

## Applications



## Approvals

**ASTA (20) Certified**

## Application Notes

### Protection of PVC insulated cables

RED SPOT Standard Fuse Links will protect an associated cable against both overload and short circuit if its current rating is equal to or less than the current rating of the cable. This is in accordance with the IEE Wiring Regulations (BS 7671:1992).

### Short circuit energy limitation

RED SPOT Standard Fuse Links limit the peak current and energy let through to circuits that experience short circuit faults. This enables significant economies to be made in the design of equipment used in combination with RED SPOT Fuse Links.

### Discrimination

RED SPOT Standard Fuse Links will discriminate with each other at fault levels up to 80kA, at 415Vac, in most cases when the ratio between 'major' and 'minor' current ratings is 1.6:1.

### Motor Starting Ability

All RED SPOT Standard Fuse Links are suitable for the protection of motor circuits and have superior withstand to motor starting surges. The dual rated types for motor circuit protection enhance this withstand capability.

### Motor Circuit Protection

RED SPOT Standard Fuse Links combined with GE Power Controls 'CL' and 'CK' range of contactors and 'RT' thermal overload relays, provide certified Type 2 co-ordination in line with the latest International Standards (IEC 947-4-1)

### Protection against electric shock

RED SPOT Standard Fuse Links protect against electric shock when used in accordance with the IEE Wiring Regulations (BS 7671:1992).

### Power dissipation

All RED SPOT Standard Fuse Links have low power loss values, well within the limits specified in BS 88:Part2: (IEC 269-2).

## HRC Fuse Links

### RED SPOT Standard

**BS 88-2:1988**

**IEC 269-2**

## Technical Data

<b>Current Rating</b>	(A) 2-1250
<b>Voltage Rating ac</b>	(V) up to 660
<b>Voltage Rating dc</b>	(V) up to 460
<b>Breaking Capacity ac</b>	(kA) 80
<b>Breaking Capacity dc</b>	(kA) 40
<b>Max Operating Ambient Temperature</b>	(°C) 40

## Breaking Capacity

### AC Performance

ASTA 20 certified to 80kA, generally at 660 Volts, to BS 88: Part 2: 1988 (IEC 269-2).

### DC Performance

ASTA certified at 40kA, to BS 88:Part 2: 1988 (IEC 269-2).

## Associated Fusegear Equipment

- RED SPOT Fuse Holders
- RED SPOT Fusebanks
- RED SPOT Fuseboards

## Associated Switchable Devices

- CM Cubicle Mounting Fuse Switches
- FULOS Fused Disconnecter Loadbreak Switches
- MST Panel Mounting Fuse Switches
- WM Wall Mounting Fuse Switches

- Contact the sales office for catalogues

## RED SPOT Standard - Offset tags: 2-hole fixing



**BS Ref. A1**  
Fixing Centres  
44.5mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
2A	NIT2	401230	550	250
4A	NIT4	401231	550	250
6A	NIT6	401232	550	250
10A	NIT10	401225	550	250
16A	NIT16	401226	550	250
20A	NIT20	401227	550	250
20M25A	NIT20M25	401228	440	250
20M32A	NIT20M32	401229	440	250
25A	NET25	401220	440	250
32A	NET32	401221	440	250
32M40A	NET32M40	401222	440	250
32M50A	NET32M50	401223	440	250
32M63A	NET32M63	401224	440	250



**BS Ref. A2**  
Fixing Centres  
73mm

2A	TIA2	400295	660	460
4A	TIA4	400301	660	460
6A	TIA6	400302	660	460
10A	TIA10	400291	660	460
16A	TIA16	400292	660	460
20A	TIA20	400293	660	460
25A	TIA25	400294	660	460
32A	TIA32	400296	660	460
32M35A	TIA32M35	400297	660	460
32M40A	TIA32M40	400298	660	460
32M50A	TIA32M50	400299	660	460
32M63A	TIA32M63	400300	660	460



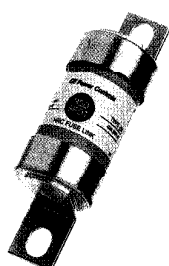
**BS Ref. A3**  
Fixing Centres  
73mm

35A	TIS35	400303	660	460
40A	TIS40	400305	660	460
50A	TIS50	400306	660	460
63A	TIS63	400307	660	460
63M80A	TIS63M80	400310	660	460
63M100A	TIS63M100	400309	660	460



