

# CT-1 / CTD-1

## Earth Leakage Protection & Measurement for Low Voltage

### TOROIDAL TRANSFORMERS

- To be used with ELR-B, ELR-3C, D30, DM30 and DR30 relays.
- The transformer and relay assembly sensitivity is fixed by the relay.
- The toroidal transformer CTD-1/28 is specifically designed for DIN rail mounting.

**Working principles:** The toroidal transformer is installed between the source and the load. The system works on the current balance principle. In a correct installation the vector sum of the currents is zero and the relay will not trip.

In case of an insulation fault on the circuit a leakage current flows to earth. Now the vector sum of the current passing through the transformer is not zero, this imbalance is detected by the transformer, which induces a current in the secondary winding which is connected to the relay.

If the fault level is higher than the selected sensitivity, and when the trip time delay has elapsed, the relay trips and actuates on the shunt trip of a circuit breaker or the coil of a contactor interrupting the supply to the load.

The dimensioning of the toroidal transformer depends on the diameter of all active wires (not earth conductors) put through the transformers.

Type	Code	Inner Ø	Weight (kg)
CTD-1/28	41055	28 mm	0,2
CT-1/35	41060	35 mm	0,2
CT-1/60	41065	60 mm	0,3
CT-1/80	41070	80 mm	0,5
CT-1/110	41075	110 mm	0,5
CT-1/160	41080	160 mm	1,4
CT-1/210	41085	210 mm	1,5
CTA-1/110	41076	110 mm	0,5
CTA-1/160	41081	160 mm	1,4
CTA-1/210	41086	210 mm	1,5

### CT-1

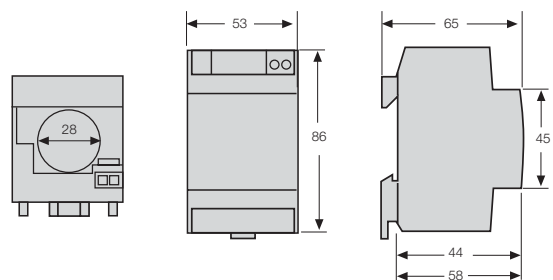


### CTD-1

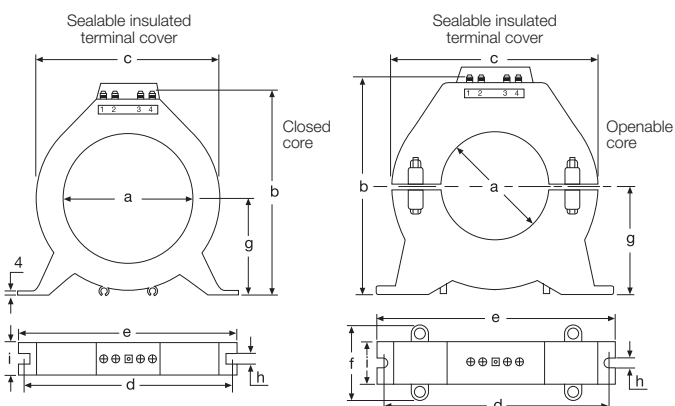


Characteristics	CT-1
Thermoplastic material	UL 94-V0
Operating frequency	47-63 Hz
Insulation	2,5 Kv 50 Hz, 1 min
Protection degree	IP 20
Continuous overload	1000A
Thermal overload	40 kA (1sec)
Operating temperature	De 0 a + 50 °C, U.R./R.H <90% n.c.
Storage temperature	De -20 a +70 °C
Connections	Tornillo, Max 1,5 mm2

### DIMENSIONS CTD-1 (mm)



### DIMENSIONS CT-1 (mm)



	Core	a	b	c	d	e	f	g	h	i
CT-1/35	Closed	35	88	73	92	100	-	40	6	28
CT-1/60	Closed	60	112	98	116	125	-	55	6	28
CT-1/80	Closed	80	132	118	136	146	-	65	6	28
CT-1/110	Closed	110	158	148	166	178	-	78	6	28
CT-1/160	Closed	160	265	255	265	275	-	130	8,5	45
CT-1/210	Closed	210	315	305	310	325	-	155	8,5	45
CTA-1/60	Open	60	125	116	13	140	45	60	8,5	34
CTA-1/110	Open	110	215	205	220	235	70	105	8,5	40
CTA-1/160	Open	160	265	255	265	275	75	130	8,5	45
CTA-1/210	Open	210	315	305	310	325	75	155	8,5	45