

# Earth Leakage Relay Series CMR

- Flush Mounting Version 96x96 mm with Digital Seven Segment Display
- Monitors, Detects and Protects Power systems from Earth Leakage Fault (Type 'A' & 'AC')
- 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 / DC
- Nano Crystalline CBCT measures the leakage current to the highest accuracy
- Instantaneous Trip for 5 times of set value of Leakage current
- Test feature to check complete product functionality
- LED Indication for Relay Status, Earth Leakage Fault & Alarm Condition
- Manual / Remote Reset feature
- Continuous Scrolling display for Set Current and Set time
- 1 C/O (Alarm Relay) + 1 C/O ( Fault Relay)
- RS 485 Communication



## Ordering Information

Cat. No.	Description
17K716QF4N	110-240V AC / DC, Current Range 30 mA - 30 A, 2 C/O
17K716QF4M	110-240V AC / DC, Current Range 30 mA - 30 A, 2 C/O with RS 485
17K726QF4N	220-415V AC / 220 V DC, Current Range 30 mA - 30 A, 2 C/O
17K726QF4M	220-415V AC / 220 V DC, Current Range 30 mA - 30 A, 2 C/O with RS 485
17H7NNHN3	CBCT 38 mm, 30 mA - 30 A
17H7NNIN3	CBCT 57 mm, 30 mA - 30 A
17H7NNQN3	CBCT 70 mm, 30 mA - 30 A
17H7NNJN3	CBCT 92 mm, 30 mA - 30 A
17H7NNLN3	CBCT 120 mm, 30 mA - 30 A
17H7NNKN3	CBCT 210 mm, 30 mA - 30 A
17H7NNRN3	CBCT 38 mm, 30 mA - 1 A
17H7NNSN3	CBCT 70 mm, 30 mA - 1 A
17H7NNTN3	CBCT 92 mm, 30 mA - 1 A
17H7NNUN3	CBCT 120 mm, 30 mA - 1 A

# Earth Leakage Relay Series CMR



Cat. No.	17K716QF4N	17K716QF4M	17K726QF4N	17K726QF4M
<b>Parameters</b>				
Supply Voltage (±)	110 - 240 V AC / DC		220 - 415 V AC / 220 V DC	
Supply Variation	-20 to +10%			
Frequency	50/60Hz			
Power Consumption (Max.)	6 VA			
Leakage Current Range (I $\Delta$ n)	30 mA to 30 A			
Threshold I $\Delta$ n (A)	I $\Delta$ n x 1	0.03 - 0.05 - 0.075 - 0.1 - 0.15 - 0.2-0.3 (A)		
	I $\Delta$ n x 10	0.03 - 0.5 - 0.75 - 1.0 - 1.5 - 2.0 - 3.0 (A)		
	I $\Delta$ n x 100	0.03 - 5 - 7.5 - 10.0 - 15.0 - 20.0 - 30.0 (A)		
Type Class	'A' True RMS measurement (As per IEC 60947-2 appendix M) up to I $\Delta$ N= 3A			
Max. Crest Factor	4 (for 30 mA to 30 A)			
Reset Mode	Manual / Auto Reset			
No. of Resets	4 (Auto Mode)			
Clear Auto Reset	After 1 hour of healthy condition or supply interruption			
Reset Enable	Below 50% of set current threshold in presence of CBCT			
Trip Time ( $\Delta$ t in sec)	0 - 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	± 2%			
Output	Relay Output	1 C/O (Alarm Relay) + 1 C/O (Fault relay)		
	Contact Rating	5A (Resistive) @ 240 VAC / 30 VDC		
	Electrical Life	1 x 10 <sup>5</sup>		
	Mechanical Life	1 x 10 <sup>7</sup>		
Utilization Category	AC - 15	Rated Voltage (U <sub>e</sub> ): 120/240 V, Rated Current (I <sub>e</sub> ): 3.0/1.5 A		
	DC - 13	Rated Voltage (U <sub>e</sub> ): 24/125/250 V, Rated Current (I <sub>e</sub> ): 2.0/0.22/0.1 A		
Display	Trip Current Hold	Enable / Disable		
	Scrolling Display	Enable / Disable		
LED	Power	Green LED (ON) → Power ON		
Indication	EL / CT	Red LED (ON) → Relay Trip, Yellow (ON) → Alarm Relay		
RS 485 Communication	NA	Available	NA	Available
Operating Temperature	- 20° C to +55° C			
Storage Temperature	- 20° C to +80° C			
Humidity (Non Condensing)	95% (Rh)			
Enclosure	Flame Retardant UL94-V0			
Dimension (W x H x D) (in mm)	96 X 96 X 83.7			
Weight (unpacked) Approx.	275 g			
Mounting	Panel / Flush Mountable			
Certification				
Degree of Protection	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
Conducted Emission	CISPR 11
Radiated Emission	CISPR 11

