Ferrule Fuses

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Accessories

Ferrule Fuse Ranges

Volts	Amps	AC	DC
150	5-60	X	X
250	1-50	X	X
500	0.25-30	X	X
600	6-32	X	X
700 (22 x 58mm)	20-100	X	—
700 (14 x 51mm)	1-50	X	X
750	5-60	X	X
1000	20-30	X	X (800Vdc)
1250	20-30	X	X (1000Vdc)
1500	8-15	X	X (1000Vdc)
2000	2-6	X	X (1000Vdc)

General Information

Bussmann offers a full line of ferrule style (cylindrical clip-mounted) fuses, designed and tested to meet standards and requirements in various locations around the world. Their unique design and construction provide:

- Superior cycling capability
- Low energy let-through (I^2t)

Ferrule fuses provide an excellent solution for small UPS, small ac drives and other low power applications where space is at a premium.

Voltage Rating

All Bussmann ferrule fuses — except 690V — have been tested at their rated voltage. The 690V ferrule fuse has been tested to the IEC 60269 standard, which requires clearing at the rated voltage +5%.

Accessories

Ferrule fuses may be mounted in fuseclips, fuse holders, fuse blocks or fused switches. A variety of products are available. Please consult Bussmann Application Engineering to discuss your requirement.

Ferrule — FWA 150V: 5-60A

FWA 5-30A (10 x 38mm)
35-60A (21 X 51mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 150Vac/dc

Amps: — 5-60A

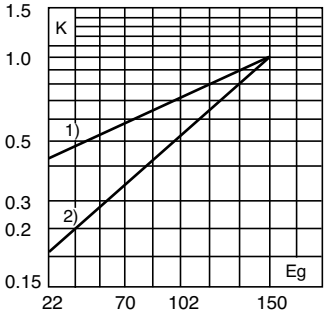
IR: — 100kA Sym.

Agency Information: CE, UL Recognition JFHR2.E91958

Electrical Characteristics

Total Clearing I²t

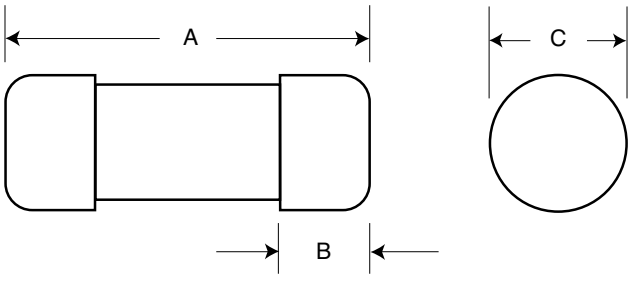
The total clearing I²t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I²t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



1) 5-30A Range
2) 35-60A Range

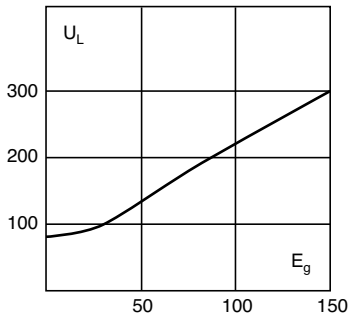
Dimensions - in (mm)

Amp Range	Dimensions A	B	C
5-30	1.5 (38.1)	0.375 (9.5)	0.406 (10.3)
35-60	2.0 (50.8)	0.625 (15.9)	0.811 (20.6)



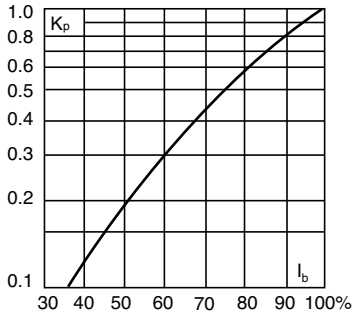
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics: Rated Current RMS-Amps	I²t (A² Sec): Pre-arc	I²t (A² Sec): Clearing at 150V	Watts Loss
FWA-5A10F	10 x 38mm (13/32" x 1½")	5	1.6	8	1
FWA-10A10F		10	3.6	16	2.7
FWA-15A10F		15	14	55	3.3
FWA-20A10F		20	33	130	3.8
FWA-25A10F		25	58	220	4.9
FWA-30A10F		30	100	400	4.9
FWA-35A21F	21 x 51mm (13/16" x 2")	35	75	800	4.5
FWA-40A21F		40	100	1000	5.1
FWA-45A21F		45	130	1300	6
FWA-50A21F		50	170	1600	7.3
FWA-60A21F		60	250	2400	8.0

• Watts loss provided at rated current.
• See accessories on page 243.

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

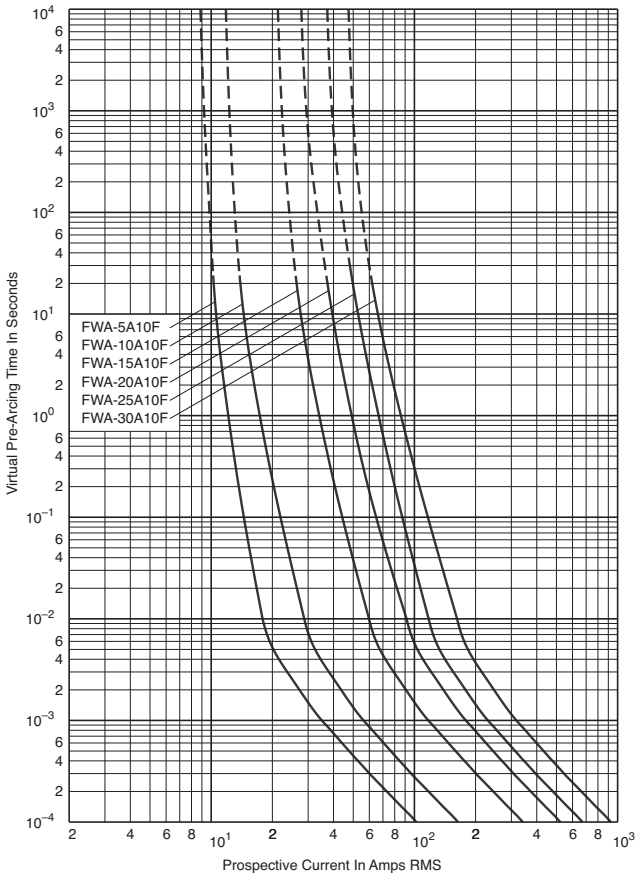
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720003

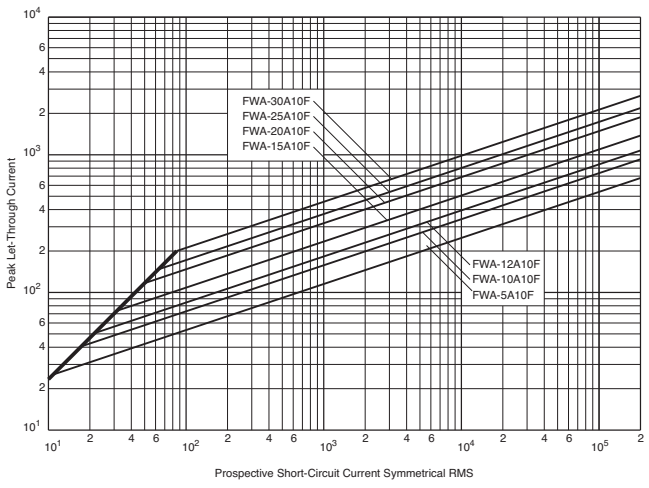
Ferrule — FWA 150V: 5-60A

FWA 5-30A: 150V (10 x 38mm)