**BS Ref. A4**  
Fixing Centres  
93.7mm

32A	TCP32	400277	660	460
40A	TCP40	400278	660	460
50A	TCP50	400279	660	460
63A	TCP63	400280	660	460
80A	TCP80	400281	660	350
100A	TCP100	400273	660	350
100M125A	TCP100M125	400274	660	350
100M160A	TCP100M160	400275	660	350
100M200A	TCP100M200	400276	660	350



Fixing Centres  
93.7mm

125A	TFP125	400287	660	350
160A	TFP160	400288	660	350
200A	TFP200	400289	660	350
200M250A	TFP200M250	400290	660	350

## RED SPOT Standard - Central tags: 2-hole fixing

RED SPOT Standard



BS Ref. B1  
Fixing Centres  
111mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
80A	TC80	400272	660	350
100A	TC100	400268	660	350
100M125A	TC100M125	400269	660	350
100M160A	TC100M160	400270	660	350
100M200A	TC100M200	400271	660	350



BS Ref. B2  
Fixing Centres  
111mm

125A	TF125	400282	660	350
160A	TF160	400283	660	350
200A	TF200	400284	660	350
200M250A	TF200M250	400285	660	460
200M315A	TF200M315	400286	550	460



BS Ref. B3  
Fixing Centres  
111mm

250A	TKF250	400311	660	460
315A	TKF315	400312	660	460
315M355A	TKF315M355	400313	660	460

A



Fixing Centres  
133mm

250A	TKM250	400314	660	460
315A	TKM315	400315	660	460
315M355A	TKM315M355	400316	660	460



BS Ref. B4  
Fixing Centres  
111mm

355A	TMF355	400334	660	460
400A	TMF400	400335	660	460
400M450A	TMF400M450	400336	660	460

### RED SPOT Standard - Central tags: 4-hole fixing



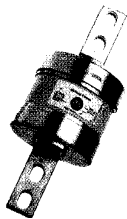
BS Ref. C1  
Fixing Centres  
133mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
355A	TM355	400331	660	460
400A	TM400	400332	660	460
400M450A	TM400M450	400333	660	460



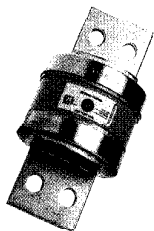
BS Ref. C2  
Fixing Centres  
133mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
450A	TTM450	400344	660	450
500A	TTM500	400345	660	450
560A	TTM560	400346	660	450
630A	TTM630	400347	660	450
630M670A	TTM630M670	400348	660	450



BS Ref. C3  
Fixing Centres  
133mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
670A	TLM670	400317	660	350
710A	TLM710	400318	660	350
750A	TLM750	400319	660	350
800A	TLM800	400320	660	350



BS Ref. D1  
Fixing Centres  
149mm

Current rating	Part number	Code	Max voltage rating ac	Max voltage rating dc
1000A	TXU1000	400356	660	300
1250A	TXU1250	400357	660	300

### RED SPOT Standard - Additional ranges

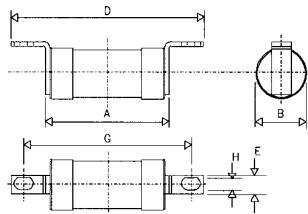
Range	Current rating	Fixing centres	Max voltage rating ac	Max voltage rating dc
Central tags: 2-hole fixing				
TB	2 - 63 A	97mm	660	460
TBC	2 - 63 A	111mm	660	460
Central tags: 4-hole fixing				
TMT	355 & 400 A	165mm	660	460
TT	450 - 630 A	165mm	660	450
TLT	670 - 800 A	165mm	660	350
TLU	560 - 800 A	149mm	660	350

TZC, TZCP, TZF, and TZLM Fuse Links proved at 460 Volt dc are available for users who need superior dc performance in these dimensional references.  
Fuse Links for Canada complying with CSA Specification C22-2 No 106-M92 are also available.

