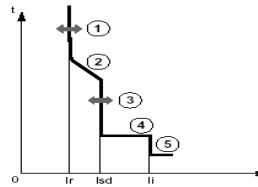
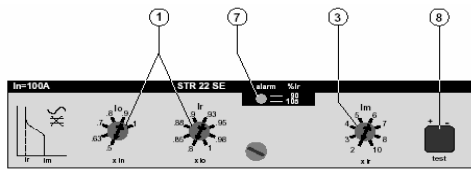


ELECTRONIC Circuit Breakers

NS100 STR22SE

Rating A (In) 100

Merlin Gerin



Protection

- 1 Adjustable long time current rating threshold = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 2 Hon - adjustable tripping time
- 3 Adjustable short time threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 4 fixed time delay
- 5 Fixed (instantaneous) short circuit protection

Other function

- 7 Load indication, On at 90%, flashes at 105% or more of I_r threshold
- 8 Test connection for mini test kit or calibration test kit

Current Rating = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

Long Time Settings

$I_r = 0.8, 0.85, 0.88, 0.9, 0.93, 0.95, 0.98, 1$

$I_o = 0.5, 0.63, 0.7, 0.8, 0.9, 1$

Long Time Setting (Ir)	Long Time Setting (Io)					
	1	0.9	0.8	0.7	0.63	0.5
	Thermal Current Rating (A)					
1	100	90	80	70	63	50
0.98	98	88	78	69	62	49
0.95	95	86	76	67	60	48
0.93	93	84	74	65	59	47
0.9	90	81	72	63	57	45
0.88	88	79	70	62	55	44
0.85	85	77	68	60	54	43
0.8	80	72	64	56	50	40

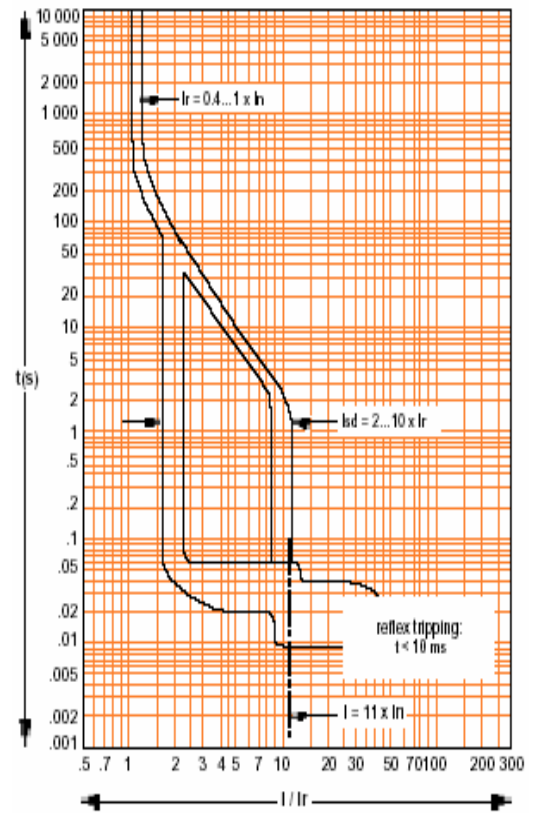
Short Time Settings (Im) = 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Tripping threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