Time-Current Curve



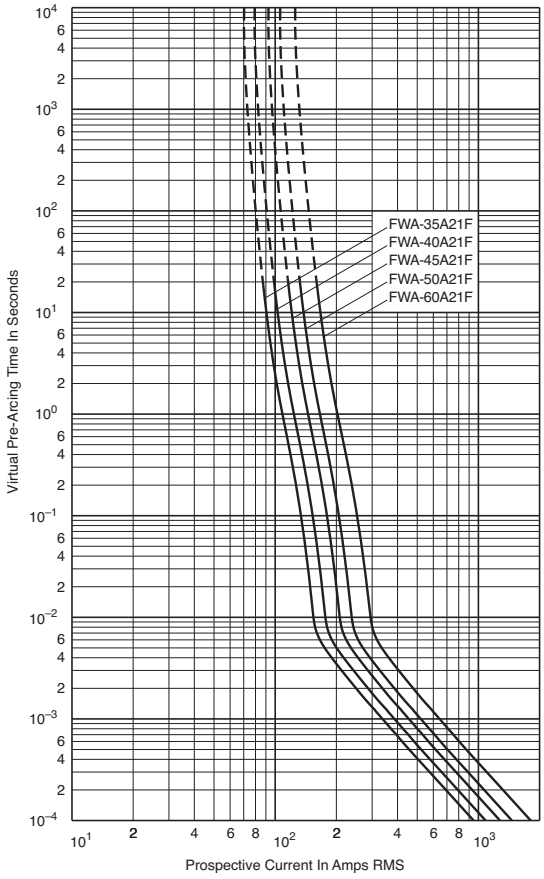
Peak Let-Through Curve



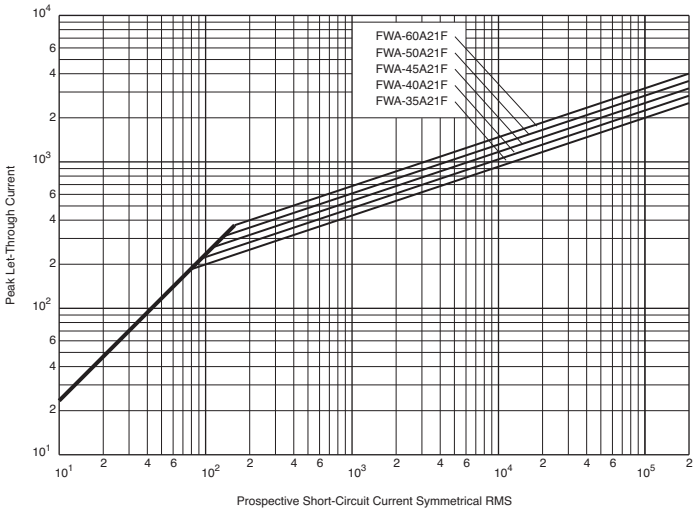
Data Sheet: 35785317

FWA 35-60A: 150V (21 x 51mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785305

Ferrule — FWX 250V (UL): 1-50A

FWX (14 x 51mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 250Vac/dc

Amps: — 1-50A

IR: — 200kA RMS Sym.

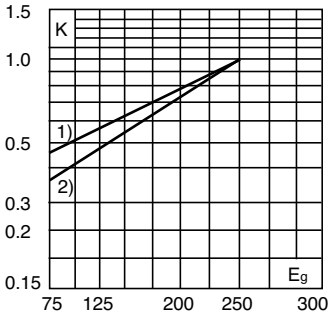
— 50kA @ 250Vdc

Agency Information: CE, UL Recognition JFHR2.E91958 1-50A & CSA Component Acceptance file Class 1422-30, 1422-90 (53787) 5-30A

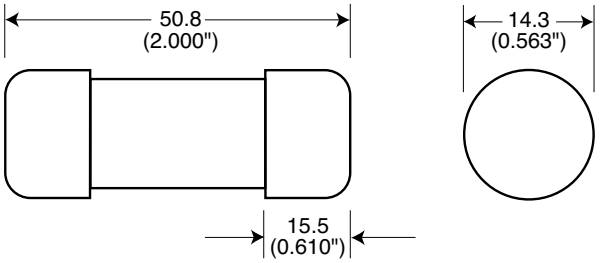
Electrical Characteristics

Total Clearing I^2t

The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).

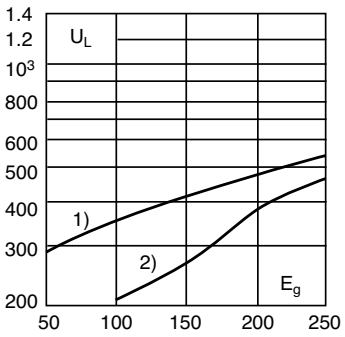


Dimensions - mm (in)



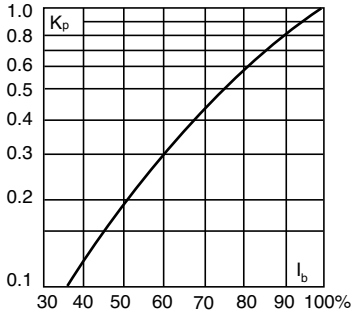
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of the applied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Number	Size	Electrical Characteristics: Rated Current RMS-Amps	I^2t (A^2Sec): Pre-arc	I^2t (A^2Sec): Clearing at 250V	Watts Loss
FWX-1A14F		1	—	—	—
FWX-2A14F		2	—	—	—
FWX-3A14F		3	—	—	—
FWX-4A14F		4	—	—	—
FWX-5A14F	14 x 51mm	5	1.6	13	1.3
FWX-10A14F	(9/16" x 2")	10	3.6	24	3.4
FWX-15A14F		15	14	83	3.8
FWX-20A14F		20	33	200	4.6
FWX-25A14F		25	58	300	5.3
FWX-30A14F		30	100	500	5.9
FWX-50A14F		50	200	1800	5.7

• Watts loss provided at rated current.
• (250Vdc/Interrupting rating 50kA) UL Recognition & CSA Component Acceptance on 5 through 30A only. Consult Bussmann for additional ratings.
• See accessories on page 243.

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

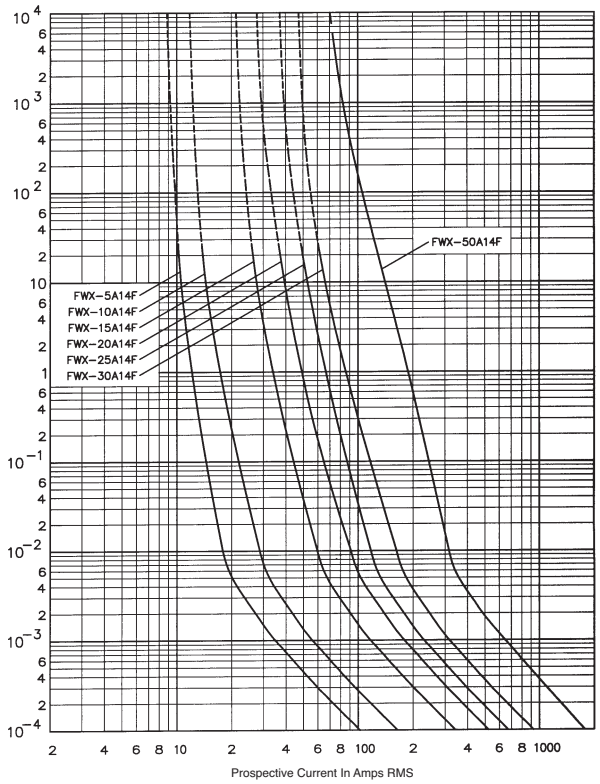
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720006

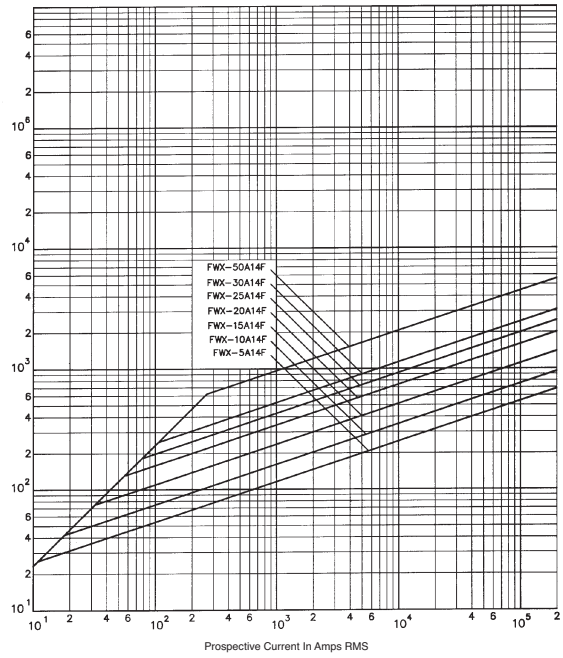
Ferrule — FWX 250V (UL): 1-50A

FWX 1-30A: 250V (14 x 51mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785302

Ferrule — FWH 500V: 0.25-30A

FWH (6 x 32mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustrations.

