



ZCASE M10 Bolt Down Single Material Handling Fuse

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The Single ZCASE is a Minimal Footprint Bolt Down Fuse optimized for a one bolt connection M10 with a wide rating range from 70A to 600A in the same packaging size. The Time Current characteristic is similar to the well known MEGA Design and can be used as full wire protection until 250A. Higher ratings fuses are mostly used in trucks, buses, agriculture and construction equipment's or Material handling for typically Starter protector fuse.

Specifications

Voltage Rating:	80 VDC
Interrupting Rating:	2000A @ 80 VDC
Recommended Environmental Temperature:	-40°C to +125°C
Housing Material:	PPA-GF33HS (U.L. 94 Flammability rating - HB)
Terminals Material:	Tin Plated Copper Alloy
Insulating Tube:	Out of Ceramic
Net Weight Per Fuse:	22±10% gr
Mounting Torque M10:	18±2 Nm

RoHS

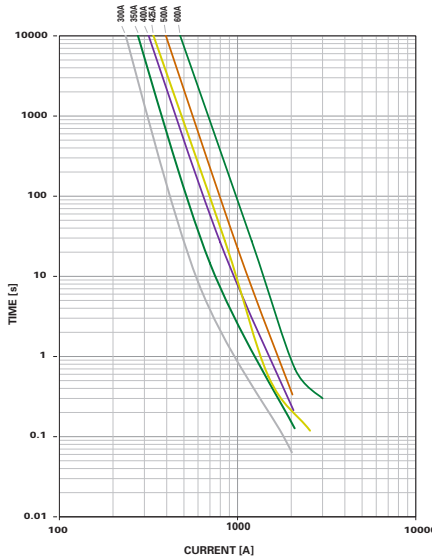
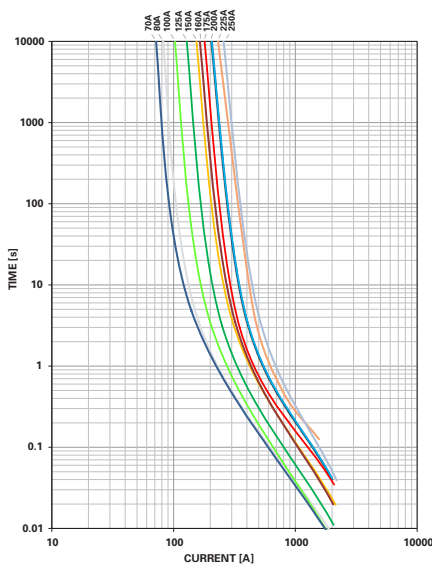
Ordering Information

Part Number	Rating	Package Size
3998XXX.ZXM10	70 - 600 & SHUNT	480

Time-Current Characteristics

% of Rating	Opening Time Min / Max (s)		
	70A - 250A	300A - 500A	600A
75	- / -	14,400 / ∞	14,400 / ∞
100	14,400 / ∞	- / -	- / -
135	120 / 1800	- / -	- / -
200	1 / 15	1 / 40	1 / 40
350	0.3 / 5	0.3 / 5	0.3 / 5
500	- / -	- / -	0.1 / 1
600	0.1 / 1	0.1 / 1	- / -

Time-Current Characteristic Curves



Ratings

Part number	Current Rating (A)	Test Cable Size (mm ²)	Typ. Voltage Drop (mV)	Typ. Cold Resistance (mΩ)	Typ. I ² t (A ² s)
3998070_	70	10	84	0.88	28,300
3998080_	80	10	95	0.78	32,000
3998100_	100	16	80	0.57	23,200
3998125_	125	16	90	0.46	52,000
3998150_	150	25	78	0.34	81,600
3998160_	160	25	82	0.34	82,800
3998175_	175	25	97	0.29	150,000
3998200_	200	35	94	0.26	165,300
3998225_	225	35	80	0.18	126,900
3998250_	250	50	82	0.17	160,900
3998300_ ²	300	50	52 ³	0.14	259,200
3998350_ ²	350	50	29 ³	0.10	583,900
3998400_ ²	400	70	27 ³	0.08	913,300
3998425_ ^{1 2}	425	70	30 ³	0.08	690,200
3998500_ ²	500	70	59 ³	0.08	1,384,300
3998600_ ^{1 2}	600	70	33 ³	0.05	2,771,800
3998900_ ¹	SHUNT	70	---	0.06	---

* Note 1: Not mentioned in ISO standards

* Note 2: Short Circuit Protector only

* Note 3: Voltage Drop measurements for short circuit protectors taken at 50% of rated current.

The I²t value is calculated from the breaking capacity tests by using the current time profile before the arcing occurs.