* The short time tripping current tolerance level + - 15%

Rated Voltage to earth (Vac) = 230

Thermal Current Rating (A) ($I_r \times I_o \times I_n$)	Short Time Setting (Isd)								Earth fault loop impedance for 0.4 seconds (Upper Limit)							
	2	3	4	5	6	7	8	10	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) *															
100	200	300	400	500	600	700	800	1,000	1.00	0.67	0.50	0.40	0.33	0.29	0.250	0.200
98	196	294	392	490	588	686	784	980	1.02	0.68	0.51	0.41	0.34	0.29	0.255	0.204
95	190	285	380	475	570	665	760	950	1.05	0.70	0.53	0.42	0.35	0.30	0.263	0.211
93	186	279	372	465	558	651	744	930	1.08	0.72	0.54	0.43	0.36	0.31	0.269	0.215
90	180	270	360	450	540	630	720	900	1.11	0.74	0.56	0.44	0.37	0.32	0.278	0.222
88	176	264	352	440	528	616	704	880	1.14	0.76	0.57	0.45	0.38	0.32	0.284	0.227
85	170	255	340	425	510	595	680	850	1.18	0.78	0.59	0.47	0.39	0.34	0.294	0.235
80	160	240	320	400	480	560	640	800	1.25	0.83	0.63	0.50	0.42	0.36	0.313	0.250
78	156	234	312	390	468	546	624	780	1.28	0.85	0.64	0.51	0.43	0.37	0.321	0.256
76	152	228	304	380	456	532	608	760	1.32	0.88	0.66	0.53	0.44	0.38	0.329	0.263
74	148	222	296	370	444	518	592	740	1.35	0.90	0.68	0.54	0.45	0.39	0.338	0.270
70	140	210	280	350	420	490	560	700	1.43	0.95	0.71	0.57	0.48	0.41	0.357	0.286
67	134	201	268	335	402	469	536	670	1.49	1.00	0.75	0.60	0.50	0.43	0.373	0.299
65	130	195	260	325	390	455	520	650	1.54	1.03	0.77	0.62	0.51	0.44	0.385	0.308
63	126	189	252	315	378	441	504	630	1.59	1.06	0.79	0.63	0.53	0.45	0.397	0.317
60	120	180	240	300	360	420	480	600	1.67	1.11	0.83	0.67	0.56	0.48	0.417	0.333
57	114	171	228	285	342	399	456	570	1.75	1.17	0.88	0.70	0.58	0.50	0.439	0.351
55	110	165	220	275	330	385	440	550	1.82	1.21	0.91	0.73	0.61	0.52	0.455	0.364
50	100	150	200	250	300	350	400	500	2.00	1.33	1.00	0.80	0.67	0.57	0.500	0.400
48	96	144	192	240	288	336	384	480	2.08	1.39	1.04	0.83	0.69	0.60	0.521	0.417
45	90	135	180	225	270	315	360	450	2.22	1.48	1.11	0.89	0.74	0.63	0.556	0.444
40	80	120	160	200	240	280	320	400	2.50	1.67	1.25	1.00	0.83	0.71	0.625	0.500

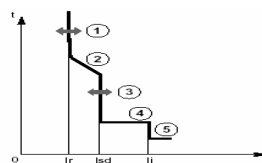
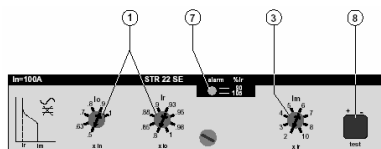


ELECTRONIC Circuit Breakers

NS160 STR22SE

Rating A (In) 160

Merlin Gerin



Protection

1 Adjustable long time current rating threshold = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

2 Hon - adjustable tripping time

3 Adjustable short time threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

4 fixed time delay

5 Fixed (instantaneous) short circuit protection

Other function

7 Load indication, On at 90%, flashes at 105% or more of I_r threshold

8 Test connection for mini test kit or calibration test kit

Current Rating = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

Long Time Settings

$I_r = 0.8, 0.85, 0.88, 0.9, 0.93, 0.95, 0.98, 1$

$I_o = 0.5, 0.63, 0.7, 0.8, 0.9, 1$

Long Time Setting (Ir)	Long Time Setting (Io)					
	1	0.9	0.8	0.7	0.63	0.5
	Thermal Current Rating (A)					
1	160	144	128	112	101	80
0.98	157	141	125	110	99	78
0.95	152	137	122	106	96	76
0.93	149	134	119	104	94	74
0.9	144	130	115	101	91	72
0.88	141	127	113	99	89	70
0.85	136	122	109	95	86	68
0.8	128	115	102	90	81	64

