

Semiconductor & Special Protection

Protistor® Cylindrical fuse-links

10x38 gR 690VAC from 1 to 32A

Data Sheet

The 10x38 gR cylindrical is a fast acting, full range fuse used in the protection of inverters, UPS, variable speed drives and other discrete semiconductor devices.

Benefits

International 10x38 mm (1-1/2" x 13/32") for worldwide acceptance

Extremely fast acting

Eliminate all overloads

Current limiting

Low I²t for improved semiconductor protection

Excellent cycling capability

gR Class according to VDE 636-23 and IEC 60269-4

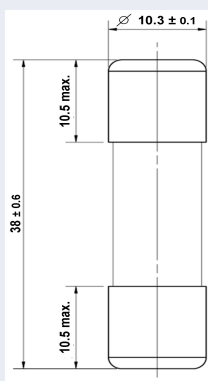
Applications

Protection of small inverters, UPS systems, motor drives and similar 700V or less equipment.



| Rated Voltage (V) | Nominal Current (A) | Class | Catalog Number | Reference Number |
|-------------------|---------------------|-------|----------------|------------------|
| 690 | 1 | gR | FR10GR69V1 | L1014563 |
| 690 | 1.25 | gR | FR10GR69V1.25 | N1014565 |
| 690 | 1.5 | gR | FR10GR69V1.5 | P1014566 |
| 690 | 2 | gR | FR10GR69V2 | Q1014567 |
| 690 | 2.5 | gR | FR10GR69V2.5 | T1014570 |
| 690 | 3 | gR | FR10GR69V3 | V1014571 |
| 690 | 4 | gR | FR10GR69V4 | W1014572 |
| 690 | 5 | gR | FR10GR69V5 | X1014573 |
| 690 | 6 | gR | FR10GR69V6 | Y1014574 |
| 690 | 8 | gR | FR10GR69V8 | Z1014575 |
| 690 | 10 | gR | FR10GR69V10 | A1014576 |
| 690 | 12.5 | gR | FR10GR69V12.5 | C1014578 |
| 690 | 16 | gR | FR10GR69V16 | D1014579 |
| 690 | 20 | gR | FR10GR69V20 | E1014580 |
| 690 | 25 | gR | FR10GR69V25 | F1014581 |
| 690 | 30 | gR | FR10GR69V30 | G1014582 |
| 690 | 32 | gR | FR10GR69V32 | H1014583 |

Dimensions (mm)



Ratings

690VAC IEC 60269-4 and 700VAC UL Recognized
500VDC UL Recognized

Approvals

UL/CSA Recognized Component
AC: UL Guide No. E76491
IEC 60269-4 Compliance
RoHS Compliant



Related products

Fuse-holders: Modulostar® CMS10

Product weight: 10g max.

Packaging: 10 pieces

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10x38 gR fuse-links

| Rated Voltage (V) | Nominal Current (A) | Breaking Capacity @ Rated Voltage (kA) | Pre-arcing I ^{2t} (A ^{2s}) | Clearing I ^{2t} @ Rated Voltage (A ^{2s}) | Watts Loss @ 100% In (W) | Watts Loss @ 80% In (W) |
|-------------------|---------------------|--|---|---|--------------------------|-------------------------|
| 690 | 1 | 160 | 0.17 | 0.48 | 0.8 | 0.4 |
| 690 | 1.25 | 160 | 0.18 | 0.55 | 1.5 | 0.8 |
| 690 | 1.5 | 160 | 0.31 | 0.80 | 1.2 | 0.6 |
| 690 | 2 | 160 | 0.94 | 2.5 | 1.3 | 0.7 |
| 690 | 2.5 | 160 | 1.65 | 4.5 | 1.4 | 0.8 |
| 690 | 3 | 160 | 2.83 | 7.8 | 1.5 | 0.9 |
| 690 | 4 | 160 | 6.7 | 12 | 1.7 | 1.0 |
| 690 | 5 | 160 | 7.5 | 30 | 0.9 | 0.6 |
| 690 | 6 | 160 | 8.5 | 40 | 1.4 | 0.8 |
| 690 | 8 | 160 | 5.4 | 35 | 1.9 | 1.1 |
| 690 | 10 | 160 | 6.7 | 55 | 2.1 | 1.2 |
| 690 | 12.5 | 160 | 11 | 90 | 2.8 | 1.3 |
| 690 | 16 | 160 | 19 | 140 | 3.0 | 1.7 |
| 690 | 20 | 160 | 39 | 245 | 3.7 | 2.1 |
| 690 | 25 | 160 | 69 | 425 | 4.3 | 2.4 |
| 690 | 30 | 160 | 107 | 675 | 4.8 | 2.7 |
| 690 | 32 | 160 | 154 | 945 | 5.1 | 2.8 |

