

Earth Leakage Relay Series CMR

- Monitors, Detects and Protects Power systems from Leakage faults
- Wide Auxiliary Supply range: 110 - 240 VAC, 220 - 415 VAC
- Wide Range of selectable Earth Leakage Current: 60 mA - 300 mA, 0.2A - 1.2A
- Configurable Earth Leakage Trip time: 100 ms - 5 s
- Easily configurable operating modes
- Test feature to check complete product functionality
- Manual / Remote reset feature
- LED indication for Relay status, CT open, Earth leakage fault & Test/Reset switch short



Cat. No.	17G514FF1	17G614FF1	17G544FF1	17G644FF1
Parameters				
Supply Voltage (φ)	110 - 240 VAC		220 - 415 VAC	
Supply Variation	-20 to +10%			
Frequency	50/60Hz			
Power Consumption (Max.)	5 VA		10 VA	
Leakage Current Range	60 mA to 0.2 A	0.2 A to 1.2 A	60 mA to 0.2 A	0.2 A to 1.2 A
Mode	Fail Safe Latch (FSL), Fail Safe Non Latch (FSNL), Non Fail Safe Non Latch (NFSNL)			
Trip Time (Δt in sec)	0.1 - 0.2 - 0.4 - 2 - 5			
Trip Time (For 5 In)	100 ms (Irrespective of the Set Trip Time)			
Test / Reset	Local & Remote (For Fail Safe Latch mode only)			
Reset Enabled	Below 85% of Current sensitivity level and in presence of CBCT			
Reset Time	< 100 ms			
ON Delay	50 ms (± 20 ms)			
Setting Accuracy	-10% (85ms to 100 ms trip time for 100 ms setting in NFSNL)			
Repeat Accuracy	± 2%			
Output	Relay Output	1 C/O		
	Contact Rating	5A (Resistive) @ 240 VAC / 30 VDC		
	Electrical Life	1 x 10 ⁵		
	Mechanical Life	1 x 10 ⁷		
Utilization Category	AC - 15	Rated Voltage (Ue): 120/240 V, Rated Current (Ie): 3.0/1.5 A		
	DC - 13	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A		
LED Indication	Power ON	Green LED (ON)		
	CT Open / SW Short	Red LED: ON → CT Open, Blink → TST / RST Switch short		
	Earth Leakage	Red LED: ON		
Operating Temperature	- 15° C to +60° C			
Storage Temperature	- 20° C to +80° C			
Humidity (Non Condensing)	95% (Rh)			
Enclosure	Flame Retardant UL94V0			
Dimension (W x H x D) (in mm)	22.5 X 85 X 100.5			
Weight (unpacked)	110 g			
Mounting	Base / DIN rail			
Certification				
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure			
EMI / EMC				
Harmonic Current Emissions	IEC 61000-3-2	Ed. 3.0 (2005-11) Class A		
ESD	IEC 61000-4-2	Ed. 1.2 (2001-04) Level II		
Radiated Susceptibility	IEC 61000-4-3	Ed. 3.0 (2006-02) Level III		
Electrical Fast Transients	IEC 61000-4-4	Ed. 2.0 (2004-07) Level IV		
Surges	IEC 61000-4-5	Ed. 2.0 (2005-11) Level IV		
Conducted Susceptibility	IEC 61000-4-6	Ed. 2.2 (2006-05) Level III		
Voltage Dips & Interruptions (AC)	IEC 61000-4-11	Ed. 2.0 (2004-03) Class A for Level I, II, IV & V & Class B for Level III, VI & VII		
Conducted Emission	CISPR 14-1	Ed. 5.0 (2005-11) Class A		
Radiated Emission	CISPR 14-1	Ed. 5.0 (2005-11) Class A		
Environmental				
Cold Heat	IEC 60068-2-1	Ed. 6.0 (2007-03)		
Dry Heat	IEC 60068-2-2	Ed. 5.0 (2007-07)		
Vibration	IEC 60068-2-6	Ed. 7.0 (2007-12) 5g		
Repetitive Shock	IEC 60068-2-27	Ed. 4.0 (2008-02) 40g, 6ms		
Non-Repetitive Shock	IEC 60068-2-27	Ed. 4.0 (2008-02) 30g, 15ms		