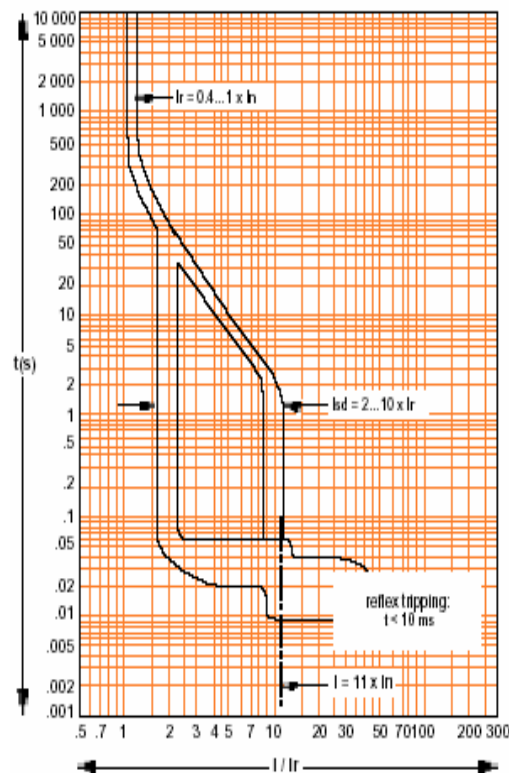
Short Time Settings (Im) = 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Tripping threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

* The short time tripping current tolerance level + - 15%

Rated Voltage to earth (Vac) = 230

Thermal Current Rating (A) ($I_r \times I_o \times I_n$)	Short Time Setting (Isd)								Earth fault loop impedance for 0.4 seconds (Upper Limit)							
	2	3	4	5	6	7	8	10	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	320	480	640	800	960	1,120	1,280	1,600	0.63	0.42	0.31	0.25	0.21	0.18	0.156	0.125
157	314	471	628	785	942	1,099	1,256	1,570	0.64	0.42	0.32	0.25	0.21	0.18	0.159	0.127
152	304	456	608	760	912	1,064	1,216	1,520	0.66	0.44	0.33	0.26	0.22	0.19	0.164	0.132
149	298	447	596	745	894	1,043	1,192	1,490	0.67	0.45	0.34	0.27	0.22	0.19	0.168	0.134
144	288	432	576	720	864	1,008	1,152	1,440	0.69	0.46	0.35	0.28	0.23	0.20	0.174	0.139
141	282	423	564	705	846	987	1,128	1,410	0.71	0.47	0.35	0.28	0.24	0.20	0.177	0.142
136	272	408	544	680	816	952	1,088	1,360	0.74	0.49	0.37	0.29	0.25	0.21	0.184	0.147
134	268	402	536	670	804	938	1,072	1,340	0.75	0.50	0.37	0.30	0.25	0.21	0.187	0.149
130	260	390	520	650	780	910	1,040	1,300	0.77	0.51	0.38	0.31	0.26	0.22	0.192	0.154
128	256	384	512	640	768	896	1,024	1,280	0.78	0.52	0.39	0.31	0.26	0.22	0.195	0.156
125	250	375	500	625	750	875	1,000	1,250	0.80	0.53	0.40	0.32	0.27	0.23	0.200	0.160
122	244	366	488	610	732	854	976	1,220	0.82	0.55	0.41	0.33	0.27	0.23	0.205	0.164
115	230	345	460	575	690	805	920	1,150	0.87	0.58	0.43	0.35	0.29	0.25	0.217	0.174
110	220	330	440	550	660	770	880	1,100	0.91	0.61	0.45	0.36	0.30	0.26	0.227	0.182
101	202	303	404	505	606	707	808	1,010	0.99	0.66	0.50	0.40	0.33	0.28	0.248	0.198
95	190	285	380	475	570	665	760	950	1.05	0.70	0.53	0.42	0.35	0.30	0.263	0.211
90	180	270	360	450	540	630	720	900	1.11	0.74	0.56	0.44	0.37	0.32	0.278	0.222
86	172	258	344	430	516	602	688	860	1.16	0.78	0.58	0.47	0.39	0.33	0.291	0.233
80	160	240	320	400	480	560	640	800	1.25	0.83	0.63	0.50	0.42	0.36	0.313	0.250
76	152	228	304	380	456	532	608	760	1.32	0.88	0.66	0.53	0.44	0.38	0.329	0.263
70	140	210	280	350	420	490	560	700	1.43	0.95	0.71	0.57	0.48	0.41	0.357	0.286
64	128	192	256	320	384	448	512	640	1.56	1.04	0.78	0.63	0.52	0.45	0.391	0.313