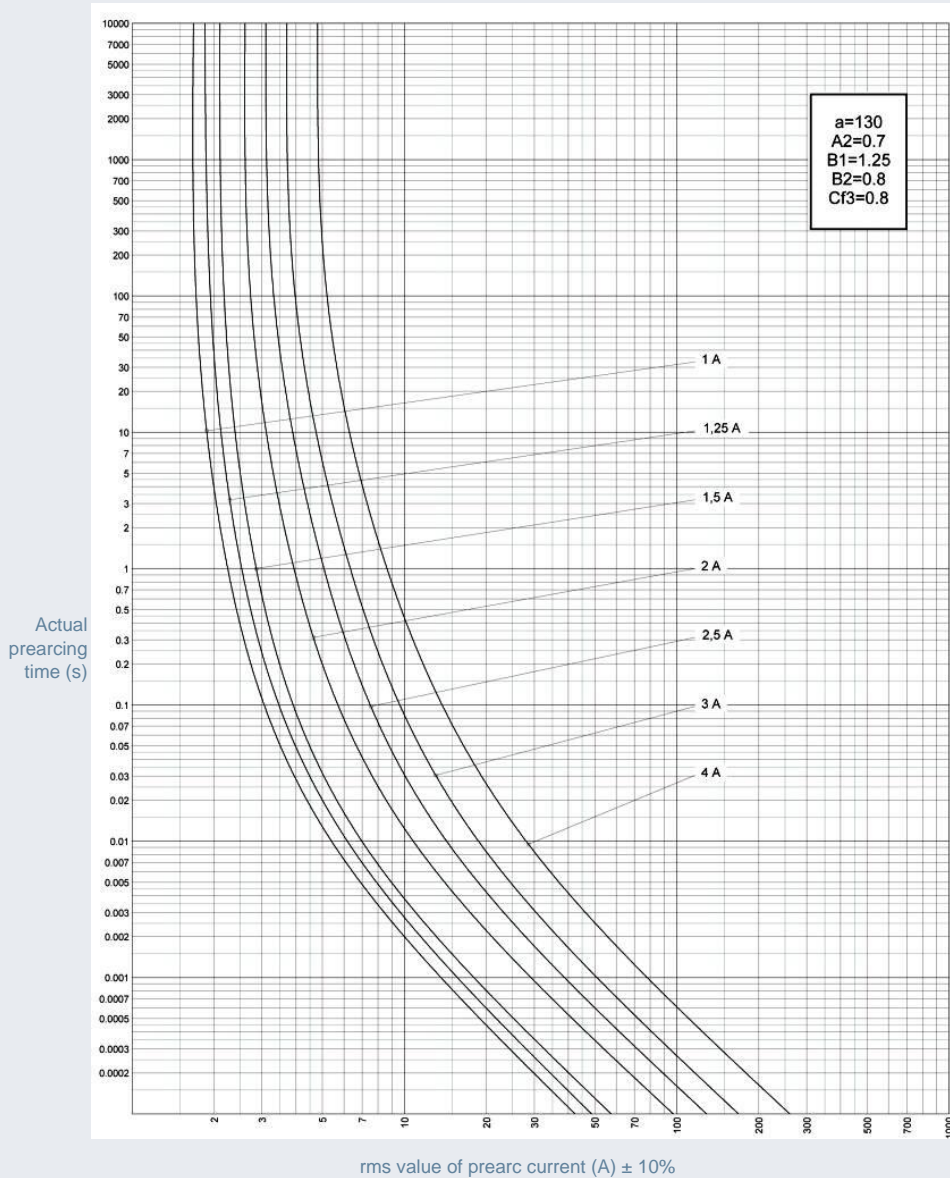
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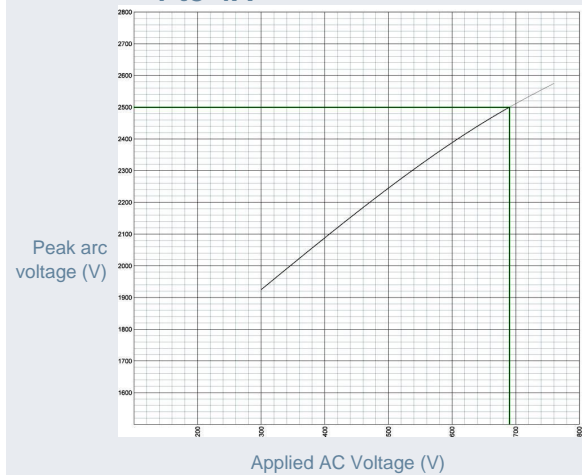
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Time current characteristics
1 to 4A