ORDERING INFORMATION

Cat. No.	Description
17G514FF1	110 - 240V AC, Earth Leakage Relay, Current Range 60 mA - 300 mA, 1 C/O
17G614FF1	110 - 240V AC, Earth Leakage Relay, Current Range 0.2 A-1.2 A, 1 C/O
17G544FF1	220 - 415V AC, Earth Leakage Relay, Current Range 60 mA - 300 mA, 1 C/O
17G644FF1	220 - 415V AC, Earth Leakage Relay, Current Range 0.2 A-1.2 A, 1 C/O
17H5NNHL3	CBCT (tape wound), 35mm, 60 mA - 300 mA
17H5NNIL3	CBCT (tape wound), 65mm, 60 mA - 300 mA
17H5NNJL3	CBCT (tape wound), 100mm, 60 mA - 300 mA
17H6NNHL3	CBCT (tape wound), 35mm, 0.2 A - 1.2 A
17H6NNIL3	CBCT (tape wound), 65mm, 0.2 A - 1.2 A
17H6NNJL3	CBCT (tape wound), 100mm, 0.2 A - 1.2 A

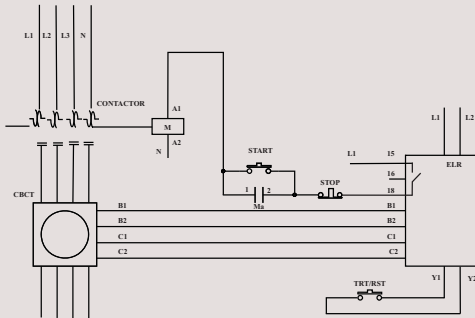
UL Approval for Cat. Nos. 17G514FF1 & 17G614FF1 only.

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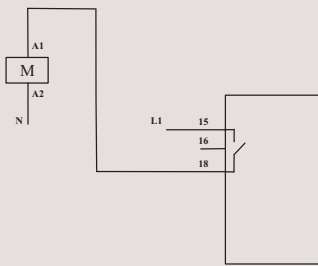