Dimensions in mm

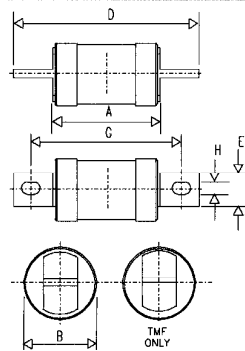
RED SPOT Standard

RED SPOT Standard - Offset tags: 2-hole fixing



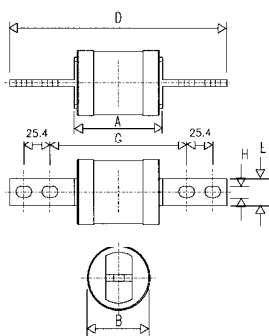
Type	Rating	A	B	D	E	G Fixing Centres	H
NIT	2 - 20M32	36.50	14.10	55.60	11.10	44.50	4.70
NET	25 - 32M40	36.50	14.10	55.60	11.10	44.50	4.70
	32M50, M63	37.70	17.50	55.10	11.10	44.50	4.70
TIA	2 - 32M63	56.40	22.20	85.80	8.70	73.00	5.20
TIS	35 - 63	56.40	22.20	85.80	8.70	73.00	5.20
	63M80, M100	58.00	26.00	90.50	12.70	73.00	5.20
TCP	32 - 63	56.00	22.20	109.00	19.10	93.70	8.70
	80, 100	58.00	26.00	111.00	19.10	93.70	8.70
	100M125 - M200	70.00	33.70	111.00	19.10	93.70	8.70
TFP	125 - 200	70.00	33.70	111.00	19.10	93.70	8.70
	200M250	70.00	40.00	111.00	19.10	93.70	8.70

RED SPOT Standard - Central tags: 2-hole fixing



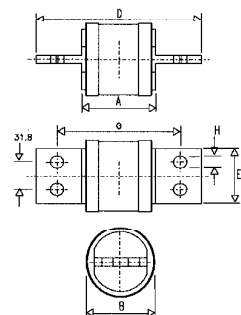
Type	Rating	A	B	D	E	G Fixing Centres	H
TC	80, 100	58.00	26.00	136.50	19.10	111.00	8.70
	100M125 - M200	70.00	33.70	136.50	19.10	111.00	8.70
TF	125 - 200	70.00	33.70	136.50	19.10	111.00	8.70
	200M250, M315	77.00	40.00	136.50	19.10	111.00	8.70
TKF	250	77.00	40.00	136.50	19.10	111.00	8.70
	315, 315M355	77.00	52.60	136.50	25.40	111.00	8.70
TKM	250 - 315M355	77.00	52.60	160.20	25.40	133.40	10.30
TMF	355 - 400M450	83.00	60.00	136.50	25.40	111.00	8.70

RED SPOT Standard - Central tags: 4-hole fixing



Type	Rating	A	B	D	E	G Fixing Centres	H
TM	355 - 400M450	83.00	60.00	211.00	25.40	133.00	10.30
TTM	450 - 630M670	81.80	74.20	209.60	25.40	133.00	10.30
TLM	670 - 800	88.10	82.20	209.60	25.40	133.00	10.30

RED SPOT Standard - Central tags: 4-hole fixing



Type	Rating	A	B	D	E	G Fixing Centres	H
TXU	1000, 1250	88.90	99.50	200.00	63.50	149.00	13.50

A



## RED SPOT Standard: $I^2t$ values

### NIT and NET 2 Amp - 32 Amp

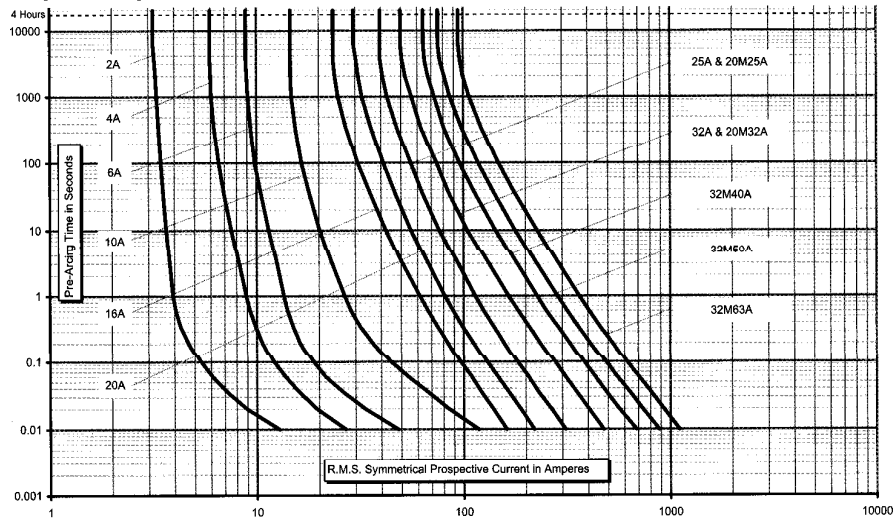
Current Rating (Amp)	Pre-Arcing $I^2t$ (A <sup>2</sup> sec)	Total $I^2t$ (A <sup>2</sup> sec) at 415 Volt	Total $I^2t$ (A <sup>2</sup> sec) at 440 Volt	Total $I^2t$ (A <sup>2</sup> sec) at 550 Volt
2	2.2	9.5	10	15
4	7.2	30	33	50
6	22	92	100	150
10	170	650	700	1000
16	200	800	950	1350
20	360	1200	1500	2200
25 & 20M25	650	2500	2900	
32 & 20M32	600	3500	4050	
32M40	2400	10100	12000	
32M50	3200	13500	15000	
32M63	5400	22500	25000	

