



Fuse Links for Railway Applications



Cooper Bussmann has over 100 years of experience in design and manufacture of traction railway systems which has been gained in the Cooper Bussmann facilities worldwide.

As traction systems and standards have changed, so have the protection requirements. Cooper Bussmann is continually developing new designs to meet these new demands. Its experience in protecting semiconductor devices has proved invaluable as traction systems have moved to power electronics based converters for variable speed motor drives and auxiliary power conversion.



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Size 1*, 3 and 23 Square Body Fuse Links 750Vdc, 50A to 1600A, 170M Series

Description: A range of square body high speed traction fuse links for superior protection of DC third rail applications up to 750Vdc.

Technical Data:

Rated Voltage: 750Vdc
 Rated Current: 50-160A, 450-800A and 1000-1600A
 Tested Breaking Capacity:
 Size 1* 85kA at 750Vdc, L/R 95ms
 80kA at 950Vdc, L/R 40ms
 Size 3 and 23
 110kA at 750Vdc, L/R 40ms



Class of Operation: aR size 1*
gR size 3 and 23

Fuse Link Size: 1*, 3 and 23

Standards/Approvals: IEC 60269

Microswitch (optional): 170H0069, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefit

- High breaking capacity

Typical Application

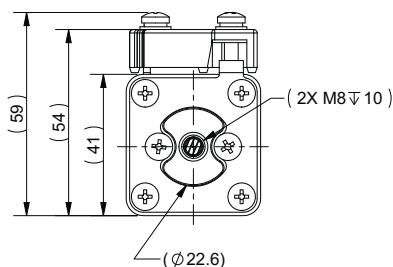
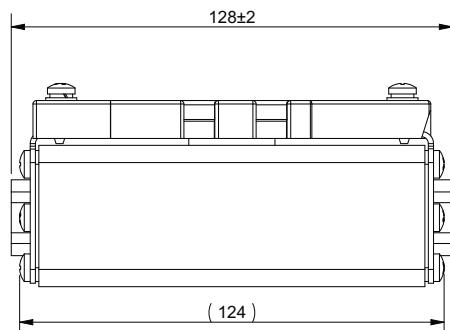
- Third rail

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² s)		Watts Loss (W)	
						Pre-Arcing	Total at 750Vdc	0.8 I _n	I _n
170M2000	Flush End	1*	aR	750	50	390	1300	15	27
170M2001					63	610	2050	18	35
170M2002					80	670	2250	19	37
170M2003					100	2450	8150	21	40
170M2004					125	2950	9800	24	47
170M2005					160	5500	18,250	29	56
170M2010	Flush End	3	gR	750	450	65,700	272,300	46	87
170M2011					500	83,200	344,800	52	98
170M2012					550	136,700	566,500	67	126
170M2013					630	173,500	719,000	75	142
170M2014					700	268,000	1,110,500	78	156
170M2015					750	307,600	1,275,000	83	167
170M2016	Parallel	23	gR	750	800	349,900	1,450,000	89	178
170M2017					1000	476,300	1,973,700	112	187
170M2018					1250	694,000	2,875,800	134	224
170M2019					1400	1,071,600	4,440,500	152	254
170M2020					1500	1,230,200	5,097,700	165	275
170M2021					1600	1,399,700	5,800,100	180	300

Dimensions - mm

170M2000 to 170M2005 - Flush End - Size 1*

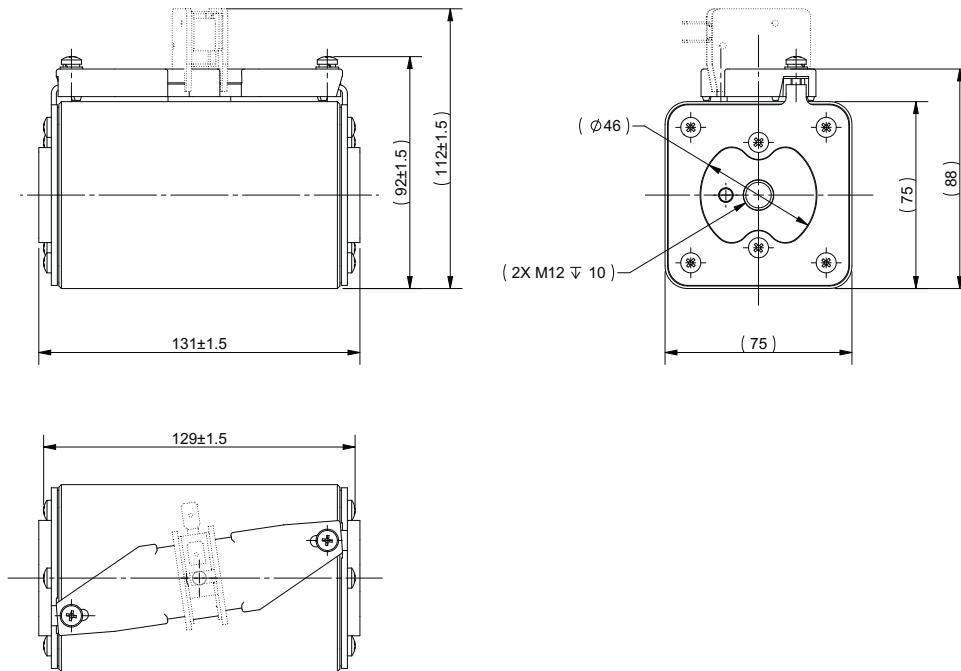


Data Sheet 720140

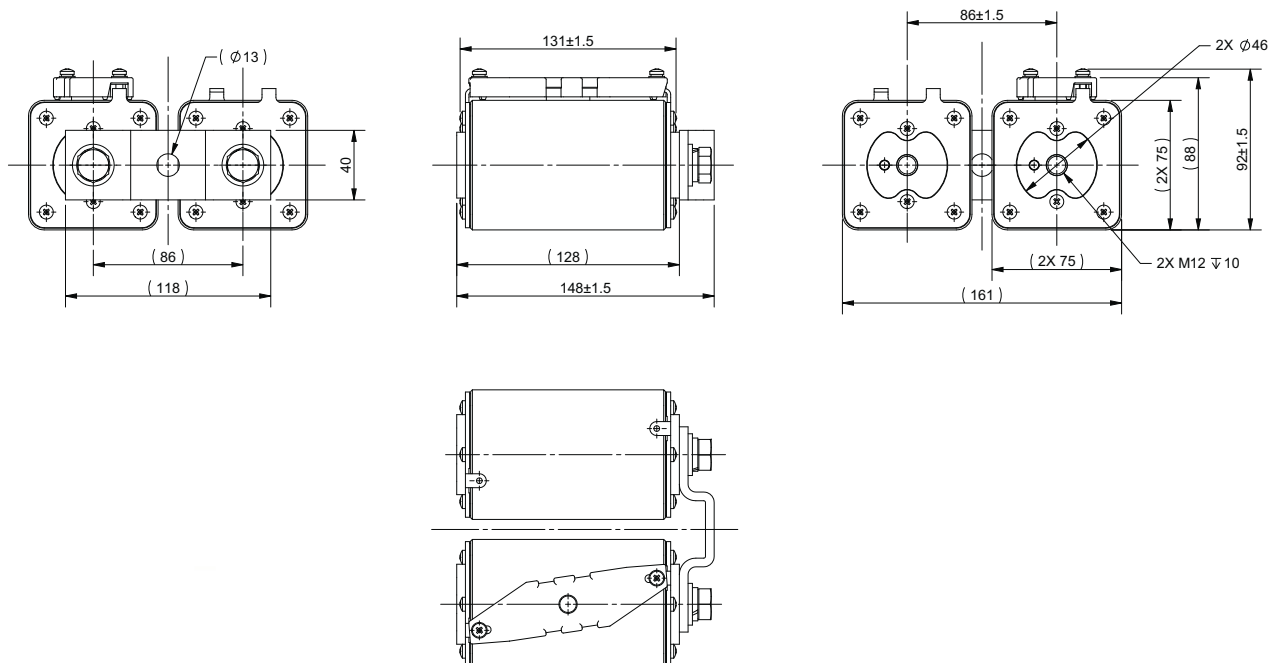
Size 1*, 3 and 23 Square Body Fuse Links 750Vdc, 50A to 1600A, 170M Series

Dimensions - mm

170M2010 to 170M2016 - Flush End - Size 3



170M2017 to 170M2021 - Parallel - Size 23



Data Sheet 720140

Size 1*, 1, 2 and 3 Square Body Fuse Links 750Vdc, 63A to 500A, 170E Series

Description: A range of square body high speed traction fuse links for superior protection of DC third rail applications up to 750Vdc.