CONNECTION DIAGRAM

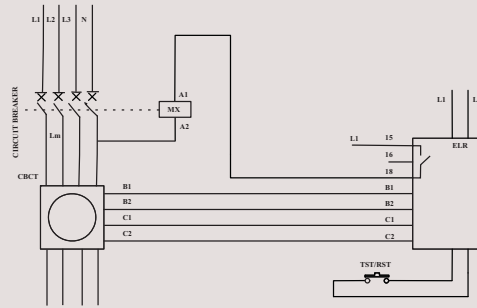
1) EARTH LEAKAGE RELAY WITH CONTACTOR FAILSAFE NON LATCH MODE



2) EARTH LEAKAGE RELAY WITH CONTACTOR FAIL SAFE LATCH MODE

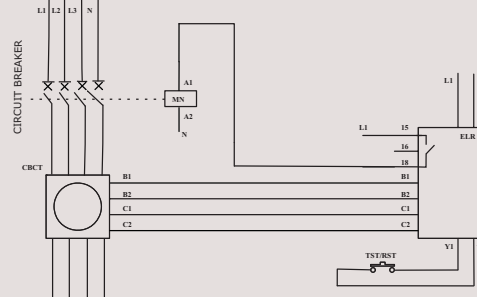


3) EARTH LEAKAGE RELAY WITH MCB AND SHUNT TRIP COIL NON FAIL SAFE NON LATCH MODE

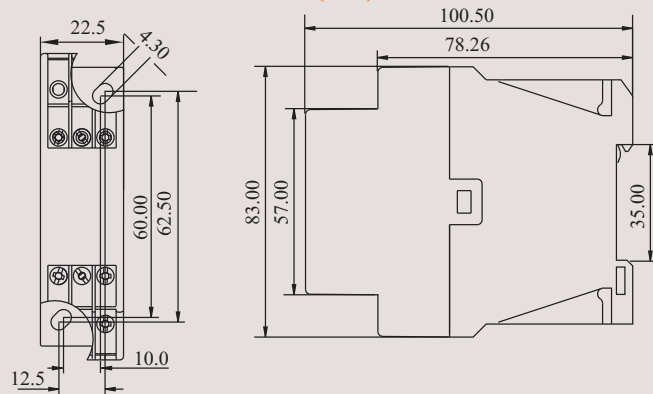


4) EARTH LEAKAGE RELAY WITH MCB & UNDER VOLTAGE TRIP COIL FAIL SAFE LATCH MODE

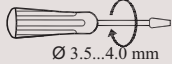

5) EARTH LEAKAGE RELAY WITH MCB & UNDER VOLTAGE TRIP COIL FAIL SAFE NON-LATCH MODE



MOUNTING DIMENSION (mm)



TERMINAL TORQUE & CAPACITY

 Ø 3.5...4.0 mm	Torque - 0.6 N.m (6 Lb.in) Terminal screw - M3
	Solid Wire - 1 X 1...6 mm ²
AWG	1 X 20 to 12

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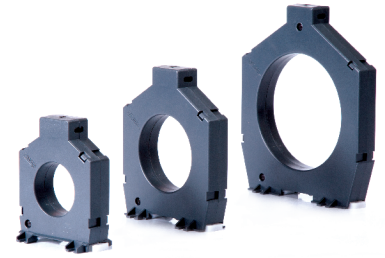
- Monitors, Detects and Protects Power systems from Earth Leakage Faults
- Wide range of selectable Earth Leakage Current: 30 mA - 30 A
- Configurable Earth Leakage Trip time: 0 - 10 s
- Wide Auxiliary Supply Range: 110 - 240 VAC, 220 - 415 VAC
- Instantaneous Trip for 5 times of set value of Leakage current
- Test feature to check complete product functionality
- LED Indication for Relay status, CT open, Earth Leakage fault & Test/Reset switch short
- Manual / Remote Reset feature
- 1 C/O + 1 NO Relay Output