## 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

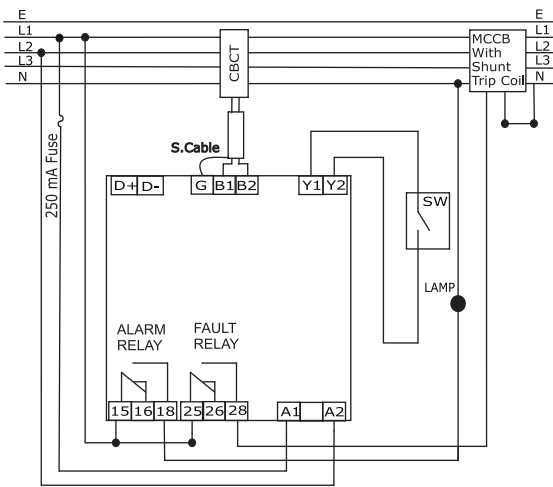
# Earth Leakage Relay Series CMR



## CONNECTION DIAGRAM

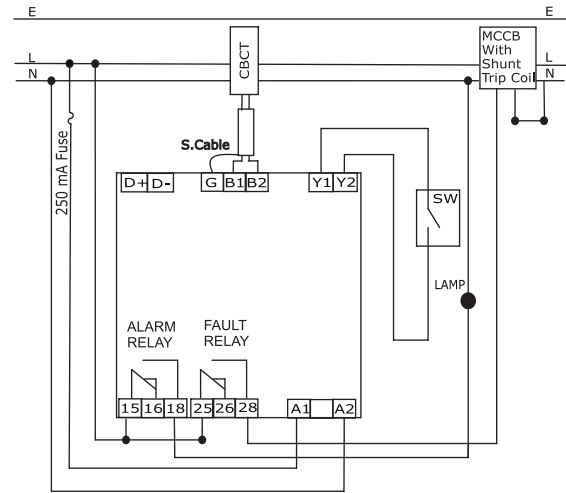
NON-FAIL SAFE MODE  
(SHUNT TRIP COIL/UV TRIP COIL)

THREE PHASE APPLICATION



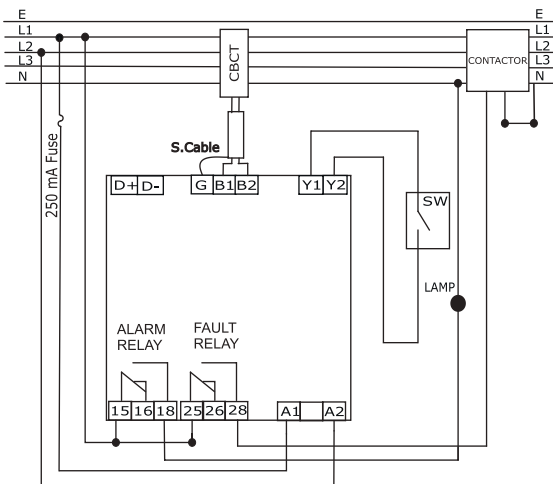
NON-FAIL SAFE MODE  
(SHUNT TRIP COIL/UV TRIP COIL)