Ratings:

Volts: — 500Vac (0.25-6.3A)
500Vdc (2-5A)

Amps: — 0.25-30A

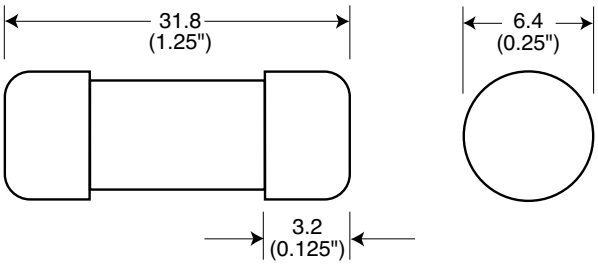
IR: — 50kA at ≥ 20% pf (0.25-20A)
— 20kA at ≥ 20% pf (25-30A)

Agency Information: CE, UL Recognition JFHR2.E91958 0.25-30A, CSA Component Acceptance file Class 1422-30, 1422-90 (53787) 0.25-7A

Opening Times

Amp Ratings	150%	200%	300%
0.25-7	> 30 min	< 30 min	≤ 10 sec
10-30	< 30 min	< 30 min	≤ 10 sec

Dimensions - mm (inches)



Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics			
		Rated Current RMS-Amps	I²t (A² Sec)		Watts Loss
			Pre-arc	Clearing at 500V	
FWH-.250A6F		0.25*	0.01	0.05	2.7
FWH-.500A6F		0.5*	0.05	0.25	1.2
FWH-001A6F		1*	0.4	2	1.7
FWH-002A6F		2*	1.3	3.5	3.2
FWH-3.15A6F		3.15*	3.1	7.7	2.9
FWH-005A6F		5*	15	40	2.1
FWH-6.30A6F	6 x 32mm	6.3*	36	90	2.3
FWH-007A6F	(¼" x 1¼")	7*	50	125	2.5
FWH-010A6F		10**	9.9	139	2.86
FWH-12.5A6F		12.5**	20	60	3.53
FWH-015A6F		15**	44	146	3.08
FWH-016A6F		16**	48	177	4.48
FWH-020A6F		20**	75	259	4.26
FWH-025A6F		25**	126	345	—
FWH-030A6F		30**	145	430	—

*300% minimum opening current at rated voltage.
**200% minimum opening current at rated voltage.
• Consult Bussmann for DC ratings.
• See accessories on page 243.

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

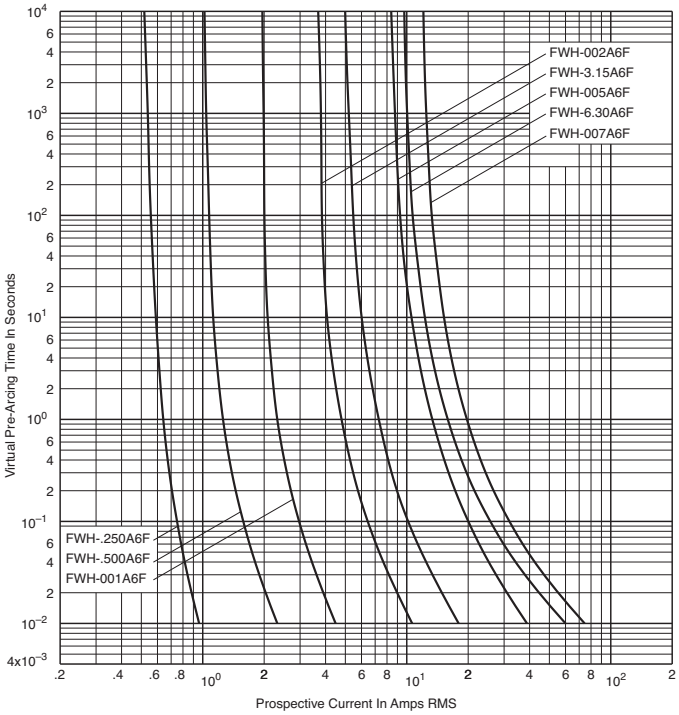
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720038

Ferrule — FWH 500V: 0.25-30A

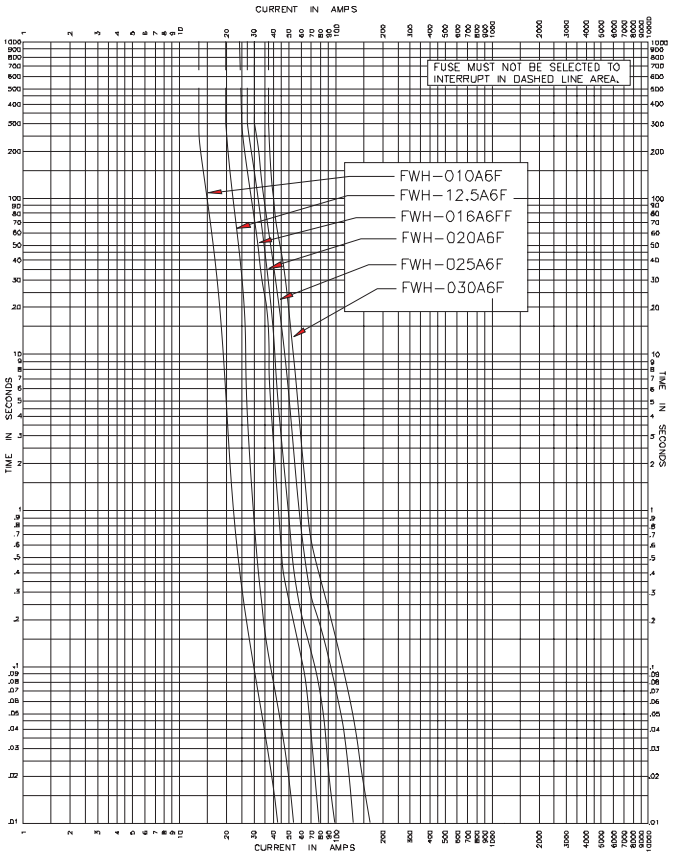
FWH 0.25-7A: 500V (6 x 32mm)

Time-Current Curve



FWH 10-30A: 500V (6 x 32mm)

Time-Current Curve



Data Sheet: 35785256

Data Sheet: 50955

Ferrule — FWH 500V: 1-30A

FWH (14 x 51mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See Dimensions illustration.

Ratings:

Volts: — 500Vac

Amps: — 1-30A

IR: — 200kA RMS Sym.

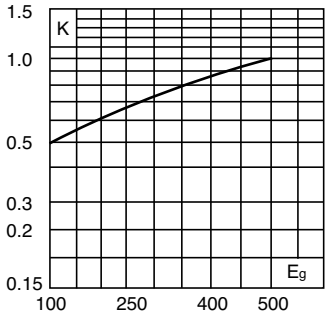
— 50kA @500Vdc

Agency Information: CE, UL Recognition 1- 30A & CSA Component Acceptance file Class 1422-30, (53787) on: 5 - 30A.

Electrical Characteristics

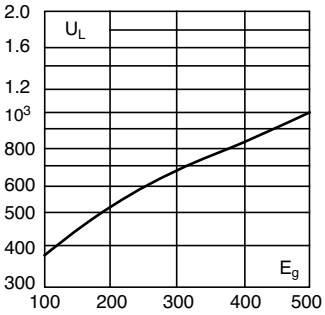
Total Clearing I^2t

The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



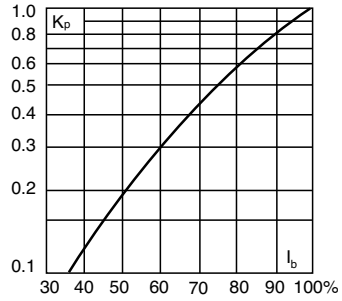
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of the applied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



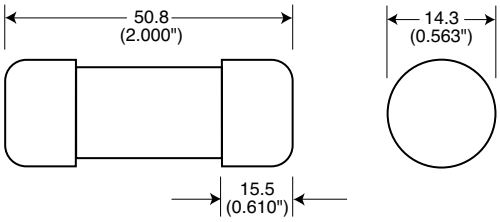
Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics			
		Rated Current RMS-Amps	I^2t (A^2 Sec) Pre-arc	I^2t (A^2 Sec) Clearing at 500V	Watts Loss
FWH-1A14F	14 x 51mm	1	—	—	—
FWH-2A14F	(9/16" x 2")	2	—	—	—
FWH-3A14F		3	—	—	2.3
FWH-4A14F		4	—	—	—
FWH-5A14F		5	1.6	6.4	1.5
FWH-6A14F		6	1.6	6.4	1.5
FWH-10A14F		10	3.6	13	4
FWH-12A14F		12	—	—	—
FWH-15A14F		15	10	40	5.5
FWH-20A14F		20	26	96	6
FWH-25A14F		25	49	191	7
FWH-30A14F		30	58	232	9

• Watts loss provided at rated current.