### 2 Amp - 63 Amp

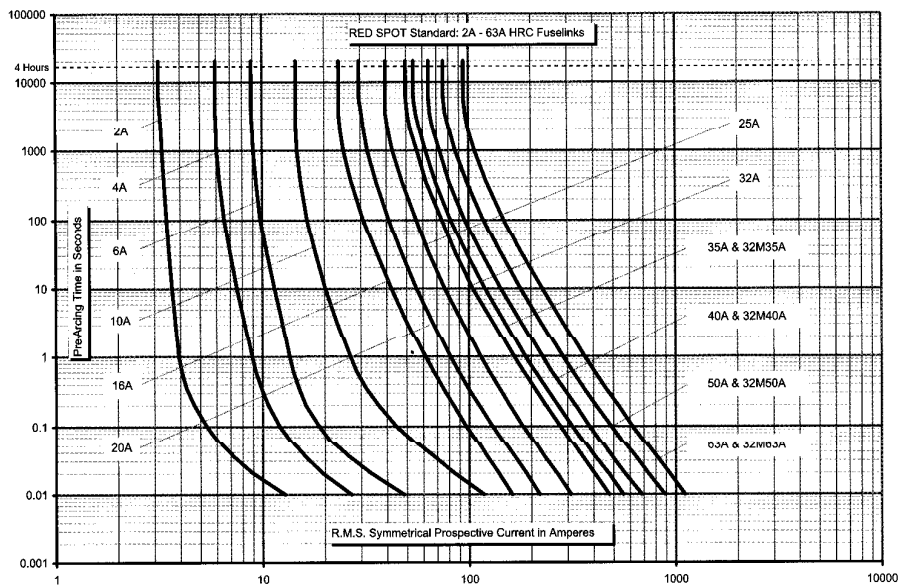
Current Rating (Amp)	Pre-Arcing $I^2t$ (A <sup>2</sup> sec)	Total $I^2t$ (A <sup>2</sup> sec) at 415 Volt	Total $I^2t$ (A <sup>2</sup> sec) at 550 Volt	Total $I^2t$ (A <sup>2</sup> sec) at 660 Volt
2	2	7	11	15
4	7	24	35	50
6	22	73	110	150
10	170	500	720	1000
16	150	560	790	1100
20	300	930	1270	1670
25	500	1730	2500	3400
32	1080	3200	4500	5900
35 & 32M35	1380	4100	5200	6500
40 & 32M40	1920	5200	5750	8380
50 & 32M50	3410	8000	10100	13260
63 & 32M63	6500	17000	21000	25000

## RED SPOT Standard: Time/current characteristics

### NIT and NET 2 Amp - 32 Amp



### 2 Amp - 63 Amp



## RED SPOT Standard: I<sup>2</sup>t values

### 80 Amp - 450 Amp

Current Rating (Amp)	Pre-Arcing I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> )	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 415 Volt	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 550 Volt	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 660 Volt
80 & 63M80	14	40	52	66
100 & 63M100	17	60	80	100
125 & 100M125	25	85	110	140
160 & 100M160	62	160	210	270
200 & 100M200	105	260	330	430
250 & 200M250	200	550	700	870
315 & 200M315*	300	800	1050	1350
355 & 315M355	500	1400	1850	2250
400	640	1800	2500	3000
450 & 400M450	800	2600	3000	3800