Peak arc voltage
1 to 4A



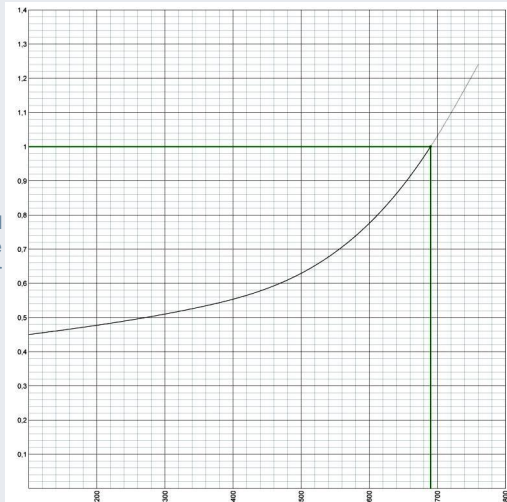
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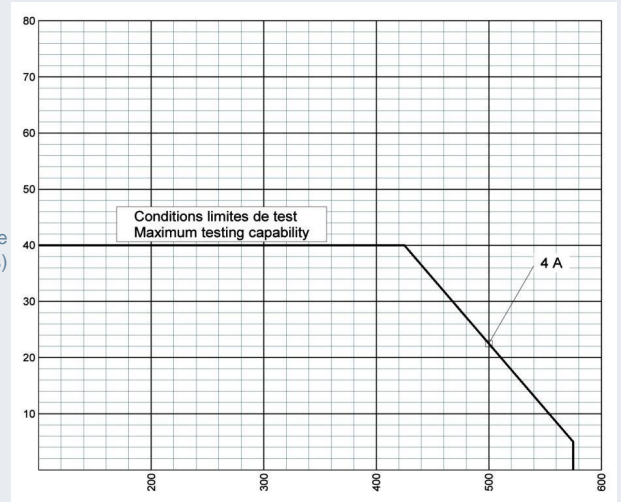
**I²t multiplier coefficient
1 to 4A**



Applied AC voltage (V)

Clearing I²t and arcing time correction factor

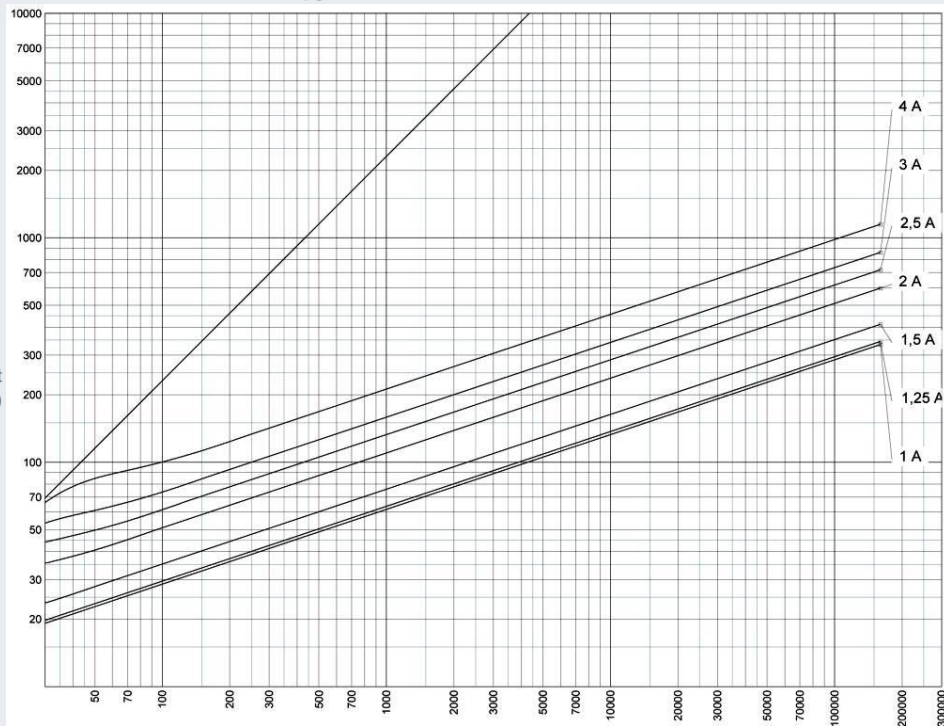
**L/R time constant vs DC voltage capability
1 to 4A**



DC voltage capability (V)

L/R time constant (ms)

**Peak let thru characteristics
1 to 4A**



50 Hz rms symmetrical prospective current (Ip) (A)

Maximum peak let thru current (A)