SINGLE PHASE APPLICATION



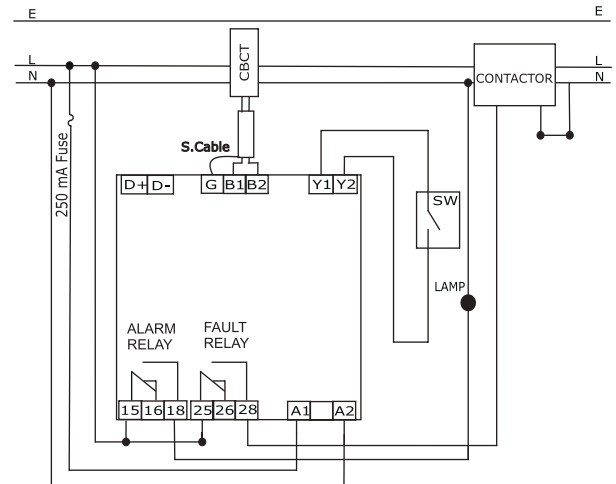
FAIL SAFE MODE (CONTACTOR)

THREE PHASE APPLICATION



FAIL SAFE MODE (CONTACTOR)

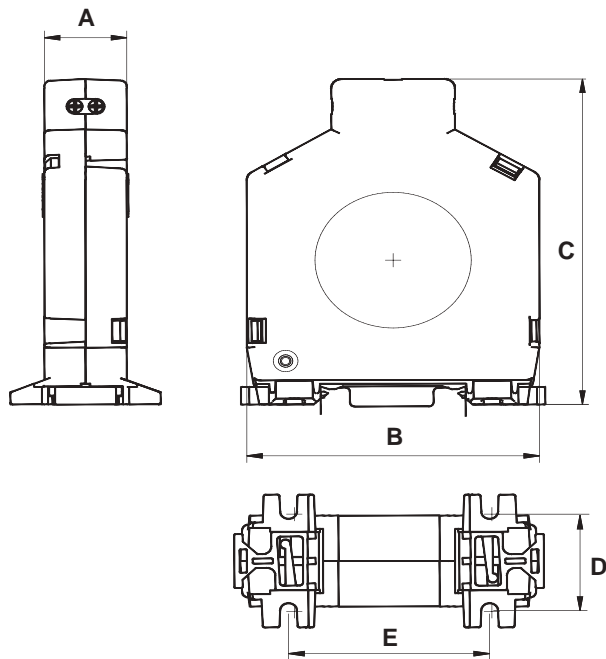
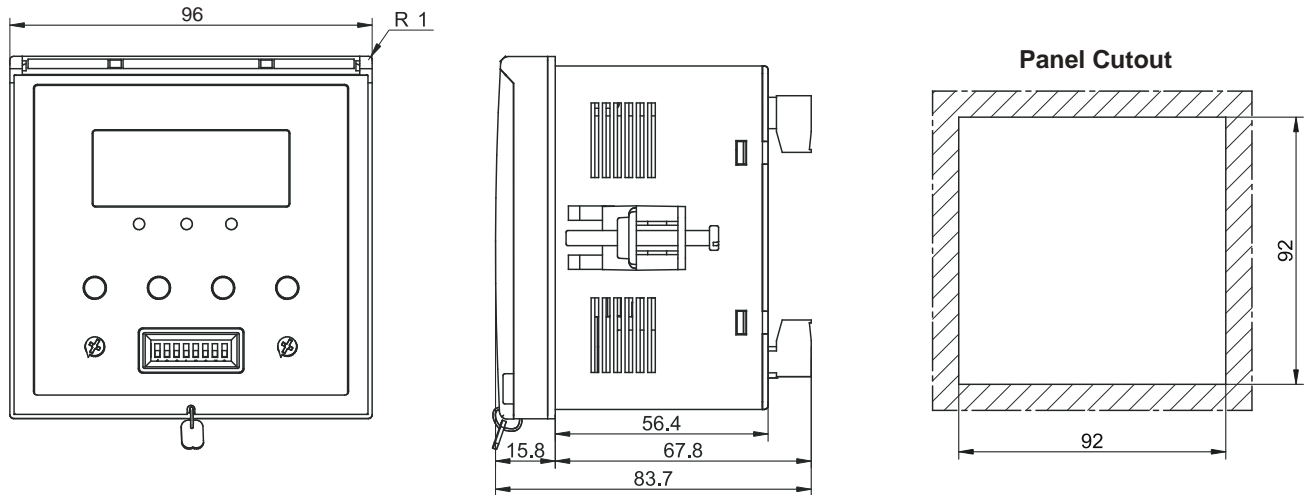
SINGLE PHASE APPLICATION