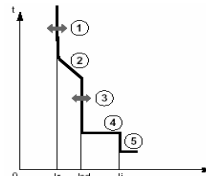
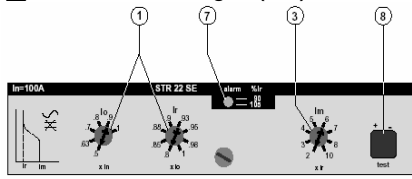


ELECTRONIC Circuit Breakers

Merlin Gerin

NS250 STR22SE

Rating A (In) 250



Protection

- 1 Adjustable long time current rating threshold = $I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 2 Hon - adjustable tripping time
- 3 Adjustable short time threshold = $I_m \times I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 4 fixed time delay
- 5 Fixed (instantaneous) short circuit protection

Other function

- 7 Load indication, On at 90%, flashes at 105% or more of I_r threshold
- 8 Test connection for mini test kit or calibration test kit

Current Rating = $I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

Long Time Settings

$I_r = 0.8, 0.85, 0.88, 0.9, 0.93, 0.95, 0.98, 1$

$I_0 = 0.5, 0.63, 0.7, 0.8, 0.9, 1$

Long Time Setting (I_r)	Long Time Setting (I_0)					
	1	0.9	0.8	0.7	0.63	0.5
1	250	225	200	175	158	125
0.98	245	221	196	172	154	123
0.95	238	214	190	166	150	119
0.93	233	209	186	163	146	116
0.9	225	203	180	158	142	113
0.88	220	198	176	154	139	110
0.85	213	191	170	149	134	106
0.8	200	180	160	140	126	100

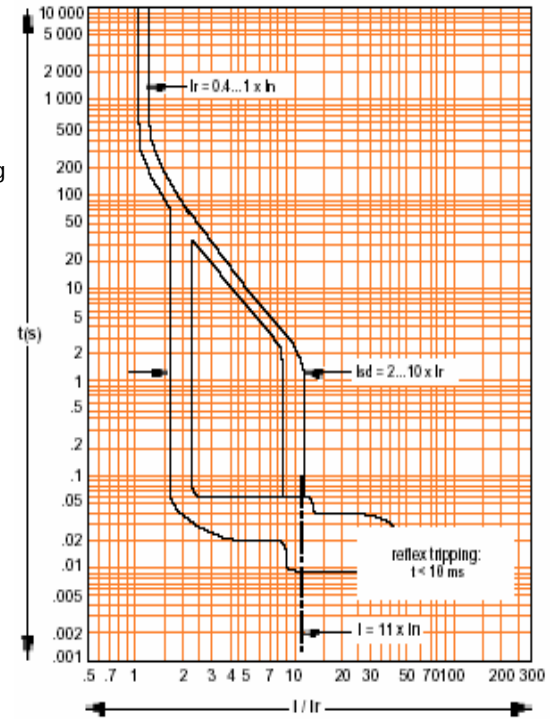
Short Time Settings (I_m) = 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Tripping threshold = $I_m \times I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

