

# HHZ-BPT

## High Voltage Fuses Special Purpose

### Application Range Types

#### Fuses for Protection of Potential Transformers(PT)

SIBA HHZ-BPT series of special purpose fuses are current-limiting "Back-Up" class for the protection of "potential transformers" (PT) based on SIBA's own "Company Standard". These specially designed fuses have excellent current-limiting properties with the capability of isolating the faulty potential transformer in a matter of milliseconds from the grid. The fuses are available in 6/12kV, 10/17.5kV, 20/36kV and 20/36kV, have current ratings from 1A – 5A without strikers, available in two diameters, 24mm and 39.6mm with body lengths commensurate to the rated voltage.

The first criteria is the system operating voltage, the rated voltage of the fuse must exceed the system operating voltage. Under normal operating conditions, the voltage transformer's load current is usually much less than 1A. The fuse is selected to withstand worst case transients. The transient currents (such as inrush during energizing) should be plotted on the fuses' TCC (Time Current Characteristic) curve for determining discrimination. A discrimination safety margin of 1:2 is recommended to avoid nuisance tripping.

NEW - E-Rated fuses per IEEE C37-41 -2008 - Contact SIBA



## Selection Guide

### HHZ-BPT, Current-Limiting, Back-Up, Potential Transformer Protection(PT)

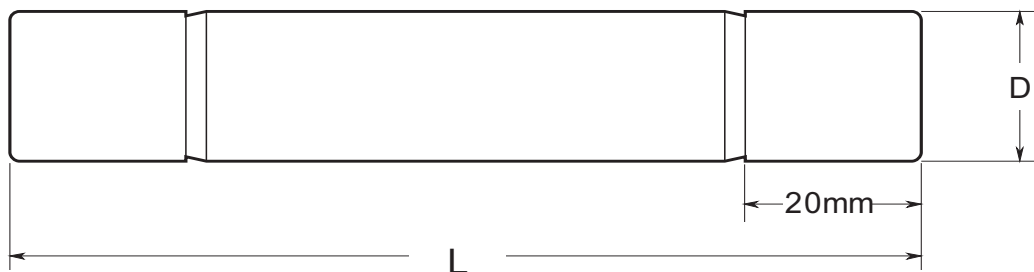
Current ratings [A]; 1, 2, 3, 4, 5

L=142mm	Page	L=195mm	Page	L=220mm	Page	L=340mm	Page	L=359mm	Page		
<b>3/7.2kV</b>											
3038311.1 - 3	136	3037711.1 - 3	136	3037111.1 - 5	136						
<b>6/12kV</b>											
		3037811.1 - 3	137	3037211.1 - 5	137						
<b>10/17.5kV</b>											
				3044411.1 - 3	138	3037311.1 - 5	138	3037911.1 - 3	138		
<b>10/24kV</b>											
						3037411.1 - 5	139	3038011.1 - 3	139		
<b>20/36kV</b>											
								L=359mm	Page	L=440mm	Page
								3038111.1 - 3	140	3037511.1 - 3	140

**NEW - E-Rated fuses per IEEE C37-41 -2008, 0.5E - 7E, 2.4kV- 7.2kV and 8.3kV - 17.5KV, 80kAIR - Contact SIBA**

Current ratings [A]; 0.5E, 0.75E, 1E , 2E , 3E , 4E, 5E, 7E

L=142mm	Page	L=195mm	Page			L=340mm	Page	L=359mm	Page
<b>2.4/7.2kV</b>									
3038311.0.5 - 4E		3037711.0.5E - 7E							
<b>8.3/17.5kV</b>									
								3037911.0.5E - 7E	



**HHZ-BPT**  
3/7.2kV - Rated Voltage

### High Voltage Current-Limiting Fuses

For PT Transformers  
without Striker

Class

Back-Up

Standard(s)

