 30 A.
- › 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.