* The short time tripping current tolerance level + - 15%

Rated Voltage to earth (Vac) = 230

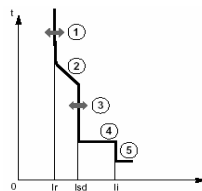
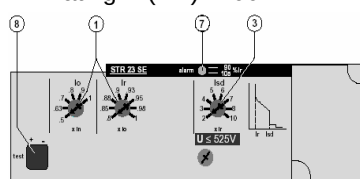
Thermal Current Rating (A) ($I_r \times I_0 \times I_n$)	Short Time Setting (I_{sd})								Earth fault loop impedance for 0.4 seconds (Upper Limit)							
	2	3	4	5	6	7	8	10	I_m @ 2 ohms	I_m @ 3 ohms	I_m @ 4 ohms	I_m @ 5 ohms	I_m @ 6 ohms	I_m @ 7 ohms	I_m @ 8 ohms	I_m @ 10 ohms
	Pick-up current (A) *															
250	500	750	1,000	1,250	1,500	1,750	2,000	2,500	0.40	0.27	0.20	0.16	0.13	0.11	0.100	0.080
245	490	735	980	1,225	1,470	1,715	1,960	2,450	0.41	0.27	0.20	0.16	0.14	0.12	0.102	0.082
238	476	714	952	1,190	1,428	1,666	1,904	2,380	0.42	0.28	0.21	0.17	0.14	0.12	0.105	0.084
233	466	699	932	1,165	1,398	1,631	1,864	2,330	0.43	0.29	0.21	0.17	0.14	0.12	0.107	0.086
225	450	675	900	1,125	1,350	1,575	1,800	2,250	0.44	0.30	0.22	0.18	0.15	0.13	0.111	0.089
220	440	660	880	1,100	1,320	1,540	1,760	2,200	0.45	0.30	0.23	0.18	0.15	0.13	0.114	0.091
214	428	642	856	1,070	1,284	1,498	1,712	2,140	0.47	0.31	0.23	0.19	0.16	0.13	0.117	0.093
209	418	627	836	1,045	1,254	1,463	1,672	2,090	0.48	0.32	0.24	0.19	0.16	0.14	0.120	0.096
200	400	600	800	1,000	1,200	1,400	1,600	2,000	0.50	0.33	0.25	0.20	0.17	0.14	0.125	0.100
196	392	588	784	980	1,176	1,372	1,568	1,960	0.51	0.34	0.26	0.20	0.17	0.15	0.128	0.102
190	380	570	760	950	1,140	1,330	1,520	1,900	0.53	0.35	0.26	0.21	0.18	0.15	0.132	0.105
186	372	558	744	930	1,116	1,302	1,488	1,860	0.54	0.36	0.27	0.22	0.18	0.15	0.134	0.108
180	360	540	720	900	1,080	1,260	1,440	1,800	0.56	0.37	0.28	0.22	0.19	0.16	0.139	0.111
175	350	525	700	875	1,050	1,225	1,400	1,750	0.57	0.38	0.29	0.23	0.19	0.16	0.143	0.114
170	340	510	680	850	1,020	1,190	1,360	1,700	0.59	0.39	0.29	0.24	0.20	0.17	0.147	0.118
160	320	480	640	800	960	1,120	1,280	1,600	0.63	0.42	0.31	0.25	0.21	0.18	0.156	0.125
150	300	450	600	750	900	1,050	1,200	1,500	0.67	0.44	0.33	0.27	0.22	0.19	0.167	0.133
140	280	420	560	700	840	980	1,120	1,400	0.71	0.48	0.36	0.29	0.24	0.20	0.179	0.143
134	268	402	536	670	804	938	1,072	1,340	0.75	0.50	0.37	0.30	0.25	0.21	0.187	0.149
125	250	375	500	625	750	875	1,000	1,250	0.80	0.53	0.40	0.32	0.27	0.23	0.200	0.160
110	220	330	440	550	660	770	880	1,100	0.91	0.61	0.45	0.36	0.30	0.26	0.227	0.182
100	200	300	400	500	600	700	800	1,000	1.00	0.67	0.50	0.40	0.33	0.29	0.250	0.200



ELECTRONIC Circuit Breakers

NS400 STR23SE

Rating A (In) 400



Protection

- 1 Adjustable long time current rating threshold = $I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 2 Hon - adjustable tripping time
- 3 Adjustable short time threshold = $I_m \times I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 4 fixed time delay
- 5 Fixed (instantaneous) short circuit protection

Other function

- 7 Load indication, On at 90%, flashes at 105% or more of I_r threshold
- 8 Test connection for mini test kit or calibration test kit

Current Rating = $I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

Long Time Settings

$I_r = 0.8, 0.85, 0.88, 0.9, 0.93, 0.95, 0.98, 1$

$I_0 = 0.5, 0.63, 0.7, 0.8, 0.9, 1$

Long Time Setting (Ir)	Long Time Setting (Io)					
	1	0.9	0.8	0.7	0.63	0.5
	Thermal Current Rating (A)					
1	400	360	320	280	252	200
0.98	392	353	314	274	247	196
0.95	380	342	304	266	239	190
0.93	372	335	298	260	234	186
0.9	360	324	288	252	227	180
0.88	352	317	282	246	222	176
0.85	340	306	272	238	214	170
0.8	320	288	256	224	202	160

