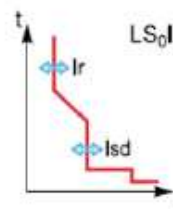
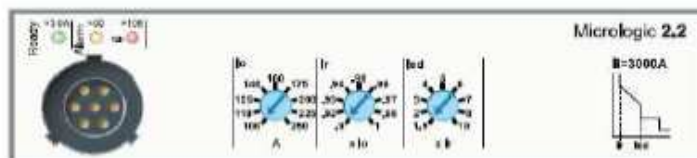


Technical Data Sheet

Partner – Electronic Circuit Breaker (With Cmin factor) CDXAE with Micrologic 2.2



Long Time Current Setting (I_r)

Long time tripping threshold = $I_o \times I_r$ for the Circuit Breaker.

$I_r = I_o \times \dots$ There are 9 fine adjustments settings for each value of I_o (0.9, 0.92, 0.93, 0.94, 0.95, 0.96, 0.97, 0.98, 1 for each value of I_o)

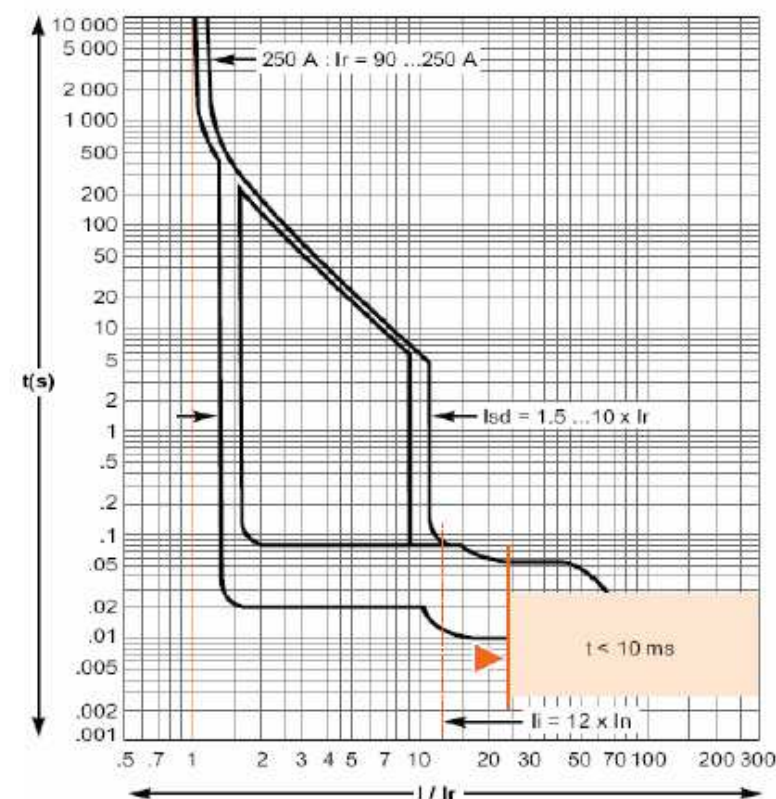
Catalogue Number	I_n	Long Time Setting (I_o) depending on trip unit rating and dial setting Thermal Current Rating (A)								
CNXAE34160E20	160A	63	70	80	90	100	110	125	150	160
CNXAE34250E20	250A	100	110	125	140	160	175	200	225	250

Short time settings I_{sd} (Im) = 1.5, 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Short time tripping threshold = $I_{sd} \times I_o \times I_r$ for the Circuit Breaker

