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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

Eaton 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 series 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 Eaton Application Engineering to discuss your requirement.

FWA 150V: 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

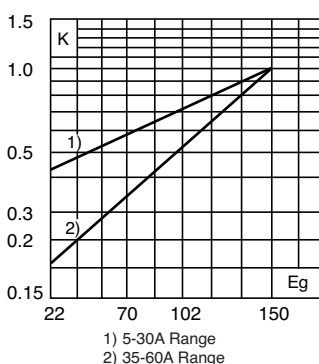
IR: — 100kA Sym.

Agency information: CE, UL Recognized JFHR2.E91958.

Electrical characteristics

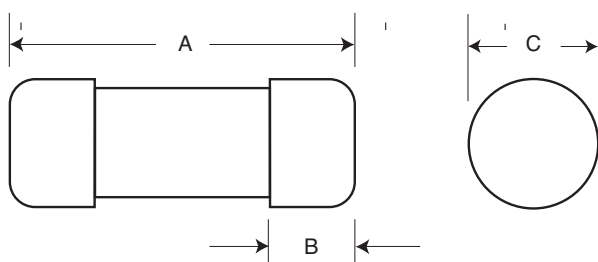
Total clearing I^2t

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 - 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)



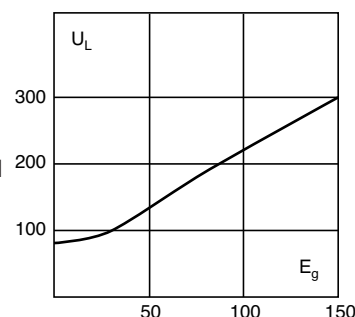
Recommended fuse blocks and holders

Catalog number	Fuse holder	Fuse block
FWA 5-30A10F	CHMxB*	BMM603xB
FWA 35-60A21F	No holder	No block
FWX 1-50A14F	CH14xB*	J70032-xCR*
FWH 0.250-030A6F	No holder	No block
FWH 1-30A14F	CH14xB*	J70032-xCR*
FWP 1-50A14F	CH14xB*	J70032-xCR*
FWP 20-100A22F	CH22xB*	J70100-xCR*
FWJ 30-30A14F	No holder	No block
FWS 2-15A20F	CH127 (Single pole only)	No block
FWL 20-30A20F	CH127 (Single pole only)	No block

*Where x is the number of desired poles (1-, 2-, or 3-)

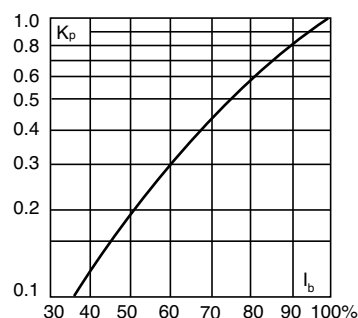
Arc voltage

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)		Watts loss
			Pre-arc	Clearing at 150V	
FWA-5A10F	10 x 38mm (¹³ / ₁₆ " x 1 ¹ / ₂ ")	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 6-123.

Features and benefits

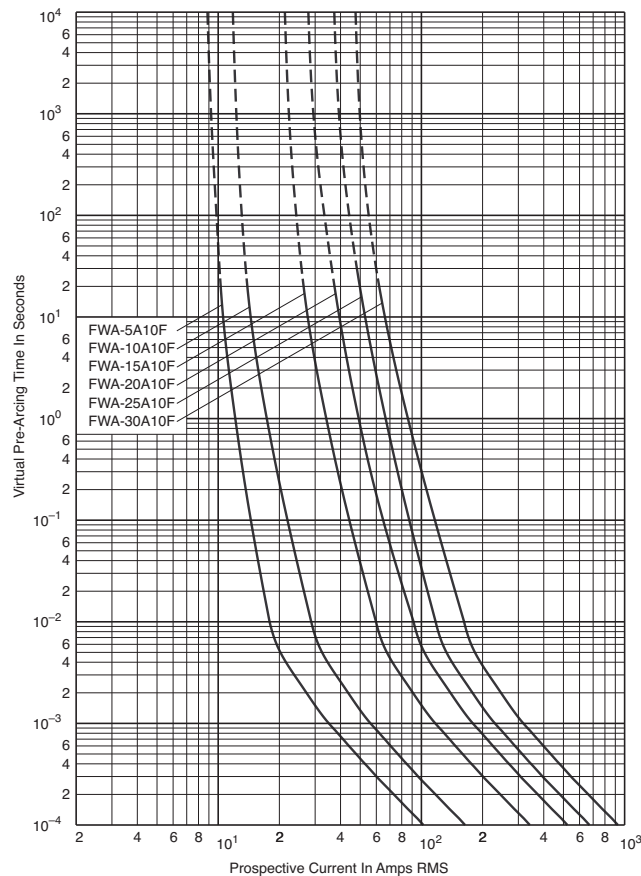
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical applications

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

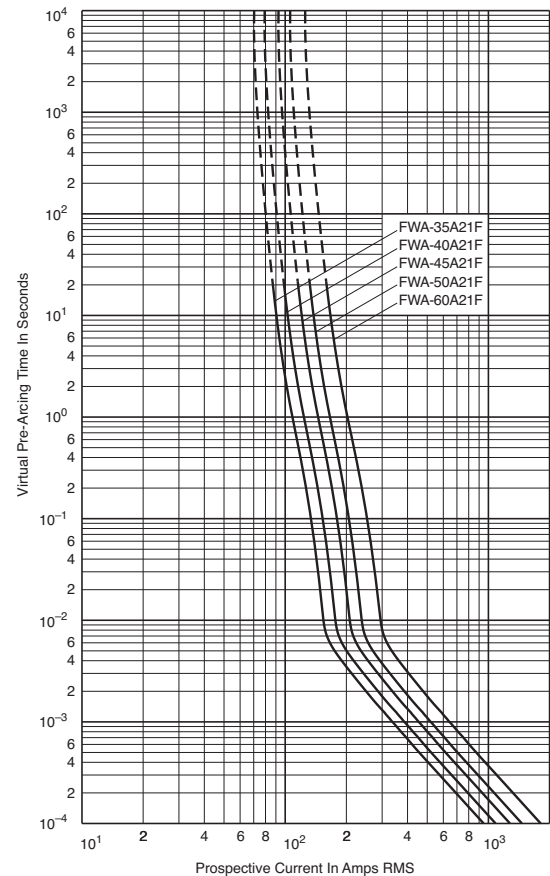
FWA 5-30A: 150V (10 x 38mm)

Time-current curve

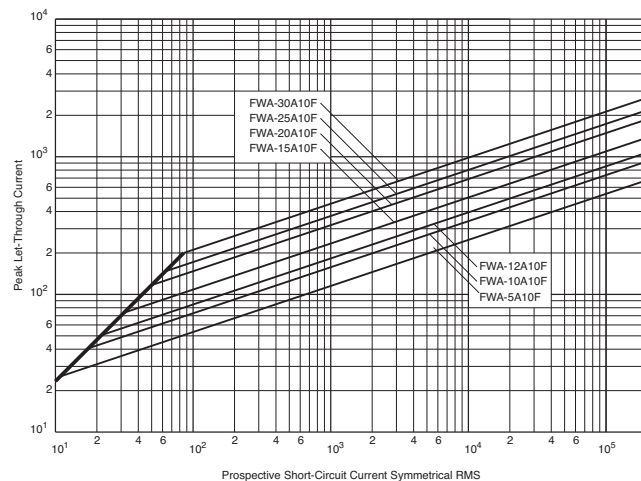


FWA 35-60A: 150V (21 x 51mm)