• See accessories on page 243.

Dimensions - mm (inches)



Features and Benefits

- Excellent cycling capability and dc performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

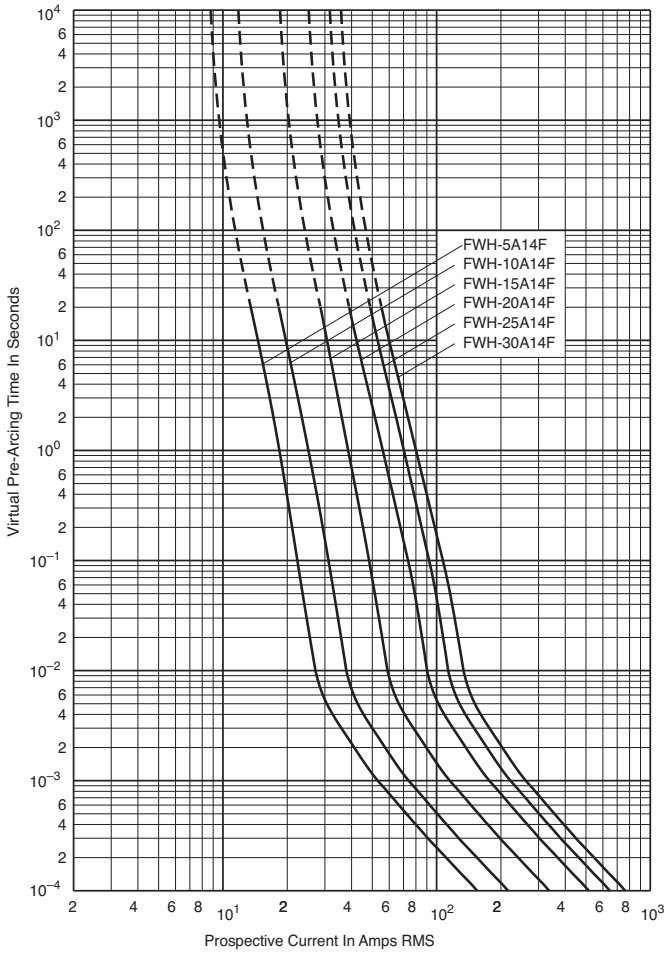
- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720008

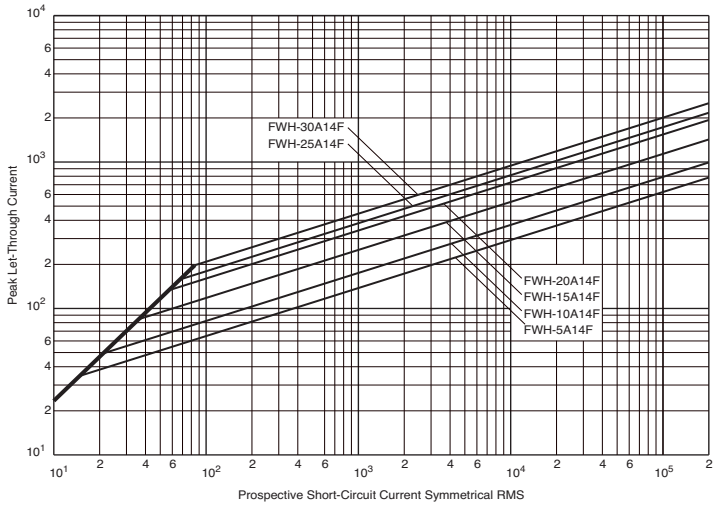
Ferrule — FWH 500V: 1-30A

FWH 1-30A: 500V (14 x 51mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785298

Ferrule — FWC 600V: 6-32A

FWC (10 x 38mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 600Vac/700Vdc (6-25A)
600Vac (30-32A)

Amps: — 6-32A

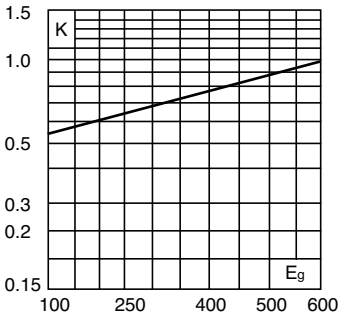
IR: — 200kA RMS Sym.
— 50kA @ 700Vdc (6-25A)

Agency Information: CE, UL Recognition JFHR8.E91958 6-32A. & CSA Component Acceptance file Class 1422-30, (53787) on (6-32A)

Electrical Characteristics

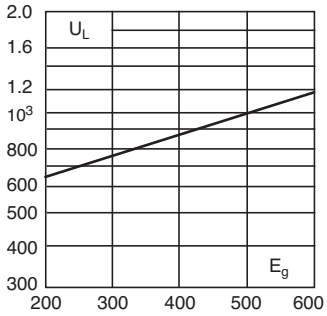
Total Clearing I^2t

The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



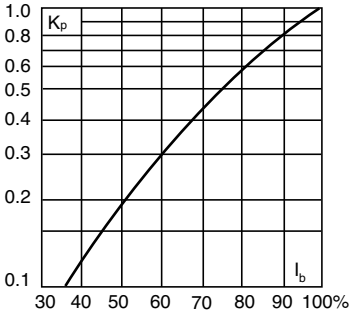
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.

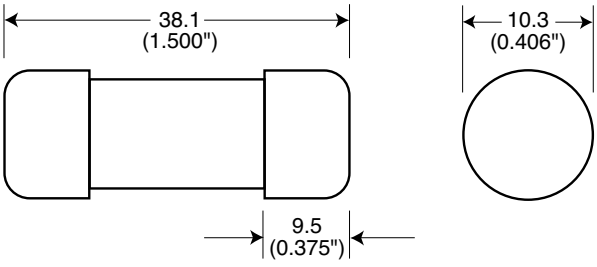


Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics: Rated Current RMS-Amps	I^2t (A^2 Sec): Pre-arc	I^2t (A^2 Sec): Clearing at 600V	Watts Loss
FWC-6A10F		6	4	30	1.5
FWC-8A10F		8	6	50	2.0
FWC-10A10F		10	9	70	2.5
FWC-12A10F	10 x 38mm	12	15	120	3.0
FWC-16A10F	(13/32" x 1½")	16	25	150	3.5
FWC-20A10F		20	34	260	4.8
FWC-25A10F		25	60	390	6.0
FWC-30A10F		30	95	600	7.5
FWC-32A10F		32	95	600	7.5

• Watts loss provided at rated current.
• See accessories on page 243.