Company

Standard



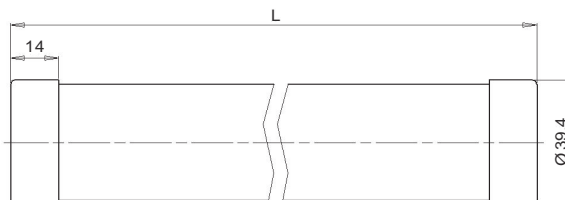
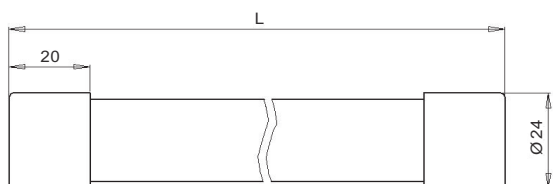
Size L = 142mm/195mm/220mm

Rated Current $I_n$ [A]	Article Number	Diameter <b>D</b>	Weight [kg/1]	Rated Breaking Current $I_1$ [kA]	Minimum Breaking Current $I_3$ [A]	Pre-arcing $I^2t$ [A <sup>2</sup> s]	Total $I^2t$ @		Power Loss [W]	Cold Resistance [mΩ]
		[in/mm]					$0.87U_n(\text{Max})$	[A <sup>2</sup> s]		
<b>L = 142mm</b>										
1	3038311.1	0.94 / 24	0.2	63	8	0.6	—	1.9	3.2	—
2	3038311.2	0.94 / 24	0.2	63	16	3.4	—	9.9	5.8	—
3	3038311.3	0.94 / 24	0.2	63	24	16.1	—	47.8	6.3	—
<b>L = 195mm</b>										
1	3037711.1	0.94 / 24	0.2	63	8	0.6	—	1.9	3.2	—
2	3037711.2	0.94 / 24	0.2	63	16	3.4	—	9.9	5.8	—
3	3037711.3	0.94 / 24	0.2	63	24	16.1	—	47.8	6.3	—
<b>L = 220mm</b>										
1	3037111.1	1.56 / 39.6	0.7	63	8	0.6	—	1.9	3.1	—
2	3037111.2	1.56 / 39.6	0.7	63	16	3.2	—	9.9	5.5	—
3	3037111.3	1.56 / 39.6	0.7	63	24	16.1	—	47.8	6.1	—
4	3037111.4	1.56 / 39.6	0.7	63	32	28.9	—	85.3	7.4	—
5	3037111.5	1.56 / 39.6	0.7	63	40	40.9	—	120.7	9.0	—

### Accessories

Article Description	Article Part Number		Page(s)
Fuse Clips	6100201.3	D[in/mm] 0.94 / 24	142
Terminal Bar for Fuse Clips	6100201.4		142
Fuse Clips	9109401.3	D[in/mm] 1.56 / 39.6	142
Terminal Bar for Fuse Clips	9109401.4		142
Fuse Base	Contact SIBA		

### Dimensions [mm]



**HHZ-BPT**

6/12kV - Rated Voltage

**High Voltage Current-Limiting Fuses**

For PT Transformers  
without Striker

Class

Back-Up

Standard(s)

Company  
Standard



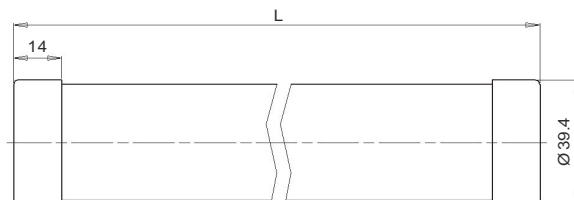
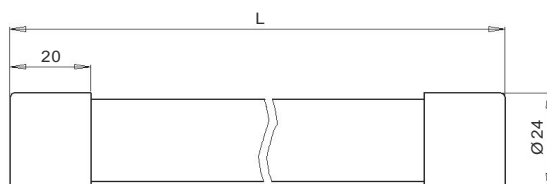
Size L = 195mm/220mm