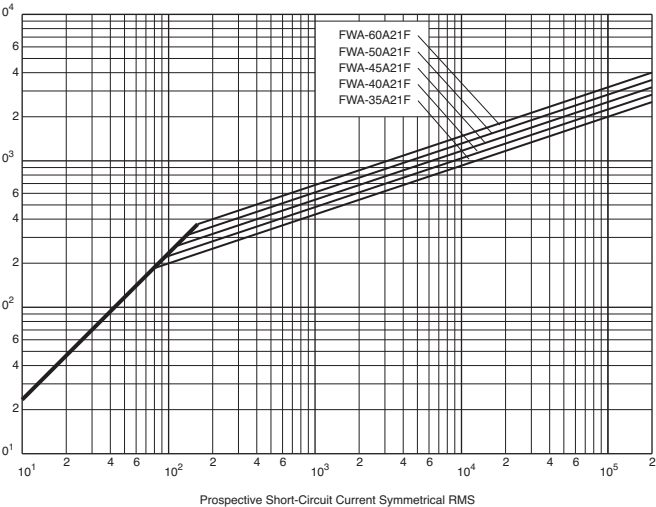
Time-current curve



Peak let-through curve



Peak let-through curve



High speed
fuses

FWX 250V: 1-50A (14 x 51mm)**Specifications**

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 250Vac/dc

Amps: — 1-50A

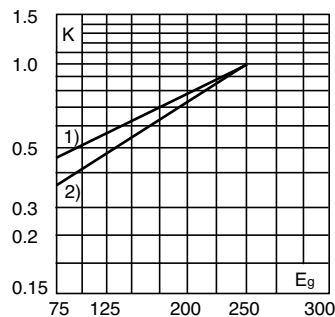
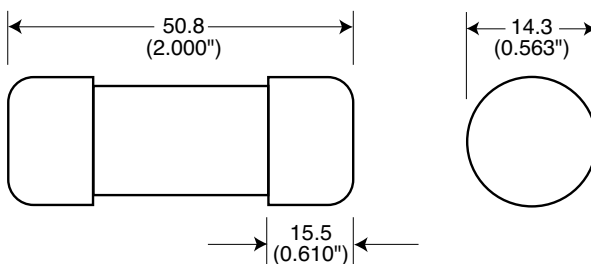
IR: — 200kA RMS Sym.

— 50kA @ 250Vdc

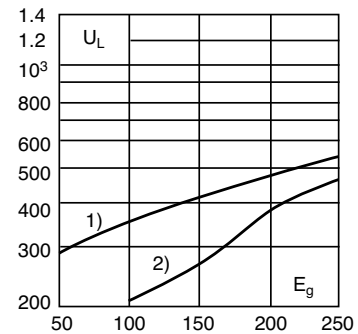
Agency information: CE, UL Recognized JFHR2.E91958 1-50A and CSA Component Acceptance file Class 1422-30, 1422-90 (53787) 5-30A.

Electrical characteristics**Total clearing I^2t**

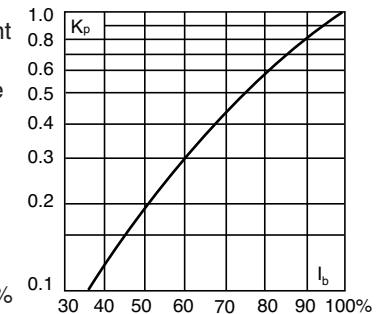
The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g , (rms).

**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 ² sec)		Watts loss
			Pre-arc	Clearing at 250V	
FWX-1A14F	14 x 51mm ($\frac{9}{16}$ " x 2")	1	—	—	—
FWX-2A14F		2	—	—	—
FWX-3A14F		3	—	—	—
FWX-4A14F		4	—	—	—
FWX-5A14F		5	1.6	13	1.3
FWX-10A14F		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 and CSA Component Acceptance on 5 through 30A only. Consult Eaton for additional ratings.

• See accessories on page 6-123.

Features and benefits

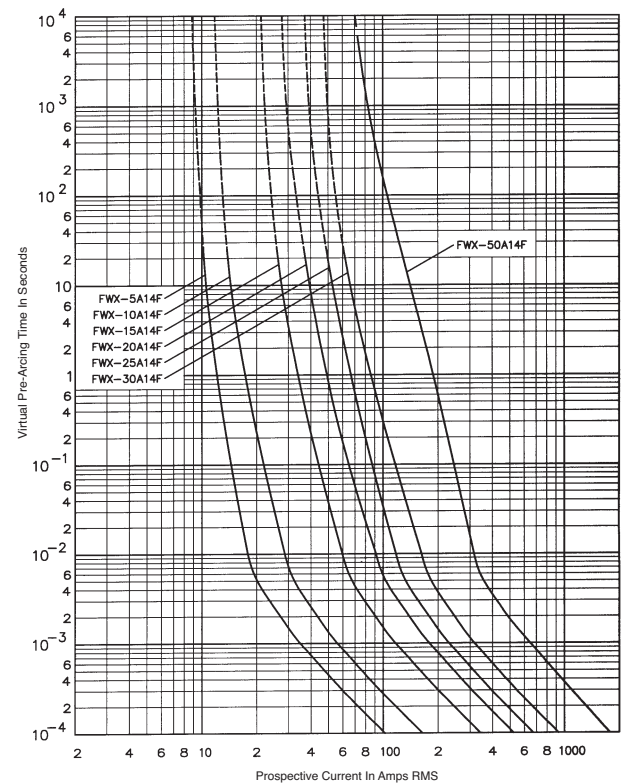
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical applications

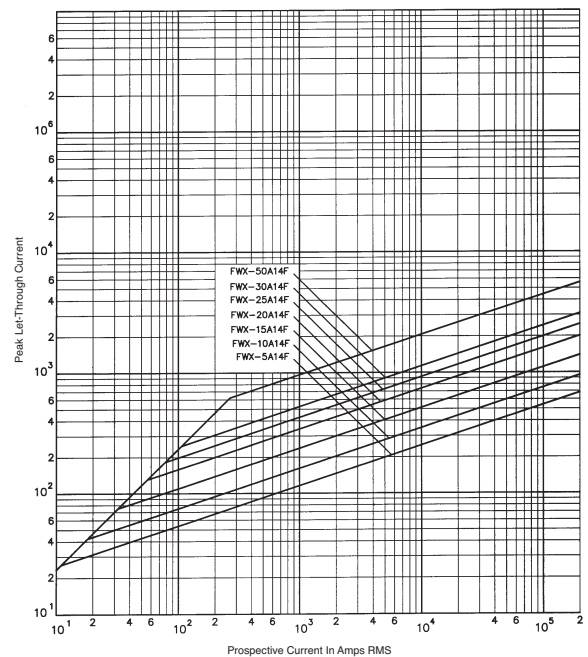
- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

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

Time-current curve



Peak let-through curve



High speed
fuses

Catalog symbols:

- FWH-(amp)A6F
- FWH-(amp)A6FR (RoHS compliant)
- FWH5-(amp)A6F
- FWH5-(amp)A6FR (RoHS compliant)



RoHS

Description:

Eaton's Bussmann® series of FWH 6x32mm ferrule high speed fuses are for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

Ratings

Volts

- 500Vac (0.25-1A and 3.15-30A)
- 1000Vac (2A)
- 600Vdc (1-5A)

Amps

- 0.25-30A

Interrupting rating

- 50kA AC (0.25-1A and 3.15-20A)
- 30kA AC (2A)
- 20kA AC (25-30A)
- 50kA DC (1-5A)

Opening times:

Amp range	150%	200%	300%
0.25-7A	> 30 min.	> 30 min.	≤ 10 sec.
10-30A	> 30 min.	> 30 min.	≤ 10 sec.