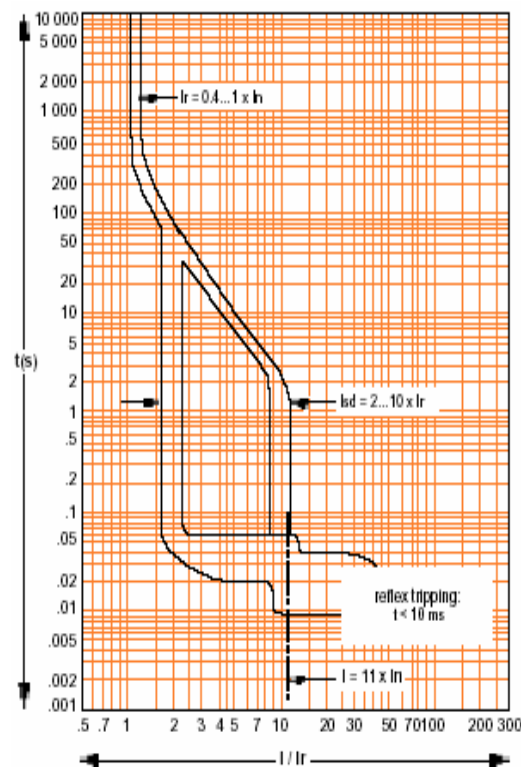
Short Time Settings (Im) = 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Tripping threshold = $I_m \times I_0 \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

* The short time tripping current tolerance level + - 15%

Rated Voltage to earth (Vac) = 230

Thermal Current Rating (A) (Ir x Io x In)	Short Time Setting (Isd)								Earth fault loop impedance for 0.4 seconds (Upper Limit)							
	2	3	4	5	6	7	8	10	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) *															
400	800	1,200	1,600	2,000	2,400	2,800	3,200	4,000	0.250	0.167	0.125	0.100	0.083	0.071	0.063	0.050
392	784	1,176	1,568	1,960	2,352	2,744	3,136	3,920	0.255	0.170	0.128	0.102	0.085	0.073	0.064	0.051
380	760	1,140	1,520	1,900	2,280	2,660	3,040	3,800	0.263	0.175	0.132	0.105	0.088	0.075	0.066	0.053
360	720	1,080	1,440	1,800	2,160	2,520	2,880	3,600	0.278	0.185	0.139	0.111	0.093	0.079	0.069	0.056
352	704	1,056	1,408	1,760	2,112	2,464	2,816	3,520	0.284	0.189	0.142	0.114	0.095	0.081	0.071	0.057
340	680	1,020	1,360	1,700	2,040	2,380	2,720	3,400	0.294	0.196	0.147	0.118	0.098	0.084	0.074	0.059
320	640	960	1,280	1,600	1,920	2,240	2,560	3,200	0.313	0.208	0.156	0.125	0.104	0.089	0.078	0.063
314	628	942	1,256	1,570	1,884	2,198	2,512	3,140	0.318	0.212	0.159	0.127	0.106	0.091	0.080	0.064
304	608	912	1,216	1,520	1,824	2,128	2,432	3,040	0.329	0.219	0.164	0.132	0.110	0.094	0.082	0.066
280	560	840	1,120	1,400	1,680	1,960	2,240	2,800	0.357	0.238	0.179	0.143	0.119	0.102	0.089	0.071
274	548	822	1,096	1,370	1,644	1,918	2,192	2,740	0.365	0.243	0.182	0.146	0.122	0.104	0.091	0.073
260	520	780	1,040	1,300	1,560	1,820	2,080	2,600	0.385	0.256	0.192	0.154	0.128	0.110	0.096	0.077
252	504	756	1,008	1,260	1,512	1,764	2,016	2,520	0.397	0.265	0.198	0.159	0.132	0.113	0.099	0.079
246	492	738	984	1,230	1,476	1,722	1,968	2,460	0.407	0.271	0.203	0.163	0.136	0.116	0.102	0.081
234	468	702	936	1,170	1,404	1,638	1,872	2,340	0.427	0.285	0.214	0.171	0.142	0.122	0.107	0.085
224	448	672	896	1,120	1,344	1,568	1,792	2,240	0.446	0.298	0.223	0.179	0.149	0.128	0.112	0.089
214	428	642	856	1,070	1,284	1,498	1,712	2,140	0.467	0.312	0.234	0.187	0.156	0.134	0.117	0.093
200	400	600	800	1,000	1,200	1,400	1,600	2,000	0.500	0.333	0.250	0.200	0.167	0.143	0.125	0.100
190	380	570	760	950	1,140	1,330	1,520	1,900	0.526	0.351	0.263	0.211	0.175	0.150	0.132	0.105
180	360	540	720	900	1,080	1,260	1,440	1,800	0.556	0.370	0.278	0.222	0.185	0.159	0.139	0.111
170	340	510	680	850	1,020	1,190	1,360	1,700	0.588	0.392	0.294	0.235	0.196	0.168	0.147	0.118
160	320	480	640	800	960	1,120	1,280	1,600	0.625	0.417	0.313	0.250	0.208	0.179	0.156	0.125