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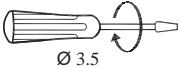

## MOUNTING DIMENSIONS (mm)



CBCT	SIZE	WEIGHT (in gms)	A	B	C	D	E
17H7NNHN3	38	110	20	71	91	27	48
17H7NNIN3	57	185	20	97	117	27	55
17H7NNQN3	70	240	20	109	133	36	59
17H7NNJN3	92	250	20	132	155	27	73
17H7NNLN3	120	255	20	153	176	27	73
17H7NNKN3	210	280	20	250	282	28	128

Dimensions in mm

## TERMINAL TORQUE & CAPACITY

	0.5 N.m (4.4 Lb.in)
	1 x 2.5 mm <sup>2</sup> Solid Wire/Stranded
AWG	1 x 28 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 V AC / DC, 220 - 415 V AC / 220 V DC
- 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 feature
- Manual / Remote Reset feature
- 1 C/O + 1 NO Relay Output




## Ordering Information

Cat. No.	Description
17G715GF2	110-240V AC / DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Manual Reset
17G715KF2	110-240V AC / DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Auto Reset
17G745GF2	220-415V AC / 220 V DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Manual Reset
17G745KF2	220-415V AC / 220 V DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Auto Reset
17G755GF2	15V DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Manual Reset
17G755KF2	15V DC, Current Range 30 mA - 30 A, 1 C/O + 1 NO, Auto Reset
17G815GF2	110-240V AC / DC, Current Range 30 mA - 10 A, 1 C/O + 1 NO, Manual Reset
17G815KF2	110-240V AC / DC, Current Range 30 mA - 10 A, 1 C/O + 1 NO, Auto Reset
17G845GF2	220-415V AC / 220 V DC, Current Range 30 mA - 10 A, 1 C/O + 1 NO, Manual Reset
17G845KF2	220-415V AC / 220 V DC, Current Range 30 mA - 10 A, 1 C/O + 1 NO, Auto Reset

Note: For CBCT ordering information please refer to page no 161.

# Earth Leakage Relay Series CMR



Cat. No.		17G715GF2	17G715KF2	17G745GF2	17G745KF2
<b>Parameters</b>					
Supply Voltage (≡)		110 - 240 V AC / DC		220 - 415 V AC / 220 V DC	
Supply Variation		-20 to +10%			
Frequency		50/60Hz			
Power Consumption (Max.)		5 VA		10 VA	
Leakage Current Range (I <sub>Δn</sub> )		30 mA to 30 A			
Threshold I <sub>Δn</sub> (A)	For '17G7' Devices	0.03 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10 - 20 - 30			
	For '17G8' Devices	0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 0.75 - 1 - 3 - 5 - 10			
Type Class		'A' True RMS measurement (As per IEC 60947-2 appendix M) up to I <sub>ΔN</sub> = 3A			
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% of set current threshold in presence of CBCT			
Trip Time (Δt in sec)		0 - 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		± 2%			
Output	Relay Output	1 C/O + 1 NO			
	Contact Rating	5A (Resistive) @ 240 VAC / 30 VDC			
	Electrical Life	1 x 10 <sup>5</sup>			
	Mechanical Life	1 x 10 <sup>7</sup>			
Utilization Category	AC - 15	Rated Voltage (U <sub>e</sub> ): 120/240 V, Rated Current (I <sub>e</sub> ): 3.0/1.5 A			
	DC - 13	Rated Voltage (U <sub>e</sub> ): 24/125/250 V, Rated Current (I <sub>e</sub> ): 2.0/0.22/0.1 A			
LED Indication	Power	Green LED (ON)			
	EL / CT	Red LED (ON) → Relay Trip / Red LED (Blinking) → 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) Approx.		150 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
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
Conducted Emission	CISPR 11
Radiated Emission	CISPR 11