* The short time Pick-up current tolerance level + - 10%

Micrologic 2.2 - 250 A



CNXAE34160E20 160A circuit breaker with Micrologic 2.2

Rated Voltage to earth with Cmin (230 Vac x 0.95) = 218.5

Thermal Current Rating (A) (Ir x Io x In)	Short Time Setting (Isd)									Earth fault loop impedance for 0.4 seconds (Upper Limit)								
	1.5	2	3	4	5	6	7	8	10	Im @ 1.5 ohms	Im @ 2 ohms	Im @ 3 ohms	Im @ 4 ohms	Im @ 5 ohms	Im @ 6 ohms	Im @ 7 ohms	Im @ 8 ohms	Im @ 10 ohms
	Pick-up current (A) *																	
160	240	320	480	640	800	960	1,120	1,280	1,600	0.83	0.62	0.41	0.31	0.25	0.21	0.18	0.16	0.12
150	225	300	450	600	750	900	1,050	1,200	1,500	0.88	0.66	0.44	0.33	0.26	0.22	0.19	0.17	0.13
125	188	250	375	500	625	750	875	1,000	1,250	1.06	0.79	0.53	0.40	0.32	0.26	0.23	0.20	0.16
110	165	220	330	440	550	660	770	880	1,100	1.20	0.90	0.60	0.45	0.36	0.30	0.26	0.23	0.18
100	150	200	300	400	500	600	700	800	1,000	1.32	0.99	0.66	0.50	0.40	0.33	0.28	0.25	0.20
90	135	180	270	360	450	540	630	720	900	1.47	1.10	0.74	0.55	0.44	0.37	0.32	0.28	0.22
80	120	160	240	320	400	480	560	640	800	1.66	1.24	0.83	0.62	0.50	0.41	0.35	0.31	0.25
70	105	140	210	280	350	420	490	560	700	1.89	1.42	0.95	0.71	0.57	0.47	0.41	0.35	0.28
63	95	126	189	252	315	378	441	504	630	2.10	1.58	1.05	0.79	0.63	0.53	0.45	0.39	0.32

CNXAE34250E20 250A circuit breaker with Micrologic 2.2

Rated Voltage to earth with Cmin (230 Vac x 0.95) = 218.5

Thermal Current Rating (A) (Ir x Io x In)	Short Time Setting (Isd)									Earth fault loop impedance for 0.4 seconds (Upper Limit)								
	1.5	2	3	4	5	6	7	8	10	Im @ 1.5 ohms	Im @ 2 ohms	Im @ 3 ohms	Im @ 4 ohms	Im @ 5 ohms	Im @ 6 ohms	Im @ 7 ohms	Im @ 8 ohms	Im @ 10 ohms
	Pick-up current (A) *																	
250	375	500	750	1,000	1,250	1,500	1,750	2,000	2,500	0.53	0.40	0.26	0.20	0.16	0.132	0.114	0.099	0.079
225	338	450	675	900	1,125	1,350	1,575	1,800	2,250	0.59	0.44	0.29	0.22	0.18	0.147	0.126	0.110	0.088
200	300	400	600	800	1,000	1,200	1,400	1,600	2,000	0.66	0.50	0.33	0.25	0.20	0.166	0.142	0.124	0.099
175	263	350	525	700	875	1,050	1,225	1,400	1,750	0.76	0.57	0.38	0.28	0.23	0.189	0.162	0.142	0.114
160	240	320	480	640	800	960	1,120	1,280	1,600	0.83	0.62	0.41	0.31	0.25	0.207	0.177	0.155	0.124
140	210	280	420	560	700	840	980	1,120	1,400	0.95	0.71	0.47	0.35	0.28	0.236	0.203	0.177	0.142
125	188	250	375	500	625	750	875	1,000	1,250	1.06	0.79	0.53	0.40	0.32	0.265	0.227	0.199	0.159
110	165	220	330	440	550	660	770	880	1,100	1.20	0.90	0.60	0.45	0.36	0.301	0.258	0.226	0.181
100	150	200	300	400	500	600	700	800	1,000	1.32	0.99	0.66	0.50	0.40	0.331	0.284	0.248	0.199

The value of Earth Loop Impedance (Zs) for a circuit breaker may be calculated by dividing the current required to trip at the required tripping time into the phase to earth voltage of the system.

Current required for tripping may be found by consulting the tripping curve or tables provided.

A calculation may be used where the earth fault loop impedance (Zs) can not be consulted.

Tripping current for disconnection time upto 0.4 seconds may be obtained from the circuit breaker trip unit setting.

$$Z_s = \frac{\text{Voltage Phase to earth}}{I_n \times I_o \times I_r \times I_{sd} \times 1.1}$$

Where :-

I_n = rating of the circuit breaker

I_o = long time dial setting (Coarse)

I_r = long time dial setting (Fine)

I_{sd} = short time dial setting

1.1 = +10% tolerance for the Isd short time Pick-up current setting