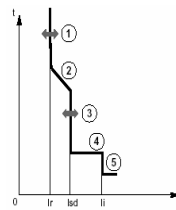
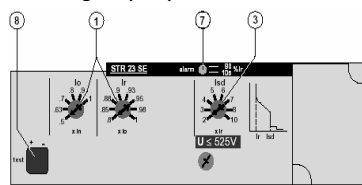


ELECTRONIC Circuit Breakers

Merlin Gerin

NS630 STR23SE

Rating A (In) 630



Protection

- 1 Adjustable long time current rating threshold = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 2 Hon - adjustable tripping time
- 3 Adjustable short time threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating
- 4 fixed time delay
- 5 Fixed (instantaneous) short circuit protection

Other function

- 7 Load indication, On at 90%, flashes at 105% or more of I_r threshold
- 8 Test connection for mini test kit or calibration test kit

Current Rating = $I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

Long Time Settings

$I_r = 0.8, 0.85, 0.88, 0.9, 0.93, 0.95, 0.98, 1$

$I_o = 0.5, 0.63, 0.7, 0.8, 0.9, 1$

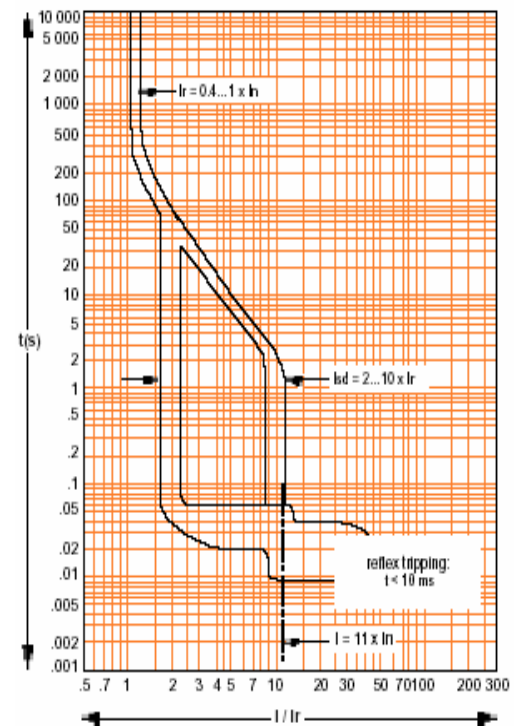
Long Time Setting (I_r)	Long Time Setting (I_o)					
	1	0.9	0.8	0.7	0.63	0.5
	Thermal Current Rating (A)					
1	630	567	504	441	397	315
0.98	617	556	494	432	389	309
0.95	599	539	479	419	377	299
0.93	586	527	469	410	369	293
0.9	567	510	454	397	357	284
0.88	554	499	444	388	349	277
0.85	536	482	428	375	337	268
0.8	504	454	403	353	318	252

Short Time Settings (I_m) = 2, 3, 4, 5, 6, 7, 8, 10 x long time setting

Tripping threshold = $I_m \times I_o \times I_r \times (I_n)$ Circuit Breaker Nominal Rating