Dimensions - mm (in)



Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

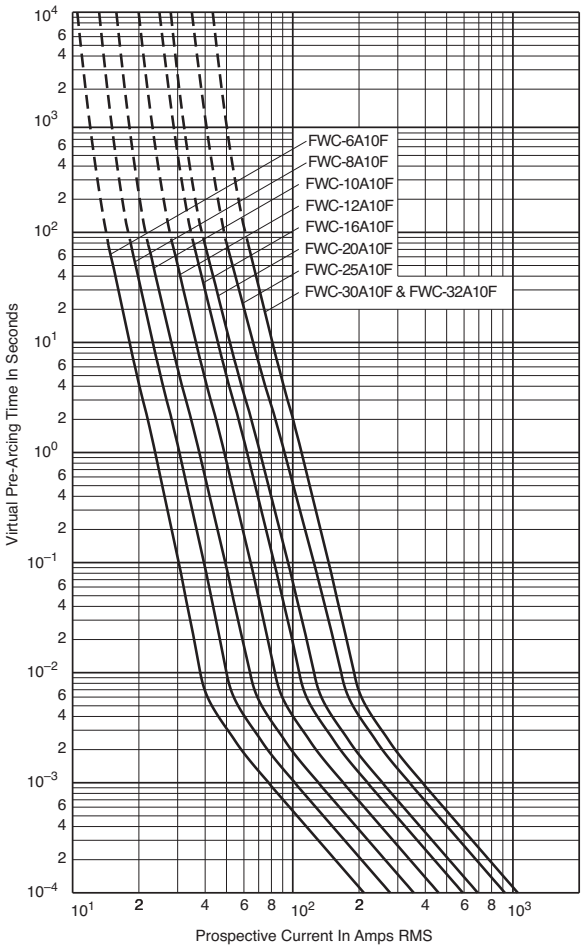
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720011

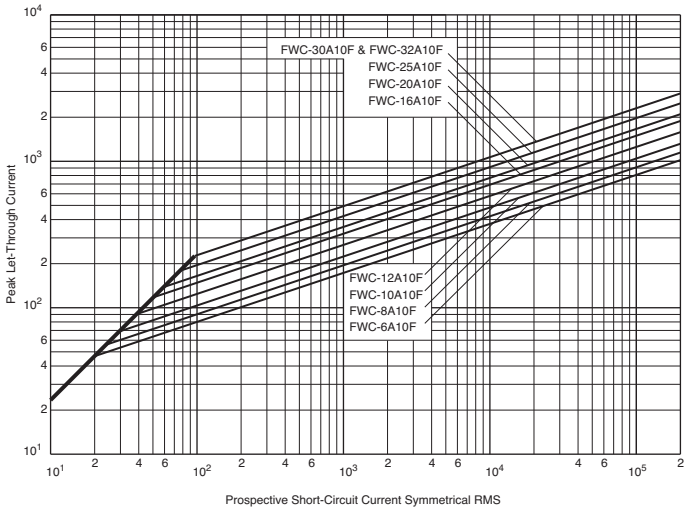
Ferrule — FWC 600V: 6-32A

FWC 6-32A: 600V (10 x 38mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785306

Ferrule — FWP 690V/700V (IEC/UL): 1-50A, Striker Optional

FWP (14 x 51mm)

FWP with striker option.

Specifications

Description: Ferrule style high speed fuses with and without indicating striker.

Dimensions: See dimensions illustrations.

Ratings:

Volts: — 690Vac (IEC)
— 700Vac (UL)
— 800Vdc (5-50A)

Amps: — 1-50A

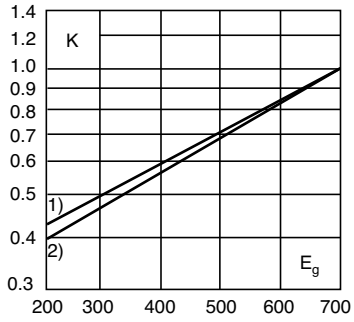
IR: — 200kA RMS Sym.
— 50kA @800Vdc

Agency Information: CE, UL Recognition JFHR2.E91958, CSA Component Acceptance file Class 1422-30, 1422-90 (53787) for versions without indicator only. Designed and tested to IEC 60269: Part 4.

Electrical Characteristics

Total Clearing I²t

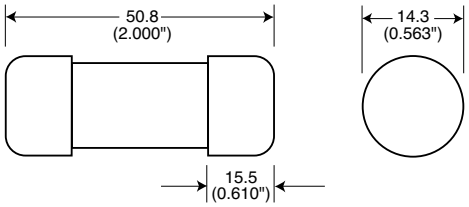
The total clearing I²t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I²t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



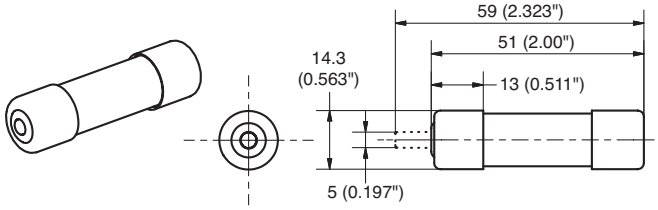
1) 5-30A Range
2) 32-50A Range

Dimensions - mm (in)

Without Striker

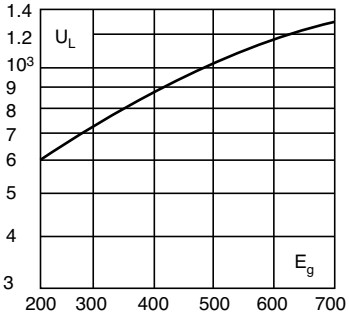


With Striker



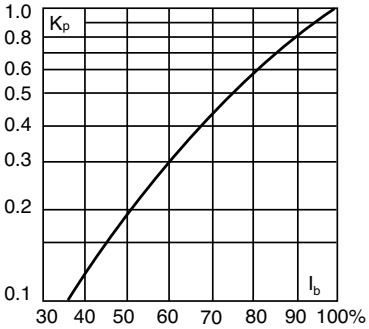
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics: Current RMS-Amps	Rated I²t (A² Sec): Minimum Melting	Rated I²t (A² Sec): Clearing At Rated Voltage	Watts Loss
Without Striker					
FWP-1A14F		1	—	—	—
FWP-2A14F		2	—	—	—
FWP-2.5A14F		2.5	—	—	—
FWP-3A14F		3	—	—	—
FWP-4A14F		4	—	—	—
FWP-5A14F	14 x 51mm	5	1.6	11.0	1.5
FWP-10A14F	(13/16" x 2")	10	3.6	38.5	4
FWP-15A14F		15	8.6	70	5.5
FWP-20A14F		20	26.0	230	6
FWP-25A14F		25	46.5	375	7
FWP-30A14F		30	58	485	9
FWP-32A14F		32	68	600	7.6
FWP-40A14F		40	84	750	8
FWP-50A14F		50	200	1800	9
With Striker*					
FWP-10A14FI		10	3.6	38.5	4
FWP-15A14FI		15	8.6	70	5.5
FWP-20A14FI	14 x 51mm	20	26.0	230	6
FWP-25A14FI	(13/16" x 2")	25	46.5	375	7
FWP-30A14FI		30	58	485	9
FWP-32A14FI		32	68	600	7.6
FWP-40A14FI		40	84	750	8
FWP-50A14FI		50	200	1800	9

*Striker range is 600Vdc only
• Watts loss provided at rated current.
• See accessories on page 243.

Features and Benefits

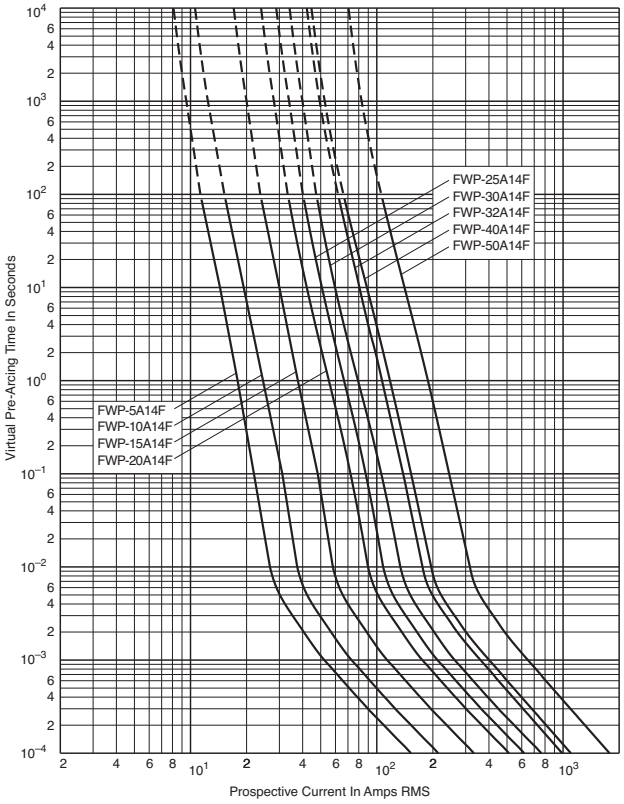
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Data Sheet: 720025

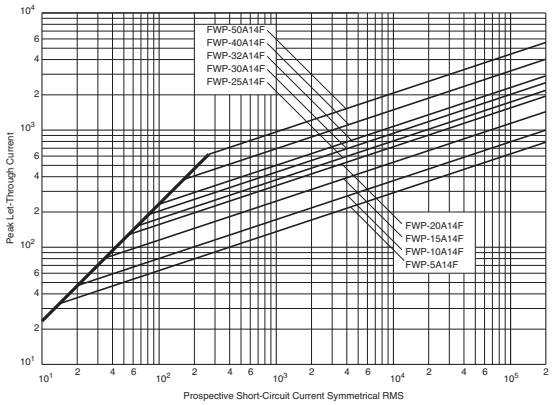
Ferrule — FWP 690V/700V (IEC/UL): 1-50A, Striker Optional

Without Striker
FWP 5-50A: 660V/700V (14 x 51mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785307

Ferrule — FWP 690V/700V (IEC/UL): 20-100A, Striker Optional

FWP (22 x 58mm)

FWP with striker option.