Catalog numbers:

Amps	Rated voltage		I ² t (A ² s)		Watts loss (W)	Catalog numbers	
	Vac	Vdc	Pre-arcing	Clearing @ 500Vac		Standard	RoHS compliant
0.25	500	—	0.01	0.05	2.7	FWH-250A6F	FWH-250A6FR
0.5	500	—	0.05	0.25	1.2	FWH-500A6F	FWH-500A6FR
1	500	600	0.4	2	1.7	FWH-001A6F	FWH-001A6FR
2	1000	600	1.3	3.5	3.2	FWH-002A6F	FWH-002A6FR
3.15	500	600	3.1	7.7	2.9	FWH-3.15A6F	FWH-3.15A6FR
4	500	600	—	—	—	FWH-004A6F	FWH-004A6FR
5	500	600	15	40	2.1	FWH-005A6F	FWH-005A6FR
6.3	500	—	36	90	2.3	FWH-6.30A6F	FWH-6.30A6FR
7	500	—	50	125	2.5	FWH-007A6F	FWH-007A6FR
10	500	—	9.9	139	2.86	FWH5-010A6F	FWH5-010A6FR
12.5	500	—	20	60	3.53	FWH5-12-5A6F	FWH5-12-5A6FR
15	500	—	44	146	3.08	FWH5-015A6F	FWH5-015A6FR
16	500	—	48	177	4.48	FWH5-016A6F	FWH5-016A6FR
20	500	—	75	259	4.26	FWH5-020A6F	FWH5-020A6FR
25	500	—	126	345	—	FWH-025A6F	FWH-025A6FR
30	500	—	145	430	—	FWH-030A6F	FWH-030A6FR

0.25-7A 300% minimum opening current at rated voltage.

10-30A 200% minimum opening current at rated voltage.

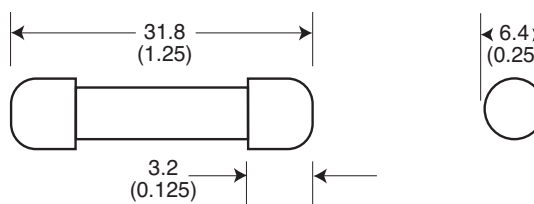
Data Sheet: 720038

Agency information

- CE
- RoHS compliant
- UL Recognized JFHR2, E91958, 0.25-7A
- UL Recognized JFHR2, E19180, 10-30A
- CSA Component Acceptance file Class 1422-30, 1422-90 (53787) 0.25-7A

Features:

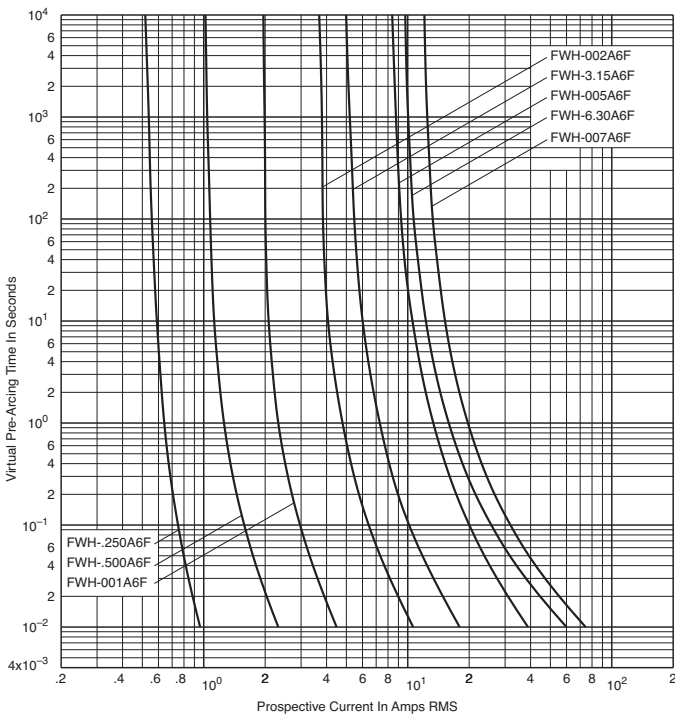
- Low watts loss in a compact size
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I²t)

Dimensions:**Typical applications:**

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

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

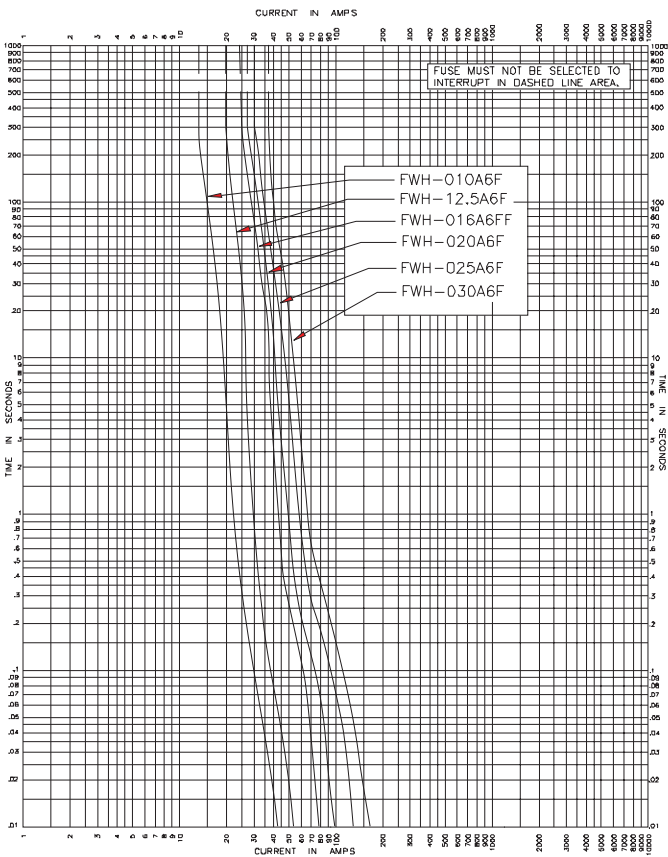
Time-current curve



Data Sheet: 35785256

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

Time-current curve



Data Sheet: 50955

High speed
fuses

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

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 500Vac

Amps: — 1-30A

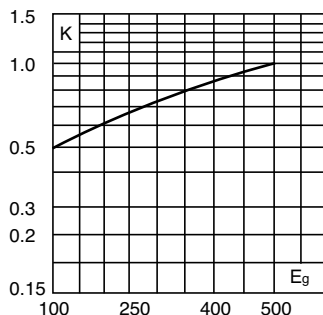
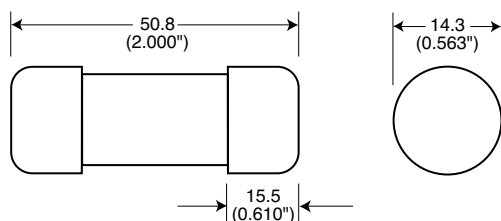
IR: — 200kA RMS Sym.