Rated Current $I_n$ [A]	Article Number	Diameter	Weight [kg/1]	Rated Breaking Current $I_1$ [kA]	Minimum Breaking Current $I_3$ [A]	Pre-arcing $I^2t$ [A <sup>2</sup> s]	Total $I^2t$ @		Power Loss [W]	Cold Resistance [mΩ]
		D					0.87U <sub>n</sub> (Max)			
		[in/mm]					[A <sup>2</sup> s]	[A <sup>2</sup> s]		
<b>L = 195mm</b>										
1	3037811.1	0.94 / 24	0.2	63	8	0.6	—	1.9	5.5	—
2	3037811.2	0.94 / 24	0.2	63	16	3.2	—	9.9	10	—
3	3037811.3	0.94 / 24	0.2	63	24	16.1	—	47.8	11	—
<b>L = 220mm</b>										
1	3037211.1	1.56 / 39.6	0.7	63	8	0.6	—	1.9	5.3	—
2	3037211.2	1.56 / 39.6	0.7	63	16	3.2	—	9.9	9.4	—
3	3037211.3	1.56 / 39.6	0.7	63	24	16.1	—	47.8	11	—
4	3037211.4	1.56 / 39.6	0.7	63	32	28.9	—	85.3	12	—
5	3037211.5	1.56 / 39.6	0.7	63	40	40.9	—	120.7	16	—

**Accessories**

Article Description	Article Part Number		Page(s)
Fuse Clips	6100201.3	D[in/mm] 0.94 / 24	142
Terminal Bar for Fuse Clips	6100201.4		142
Fuse Clips	9109401.3	D[in/mm] 1.56 / 39.6	142
Terminal Bar for Fuse Clips	9109401.4		142
Fuse Base	Contact SIBA		

**Dimensions [mm]**



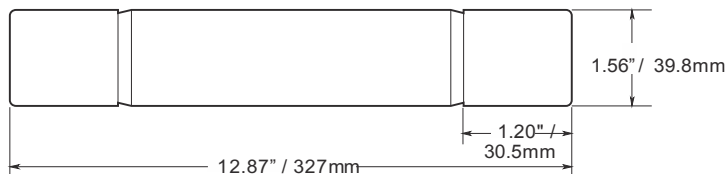
**HHZ-BPT** **High Voltage Current-Limiting Fuses** **Standard(s)**  
**10/17.5kV - Rated Voltage** **For PT Transformers** **Company**  
**without Striker** **Class** **Standard**  
**Back-Up**



Size L = 220mm/340mm/359mm

Rated Current $I_n$ [A]	Article Number	Diameter D [in/mm]	Weight [kg/l]	Rated Breaking Current $I_1$ [kA]	Minimum Breaking Current $I_3$ [A]	Pre-arcing $I^2t$ [A <sup>2</sup> s]	Total $I^2t @ 0.87U_n(\text{Max})$ [A <sup>2</sup> s]	Power Loss [W]	Cold Resistance [mΩ]	
<b>L = 220mm</b>										
1	3044411.1	1.56 / 39.6	0.7	63	8	0.6	—	1.9	7.4	—
2	3044411.2	1.56 / 39.6	0.7	63	16	3.2	—	9.9	13	—
3	3044411.3	1.56 / 39.6	0.7	63	24	16.1	—	47.8	15	—
<b>L = 340mm</b>										
1	3037311.1	1.56 / 39.6	1.1	63	8	0.6	—	1.9	7.4	—
2	3037311.2	1.56 / 39.6	1.1	63	16	3.2	—	9.9	13	—
3	3037311.3	1.56 / 39.6	1.1	63	24	16.1	—	47.8	15	—
4	3037311.4	1.56 / 39.6	1.1	63	32	28.9	—	85.3	20	—
5	3037311.5	1.56 / 39.6	1.1	63	40	40.9	—	120.7	24	—
<b>L = 359mm</b>										
1	3037911.1	0.94 / 24	0.7	63	8	0.6	—	1.9	8	—
2	3037911.2	0.94 / 24	0.7	63	16	3.2	—	9.9	13	—
3	3037911.3	0.94 / 24	0.7	63	24	16.1	—	47.8	15	—

