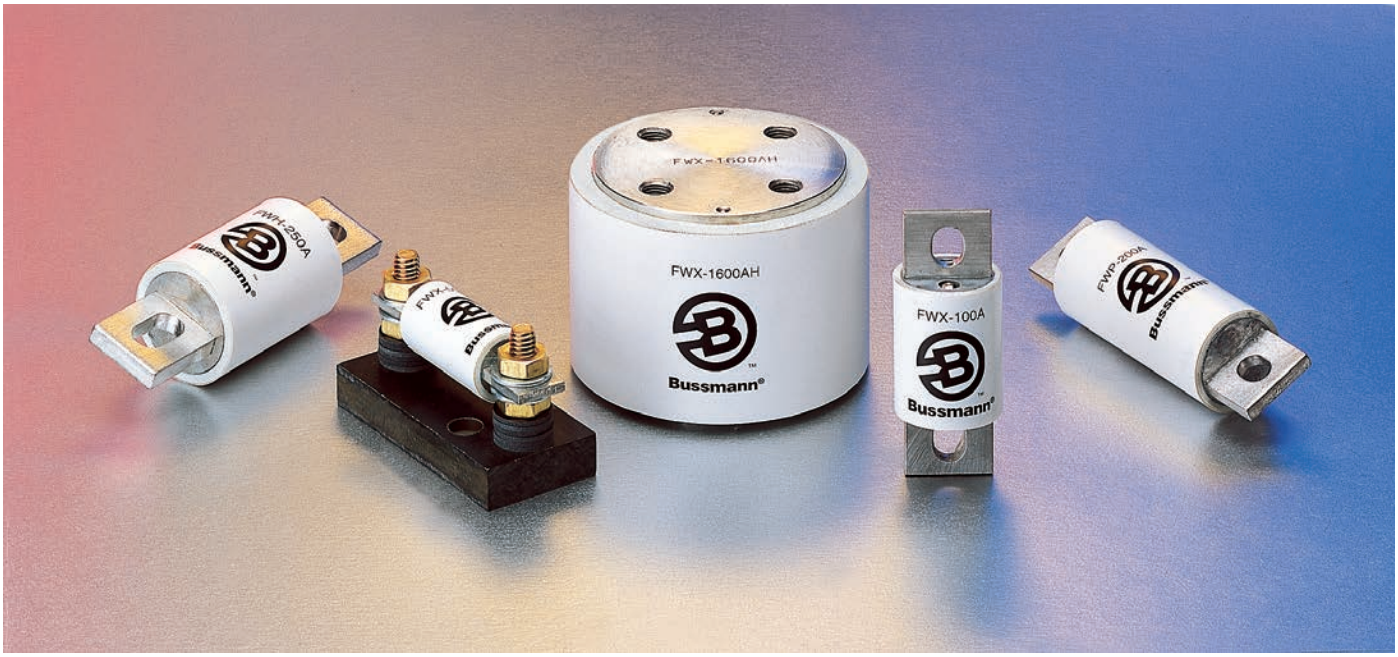
6 High speed fuses

North American



Introduction

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North American fuse ranges

Amps	Volts	AC	DC
1000-4000	130	X	X
70-1000	150	X	X
35-2500	250	X	X
35-1600	500	X	X
1-1000	600	X	—
5-1200	700	X	X
40-600	800	—	X
35-2000	1000	X	—

General information

Eaton offers a complete range of North American blade and flush-end style fuses and accessories. Their design and construction were optimized to provide:

- Low energy let-through (I^2t)
- Low watts loss
- Superior cycling capability
- Low arc voltage
- Excellent DC performance

North American style fuses provide an excellent solution for medium power applications. While there are currently no published standards for these fuses, the industry has standardized on mounting centers that accept Bussmann series fuses.

Voltage rating

All Eaton North American style fuses are tested at their rated voltage. Eaton should be consulted for applications exceeding those values.

Accessories

External and internal open fuse indication is available for selected portions of the North American line. Fuse blocks are available for most applications.

FWH 500V: 35-1600A

Specifications

Description: North American style stud-mount fuses.

Dimensions: See dimensions illustration.

Ratings:

Volts: — 500Vac/dc (35-800A only)

Amps: — 35-1600A

IR: — 200kA Sym.

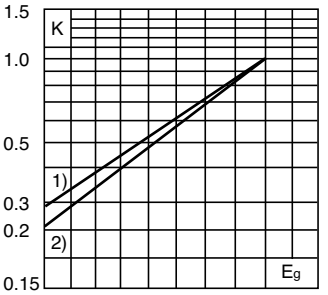
— 50kA @ 500Vdc (35-800A)

Agency information: CE, UL Recognized JFHR2.E91958 FWH-_B (35-200A, 1000-1200A), JFHR2.E56412 FWH-_A (225-600A), CSA Component Acceptance Class 1422-30, File 53787 (35-1600A).