— 50kA @500Vdc

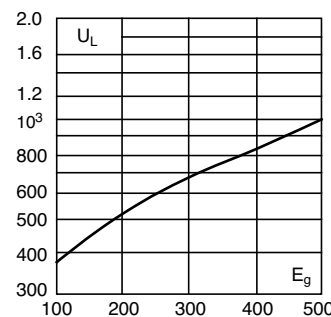
Agency information: CE, UL Recognized 1-30A and CSA Component Acceptance file Class 1422-30, (53787) on: 5 - 30A.

Electrical characteristics**Total clearing I^2t**

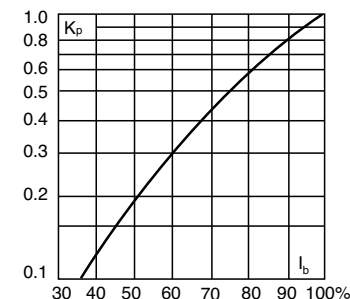
The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g , (rms).

**Dimensions - mm (inches)****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)		Watts loss
			Pre-arc	Clearing at 500V	
FWH-1A14F	14 x 51mm (% x 2")	1	—	—	—
FWH-2A14F		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 6-123.

Features and benefits

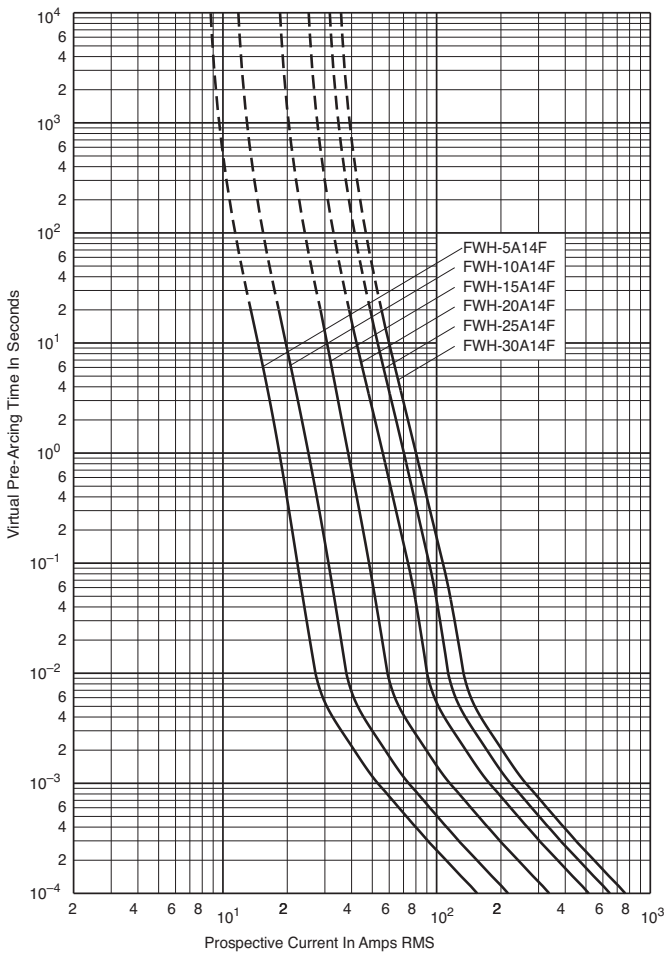
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical applications

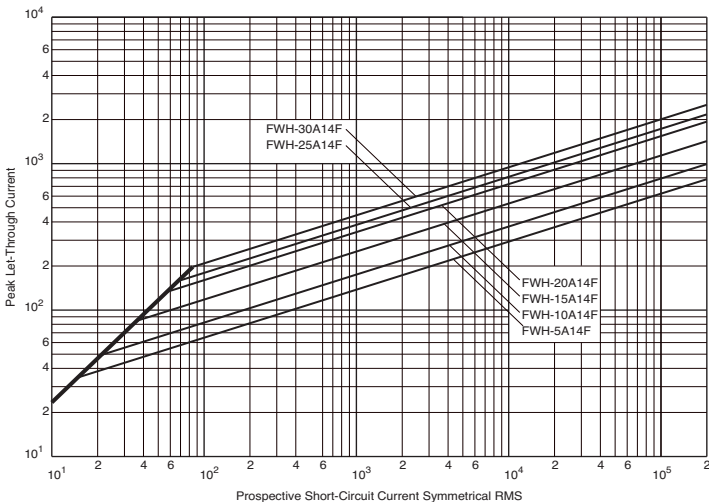
- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

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

Time-current curve



Peak let-through curve



Data Sheet: 35785298

**FWC 600V: 6-32A
(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

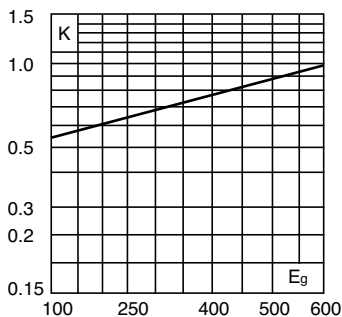
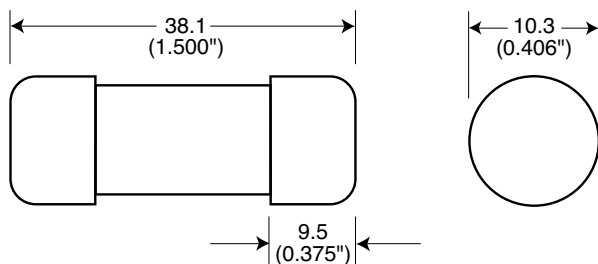
IR: — 200kA RMS Sym.

— 50kA @ 700Vdc (6-25A)

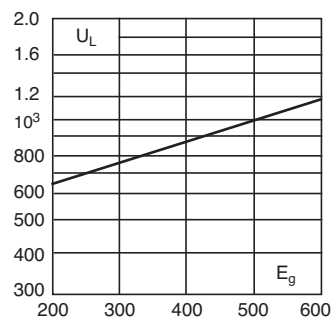
Agency information: CE, UL Recognized JFHR8.E91958 6-32A and CSA Component Acceptance file Class 1422-30, (53787) on (6-32A).

Electrical characteristics**Total clearing I^2t**

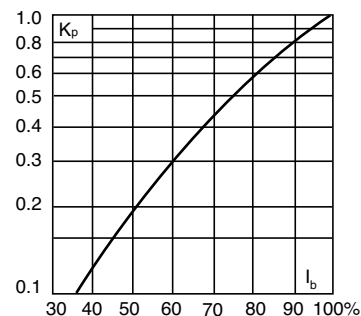
The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g , (rms).