Technical Data:

Rated Voltage: 750Vdc
 Rated Current: 63-500A
 Rated Breaking Capacity:
 100kA at 1000Vdc, L/R 40ms
 100kA at 750Vdc, L/R 100ms

Class of Operation: gR

Fuse Link Size: 1*, 1, 2 and 3



Standards/Approvals: Please contact Cooper Bussmann technical department
 highspeedtechnical@cooperindustries.com

Microswitch (optional): 170H0069, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefits

- Low watts loss
- High breaking capacity
- Low arc voltage

Typical Application

- Third rail

Catalogue Numbers

-BK Flush End		-EK Knife Blade		Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals (I ² t (A ² s))	Watts Loss (W)
Catalogue Number	Fuse Link Type	Catalogue Number	Fuse Link Type					Pre-Arcing	I _n
170E3577	BK/130	170E3583	EK/155	1*	gR	750	63	1100	10
170E3578		170E3584					80	1750	13
170E3579		170E3585					100	3000	16
170E3580		170E3586					125	4500	21
170E3581		170E3587					160	7700	26
170E5417	BK/130	170E5420	EK/165	1	gR	750	200	11,000	37
170E5418		170E5421					250	18,000	46
170E8335	BK/130	170E8345	EK/170	2	gR	750	250	17,000	47
170E8336		170E8346					315	28,000	57
170E8337		170E8347					400	55,000	73
170E9681		170E9685	EK/170	3	gR	750	500	75,500	93

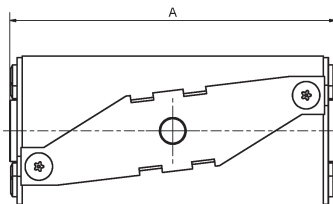
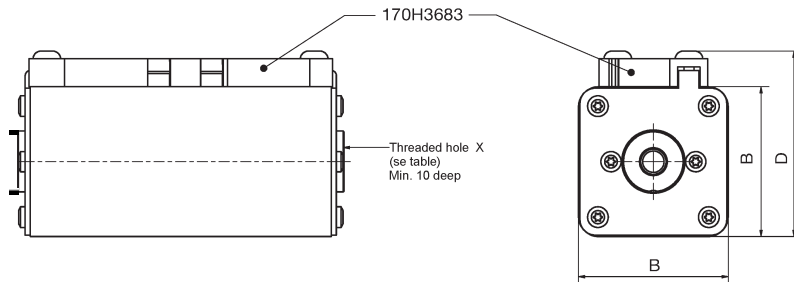
* Compact size, refer to dimensions

Size 1*, 1, 2 and 3 Square Body Fuse Links

750Vdc, 63A to 500A, 170E Series

Dimensions - mm

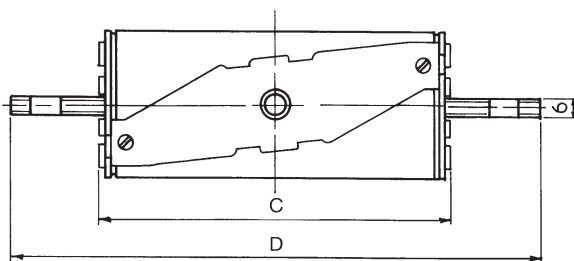
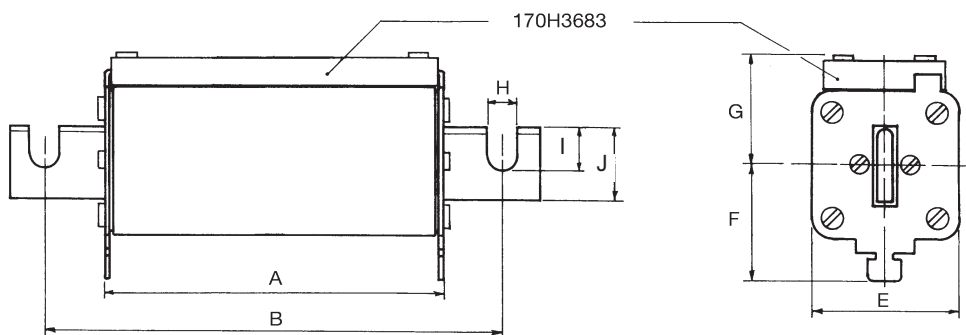
Type -BK/130



Size/Type	A	B	D	X
1*BK/130	129	43	61	M8
1 BK/130	130	51	69	M8
2 BK/130	130	59	77	M10
3 BK/130	131	74	90	M12

Dimensions - mm

Type -EK/-



Size/Type	A	B	C	D	E	F	G	H	I	J
1*EK/155	124	156	129	180	43	36	41	9	9	18
1 EK/165	124	166	129	191	51	37	41	11	14	25
2 EK/170	124	170	129	205	59	42	48	13	21	30
3 EK/170	125	170	130	206	74	51	56	13	20	36

Data Sheets: Size 1* 170K3620, Size 1 170K3622, Size 2 170K3624, Size 3 170K3626

Size 4 Square Body Fuse Link 850Vdc/1250Vac, 1400A, 170M7217

Description: A range of square body high speed traction fuse link suitable for use in third rail collector systems to protect high speed DC breakers in low time constant, high fault conditions. Suitable for 1250Vac/850Vdc systems.

Technical Data:

Rated Voltage: 850Vdc/1250Vac

Rated Current: 1400A

Tested Breaking Capacity:

100kA at 1250Vac

80kA at 850Vdc, L/R 8ms



Microswitch (optional): 170H0069, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefit

- High breaking capacity

Typical Applications

- Protection of high speed DC breakers in low time constant, high fault conditions in Third rail applications.

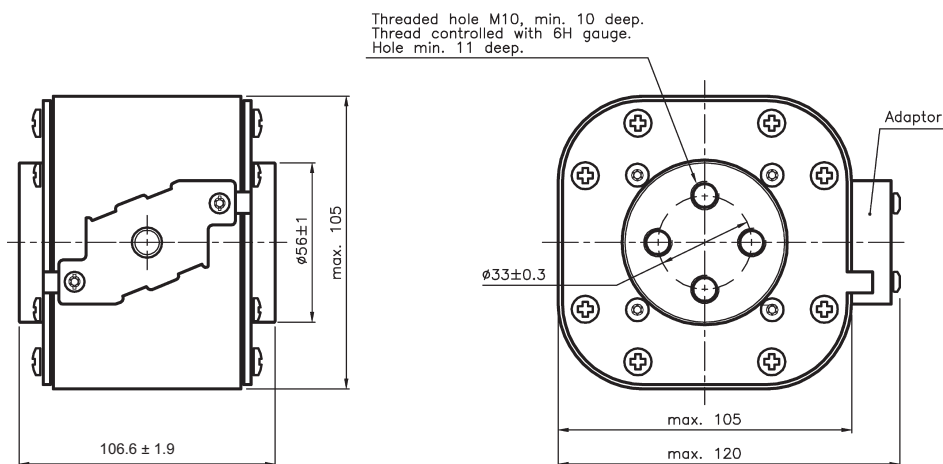
Class of Operation: aR

Standards/Approvals: Consult Cooper Bussmann.