* The short time tripping current tolerance level + - 15%

Rated Voltage to earth (Vac) = **230**



Thermal Current Rating (A) ($I_r \times I_o \times I_n$)	Short Time Setting (I_{sd})								Earth fault loop impedance for 0.4 seconds (Upper Limit)							
	2	3	4	5	6	7	8	10	I_m @ 2 ohms	I_m @ 3 ohms	I_m @ 4 ohms	I_m @ 5 ohms	I_m @ 6 ohms	I_m @ 7 ohms	I_m @ 8 ohms	I_m @ 10 ohms
	Pick-up current (A) *															
630	1,260	1,890	2,520	3,150	3,780	4,410	5,040	6,300	0.159	0.106	0.079	0.063	0.053	0.045	0.040	0.032
617	1,234	1,851	2,468	3,085	3,702	4,319	4,936	6,170	0.162	0.108	0.081	0.065	0.054	0.046	0.041	0.032
599	1,198	1,797	2,396	2,995	3,594	4,193	4,792	5,990	0.167	0.111	0.083	0.067	0.056	0.048	0.042	0.033
567	1,134	1,701	2,268	2,835	3,402	3,969	4,536	5,670	0.176	0.118	0.088	0.071	0.059	0.050	0.044	0.035
554	1,108	1,662	2,216	2,770	3,324	3,878	4,432	5,540	0.181	0.120	0.090	0.072	0.060	0.052	0.045	0.036
536	1,072	1,608	2,144	2,680	3,216	3,752	4,288	5,360	0.187	0.124	0.093	0.075	0.062	0.053	0.047	0.037
510	1,020	1,530	2,040	2,550	3,060	3,570	4,080	5,100	0.196	0.131	0.098	0.078	0.065	0.056	0.049	0.039
499	998	1,497	1,996	2,495	2,994	3,493	3,992	4,990	0.200	0.134	0.100	0.080	0.067	0.057	0.050	0.040
479	958	1,437	1,916	2,395	2,874	3,353	3,832	4,790	0.209	0.139	0.104	0.084	0.070	0.060	0.052	0.042
454	908	1,362	1,816	2,270	2,724	3,178	3,632	4,540	0.220	0.147	0.110	0.088	0.073	0.063	0.055	0.044
432	864	1,296	1,728	2,160	2,592	3,024	3,456	4,320	0.231	0.154	0.116	0.093	0.077	0.066	0.058	0.046
410	820	1,230	1,640	2,050	2,460	2,870	3,280	4,100	0.244	0.163	0.122	0.098	0.081	0.070	0.061	0.049
403	806	1,209	1,612	2,015	2,418	2,821	3,224	4,030	0.248	0.165	0.124	0.099	0.083	0.071	0.062	0.050
397	794	1,191	1,588	1,985	2,382	2,779	3,176	3,970	0.252	0.168	0.126	0.101	0.084	0.072	0.063	0.050
375	750	1,125	1,500	1,875	2,250	2,625	3,000	3,750	0.267	0.178	0.133	0.107	0.089	0.076	0.067	0.053
353	706	1,059	1,412	1,765	2,118	2,471	2,824	3,530	0.283	0.189	0.142	0.113	0.094	0.081	0.071	0.057
337	674	1,011	1,348	1,685	2,022	2,359	2,696	3,370	0.297	0.198	0.148	0.119	0.099	0.085	0.074	0.059
315	630	945	1,260	1,575	1,890	2,205	2,520	3,150	0.317	0.212	0.159	0.127	0.106	0.091	0.079	0.063
309	618	927	1,236	1,545	1,854	2,163	2,472	3,090	0.324	0.216	0.162	0.129	0.108	0.092	0.081	0.065
293	586	879	1,172	1,465	1,758	2,051	2,344	2,930	0.341	0.228	0.171	0.137	0.114	0.098	0.085	0.068
277	554	831	1,108	1,385	1,662	1,939	2,216	2,770	0.361	0.241	0.181	0.144	0.120	0.103	0.090	0.072
252	504	756	1,008	1,260	1,512	1,764	2,016	2,520	0.397	0.265	0.198	0.159	0.132	0.113	0.099	0.079

The value of Earth Loop Impedance (Z_s) 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.

The current required for tripping may be found by consulting the tripping curve or above table.

The following calculation may be used where the earth fault loop impedance (Z_s) can not be consulted
Tripping current for disconnection time upto 0.4 seconds may be obtained from the circuit breaker trip unit setting.

$$Z_s = \frac{\text{Phase to earth}}{I_n \times I_o \times I_r \times I_{sd} \times 1.15}$$

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

1.15 = +15% tolerance for the I_{sd} short time dial setting