**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 numbers	Size	Electrical characteristics			
		Rated current RMS-amps	I^2t (A ² sec)		Watts loss
			Pre-arc	Clearing at 600V	
FWC-2A10F	10 x 38mm (¹³ / ₃₂ " x 1 1/2")	2	0.5	3	1.2
FWC-3A10F		3	1.6	11	1.5
FWC-4A10F		4	5.2	32	1.5
FWC-6A10F		6	4	30	1.5
FWC-8A10F		8	6	50	2.0
FWC-10A10F		10	9	70	2.5
FWC-12A10F		12	15	120	3.0
FWC-16A10F		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 6-123.

Features and benefits

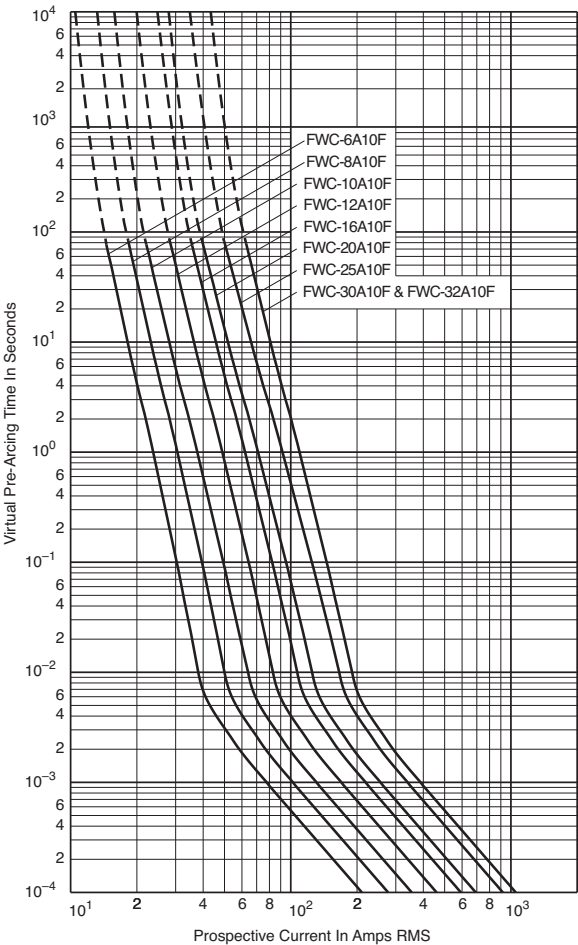
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical applications

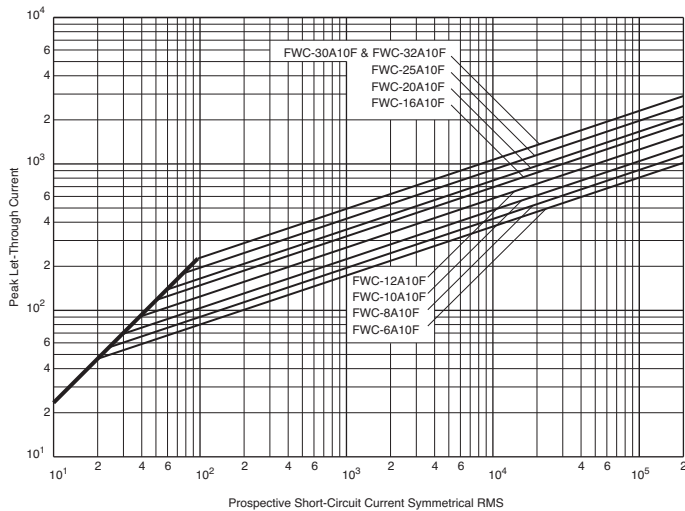
- DC Common bus
- DC Drives
- Power converters/rectifiers
- Reduced voltage starters

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

Time-current curve



Peak let-through curve



Data Sheet: 35785306

FWP 690V/700V: 1-50A (14 x 51mm) striker optional

Specifications

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

Dimensions: See dimensions illustrations.

Ratings:

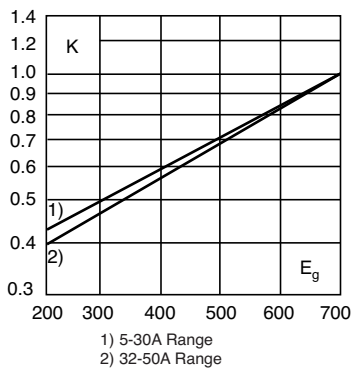
- Volts: — 690Vac (IEC)
— 700Vac (UL)
— 800Vdc (5-50A)
Amps: — 1-50A
IR: — 200kA RMS Sym.
— 50kA @800Vdc

Agency information: CE, UL Recognized 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

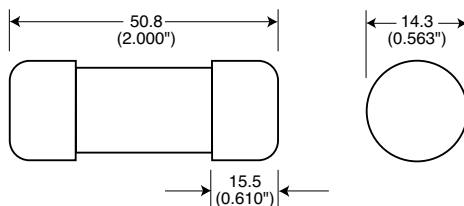
Total clearing I^2t

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).

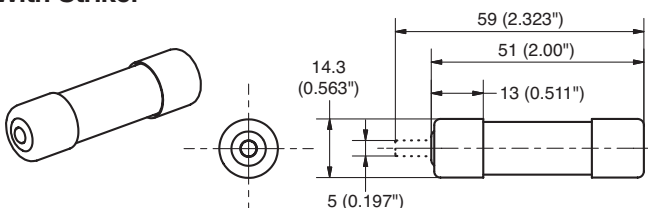


Dimensions - mm (in)

Without striker



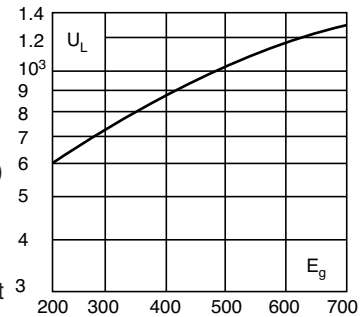
With Striker



Data Sheet: 720025

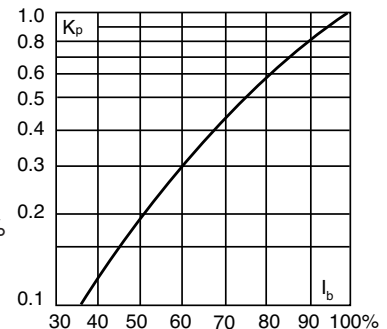
Arc voltage

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	Current RMS-amps	Electrical characteristics		Watts loss
			Rated Minimum melting	I^2t (A ² sec) Clearing at rated voltage	
Without striker					
FWP-1A14F		1	—	—	—
FWP-2A14F		2	—	—	—
FWP-2.5A14F		2.5	—	—	—
FWP-3A14F		3	—	—	—
FWP-4A14F		4	—	—	—
FWP-5A14F	14 x 51mm (5/8" x 2")	5	1.6	11.0	1.5
FWP-10A14F		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	14 x 51mm (5/8" x 2")	10	3.6	38.5	4
FWP-15A14FI		15	8.6	70	5.5
FWP-20A14FI		20	26.0	230	6
FWP-25A14FI		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 6-123.