## Environmental

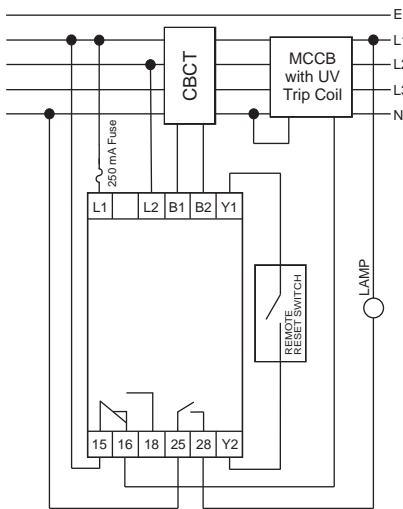
Cold Heat	IEC 60068-2-1
Dry Heat	IEC 60068-2-2
Vibration	IEC 60068-2-6
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Non-Repetitive Shock	IEC 60068-2-27

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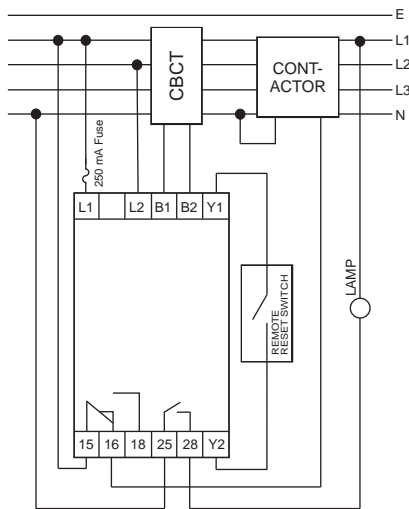