Cat. No.	17G715GF2	17G715KF2	17G745GF2	17G745KF2
Parameters				
Supply Voltage (ϕ)	110 - 240 VAC		220 - 415 VAC	
Supply Variation	-20 to +20%			
Frequency	50/60Hz			
Power Consumption (Max.)	5 VA		10 VA	
Leakage Current Range (ΔI_n)	30 mA to 30 A			
Threshold $I_{\Delta n}$ (A)	0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10 - 20 - 30			
Type Class	'A' True RMS measurement (As per IEC 60947-2 appendix M)			
Max. Crest Factor	5 (for 30 mA to 30 A)			
Reset Mode	Manual Reset	Auto Reset	Manual Reset	Auto Reset
No. of Resets	N A	4	N A	4
Clear Auto Reset	After 1 hour of healthy condition or supply interruption			
Reset Enable & Reset Time	Below 50% on current threshold set by potentiometer & in presence of CBCT (< 1 s)			
Trip Time (Δt in sec)	0.03 - 0.06 - 0.15 - 0.25 - 0.5 - 0.8 - 1 - 2.5 - 5 - 10			
Test / Reset	Local & Remote (Non Potential free contacts, upto 10 m)			
Setting Accuracy	-20% (Including CBCT Accuracy)			
Repeat Accuracy	$\pm 2\%$			
Output	Relay Output	1 C/O + 1 NO		
	Contact Rating	5A (Resistive) @ 240 VAC / 30 VDC		
	Electrical Life	1×10^5		
	Mechanical Life	1×10^7		
Utilization Category	AC - 15	Rated Voltage (U_e): 120/240 V, Rated Current (I_e): 3.0/1.5 A		
	DC - 13	Rated Voltage (U_e): 24/125/250 V, Rated Current (I_e): 2.0/0.22/0.1 A		
LED Indication	Power	Green LED (ON)		
	EL / CT	Red LED (ON) \rightarrow Relay Trip / Red LED (Blinking) \rightarrow CT Open		
	Leakage Current / TST	By Bar Graph: 30% (Green), 45% (Green), 60% (Yellow), 75% (Red), Blink Test / Reset Switch is pressed		
Operating Temperature	- 15° C to +60° C			
Storage Temperature	- 25° C to +80° C			
Humidity (Non Condensing)	95% (Rh)			
Enclosure	Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)	36 X 90 X 65			
Weight (unpacked)	110 g			
Mounting	Base / DIN rail			
Certification				
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure			
EMI / EMC				
Harmonic Current Emissions	IEC 61000-3-2	Ed. 3.0 (2005-11) Class A		
ESD	IEC 61000-4-2	Ed. 1.2 (2001-04) Level II		
Radiated Susceptibility	IEC 61000-4-3	Ed. 3.0 (2006-02) Level III		
Electrical Fast Transients	IEC 61000-4-4	Ed. 2.0 (2004-07) Level IV		
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Environmental				
Cold Heat	IEC 60068-2-1	Ed. 6.0 (2007-03)		
Dry Heat	IEC 60068-2-2	Ed. 5.0 (2007-07)		
Vibration	IEC 60068-2-6	Ed. 7.0 (2007-12) 5g		
Repetitive Shock	IEC 60068-2-27	Ed. 4.0 (2008-02) 40g, 6ms		
Non-Repetitive Shock	IEC 60068-2-27	Ed. 4.0 (2008-02) 30g, 15ms		
CBCT				
Dimensions in mm with Enclosure W X H X D	CBCT 1	20 X 71 X 91, Inner Diameter: 38mm		
	CBCT 2	20 X 97 X 107, Inner Diameter: 57mm		
	CBCT 3	20 X 132 X 155, Inner Diameter: 92mm		