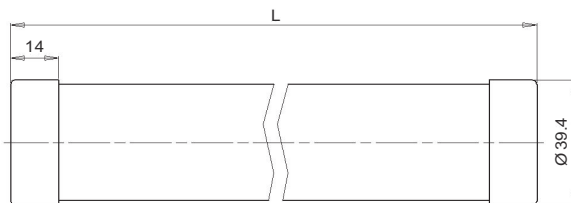
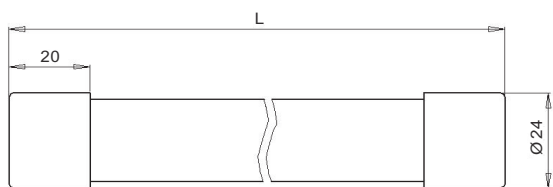
**New - 15.5kV E-Rated Fuse - Contact SIBA**



**Accessories**

Article Description	Article Part Number		Page(s)
Fuse Clips	6100201.3	D[in/mm] 0.94 / 24	142
Terminal Bar for Fuse Clips	6100201.4		142
Fuse Clips	9109401.3	D[in/mm] 1.56 / 39.6	142
Terminal Bar for Fuse Clips	9109401.4		142
Fuse Base	Contact SIBA		

**Dimensions [mm]**



**HHZ-BPT**

10/24kV - Rated Voltage

**High Voltage Current-Limiting Fuses**

For PT Transformers  
without Striker

Class

Back-Up

Standard(s)

Company

Standard



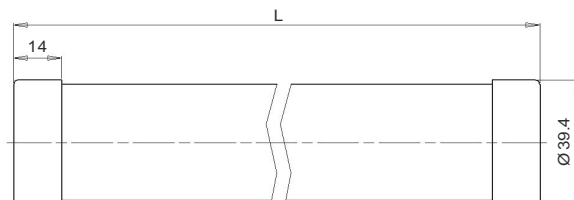
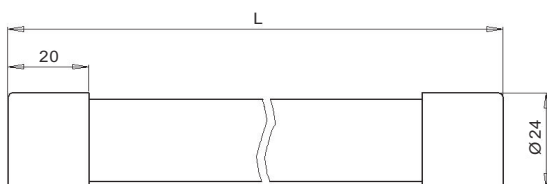
Size L = 340mm/359mm

Rated Current $I_n$ [A]	Article Number	Diameter	Weight [kg/1]	Rated Breaking Current $I_1$ [kA]	Minimum Breaking Current $I_3$ [A]	Pre-arcing $I^2t$ [A <sup>2</sup> s]	Total $I^2t$ @		Power Loss [W]	Cold Resistance [mΩ]
		D					0.87U <sub>n</sub> (Max)			
[in/mm]	[in/mm]	[A <sup>2</sup> s]	[A <sup>2</sup> s]	[A <sup>2</sup> s]						
<b>L = 340mm</b>										
1	3037411.1	1.56 / 39.6	1.1	63	8	0.6	—	1.9	9	—
2	3037411.2	1.56 / 39.6	1.1	63	16	3.2	—	9.9	15	—
3	3037411.3	1.56 / 39.6	1.1	63	24	16.1	—	47.8	17	—
4	3037411.4	1.56 / 39.6	1.1	63	32	28.9	—	85.3	26	—
5	3037411.5	1.56 / 39.6	1.1	63	40	40.9	—	120.7	31	—
<b>L = 359mm</b>										
1	3038011.1	0.94 / 24	0.8	63	8	0.6	—	1.9	10	—
2	3038011.2	0.94 / 24	0.8	63	16	3.2	—	9.9	16	—
3	3038011.3	0.94 / 24	0.8	63	24	16.1	—	47.8	18	—

**Accessories**

Article Description	Article Part Number		Page(s)
Fuse Clips	6100201.3	D[in/mm] 0.94 / 24	142
Terminal Bar for Fuse Clips	6100201.4		142
Fuse Clips	9109401.3	D[in/mm] 1.56 / 39.6	142
Terminal Bar for Fuse Clips	9109401.4		142
Fuse Base	Contact SIBA		