Specifications

Description: Ferrule style high speed fuses with and without indicating striker.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 690Vac (IEC)
— 700Vac (UL)
— 500Vac
— 500Vdc (20-100A)

Amps: — 20-100A

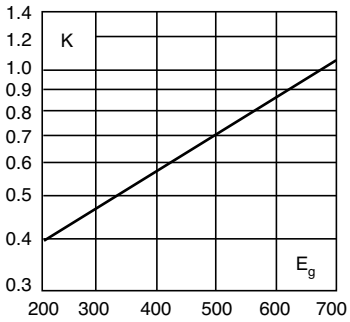
IR: — 200kA RMS Sym.
— 50kA @ 500Vdc

Agency Information: CE, UL Recognition JFHR2.E91958, CSA Component Acceptance file Class 1422-30, 1422-90 (53787)

Electrical Characteristics

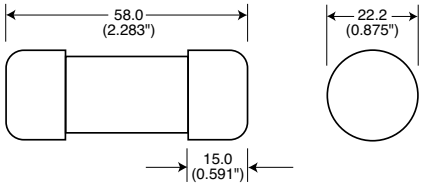
Total Clearing I^2t

The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).

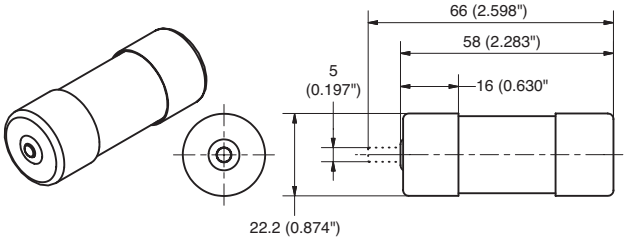


Dimensions - mm (in)

Without Striker

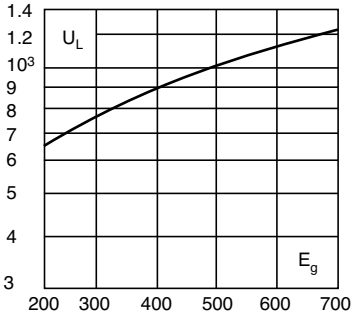


With Striker



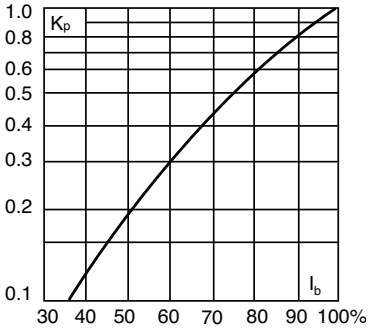
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics: Rated Current RMS-Amps	I^2t (A^2 Sec): Minimum Melting	I^2t (A^2 Sec): Clearing At Rated Voltage	Watts Loss
Without Striker					
FWP-20A22F		20	19.0	260	5
FWP-25A22F		25	34.0	410	6
FWP-32A22F	22 x 58mm	32	53.5	605	8
FWP-40A22F	(⅞" x 2²⁹⁄₃₂")	40	68	750	9
FWP-50A22F		50	135	1600	9.5
FWP-63A22F		63	280	3080	11
FWP-80A22F		80	600	6600	13.5
FWP-100A22F		100*	1100	12500	16
With Striker					
FWP-20A22FI		20	19.0	260	5
FWP-25A22FI		25	34.0	410	6
FWP-32A22FI	22 x 58mm	32	53.5	605	8
FWP-40A22FI	(⅞" x 2²⁹⁄₃₂")	40	68	750	9
FWP-50A22FI		50	135	1600	9.5
FWP-63A22FI		63	280	3080	11
FWP-80A22FI		80	600	6600	13.5
FWP-100A22FI		100*	1100	12500	16

*IEC/UL Voltage rating 690/700

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

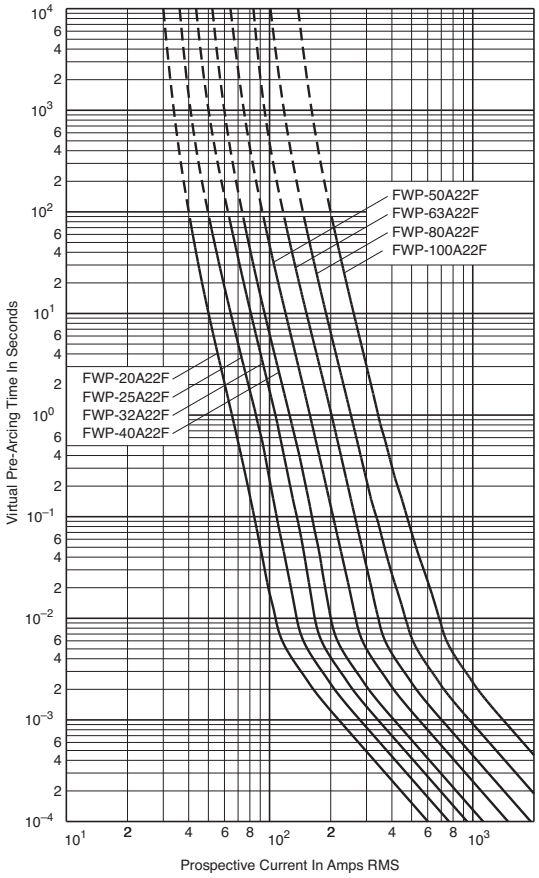
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 720026

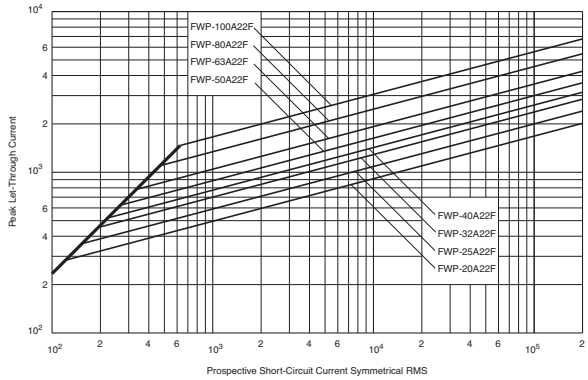
Ferrule — FWP 690V/700V (IEC/UL): 20-100A, Striker Optional

Without Striker
FWP 20-100A: 660V/700V (22 x 58mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785291

Ferrule — FWK 750V: 5-60A

FWK 5-30A (20 x 127mm
35-60A (25 x 146mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See Dimensions illustrations.

Ratings:

Volts: — 750Vac
— 750Vdc (Time constant = 10-15mS)

Amps: — 5-60A

IR: — 45kA RMS Sym.