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) 35-800A Range
2) 1000-1600A Range

Dimensions - in

Amp Range	Fig.	A	B	C	D	E	F	G	H	J
35-60	1	3.188	0.813	1.593	2.541	2.193	0.344	0.719	0.125	0.518
70-100	1	3.625	0.947	1.736	2.853	2.807	0.352	0.750	0.125	0.375
125-200	1	3.625	1.156	1.836	2.892	2.768	0.344	1.000	0.188	0.406
225-400	1	4.340	1.500	2.090	3.440	2.750	0.410	1.000	0.250	0.750
450-600	1	4.340	2.000	2.090	3.530	2.780	0.410	1.500	0.250	0.780
700-800	1	6.340	2.500	2.090	4.970	3.440	0.530	2.000	0.380	1.300
1000-1200	1	6.969	3.000	3.219	5.465	4.475	0.625	2.375	0.438	1.120
1400-1600	2	See Drawing								

1mm = 0.0394" / 1" = 25.4mm

Fig. 1: 35-1200A

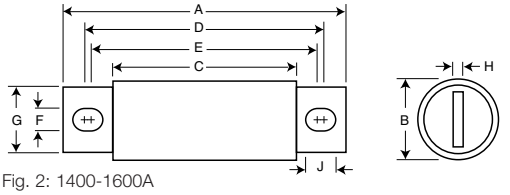
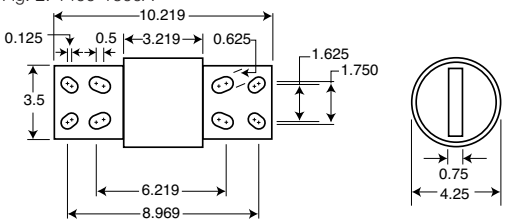
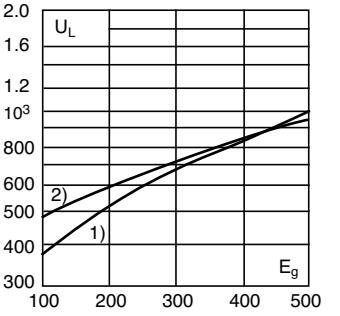


Fig. 2: 1400-1600A



Arc voltage

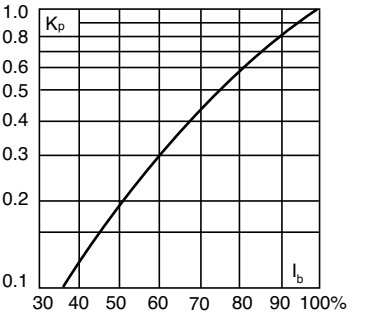
This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of theapplied working voltage, E_g, (rms) at a power factor of 15%.



1) 35-200 and 1000-1600A Range
2) 225-800A Range

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, Ib, in % of the rated current.



Catalog numbers

Catalog numbers	Electrical characteristics: Rated current RMS-amps	I²t (A² Sec): Pre-arc	I²t (A² Sec): Clearing at 500V	Watts loss
FWH-35B	35	34	150	8
FWH-40B	40	76	320	7.5
FWH-45B	45	105	450	7.5
FWH-50B	50	135	670	7.5
FWH-60B	60	210	900	9.9
FWH-70B	70	210	900	10.6
FWH-80B	80	305	1400	12.7
FWH-90B	90	360	1600	15
FWH-100B	100	475	2000	17
FWH-125B	125	800	3500	25
FWH-150B	150	1100	4600	30
FWH-175B	175	1450	6200	35
FWH-200B	200	1900	8500	40
FWH-225A	225	4600	23300	39
FWH-250A	250	6300	32200	41
FWH-275A	275	7900	40300	46
FWH-300A	300	9800	49800	51
FWH-325A	325	13700	63800	53
FWH-350A	350	14500	72900	58
FWH-400A	400	19200	96700	65
FWH-450A	450	24700	127000	74
FWH-500A	500	29200	149000	84
FWH-600A	600	41300	206000	108
FWH-700A	700	55000	298000	120
FWH-800A	800	76200	409000	129
FWH-1000A	1000	92000	450000	145
FWH-1200A	1200	122000	600000	180
FWH-1400A	1400	200000	1000000	210
FWH-1600A	1600	290000	1400000	230

• Watts loss provided at rated current. • See accessories on page 6-21.

Features and benefits

- Excellent DC performance
- Low arc voltage and low energy let-through (I²t)
- Superior cycling capability