**Dimensions [mm]**



**HHZ-BPT** **High Voltage Current-Limiting Fuses** **Standard(s)**  
**20/36kV - Rated Voltage** **For PT Transformers** **Company**  
**without Striker** **Standard**  
**Class**  
**Back-Up**

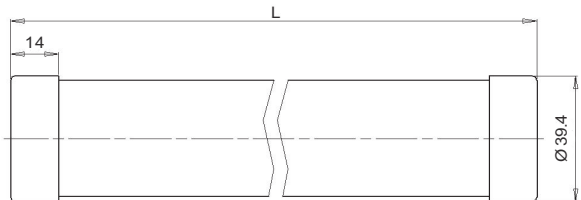
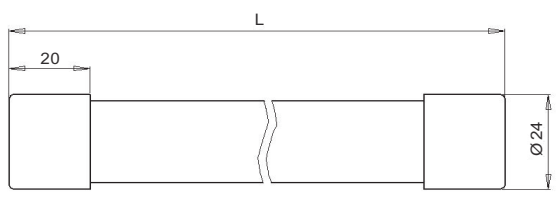


Rated Current $I_n$ [A]	Article Number	Diameter <b>D</b>	Weight [kg/1]	Rated Breaking Current $I_1$ [kA]	Minimum Breaking Current $I_3$ [A]	Pre-arcing $I^2t$ [A <sup>2</sup> s]	Total $I^2t$ @ $0.87U_n(\text{Max})$ [A <sup>2</sup> s]	Power Loss [W]	Cold Resistance [mΩ]	
		[in/mm]								
<b>L = 359mm</b>										
1	3038111.1	0.94 / 24	0.8	40	8	0.6	—	1.9	15	—
2	3038111.2	0.94 / 24	0.8	40	16	3.2	—	9.9	24	—
3	3038111.3	0.94 / 24	0.8	40	24	16.1	—	47.8	28	—
<b>L = 440mm</b>										
1	3037511.1	1.56 / 39.6	1.2	40	8	0.6	—	1.9	14	—
2	3037511.2	1.56 / 39.6	1.2	40	16	3.2	—	9.9	23	—
3	3037511.3	1.56 / 39.6	1.2	40	24	16.1	—	47.8	26	—

### Accessories

Article Description	Article Part Number		Page(s)
Fuse Clips	61 002 01.3	D[in/mm] 0.94 / 24	142
Terminal Bar for Fuse Clips	61 002 01.4		142
Fuse Clips	91 094 01.3	D[in/mm] 1.56 / 39.6	142
Terminal Bar for Fuse Clips	91 094 01.4		142
Fuse Base	Contact SIBA		

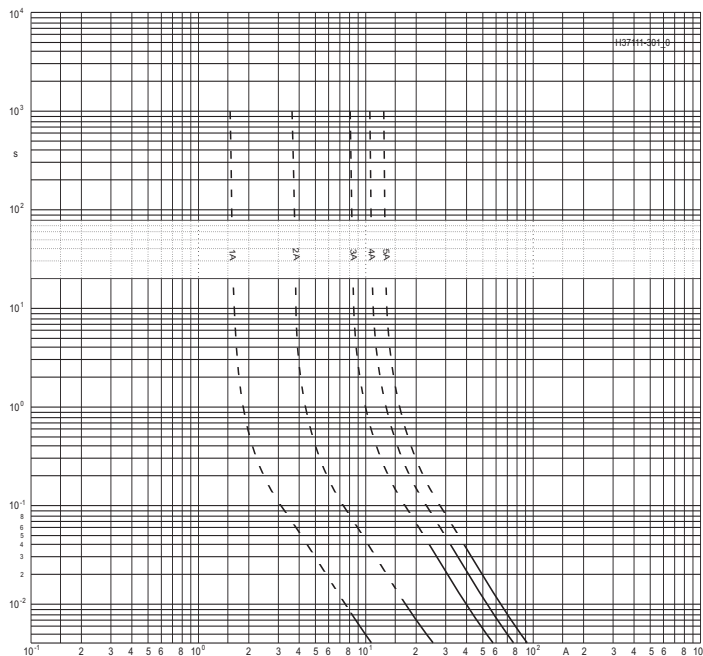
### Dimensions [mm]