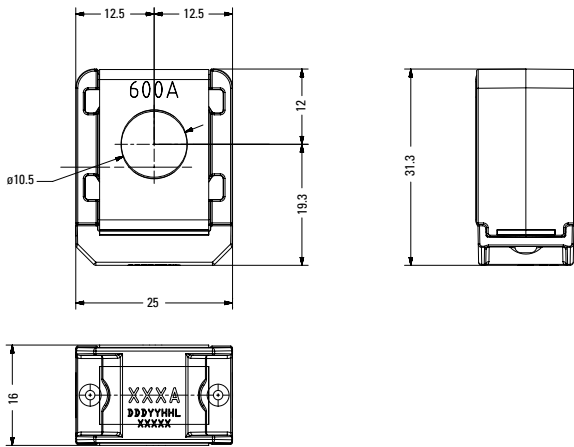
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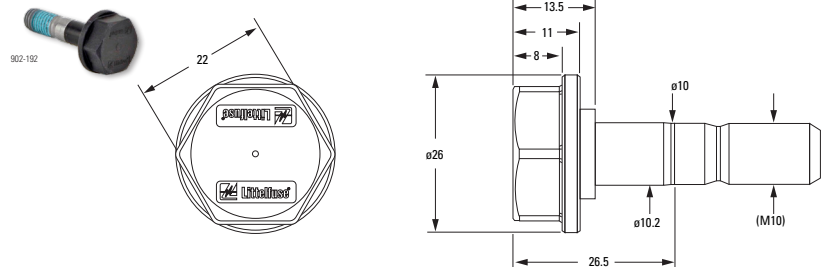
Dimensions

Dimensions in mm for reference only.
See outline drawing for dimensions and tolerances.



Assembly Components (sold separately)

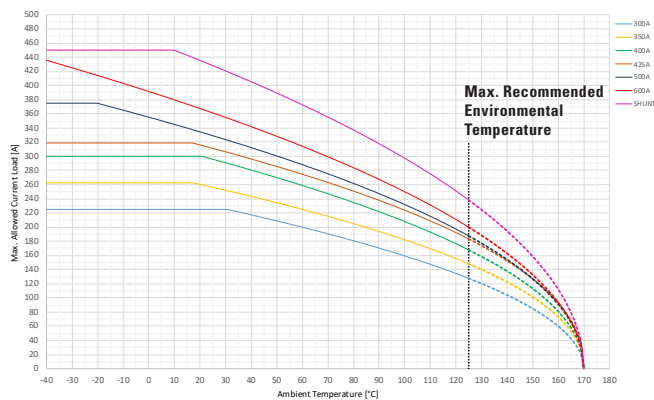
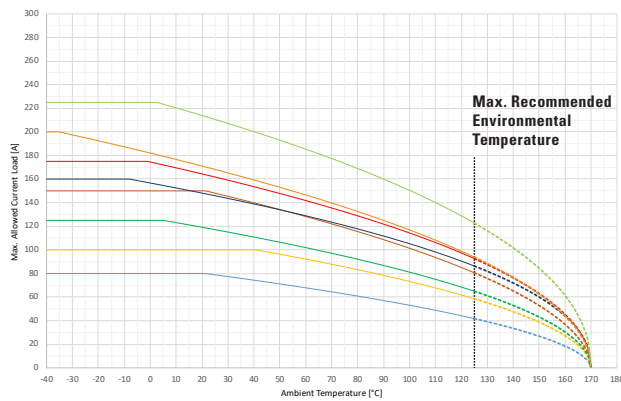
Part No.	Description
902-192	Insulated M10 Bolt (Required for installation/operation)



Please contact your Littelfuse representative for application support and information on mating hardware.

Typical Derating Of Fuse Melting Element

Temperature Security Margin is 20%
Please Contact Littelfuse® For Details Regarding Derating Test Set Up



max. allowed current load [A] at ambient temperature (typical derating)

	-40°C	0°C	20°C	65°C	85°C	110°C	125°C
70A	Coming Up						
80A	80	80	80	66	59	49	42
100A	100	100	100	90	81	68	59
125A	125	125	119	100	89	75	65
150A	150	150	150	125	112	94	81
160A	160	157	148	126	115	98	86
175A	160	157	148	126	115	98	86
200A	175	174	164	139	125	106	93
225A	200	182	171	143	129	108	94
250A	225	225	214	181	165	140	123
300A	225	225	225	225	225	197	170
350A	263	263	263	263	263	226	197
400A	300	300	300	300	300	257	224
425A	319	319	316	269	244	209	183
500A	375	355	334	282	255	215	188
600A	436	391	367	307	276	231	200
SHUNT	450	450	435	364	328	275	238

All ZCASE Derating curves were performed on the specific fixture as shown in the picture.

A 50 mm² Cu wire was mounted at the opposite fuse side of the metal bar as current feed. (Only for the SHUNT, a 70 mm² wire size was used as current feed).



Derating curves may change depending on the final condition of the application (terminals characteristics, wire size exc.). Please ask Littelfuse® for more information.

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