## CONNECTION DIAGRAM

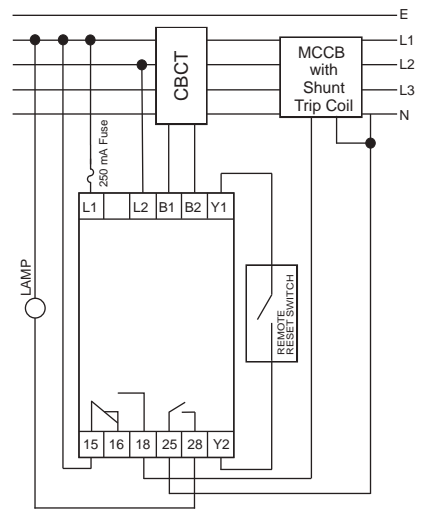
NON-FAIL SAFE MODE WITH UV TRIP COIL



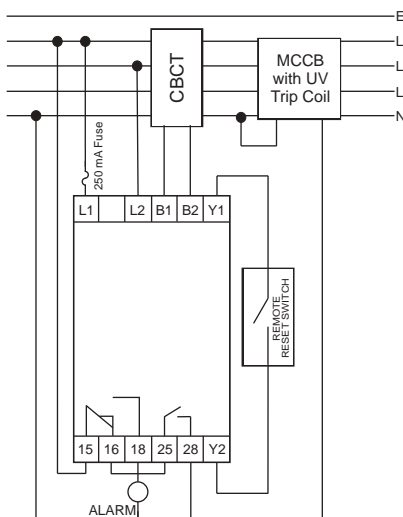
NON-FAIL SAFE MODE WITH CONTACTOR



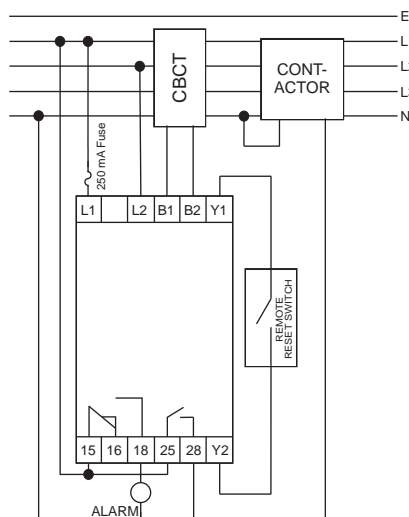
NON-FAIL SAFE MODE WITH SHUNT TRIP COIL



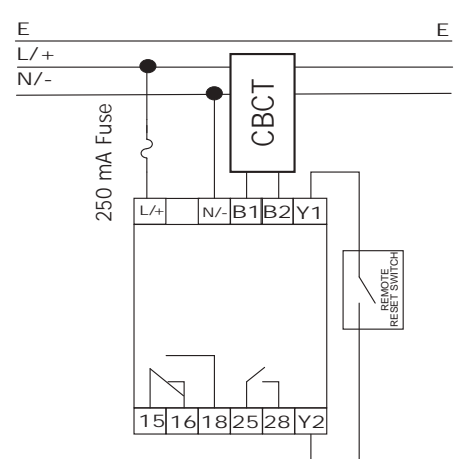
FAIL SAFE MODE WITH UV TRIP COIL



FAIL SAFE MODE WITH CONTACTOR



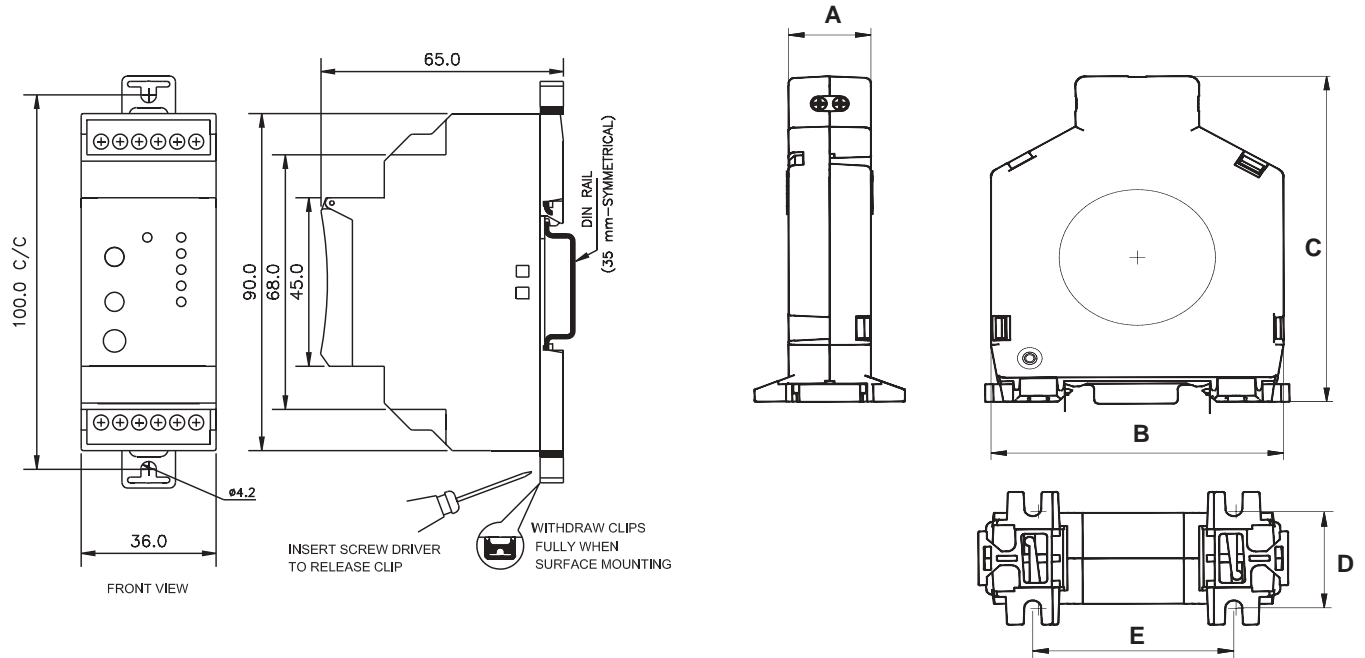
SINGLE PHASE APPLICATION



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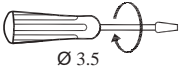

## MOUNTING DIMENSIONS



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Dimensions in mm

## TERMINAL TORQUE & CAPACITY

	0.54 N.m (6 Lb.in)
	1 x 2.5 mm <sup>2</sup> Solid Wire/Stranded
AWG	1 x 24 to 12