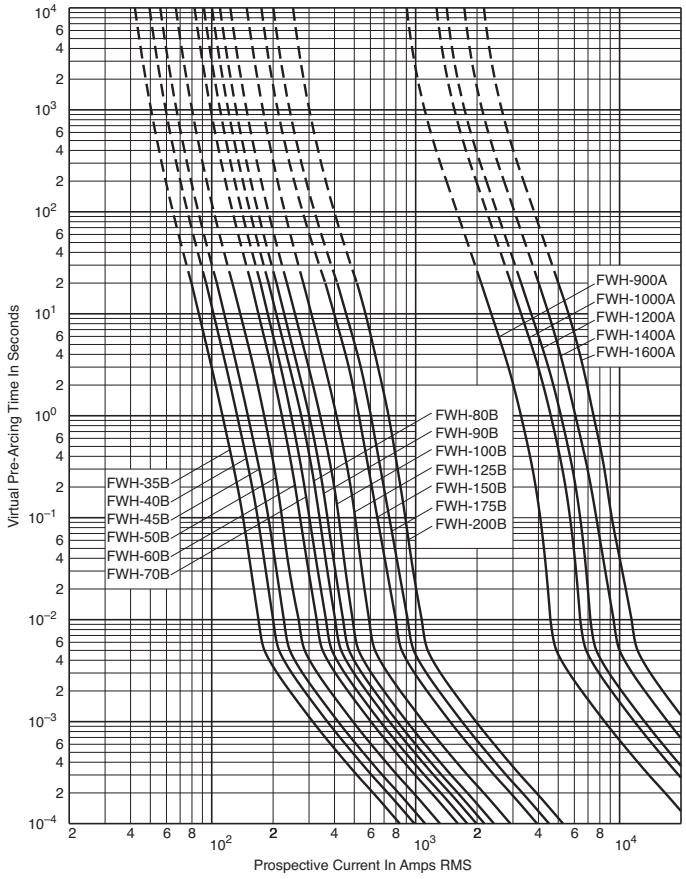
Typical applications

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

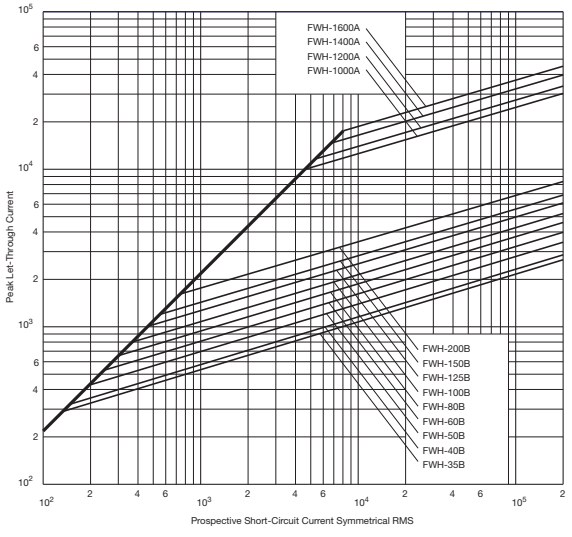
Data Sheet: 720007

FWH 35-200A(B) and 900-1600A(A): 500V

Time-current curve



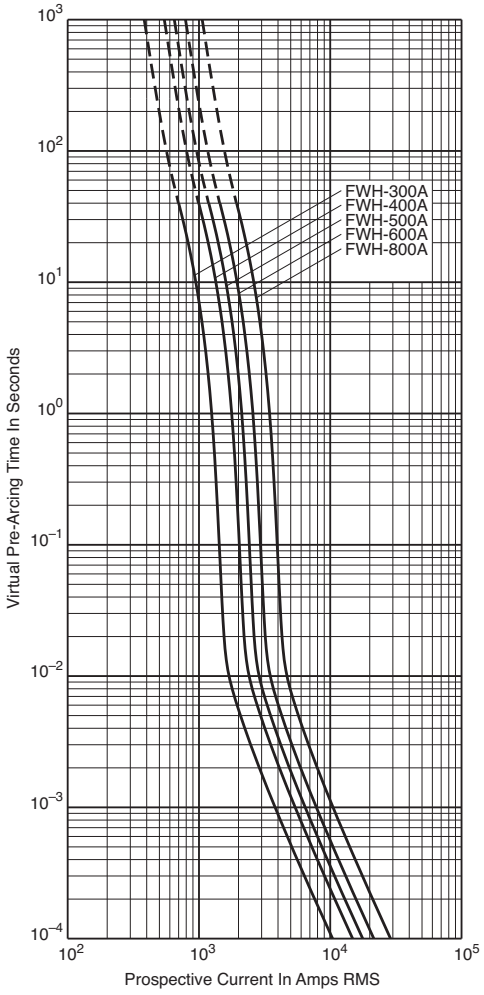
Peak let-through curve



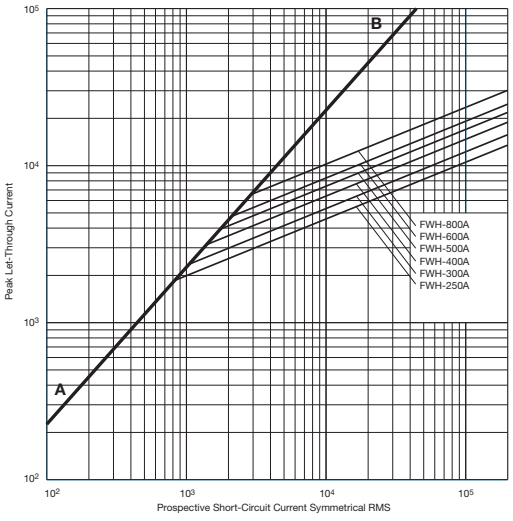
Data Sheet: 35785304

FWH 250-800A: 500V

Time-current curve



Peak let-through curve



Data Sheet: 360