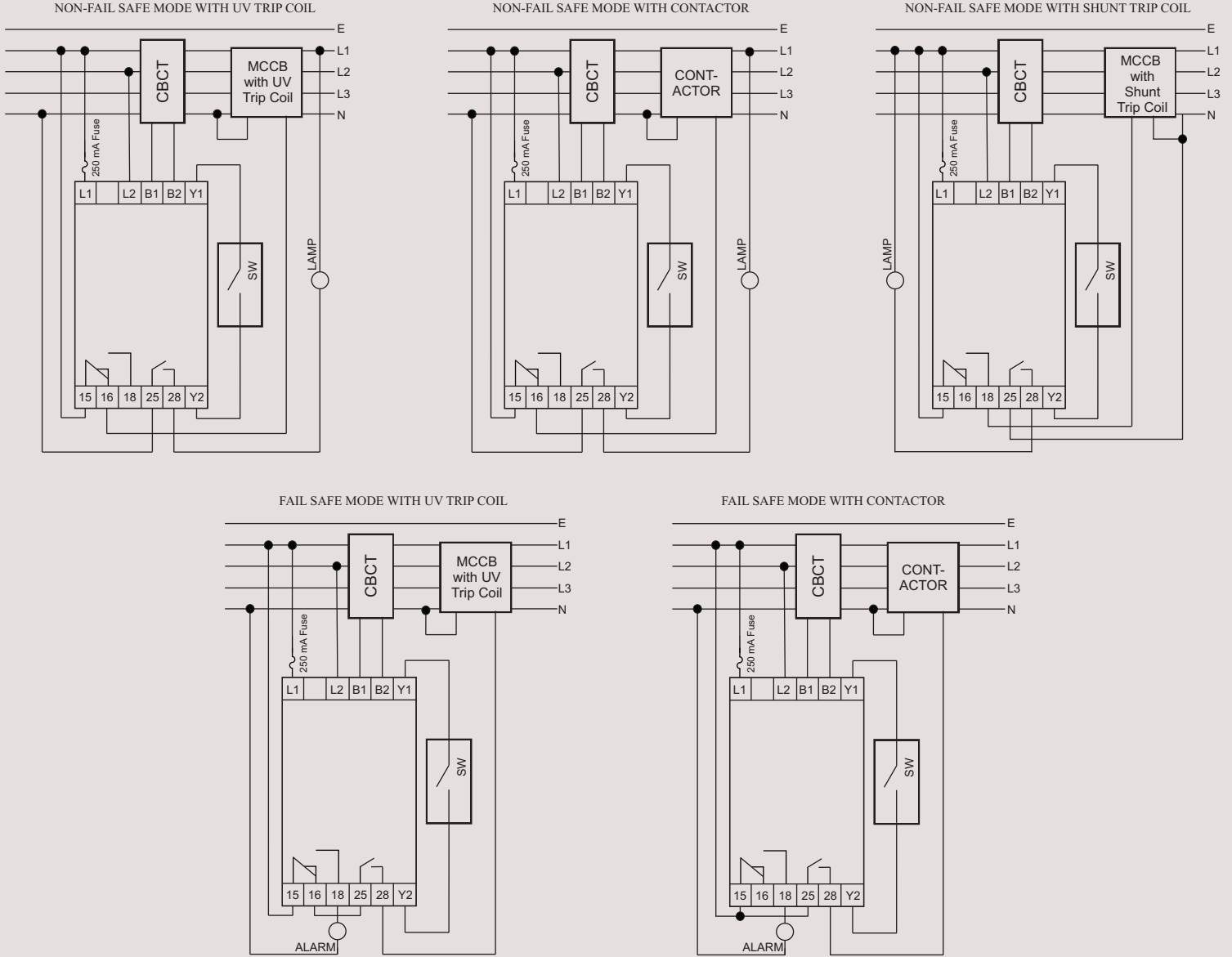
ORDERING INFORMATION

Cat. No.	Description
17G715GF2	110-240V AC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Manual Reset
17G715KF2	110-240V AC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Auto Reset
17G745GF2	220-415V AC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Manual Reset
17G745KF2	220-415V AC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Auto Reset
17H7NNHN3	CBCT 1, 30 mA - 30 A
17H7NNIN3	CBCT 2, 30 mA - 30 A
17H7NNJN3	CBCT 3, 30 mA - 30 A

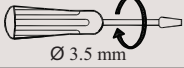

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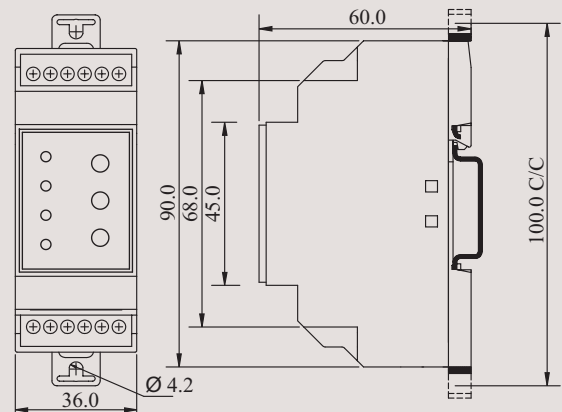
CONNECTION DIAGRAM



TERMINAL TORQUE & CAPACITY

	Torque - 0.54 N.m (5 Lb.in) Terminal screw - M2.6
	Solid Wire - 1 X 0.2...3.3 mm ²
AWG	1 X 24 to 12

MOUNTING DIMENSIONS



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