Catalogue Numbers

Catalogue Number	Fuse Link Size	Operating Class	Rated Voltage (Vdc/Vac)	Rated Current (Amps)	Energy Integrals I _t (A·s)		Watts Loss (W)
					Pre-Arcing	Total at 1250Vac	
170M7217	4	aR	850/1250	1400	800,000	5,000,000	195

Dimensions - mm



Data Sheets: 170K6640, 170K6642

Size 1* Square Body Fuse Links

1200Vdc, 20A to 215A, 170M Series

Description: A range of square body high speed traction fuse links for superior protection of DC third rail applications up to 1200Vdc.

Technical Data:

Rated Voltage: 1200Vdc

Rated Current: 20-215A

Tested Breaking Capacity:

50kA at 1350Vdc, L/R 12ms

Class of Operation: aR

Fuse Link Size: 1*



Standards/Approvals: IEC 60269

Microswitch (optional): 170H0069, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefits

- Low watts loss
- High breaking capacity
- Low arc voltage

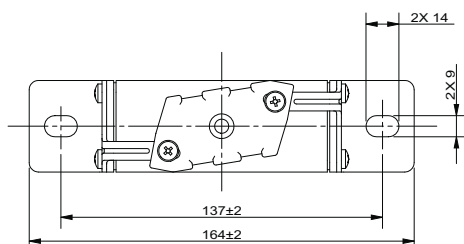
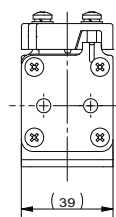
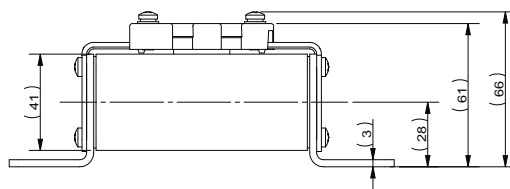
Typical Applications

- Protection of High Speed Circuit Breaker
- Heating Ventilation Air Conditioning (CHVAC)
- Third Rail converter

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² s)		Watts Loss (W)	
					Pre-Arcing	Total at 1200Vdc	0.8 I _n	I _n
170M2100	Single Slot Tag	1*	1200	20	82	249	1	2
170M2101				25	173	526	4	8
170M2102				32	327	994	5	9
170M2103				40	550	1675	1	9
170M2104				50	950	2890	7	13
170M2105				63	1310	3990	5	9
170M2106				80	1970	6000	13	23
170M2107				100	3800	11,600	14	26
170M2108				125	8550	26,025	13	24
170M2109				160	8770	26,700	24	44
170M2110				200	15,200	46,300	29	52
170M2111				215	16,430	50,000	32	58

Dimensions - mm



Data Sheet: 720141

Size 2 Square Body Fuse Links 1200Vdc, 160A to 420A, 170F Series

Description: A range of square body high speed traction fuse link which provides superior protection in DC traction applications up to 1200Vdc

Technical Data:

Rated Voltage: 1200Vdc

Rated Current: 160-420A

Rated Breaking Capacity:

100kA at 1000Vdc, L/R = 45ms

100kA at 1200Vdc, L/R = 15ms



Microswitch (optional): 170H0069, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefits

- High breaking capacity
- Low arc voltage

Typical Applications

- Auxiliary converters
- Third Rail

Class of Operation: aR

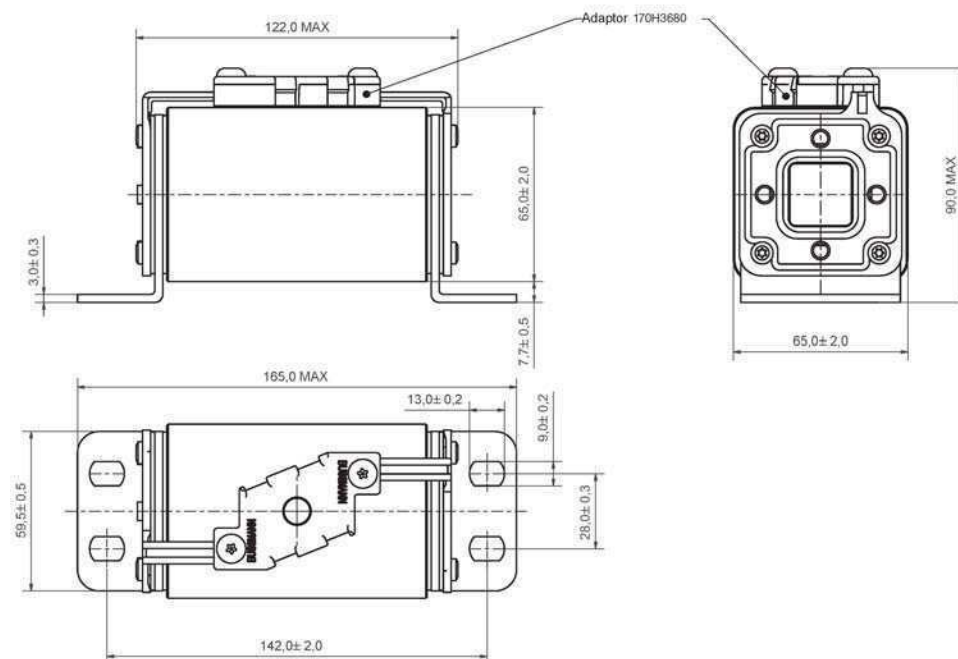
Fuse Link Size: 2

Standards/Approvals: Consult Cooper Bussmann

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² s)		Watts Loss (W)
						1000Vdc L/R 15ms	1000Vdc L/R 45ms	
170F8230	Double slotted tag	2	aR	1200	160	12,000	20,000	75
170F8231					200	20,000	35,000	85
170F8232					250	43,000	75,000	94
170F8233					315	87,000	150,000	104
170F8234					400	180,000	310,000	120
170F8235					420	215,000	375,000	122

Dimensions - mm



Data Sheet: 170K5520

Size 1* Square Body Fuse Links

2000Vdc, 10A to 100A, 170E Series

Description: A range of square body high speed traction fuse link which provides superior protection in DC traction applications up to 2000Vdc

Technical Data:

Rated Voltage: 2000Vdc

Rated Current: 10-100A

Tested Breaking Capacity:

40kA at 2000Vdc, L/R 30ms

Class of Operation: aR

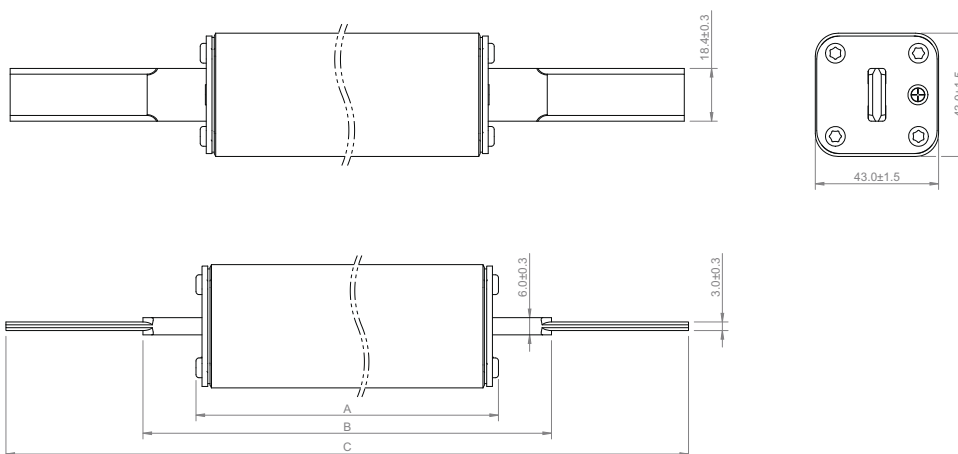
Fuse Link Size: 1*

Standards/Approvals: Consult Cooper Bussmann.