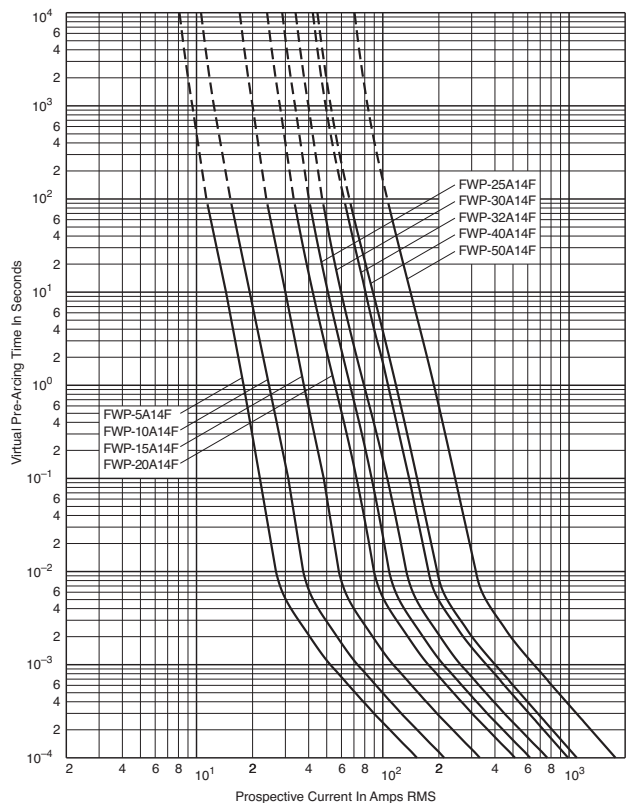
Features and benefits

- 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

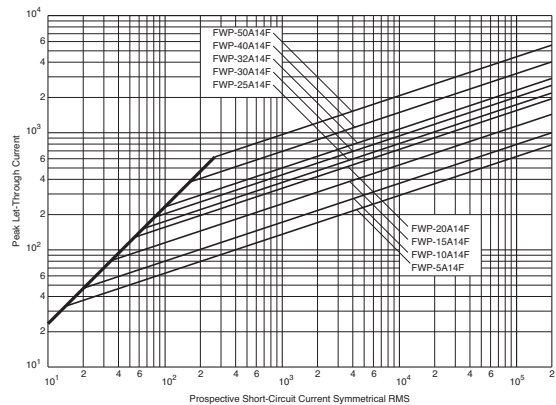
Without striker

FWP 5-50A: 660V/700V (14 x 51mm)

Time-current curve



Peak let-through curve



FWP 690V/700V: 20-100A (22 x 58mm) striker optional

Specifications

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

Dimensions: See dimensions illustration.

Ratings:

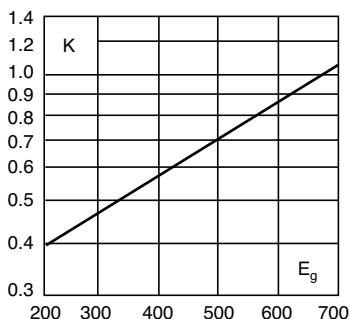
- Volts: — 690Vac (IEC)
— 700Vac (UL)
— 500Vdc (20-100A)
Amps: — 20-100A
IR: — 200kA RMS Sym.
— 50kA @ 500Vdc

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

Electrical characteristics

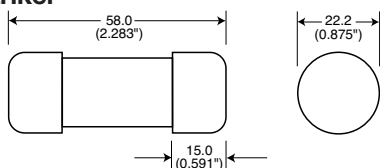
Total clearing I^2t

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).

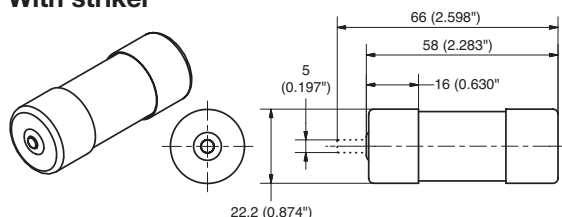


Dimensions - mm (in)

Without striker



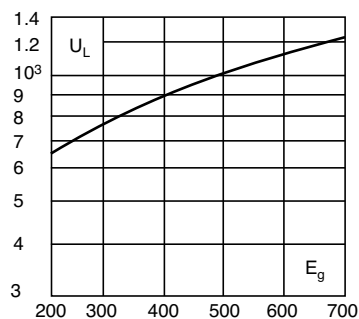
With striker



FWP with
striker
option.

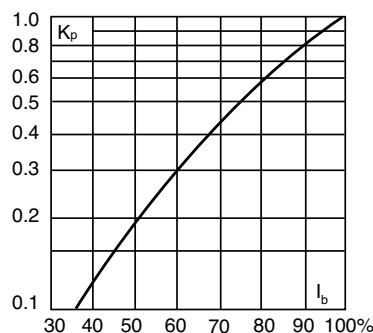
Arc voltage

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)		Watts loss
			Minimum melting	Clearing at rated voltage	
Without striker	22 x 58mm (7/8" x 2 1/2")	20	19.0	260	5
FWP-20A22F		25	34.0	410	6
FWP-25A22F		32	53.5	605	8
FWP-32A22F		40	68	750	9
FWP-40A22F		50	135	1600	9.5
FWP-50A22F		63	280	3080	11
FWP-63A22F		80	600	6600	13.5
FWP-80A22F		100*	1100	12500	16
FWP-100A22F	22 x 58mm (7/8" x 2 1/2")	20	19.0	260	5
With striker		25	34.0	410	6
FWP-20A22FI		32	53.5	605	8
FWP-25A22FI		40	68	750	9
FWP-32A22FI		50	135	1600	9.5
FWP-40A22FI		63	280	3080	11
FWP-50A22FI		80	600	6600	13.5
FWP-63A22FI		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