Agency Information: CE

Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics		
		Rated Current RMS-Amps	I²t (A² Sec)	
			Pre-arc	Clearing at 750Vdc
FWK-5A20F	20 x 127mm (13/16" x 5")	5	8.5	16
FWK-8A20F		8	50	100
FWK-10A20F		10	95	200
FWK-15A20F		15	100	240
FWK-20A20F		20	125	315
FWK-25A20F		25	400	1100
FWK-30A20F		30	800	2600
FWK-35A25F	25 x 146mm (1" x 5¾")	35	1300	4300
FWK-40A25F		40	1600	5300
FWK-50A25F		50	3100	12000
FWK-60A25F		60	5900	24000

Recommended fuseholders for 20x127, -2, -3
Recommended fuseclips for 20x127, 1A1837
Recommended fuseclips for 25x146, A3354705

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Dimensions - mm (in)

Fig. 1: 5-30A

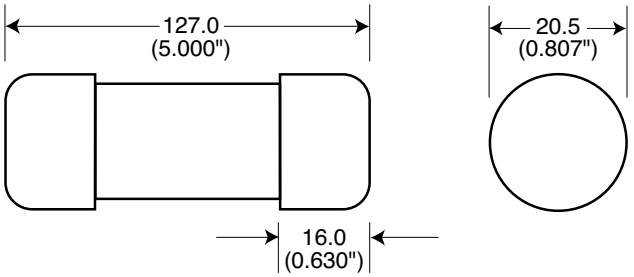
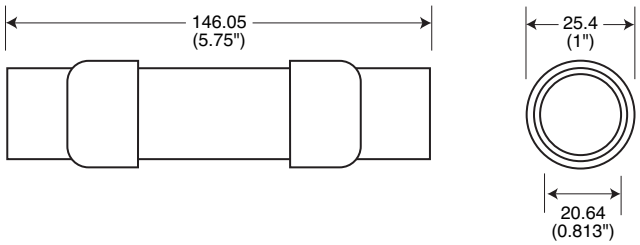


Fig. 2: 35-60A

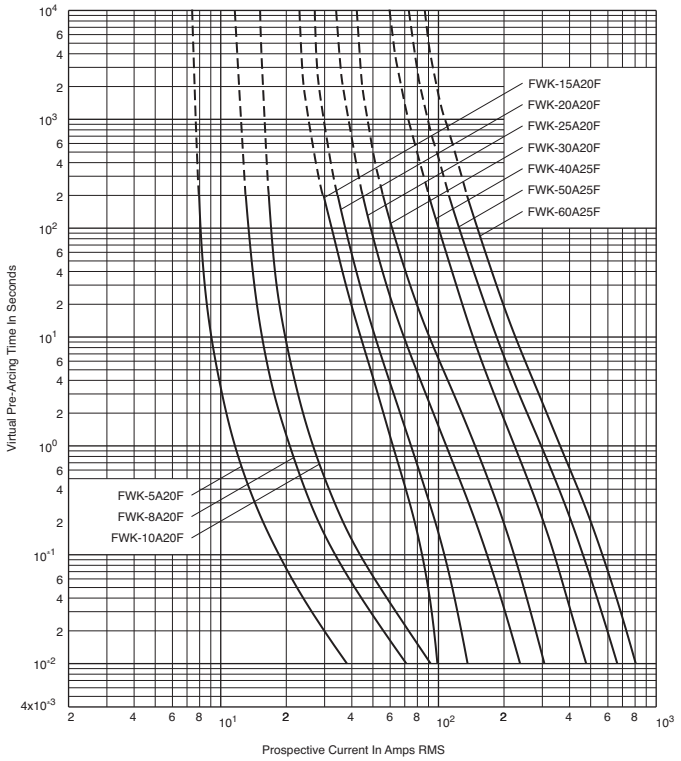


Data Sheet: 720039

Ferrule — FWK 750V: 5-60A

FWK 750V: 5-30A (20 x 127mm)
35-60A (25 x 146mm)

Time-Current Curve



Data Sheet: 720028

Ferrule — FWJ 1000V: 20-30A

FWJ (14 x 67mm)

Specifications

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 1000Vac/800Vdc

Amps: — 20-30A

IR: — 25kA RMS Sym.

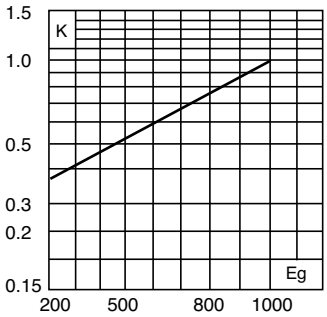
— 20kA @ 800Vdc

Agency Information: CE, UL Recognized JFHR2.E91958

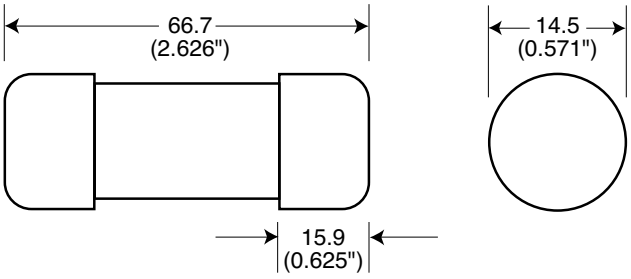
Electrical Characteristics

Total Clearing I²t

The total clearing I²t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I²t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g, (rms).



Dimensions - mm (in)

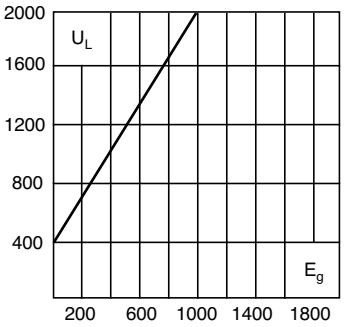


Fuseclips:

• Catalog Number: 5591 (see data sheet 2132)

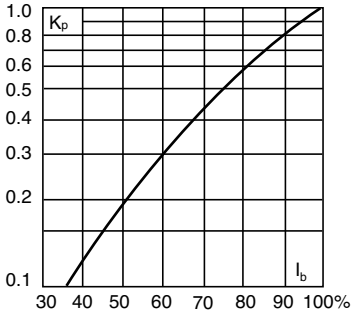
Arc Voltage

This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



Power Losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, Kp, is given as a function of the RMS load current, I_b, in % of the rated current.



Catalog Numbers

Catalog Numbers	Size	Electrical Characteristics			
		Rated Current RMS-Amps	I²t (A² Sec)		Watts Loss
			Pre-arc	Clearing at 1000V	
FWJ-20A14F	14 x 67mm	20	25	220	9
FWJ-25A14F	(9/16" x 2 5/8")	25	33	350	11
FWJ-30A14F		30	52	450	14

• Watts loss provided at rated current.

• See accessories on page 243.

Features and Benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

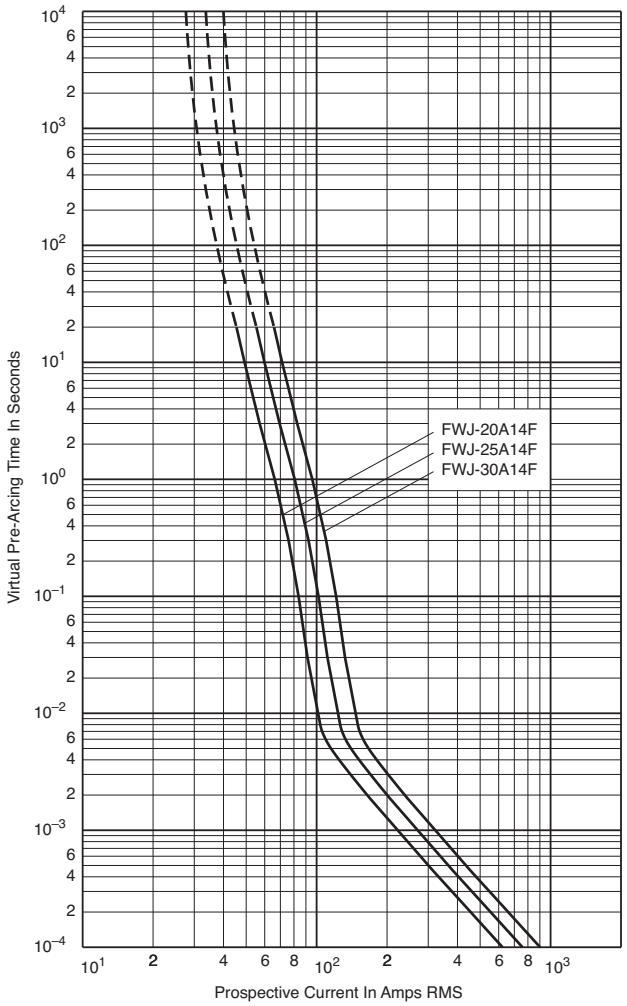
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

Data Sheet: 35785031

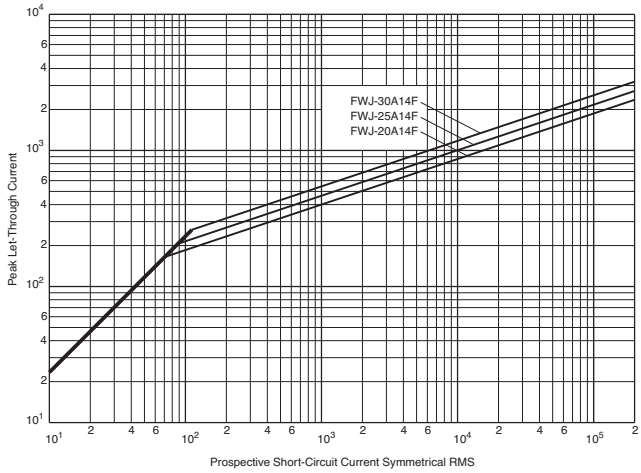
Ferrule — FWJ 1000V: 20-30A

FWJ 20-30A: 1000V (14 x 67mm)

Time-Current Curve



Peak Let-Through Curve



Data Sheet: 35785315

Ferrule — FWS/FWL 1000Vdc: 2-30A

FWS 2-15A (20 x 127mm)
FWL 20-30A (20 x 127mm)

Specifications

Description: Ferrule style full range fuses.