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Watts Loss (W)
170E3977	Knife Blade Style	1*	aR	2000	10	7
170E3982					12	8
170E3971					16	11
170E3906					20	13
170E3907					25	17
170E3908					32	22
170E3909					40	27
170E3910					50	34
170E3911					63	43
170E3912					80	50
170E3946					100	61

Dimensions - mm



A	B	C
215 ± 2.5	250.5 ± 3.2	345.5 ± 3.5

Data Sheet: 170K4900

Size 1* Square Body Fuse Links 2000Vdc, 10A to 125A, 170E Series

Description: A range of square body high speed traction fuse link which provides superior protection in DC traction applications up to 2000Vdc

Technical Data:

Rated Voltage: 2000Vdc

Rated Current: 10-125A

Tested Breaking Capacity:

40kA at 2000Vdc, L/R 30ms

Class of Operation: aR/gR

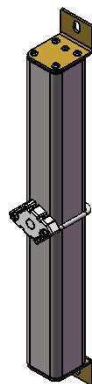
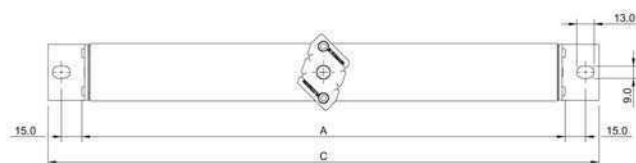
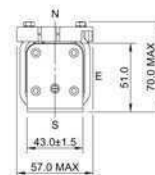
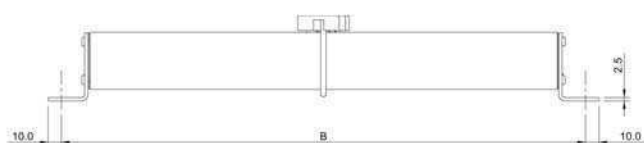
Fuse Link Size: 1*

Standards/Approvals: Consult Cooper Bussmann

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Watts Loss (W)
170E3937	Bolted Blade Style	1*	aR	2000Vdc	20	13
170E3938					25	16
170E3939					32	20
170E3940					40	25
170E3941					50	32
170E3942					63	40
170E3943					80	51
170E3944					100	64
170E3945					125	80
170E3976	Bolted Blade Style	1*	gR	2000Vdc	10	7
170E3970					16	11
170E3950					20	13
170E3951					25	17
170E3952					32	22
170E3953					40	27
170E3954					50	34
170E3955					63	43
170E3956					80	40

Dimensions - mm



Microswitch (optional): 170H0239 and 170H3030 (gold), Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Typical Applications

- Auxiliary converters
- Lights
- Power distribution converter

Data Sheets: 170K4538 (IR = 30kA), 170K4900 (IR = 60kA)

Square Body Fuse Links

2000Vdc, 20A to 600A, 170M Series

Description: A range of square body high speed traction fuse links which provides superior protection for DC traction third rail applications up to 2000Vdc.

Technical Data:

Rated Voltage: 2000Vdc
 Rated Current: 20-600A Single slot tag
 160-400A Double slot tag
 500-600A Parallel double slot tag
 Rated Breaking Capacity:
 100kA at 2000Vdc, L/R <15ms
 100kA at 1500Vdc, L/R <30ms



Microswitch (optional): 170H0239 and 170H3030 (gold), Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefit

- High breaking capacity

Typical Applications

- Pantagraph
- Converter protection

Class of Operation: aR

Standards/Approvals: Tested in line with IEC 60269

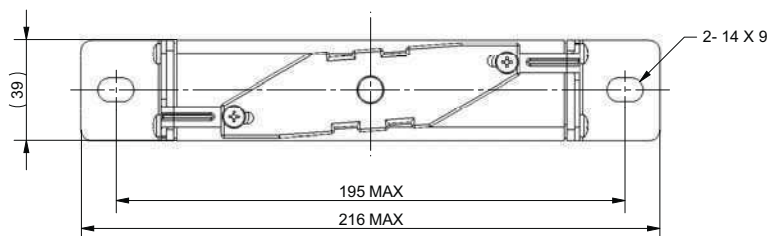
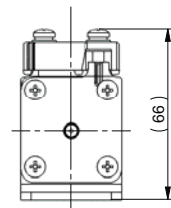
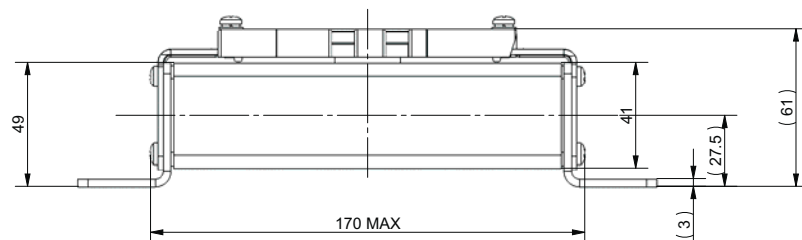
Catalogue Numbers

Catalogue Number	Fuse Link Type	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² s)		Watts Loss (W)	
					Pre-Arcing	Total at 2000V	0.8 I _n	I _n
170M2046	Single Slot Tag	aR	2000	20	85	240	9	12
170M2047				25	130	390	9	16
170M2048				32	220	645	11	18
170M2049				40	390	1140	12	20
170M2050				50	610	1780	17	33
170M2051				63	1030	3000	20	39
170M2052				80	1555	4550	28	53
170M2053				100	2680	7840	33	63
170M2054				125	4110	12,020	42	79
170M2055				160	6620	19,360	45	87
170M2056				200	10,720	31,360	50	95
170M2057				215	21,870	64,000	51	97
170M2039	Double Slot Tag	aR	2000	160	7875	75,960	68	91
170M2040				200	12,300	118,670	85	113
170M2041				250	21,870	211,000	100	133
170M2042				315	38,880	375,110	119	158
170M2043				400	65,710	633,965	148	176
170M2044	Parallel Double Slot Tag	aR	2000	500	105,851	163,010	109	230
170M2045				600	188,179	289,796	153	305

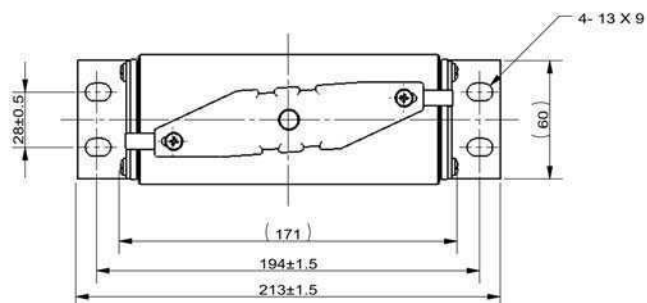
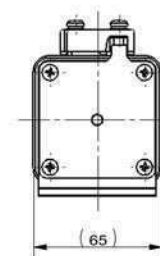
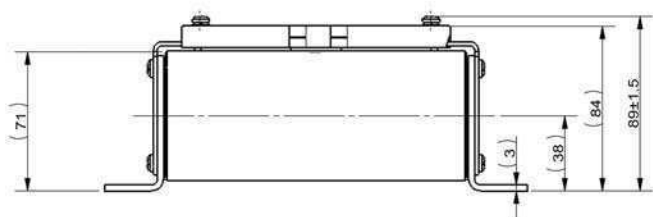
Square Body Fuse Links 2000Vdc, 20A to 600A, 170M Series