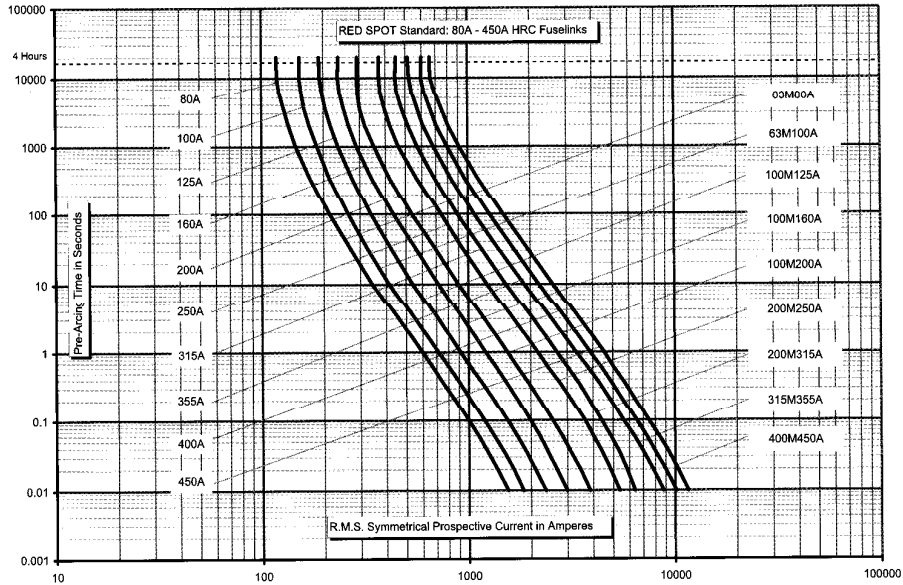
### 500 Amp - 1250 Amp

Current Rating (Amp)	Pre-Arcing I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> )	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 415 Volt	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 550 Volt	Total I <sup>2</sup> t (A <sup>2</sup> sec x 10 <sup>3</sup> ) at 660 Volt
500	1050	3000	3800	4500
560	1400	3800	4250	5400
630	2000	5200	6000	7500
670 & 630M670	2400	6400	7400	9000
710	2800	7000	8100	9700
750	3700	8700	10500	12000
800	4400	11000	12000	15000
1000	5300	12500	15000	17500
1250	10000	21000	24000	29000

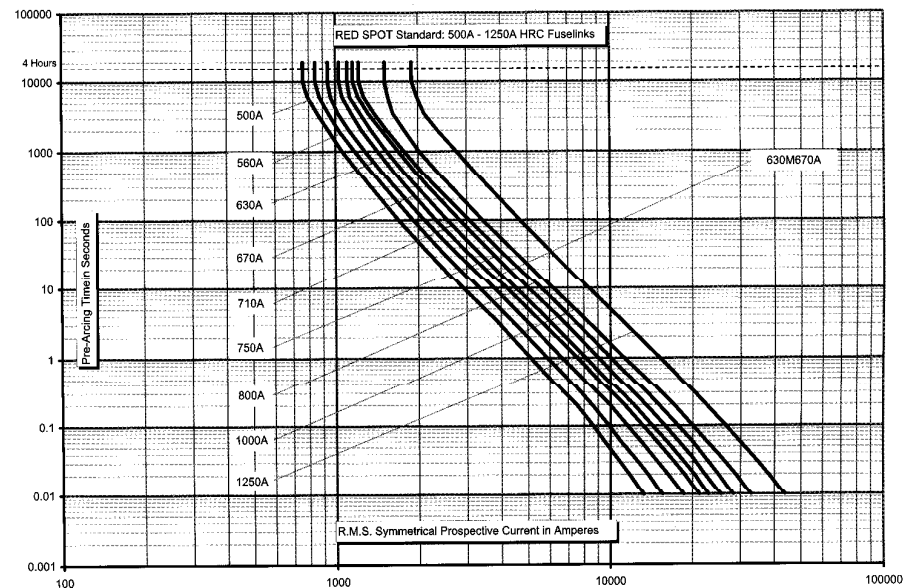
\* Maximum rating of 200M315 is 550 Volt.

## RED SPOT Standard: Time/current characteristics

### 80 Amp - 450 Amp



### 500 Amp - 1250 Amp



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