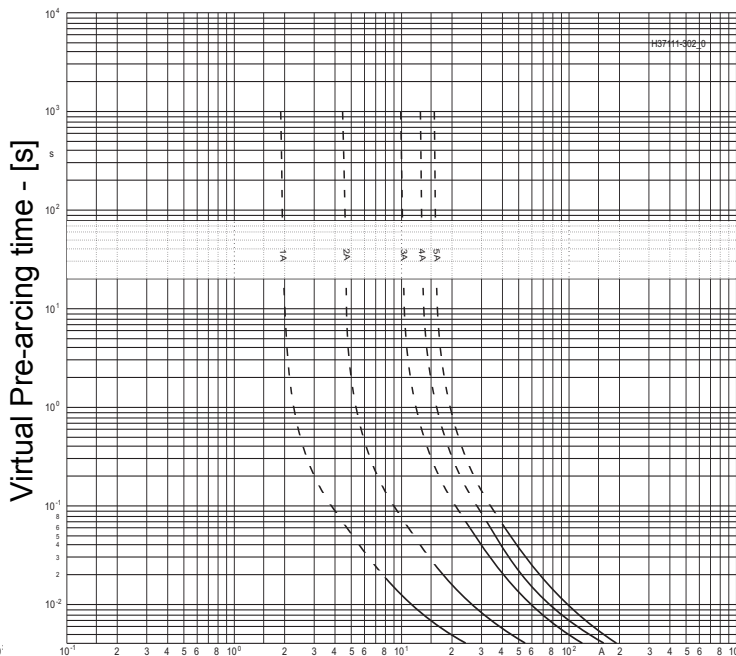
**HHZ-BPT Time-Current Characteristics - Minimum Melting and Total Clearing  
Cut-Off Current Diagram  
Current-Limiting, Back-Up, 3kV - 40.5kV (0.5A - 5A)**

30xxx11.1 - 3; xxx = 375, 377, 378, 379, 380, 381, 383, 444  
30xxx11.1 - 5; xxx = 371, 372, 373, 374

Minimum Melting

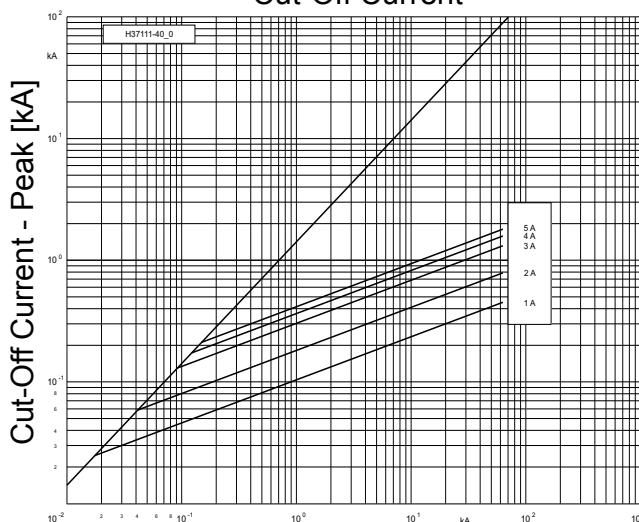


Total Clearing



R.M.S. Prospective Current [A]

Cut-Off Current

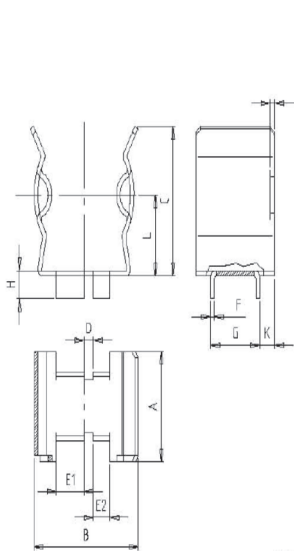


Prospective Short Circuit Current [kA] - (Symmetrical r.m.s.)