Dimensions - mm

170M2046 to 170M2057 - Single Slot Tag



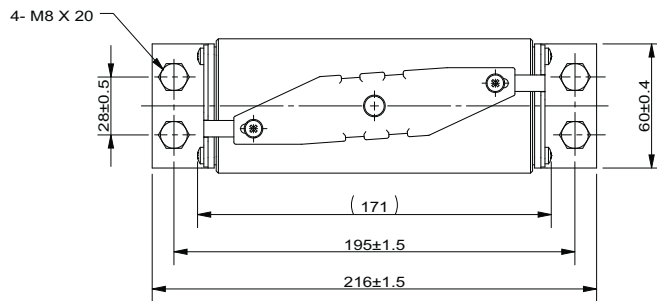
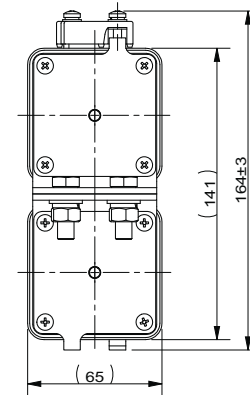
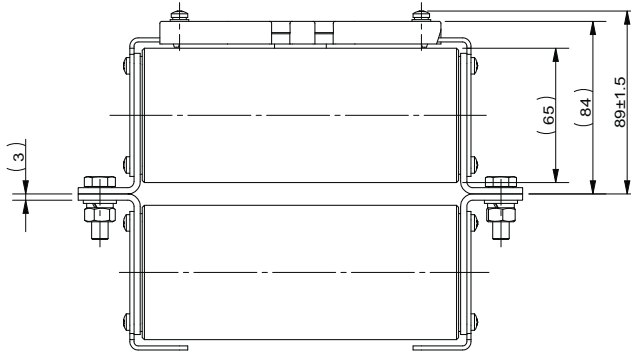
170M2039 to 170M2043 - Double Slot Tag



Data Sheet: 720142

Square Body Fuse Links 2000Vdc, 20A to 600A, 170M Series

170M2044 and 170M2045 - Parallel Double Slot Tag



Size 3 Square Body Fuse Links 2400Vdc, 100A to 400A, 170M Series

Description: A range of square body high speed traction fuse links for superior protection of DC third rail applications up to 2400Vdc.

Technical Data:

Rated Voltage: 2400Vdc

Rated Current: 100-400A

Tested Breaking Capacity:

100kA at 2400Vdc, L/R<15ms

100kA at 2000Vdc, L/R < 45ms

Class of Operation: aR

Fuse Link Size: Size 3

Standards/Approvals: Tested in line with IEC 60269



Microswitch (optional): 170H0239 and 170H3030 (gold), Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefits

- High breaking capacity

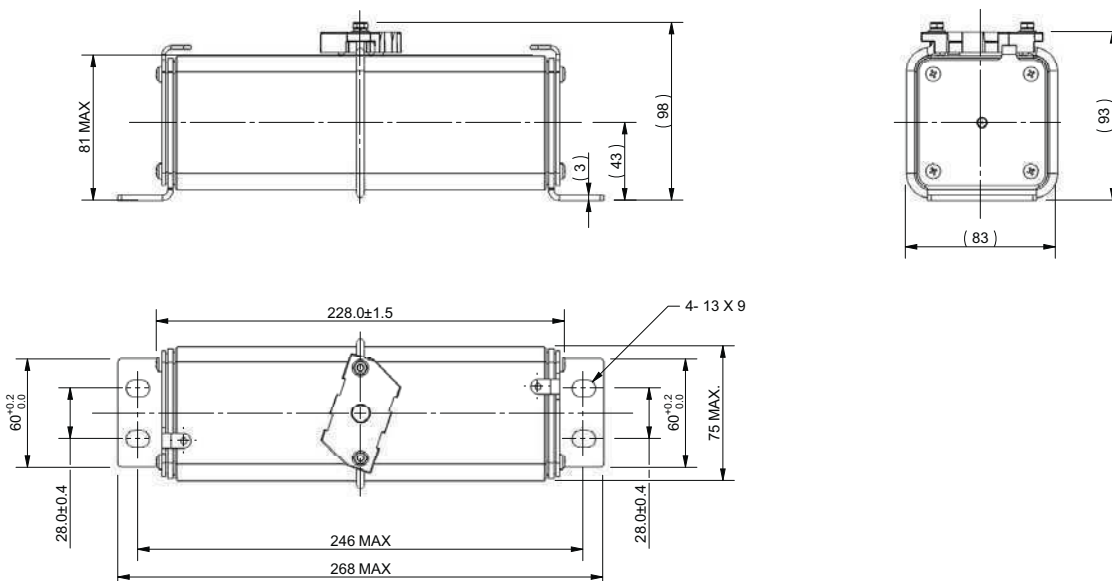
Typical Applications

- Protection of high speed DC breakers in low time constant, high fault conditions
- Pantagraph

Catalogue Numbers

Catalogue Number	Fuse Link Type	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² s)		Watts Loss (W)	
						Pre-Arcing	Total at 2000Vdc	0.8 I _n	I _n
170M2090	Double Slot Tag	3	aR	2400	100	5468	15,457	20	39
170M2091					160	16,427	46,439	43	84
170M2092					200	25,667	72,561	53	97
170M2093					250	36,960	104,488	60	103
170M2094					315	66,977	189,346	82	162
170M2095					350	87,480	247,309	89	175
170M2096					400	110,717	313,000	103	203

Dimensions - mm



Data Sheet: 720143

Size 1* Square Body Fuse Links

4000Vdc, 20A to 125A, 170E Series

Description: A range of square body high speed traction fuse link which provides superior protection in DC traction applications up to 4000Vdc

Technical Data:

Rated Voltage: 4000Vdc

Rated Current: 20-125A

Tested Breaking Capacity:

50kA at 4000Vdc, L/R 10ms

Class of Operation: aR

Fuse Link Size: 1*

Standards/Approvals: Consult Cooper Bussmann



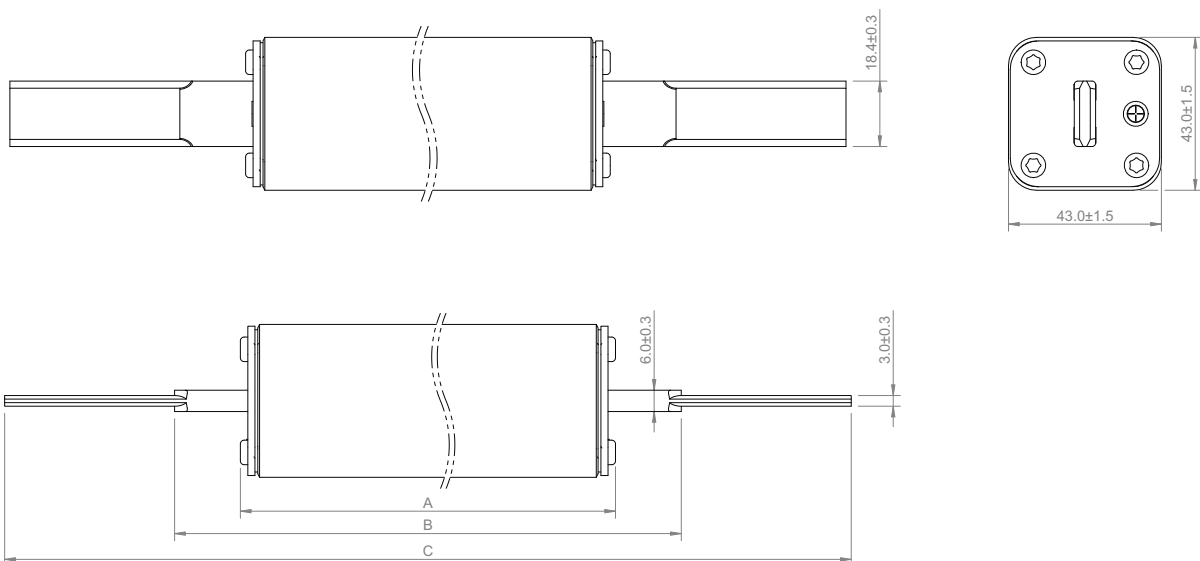
Typical Applications

- Auxiliary converters
- Lights
- Power distribution converter

Catalogue Numbers

Catalogue Number	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Watts Loss (W)
					I_n
170E3924	1*	aR	4000	20	23
170E3925				25	28
170E3926				32	34
170E3927				40	45
170E3928				50	57
170E3929				63	72
170E3930				80	91
170E3931				100	114
170E3932				125	143

