



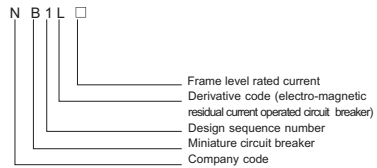
**NB1L-63 Residual Current Operated Circuit Breaker with over-current protection(Magnetic)**

**1. General**

- 1.1 Certificates: CB, CE, FIMKO, SEMKO, PCT, UKREST;
- 1.2 Electric ratings: up to 63A, 230V/1P+N, 2P, 400V/3P, 3P+N, 4P, AC50/60Hz;
- 1.3 Tripping characteristics: B, C, D;
- 1.4 Icn: 1~40A: 6000A/10000A  
50~63A: 6000A
- 1.5 Rated residual current operated making & breaking capacity  
I $\Delta$ m: 500 A;
- 1.6 Rated residual non-operated current I $\Delta$ no: 0.5I $\Delta$ n;
- 1.7 Rated insulation voltage Ui : 500 V;
- 1.8 Rated impulse withstand voltage Uimp: 6000 V;
- 1.9 Life (operations):
  - a. Electrical life: 2000, COS  $\phi$  = 0.85~0.9
  - b. Mechanical life: 2000
  - c. Operating frequency: 240/h (In  $\leq$  25A); 120/h (In > 25A);
- 1.10 Standard: IEC/EN 61009-1.



**2. Type Designation**



**3. Technical Data**

- 3.1 Technical parameters
- ★ NB1L-63, 1P+N



In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
10	30	48	142016	142181	142346
10	100	48	142017	142182	142347
10	300	48	142018	142183	142348
16	30	48	142019	142184	142349
16	100	48	142020	142185	142350
16	300	48	142021	142186	142351
20	30	48	142022	142187	142352
20	100	48	142023	142188	142353
20	30	48	142024	142189	142354
25	30	48	142025	142190	142355
25	100	48	142026	142191	142356
25	300	48	142027	142192	142357
32	30	48	142028	142193	142358
32	100	48	142029	142194	142359
32	300	48	142030	142195	142360
40	30	48	142031	142196	142361
40	100	48	142032	142197	142362
40	300	48	142033	142198	142363
50	30	48	142501	142531	142561
50	100	48	142502	142532	142562
50	300	48	142503	142533	142563
63	30	48	142504	142534	142564
63	100	48	142505	142535	142565
63	300	48	142506	142536	142566

In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
1	30	48	142001	142166	142331
1	100	48	142002	142167	142332
1	300	48	142003	142168	142333
2	30	48	142004	142169	142334
2	100	48	142005	142170	142335
2	300	48	142006	142171	142336
3	30	48	142007	142172	142337
3	100	48	142008	142173	142338
3	300	48	142009	142174	142339
4	30	48	142010	142175	142340
4	100	48	142011	142176	142341
4	300	48	142012	142177	142342
6	30	48	142013	142178	142343
6	100	48	142014	142179	142344
6	300	48	142015	142180	142345

★ NB1L-63, 2P




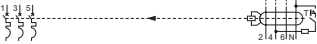
In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
1	30	36	142034	142199	142364
1	100	36	142035	142200	142365
1	300	36	142036	142201	142366
2	30	36	142037	142202	142367
2	100	36	142038	142203	142368
2	300	36	142039	142204	142369
3	30	36	142040	142205	142370
3	100	36	142041	142206	142371
3	300	36	142042	142207	142372
4	30	36	142043	142208	142373
4	100	36	142044	142209	142374
4	300	36	142045	142210	142375
6	30	36	142046	142211	142376
6	100	36	142047	142212	142377
6	300	36	142048	142213	142378
10	30	36	142049	142214	142379
10	100	36	142050	142215	142380
10	300	36	142051	142216	142381
16	30	36	142052	142217	142382
16	100	36	142053	142218	142383
16	300	36	142054	142219	142384
20	30	36	142055	142220	142385
20	100	36	142056	142221	142386
20	300	36	142057	142222	142387
25	30	36	142058	142223	142388
25	100	36	142059	142224	142389
25	300	36	142060	142225	142390
32	30	36	142061	142226	142391
32	100	36	142062	142227	142392
32	300	36	142063	142228	142393
40	30	36	142064	142229	142394
40	100	36	142065	142230	142395
40	300	36	142066	142231	142396
50	30	36	142507	142537	142567
50	100	36	142508	142538	142568
50	300	36	142509	142539	142569
63	30	36	142510	142540	142570
63	100	36	142511	142541	142571
63	300	36	142512	142542	142572