Dimensions: See dimensions illustrations.

Ratings:

Volts: — 1200Vac (FWL 20-30A)
— 1400Vac (FWS 8-15A)
— 2100Vac (FWS 2-6A)
— 1000Vdc (FWL/FWS 2-30)

Amps: — 2-30A

IR: — 45kA RMS Sym.
— 30kA @ 1000Vdc

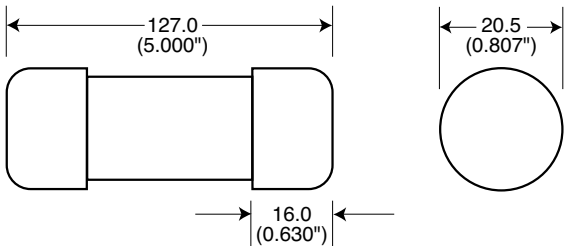
Agency Information: CE, IEC 60077

Catalog Numbers

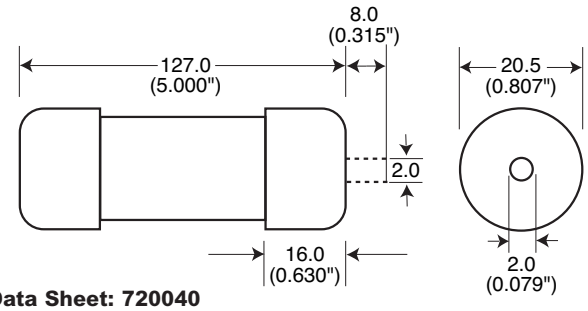
Catalog Numbers	Size	Electrical Characteristics			
		Rated Current RMS-Amps	I²t (A² Sec) Pre-arc	I²t (A² Sec) Clearing at 1000Vdc	Watts Loss
FWS-2A20F	20 x 127mm (13/16" x 5")	2	0.8	2.4	4.4
FWS-6A20F		6	27	81	6.7
FWS-8A20F		8	64	192	7.6
FWS-10A20F		10	118	277	3.0
FWS-12A20F		12	170	380	3.4
FWS-15A20F		15	209	500	5.0
FWL-20A20F	20 x 127mm (13/16" x 5")	20	675	1550	5.9
FWL-25A20F		25	1200	2760	6.5
FWL-30A20F		30	1850	4300	7.5

- ADD "I" to catalog number for indicating version.
- Enclosed finger-safe fuse holder – CH127
- See accessories on page 243.
- Watts loss provided at rated current.

Dimensions - mm (in)



Indicating Version – Dimensions - mm (in)



Data Sheet: 720040

Features and Benefits

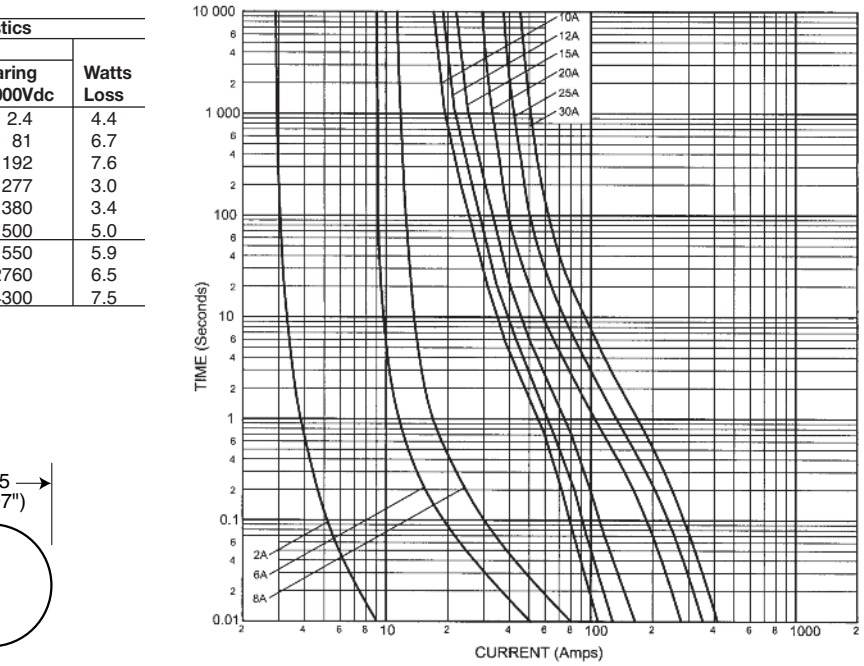
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical Applications

- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters
- Traction aux circuits
- Capacitor protection

FWL/FWS 2-30A: 1000Vdc 2-30A (20 x 127mm)

Time-Current Curve



Ferrule Fuse Accessories

Fuse Holders

Specifications
Catalog Symbol: CH Series
Description: DIN-Rail mount fuse holders
Agency Information: UL File E14853, Guide IZLT Listed, IZLT2 Recognized CSA: File 47235, CHPV and CHM - Class 6225-30, CHCC - Class 6225-01
Ratings: 600V/30A (UL) 690V/32A (IEC)

Features and Benefits
- Finger-safe design - No exposed contacts
- DIN-Rail mount (35mm) - Fits standard mounting rails
- Optional open fuse indication lights tells fuse status at a glance
- Handle/fusepuller easily installs and removes fuses
- Available in single and multi-pole configurations
- Wire ready lugs and spade terminal connections save installation time
- CE marking
- Available up to 1000Vdc
- PLC device available for remote monitoring

Typical Applications
- Switchboard panel, control consoles, small motors, transformers, and similar applications

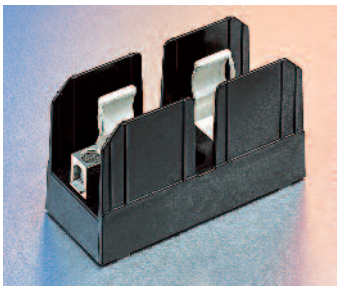
Recommended Cooper Bussmann Fuse Types

Class CC	North American Class CC Fuses - LP-CC, FNQ-R, KTK-R
10 x 38	North American Midget Fuses - FNQ, KTK, AGU, BAF, BAN, FNM, FWA, FWC, & PV
14 x 51	FWX, FWH, FWP & NON
22 x 58	FWP

See pages 274-280 for CH Series fuse holder information.

Data Sheet: 2053

Fuse Blocks



Specifications
Catalog Symbol: J70100, J70032
Description: Fuse blocks for 22x58mm & 14x51mm fuses.
Ratings:
Volts: — 700Vac/dc
Amps: — 32-100A
Withstand: — 200kA RMS Sym.
Agency Information: CE, UL Recognized, Guide IZLT2, File E14853
Flammability Rating: UL 94V0

Catalog Numbers

Catalog Numbers	Fuse Size	Amps	Poles	Max Wire Size	Terminations
J70032-1CR	14x51	32	1	#2	Box Lug w/ Retaining Clip
J70032-2CR		32	2	#2	
J70032-3CR		32	3	#2	
J70100-1CR	22x58	100	1	#2	
J70100-2CR		100	2	#2	
J70100-3CR		100	3	#2	

Data Sheet: 1211

High speed fuses

Faster lead-time.
Better protection.
More energy efficient.

Bussmann
by EATON