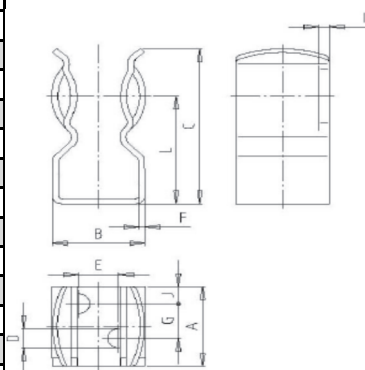
## HHZ-BPT Accessories

### Fuse Clips for 24mm and 40mm Diameter Contacts



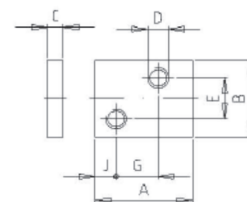
5806006

Dimensions [ in / mm]	
5806006	6100201.4
0.67 / 17.0	A 1.40 / 35.5
0.79 / 20.0	B 0.59 / 15.0
0.91 / 23.0	C 0.12 / 3.0
0.08 / 2.0	D
	D <sub>1</sub> — / M4
	D <sub>2</sub> — / M6
	E 0.31 / 8.0
0.24 / 6.0	E <sub>1</sub>
0.14 / 3.5	E <sub>2</sub>
0.03 / 0.8	F
	F <sub>1</sub> 0.30 / 7.5
	F <sub>2</sub> 0.31 / 8.0
0.42 / 10.7	G 0.31 / 8.0
0.17 / 4.2	H
0.04 / 1.0	I
0.13 / 3.2	K
0.49 / 12.5	L

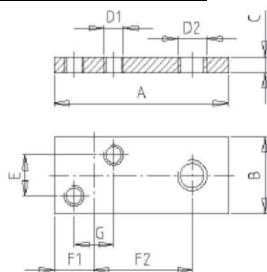


6100201.3

Dimensions [ in / mm]	
6100201.3	6300201
0.73 / 18.5	A 0.73 / 18.5
0.72 / 18.4	B 0.59 / 15.0
1.42 / 36.0	C 0.12 / 3.0
0.18 / 4.2	D — / M4
0.31 / 8.0	E 0.31 / 8.0
0.05 / 1.2	F 0.31 / 8.0
0.31 / 8.0	G
0.08 / 2.0	I
0.16 / 4.0	J 0.16 / 4.0
0.98 / 25.0	L

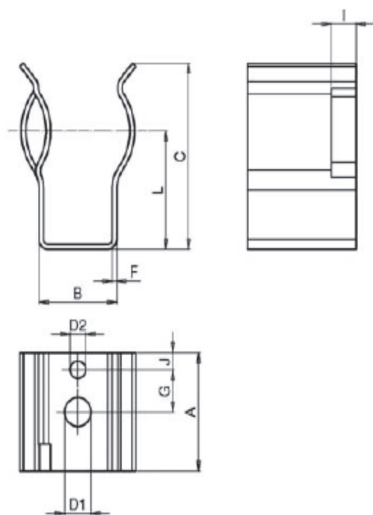


6300201



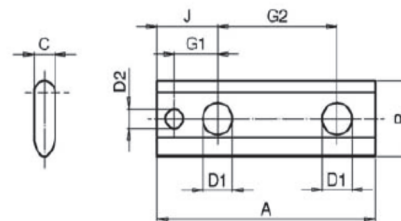
6100201.4

### Fuse Clips for 40mm Diameter Contacts



9109401.3

Dimensions [ in / mm]	
9109401.3	9109401.4
1.38 / 35.0	A 2.48 / 63.0
0.98 / 25.0	B 0.79 / 20.0
2.17 / 55.0	C 0.24 / 6.0
0.33 / 8.5	D <sub>1</sub> 0.33 / 8.5
0.20 / 5.1	D <sub>2</sub> 0.20 / 5.1
0.06 / 1.5	F
0.49 / 12.5	G
	G <sub>1</sub> 0.49 / 12.5
	G <sub>2</sub> 1.36 / 34.5
0.31 / 8.0	I
0.20 / 5.0	J 0.69 / 17.5
1.38 / 35.0	L



9109401.4