Dimensions - mm



A	B	C
363 ± 4.2	398.5 ± 5	493.5 ± 5.2

Data Sheets: 170K6600

Size 1*, 2 and 22 Square Body Fuse Links 4000Vdc, 20A to 450A, 170E Series

Description: A range of square body high speed traction fuse link which provides superior protection in DC traction applications up to 4000Vdc

Technical Data:

Rated Voltage: 4000Vdc

Rated Current: 20-450A

Rated Breaking Capacity:

60kA at 4000Vdc, L/R 25ms

Class of Operation: aR

Fuse Link Size: 1*, 2 and 22

Standards/Approvals: Consult Cooper Bussmann

Microswitch (optional): 170H3036, Type K indicator 6.3 x 0.8mm lugs, low operating voltage.

Features and Product Benefit

- High breaking capacity

Typical Applications

- Auxiliary converters
- Lights
- Power distribution converter

Catalogue Numbers

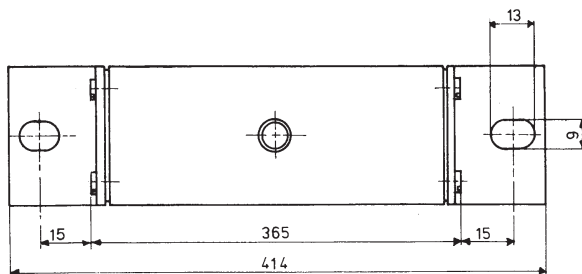
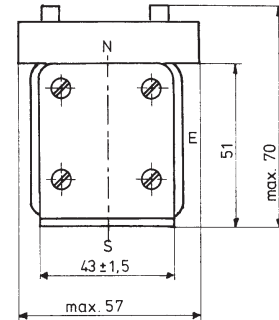
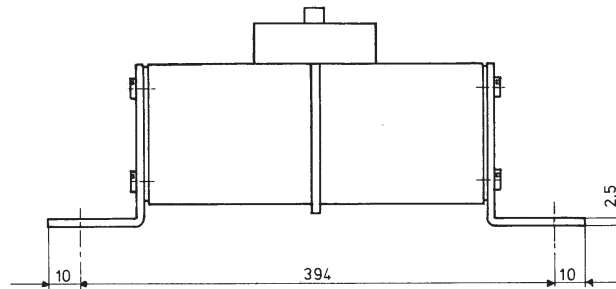
Catalogue Number	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Watts Loss (W)
					I _n
170E3914	1*	aR	4000	20	23
170E3915				25	28
170E3916				32	34
170E3917				40	45
170E3918				50	57
170E3919				63	72
170E3984				80	91
170E3933				100	114
170E3922				125	143
170E8882	2	aR	4000	160	182
170E8883				200	228
170E8884				250	285
170E8885	Double 2	aR	4000	315	360
170E8886				350	400
170E8887				400	455
170E8888				450	515

Data Sheets: 1* 170K6600, 2 & 2/2 170K6604

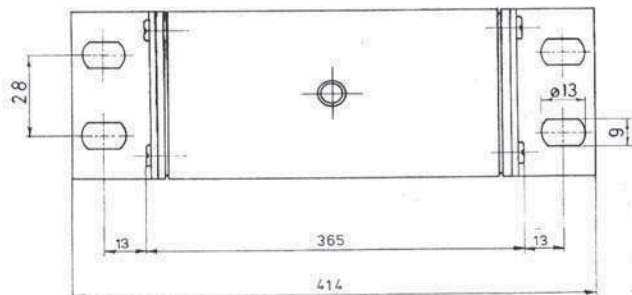
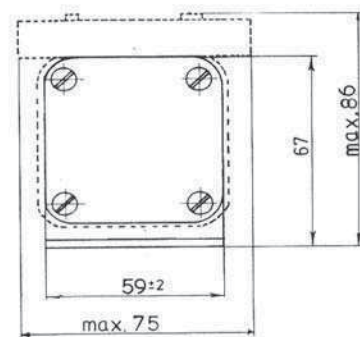
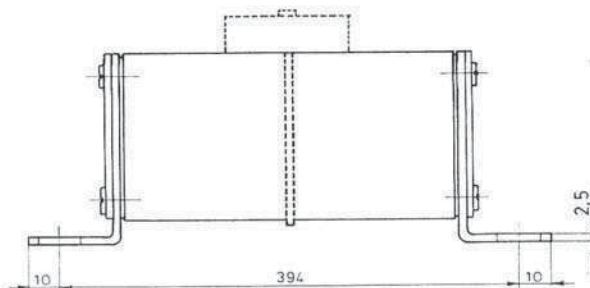
Size 1*, 2 and 22 Square Body Fuse Links 4000Vdc, 20A to 450A, 170E Series

Dimensions - mm

Type 1*SKN/394



Type 2SKN/394

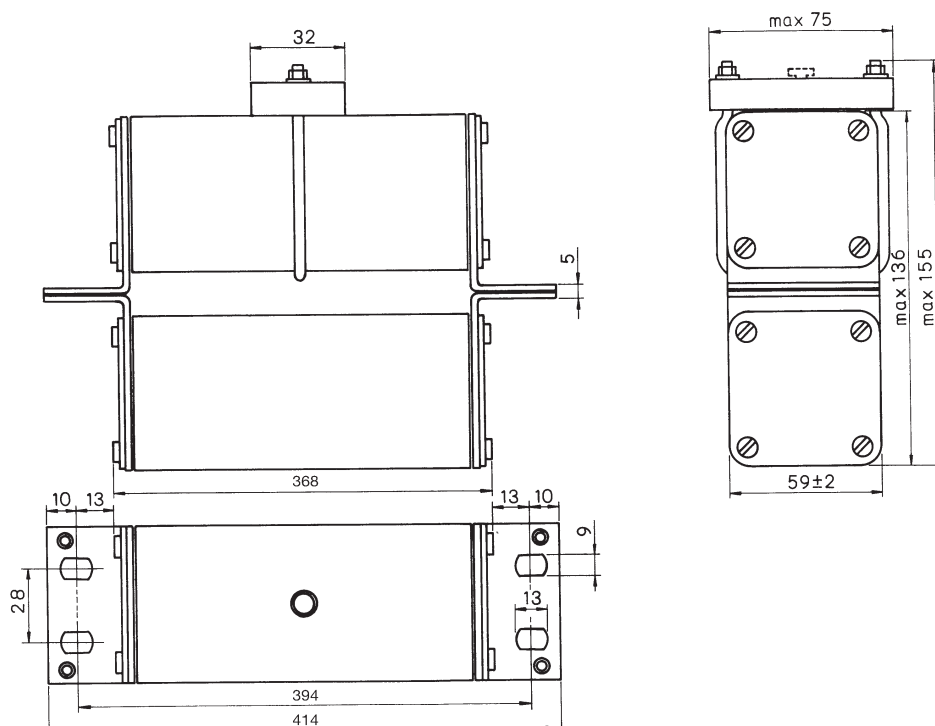


Data Sheets: 1* 170K6600, 2 & 2/2 170K6604

Size 1*, 2 and 22 Square Body Fuse Links 4000Vdc, 20A to 450A, 170E Series

Dimensions - mm

Type 2//SKN/394



Ferrule Fuse Links

750Vdc, 5A to 60A, FWK Series

Description: A range of ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment.