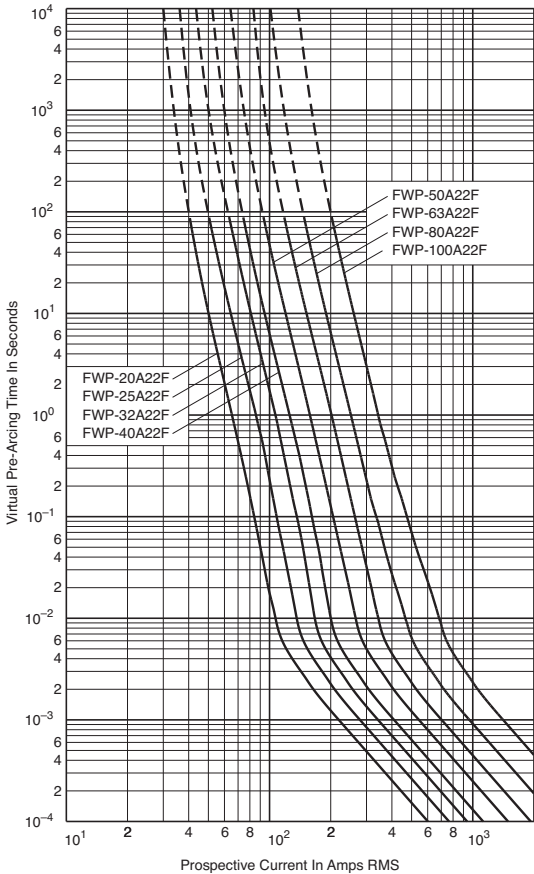
Typical applications

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

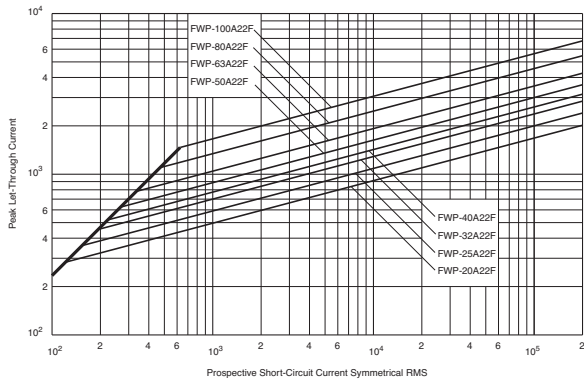
Without striker

FWP 20-100A: 660V/700V (22 x 58mm)

Time-current curve



Peak let-through curve



Data Sheet: 35785291

FWK 750V: 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	I ² t (A ² 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 5 ⁷ / ₁₆ ")	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

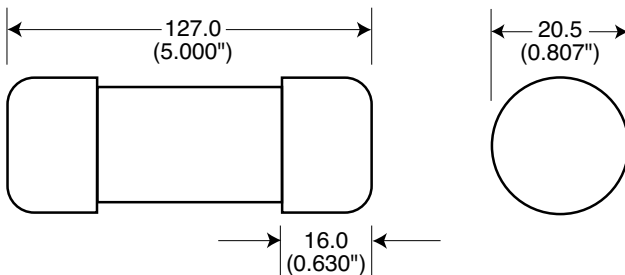
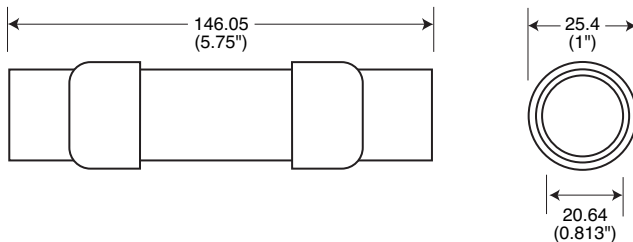
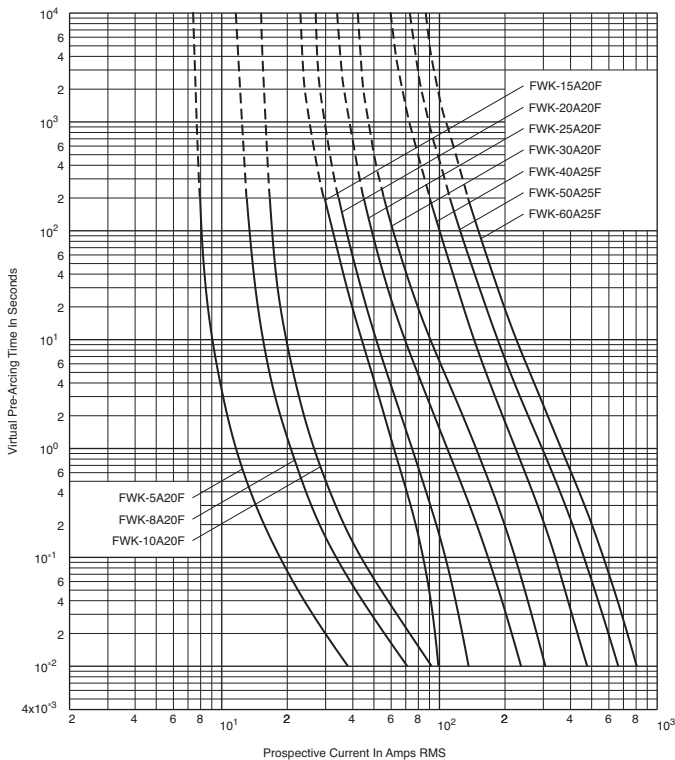


Fig. 2: 35-60A



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

Time-current curve



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

Description: Ferrule style high speed fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 1000Vac/800Vdc

Amps: — 20-30A

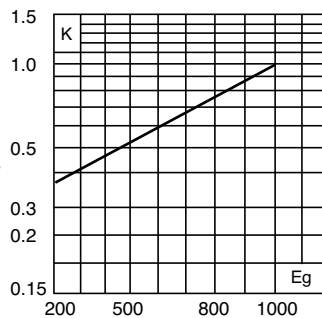
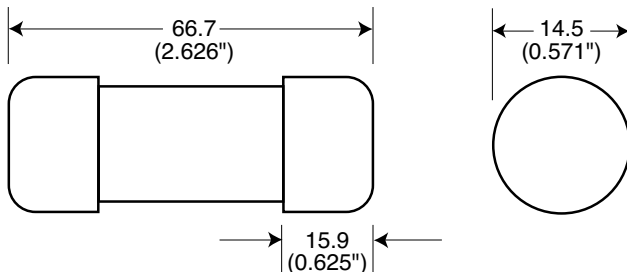
IR: — 25kA RMS Sym.

— 20kA @ 800Vdc

Agency information: CE, UL Recognized JFHR2.E91958

Electrical characteristics**Total clearing I^2t**

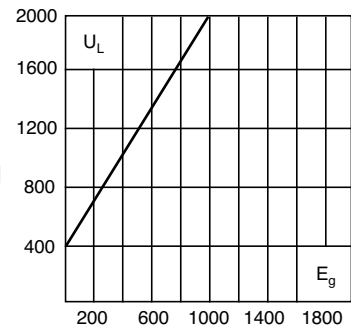
The total clearing I^2t at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing I^2t is found by multiplying by correction factor, K, given as a function of applied working voltage, E_g , (rms).

**Dimensions - mm (in)****Fuseclips:**

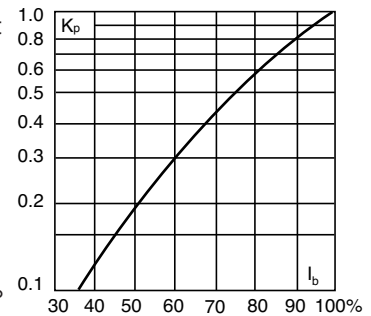
- Catalog number: 5591 (see data sheet 2132)

Arc voltage

This curve gives the peak arc voltage, U_L , which may appear across the fuse during its operation as a function of 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)		Watts loss
FWJ-20A14F	14 x 67mm	20	Pre-arc	Clearing at 1000V	
FWJ-25A14F	(% x 2%)	25	25	220	9
FWJ-30A14F		30	33	350	11
			52	450	14

• Watts loss provided at rated current.
• See accessories on page 6-123.