★ NB1L-63, 3P





In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
1	30	24	142067	142232	142397
1	100	24	142068	142233	142398
1	300	24	142069	142234	142399
2	30	24	142070	142235	142400
2	100	24	142071	142236	142401
2	300	24	142072	142237	142402
3	30	24	142073	142238	142403
3	100	24	142074	142239	142404
3	300	24	142075	142240	142405
4	30	24	142076	142241	142406
4	100	24	142077	142242	142407
4	300	24	142078	142243	142408
6	30	24	142079	142244	142409
6	100	24	142080	142245	142410
6	300	24	142081	142246	142411
10	30	24	142082	142247	142412
10	100	24	142083	142248	142413
10	300	24	142084	142249	142414
16	30	24	142085	142250	142415
16	100	24	142086	142251	142416
16	300	24	142087	142252	142417
20	30	24	142088	142253	142418
20	100	24	142089	142254	142419
20	300	24	142090	142255	142420
25	30	24	142091	142256	142421
25	100	24	142092	142257	142422
25	300	24	142093	142258	142423
32	30	24	142094	142259	142424
32	100	24	142095	142260	142425
32	300	24	142096	142261	142426
40	30	24	142097	142262	142427
40	100	24	142098	142263	142428
40	300	24	142099	142264	142429
50	30	24	142513	142543	142573
50	100	24	142514	142544	142574
50	300	24	142515	142545	142575
63	30	24	142516	142546	142576
63	100	24	142517	142547	142577
63	300	24	142518	142548	142578

★ NB1L-63, 3P+N

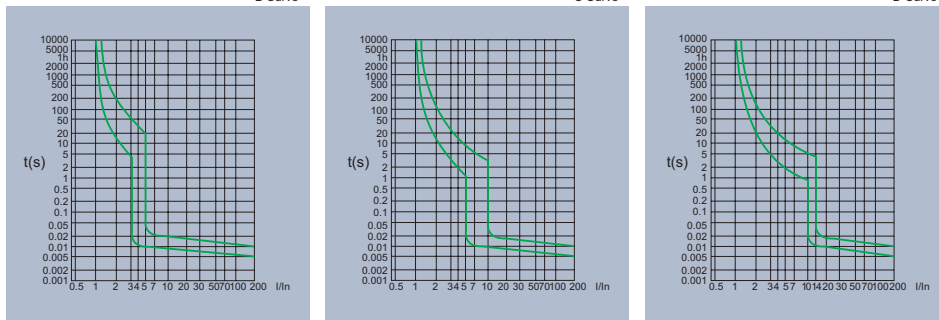
In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
1	30	24	142100	142265	142430
1	100	24	142101	142266	142431
1	300	24	142102	142267	142432
2	30	24	142103	142268	142433
2	100	24	142104	142269	142434
2	300	24	142105	142270	142435
3	30	24	142106	142271	142436
3	100	24	142107	142272	142437
3	300	24	142108	142273	142438
4	30	24	142109	142274	142439
4	100	24	142110	142275	142440
4	300	24	142111	142276	142441
6	30	24	142112	142277	142442
6	100	24	142113	142278	142443
6	300	24	142114	142279	142444
10	30	24	142115	142280	142445
10	100	24	142116	142281	142446
10	300	24	142117	142282	142447
16	30	24	142118	142283	142448
16	100	24	142119	142284	142449
16	300	24	142120	142285	142450
20	30	24	142121	142286	142451
20	100	24	142122	142287	142452
20	300	24	142123	142288	142453
25	30	24	142124	142289	142454
25	100	24	142125	142290	142455
25	300	24	142126	142291	142456
32	30	24	142127	142292	142457
32	100	24	142128	142293	142458
32	300	24	142129	142294	142459
40	30	24	142130	142295	142460
40	100	24	142131	142296	142461
40	300	24	142132	142297	142462
50	30	24	142519	142549	142579
50	100	24	142520	142550	142580
50	300	24	142521	142551	142581
63	30	24	142522	142552	142582
63	100	24	142523	142553	142583
63	300	24	142524	142554	142584

★ NB1L-63, 4P

In (A)	I $\Delta$ n (mA)	CTN	Order Code		
			Curve B	Curve C	Curve D
1	30	24	142133	142298	142463
1	100	24	142134	142299	142464
1	300	24	142135	142300	142465
2	30	24	142136	142301	142466
2	100	24	142137	142302	142467
2	300	24	142138	142303	142468
3	30	24	142139	142304	142469
3	100	24	142140	142305	142470
3	300	24	142141	142306	142471
4	30	24	142142	142307	142472
4	100	24	142143	142308	142473
4	300	24	142144	142309	142474
6	30	24	142145	142310	142475
6	100	24	142146	142311	142476
6	300	24	142147	142312	142477
10	30	24	142148	142313	142478
10	100	24	142149	142314	142479
10	300	24	142150	142315	142480
16	30	24	142151	142316	142481
16	100	24	142152	142317	142482
16	300	24	142153	142318	142483
20	30	24	142154	142319	142484
20	100	24	142155	142320	142485
20	300	24	142156	142321	142486
25	30	24	142157	142322	142487
25	100	24	142158	142323	142488
25	300	24	142159	142324	142489
32	30	24	142160	142325	142490
32	100	24	142161	142326	142491
32	300	24	142162	142327	142492
40	30	24	142163	142328	142493
40	100	24	142164	142329	142494
40	300	24	142165	142330	142495
50	30	24	142525	142555	142585
50	100	24	142526	142556	142586
50	300	24	142527	142557	142587
63	30	24	142528	142558	142588
63	100	24	142529	142559	142589
63	300	24	142530	142560	142590