Technical Data:

Rated Voltage: 750Vdc

Rated Current: 5-30A (20x127mm)
35-60A (25x146mm)

Rated Breaking Capacity:
50kA at 750Vdc, L/R 10-15ms

Class of Operation: gG

Fuse Size: 20x127mm
25x146mm

Standards/Approvals: Tested in line with IEC 60269



Features and Product Benefits

- Low watts loss
- Low arc voltage

Typical Applications

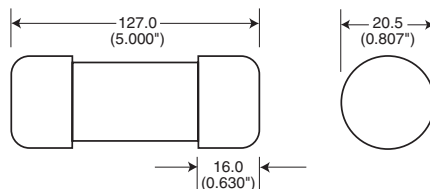
- Auxiliary power and distribution
- Heating Ventilation Air Conditioning (CHVAC)
- Instrumentation and control

Catalogue Numbers

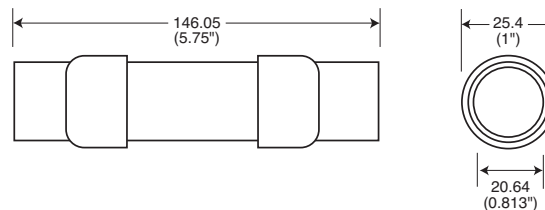
Catalogue Numbers	Fuse Link Size	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	I _t (A·Sec)		Watts Loss (W)
					Minimum Pre-Arc	Clearing at 750Vdc	
FWK-5A20F	20x127mm (¹³ / ₁₆ " x 5")	gG	750	5	8.5	16	6.7
FWK-8A20F				8	50	100	8.8
FWK-10A20F				10	95	200	8.5
FWK-15A20F				15	100	240	5
FWK-20A20F				20	125	315	7.8
FWK-25A20F				25	400	1100	6.5
FWK-30A20F				30	800	2600	6.5
FWK-35A25F	25x146mm (1" x 5 ⁷ / ₁₆ ")	gG	750	35	1300	4300	6
FWK-40A25F				40	1600	5300	6.8
FWK-50A25F				50	3100	12000	7.3
FWK-60A25F				60	5900	24000	7.7

Dimensions - mm (in)

5-30A



35-60A



Data Sheets: 720039, 35785031

Ferrule Fuse Links 750Vdc, 30A to 50A, LRC750 Series

Description: A range of ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment. Also suitable for heavy rails applications in instrumentation and control circuits equipment.

Technical Data:

Rated Voltage: 750Vdc

Rated Current: 30-50A

Rated Breaking Capacity:
50kA at 750Vdc, L/R 15-20ms



Typical Applications

- Auxiliary power and distribution
- Heating Ventilation Air Conditioning (CHVAC)
- Instrumentation and control

Class of Operation: gR

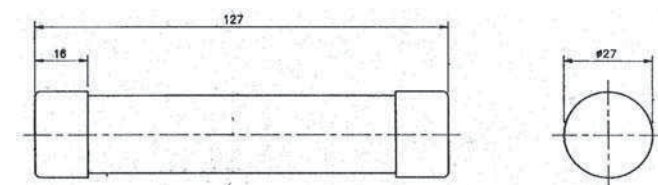
Fuse Link Size: See dimensions

Standards/Approvals: Tested in line with IEC 60269

Catalogue Numbers

Catalogue Numbers	Fuse Link Type	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I-t (A ² s)		Watts Loss (W)
					Pre-Arcing	Clearing at 750Vdc	
30LRC750	LRC750	gR	750	30	700	2250	4.5
40LRC750				40	1800	5300	5.8
50LRC750				50	3100	12000	9.4

Dimensions - mm



Ferrule Fuse Links

1000Vdc/1250 to 2000Vac, 2A to 30A, FWL and FWS Series

Description: A range of ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment.

Technical Data:

Rated Voltage: 1250Vac / 1000Vdc (FWL)
 1400Vac / 1000Vdc (FWS 8 to 15A)
 2000Vac / 1000Vdc (FWS 2 to 6A)
 Rated Current: 2-30A
 Rated Breaking Capacity:
 50kA at 1000Vdc, L/R 15ms

Class of Operation: gG

Fuse Link Size: See dimensions

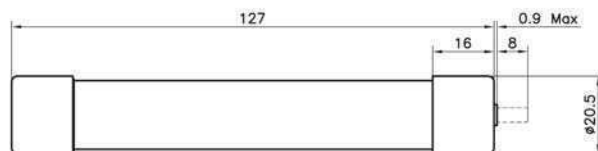
Standards/Approvals: consult Cooper Bussmann

Fuse Holders: CH127 20x127mm

Catalogue Numbers

Catalogue Number		Fuse Link Size	Operating Class	Rated Voltage (Vac/Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A ² Sec)		Watts Loss (W)
Without Indicator	With Indicator					Pre-Arcing	Clearing at 1000Vdc	
FWS-2A20F	FWS-2A20FI	20x127mm (¹³ / ₁₆ " x 5)	gG	2000Vac/ 1000Vdc	2	0.8	2.4	4.4
FWS-6A20F	FWS-6A20FI				6	27	81	6.7
FWS-8A20F	FWS-8A20FI				8	64	192	7.6
FWS-10A20F	FWS-10A20FI			1400Vac/ 1000Vdc	10	118	277	3.0
FWS-12A20F	FWS-12A20FI				12	170	380	3.4
FWS-15A20F	FWS-15A20FI				15	209	500	5.0
FWL-20A20F	FWL-20A20FI	20x127mm (¹³ / ₁₆ " x 5)	gG	1200Vac/ 1000Vdc	20	675	1550	5.9
FWL-25A20F	FWL-25A20FI				25	1200	2760	6.5
FWL-30A20F	FWL-30A20FI				30	1850	4300	7.5

Dimensions - mm



Typical Applications

- Auxiliary power and distribution
- Heating Ventilation Air Conditioning (CHVAC)
- Instrumentation and control

Round Body Fuse Links 750Vdc, 5A to 60A, KC36 Series

Description: A range of ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment. Also suitable for heavy rails applications in instrumentation and control circuits equipment.

Technical Data:

Rated Voltage: 750Vdc

Rated Current: 5-60A

Rated Breaking Capacity:

50kA at 750Vdc, L/R 15-20ms



Typical Applications

- Auxiliary power and distribution
- Heating Ventilation Air Conditioning (CHVAC)
- Instrumentation and control

Class of Operation: gG

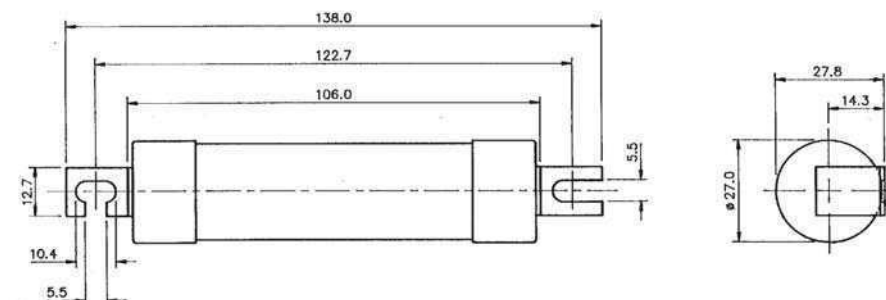
Fuse Link Size: see dimensions

Standards/Approvals: Tested in line with IEC 60269

Catalogue Numbers

Catalogue Number	Fuse Link Type	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Energy Integrals I ² t (A-s)		Watts Loss (W)
					Pre-Arcing	Clearing at 750Vdc	
5KC36	KC36	gG	750	5	8.5	16	6.7
8KC36				8	50	100	8.8
10KC36				10	95	200	8.5
15KC36				15	100	240	5
20KC36				20	125	315	7.8
25KC36				25	400	1100	6.5
30KC36				30	800	2600	6.5
35KC36				35	1300	4300	6
40KC36				40	1600	5300	6.8
50KC36				50	3100	12,000	7.3
60KC36				60	5900	24,000	7.7

Dimensions - mm (in)



Round Body Fuse Links 750Vdc, 200A to 400A, RC Series

Description: A range of round bodied traction fuse links which provides protection for DC traction third rail applications.