Features and benefits

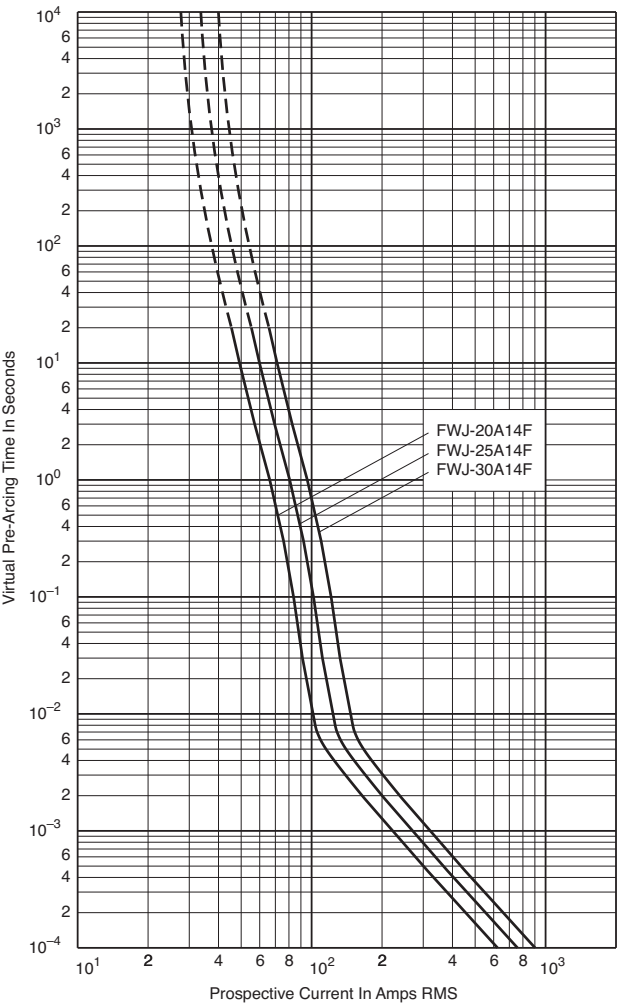
- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through (I^2t)
- Low watts loss in a compact size
- Used with finger-safe holders/blocks

Typical applications

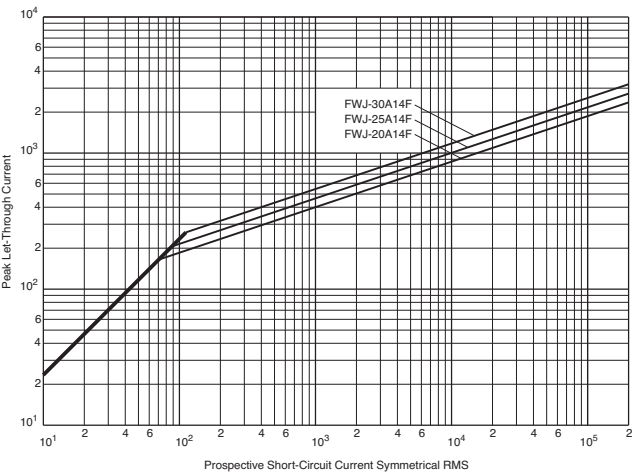
- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

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

Time-current curve



Peak let-through curve



FWS/FWL 1000Vdc: 2-30A (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

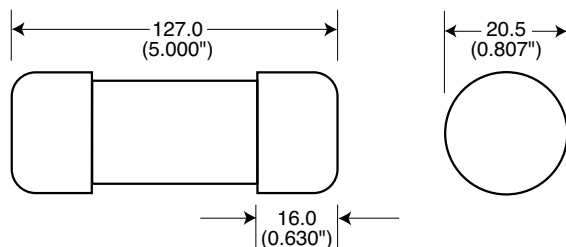
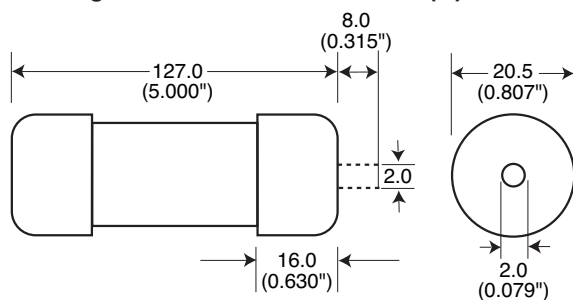
- IR: — 45kA RMS Sym.
 — 30kA @ 1000Vdc

Agency information: CE, IEC 60077

Catalog numbers

Catalog numbers	Size	Electrical characteristics			
		Rated current RMS-amps	I ² t (A ² sec)		Watts loss
			Pre-arc	Clearing at 1000Vdc	
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

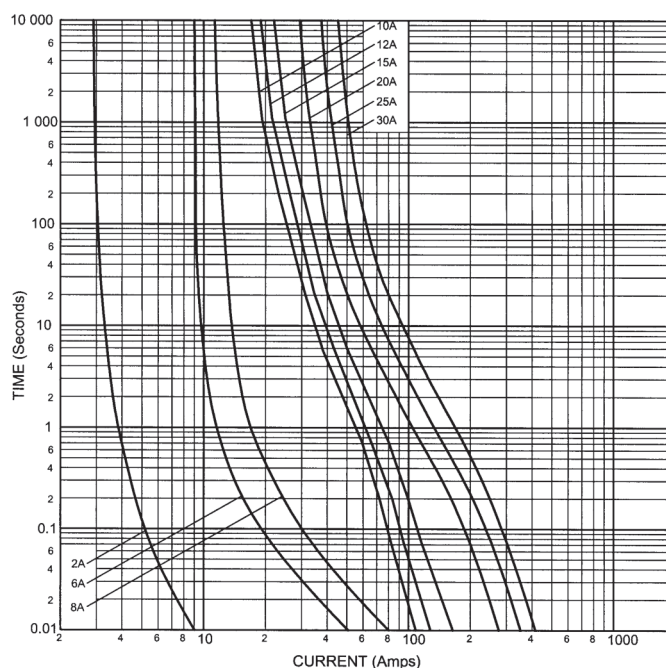
- ADD "I" to catalog number for indicating version.
- Enclosed finger-safe fuse holder – CH127
- See accessories on page 6-123.
- Watts loss provided at rated current.

Dimensions - mm (in)**Indicating version - dimensions - mm (in)****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

Time-current curve

Fuse holders

Specifications

Catalog Symbol: CH

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 Bussmann series 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, and PV
14 x 51 FWX, FWH, FWP and NON
22 x 58 FWP

See pages 9-2 – 9-7 for CH fuse holder information.



Fuse blocks

Specifications

Catalog symbol: J70032, J70100

Description: Fuse blocks for 22x58mm and 14x51mm fuses.

Ratings:

Volts: — 700Vac/dc

Amps: — 32-100A

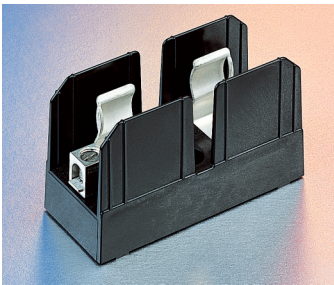
Withstand: — 200kA RMS Sym.

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	
JM70100-1CR	22x58	100	1	#2	
JM70100-2CR		100	2	#2	
JM70100-3CR		100	3	#2	



High speed fuses



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

EATON

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