Curves



3.2 Breaking time of residual current

I <sub>n</sub> (A)	I <sub>Δn</sub> (A)	Breaking time when the residual current equals to ratings following)				
		I <sub>Δn</sub>	2I <sub>Δn</sub>	5I <sub>Δn</sub>	5A, 10A, 20A, 50A, 100A, 200A, 500A <sup>a</sup>	I <sub>Δt</sub> <sup>b</sup>
1~63	0.03, 0.1, 0.3	0.1s	0.05s	0.04s	0.04s	0.04s

Note:

- a. Current ratings beyond the lower limit of over-current instantaneous tripping range will not be tested through the test to current of 5A, 10A, 20A, 50A, 100A, 200A, 500A;
- b. When I<sub>Δt</sub> equals to current ratings at the lower limit of C or D instantaneous over-current tripping range, the test carried out.

3.3 Please refer to table below for temperature compensation correction.

Temperature	-10℃	0℃	10℃	20℃	30℃	40℃	50℃	60℃
Temperature compensation coefficient of rated current	1.20	1.15	1.10	1.05	1.00	0.95	0.90	0.85

4. Wiring

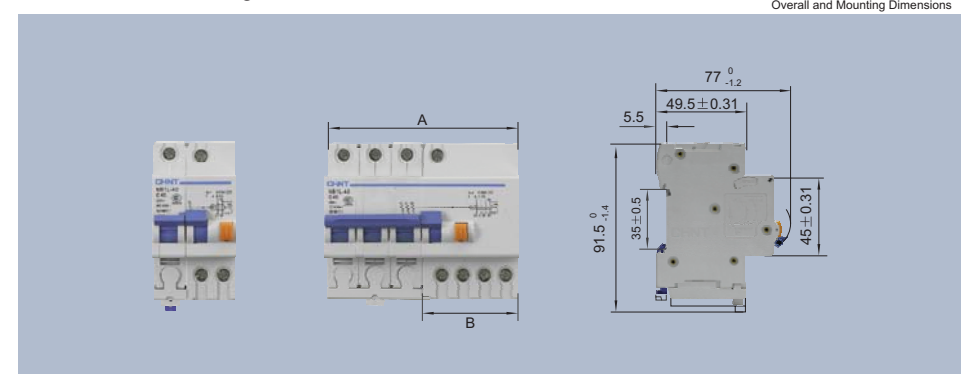
The suitable conductors should be used for connection, see table below for relative parameters.

Rated current I <sub>n</sub> (A)	Cross section area S (mm <sup>2</sup> )	Tightening torque (N · m)
≤10	1.5	2
16,20	2.5	2
25	4	2
32	6	2
40	10	2
50	10	2
63	16	2

5. Features

- 5.1 Without auxiliary power supply, the product is designed with strong immunity and extending protection range against residual current;
- 5.2 High reliable operation thanks to special design of instantaneous operation protection mechanism;
- 5.3 Service life enhanced.

6. Overall and Mounting Dimensions



Number of poles	Overall dimensions A (mm)	
	1~40A	50~63A
1P+N	45 <sup>0</sup> <sub>-0.62</sub>	54 <sup>0</sup> <sub>-0.74</sub>
2P	63 <sup>0</sup> <sub>-0.74</sub>	72 <sup>0</sup> <sub>-0.74</sub>
3P	108 <sup>0</sup> <sub>-1.4</sub>	117 <sup>0</sup> <sub>-1.4</sub>
3P+N	108 <sup>0</sup> <sub>-1.4</sub>	117 <sup>0</sup> <sub>-1.4</sub>
4P	126 <sup>0</sup> <sub>-1.6</sub>	135 <sup>0</sup> <sub>-1.6</sub>

B(mm)		
1P+N	27 <sup>0</sup> <sub>-0.52</sub>	36 <sup>0</sup> <sub>-0.62</sub>
2P	27 <sup>0</sup> <sub>-0.52</sub>	36 <sup>0</sup> <sub>-0.62</sub>
3P	54 <sup>0</sup> <sub>-1.20</sub>	63 <sup>0</sup> <sub>-1.2</sub>
3P+N	54 <sup>0</sup> <sub>-1.20</sub>	63 <sup>0</sup> <sub>-1.2</sub>
4P	54 <sup>0</sup> <sub>-1.20</sub>	63 <sup>0</sup> <sub>-1.2</sub>