Technical Data:

Rated Voltage: 750Vdc
Rated Current: 200-400A
Rated Breaking Capacity: Consult Cooper Bussmann

Class of Operation: gG

Fuse Size: See dimensions

Standards/Approvals: Consult Cooper Bussmann

Features and Product Benefits

- Low watts loss
- High breaking capacity

Typical Applications

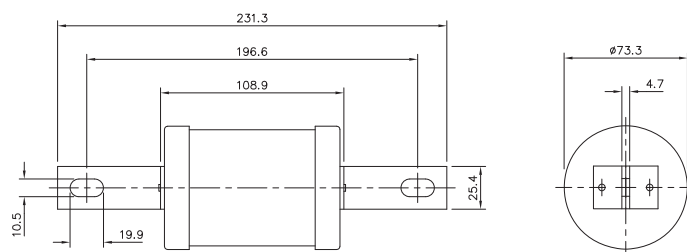
- Auxiliary power and distribution



Catalogue Numbers

Catalogue Numbers	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Pre-Arcing I^2t (A ² s)	Watts Loss (W)
200RC	gG	750	200	85,000	31
250RC			250	225,000	33
300RC			300	340,000	37
350RC			350	530,000	41
400RC			400	756,000	48

Dimensions - mm



Round Body Fuse Links 900Vdc, 160A to 1000A, SF Series

Description: A range of round bodied traction fuse links which provides protection for DC traction third rail applications.

Technical Data:

Rated Voltage: 900Vdc
Rated Current: 160-1000A
Rated Breaking Capacity:
80kA at 900Vdc, L/R 80ms*



Features and Product Benefits

- High breaking capacity

Typical Applications

- Main electrical feed
- Auxiliary feed

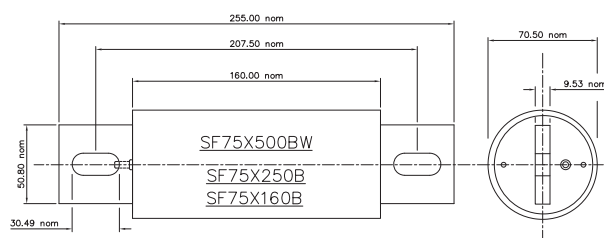
Class of Operation: aR/gR

Catalogue Numbers

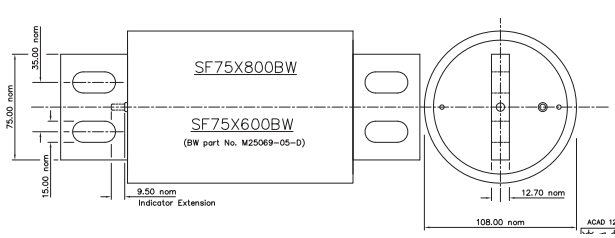
Catalogue Number		Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)	Pre-Arcing I ² t (A ² s)	Total at 900Vac
Blade Contact	Flush End Contact					
SF75X160B	-	gR	900	160	23,000	205,000
SF75X250B	-	gR		250	54,000	90,000
SF75X500BW	-	gR		320	150,000	570,000
SF75X600BW	-	aR		600	585,000	4,000,000
SF75X800BW	SF75X800BB	aR		800	1,400,000	9,000,000
SF100X1000	SF100X1000HP	aR		1000	-	-

Dimensions - mm

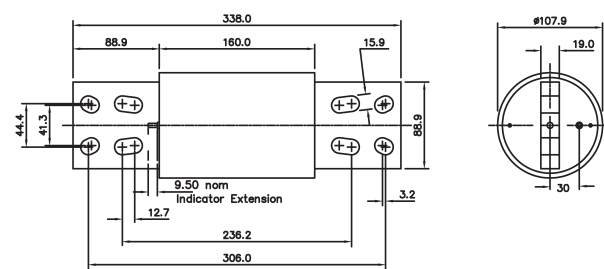
Blade contact: SF75X160B, SF75X250B, SF75X500B



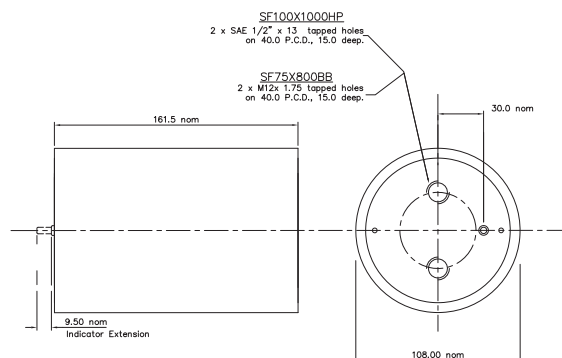
Blade contact: SF75X600BW and SF75X800BW



Blade contact: SF100X1000



Flush end: SF75X800BB and SF100X1000HP



* Consult Cooper Bussmann for full details

Round Body Fuse Links

1000Vdc, 450A to 1000A, K Series

Description: A range of round body high speed fuse link for heavy rail applications as main electrical feeders.

Technical Data:

Rated Voltage: 1000Vdc

Rated Current: 450-1000A

Rated Breaking Capacity: Consult Cooper Bussmann for interrupting rating and time constant capabilities.

Class of Operation: aR

Standards/Approvals: Consult Cooper Bussmann

Typical Applications

- Third rail feeders



Catalogue Numbers

Catalogue Number	Fuse Type	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)
KBN-450S	KBN	aR	1000	450
KBS-450C	KBS			450
KBO-800	KBO			800
KVX-1000	KVX			1000
KVY-700	KVY			700
KVY-1000				1000

Dimensions: Consult Cooper Bussmann

Round Body Fuse Links 1500Vdc, 25 to 200A, NBC Series

Description: A range of round body high speed fuse links for heavy rail applications such as auxiliary and distribution equipment.

Technical Data:

Rated Voltage: 1500Vdc

Rated Current: 25-200A

Rated Breaking Capacity: Consult Cooper Bussmann for interrupting rating and time constant capabilities.



Class of Operation: gR

Standards/Approvals: Consult Cooper Bussmann

Typical Applications

- Auxiliary
- Distribution equipment

Catalogue Numbers

Catalogue Number	Fuse Type	Operating Class	Rated Voltage (Vdc)	Rated Current (Amps)
NBC-25	NBC	gR	1500	25
NBC-60				60
NBC-70				70
NBC-100				100
NBC-150				150
NBC-200				200

Dimensions: Consult Cooper Bussmann

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Notes

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Customer Assistance

Customer Satisfaction Team

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Friday 7.30 a.m. - 5.00 p.m. GMT

The Customer Service Satisfaction Team can be reached via:

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- Fax: 00 44 (0) 1509 882 786
- Email: bulesales@cooperindustries.com

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- Product profiles
- Online catalogues for the latest United States and European catalogues

Application Engineering

Application Engineering assistance is available to all customers. The Application Engineering team is staffed by university-qualified electrical engineers who are available with technical and application support.

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Application Engineering can be reached via:

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- Fax: 00 44 (0) 1509 882 794
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