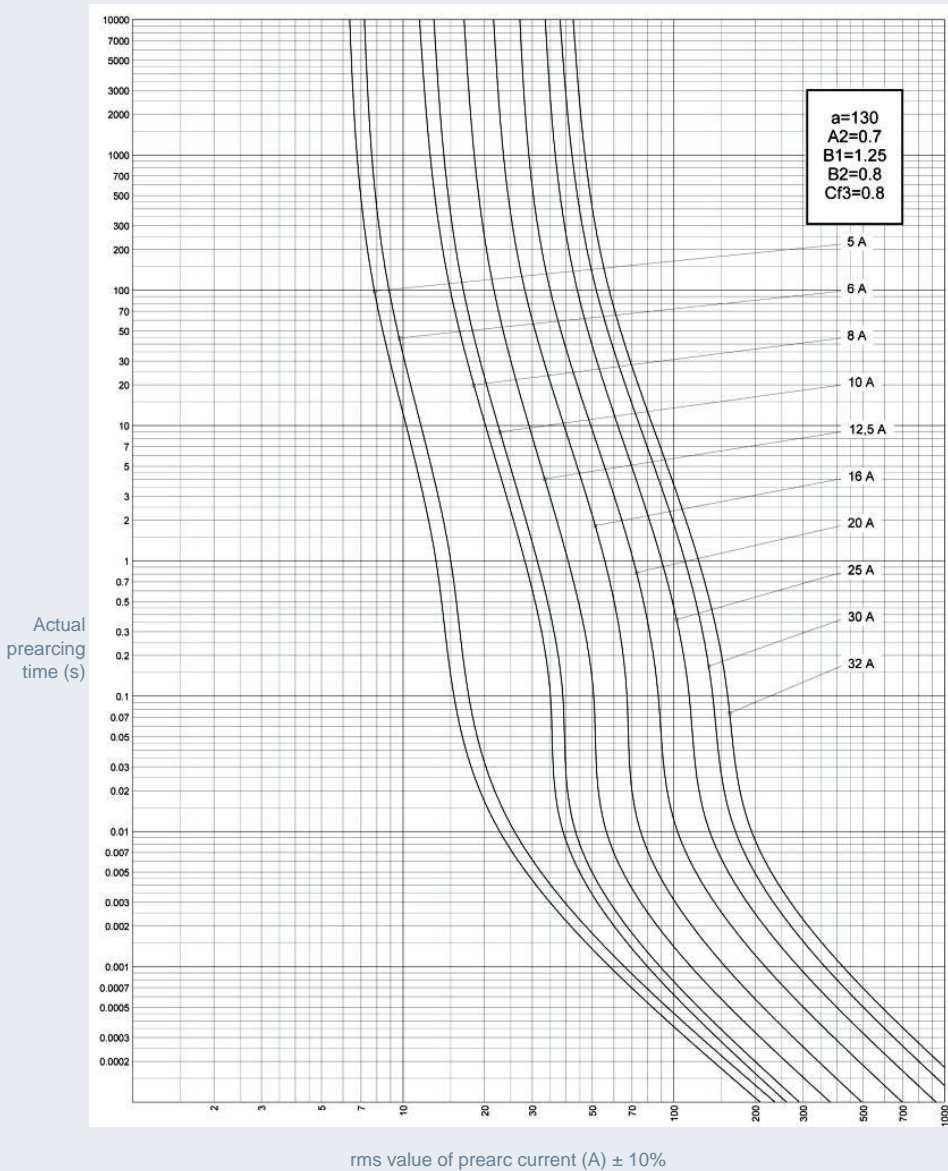
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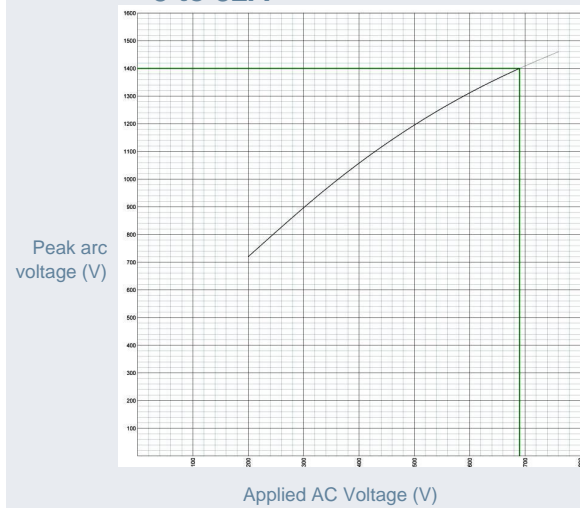
10x38 gR 690VAC from 1 to 32A



Time current characteristics 5 to 32A



Peak arc voltage 5 to 32A



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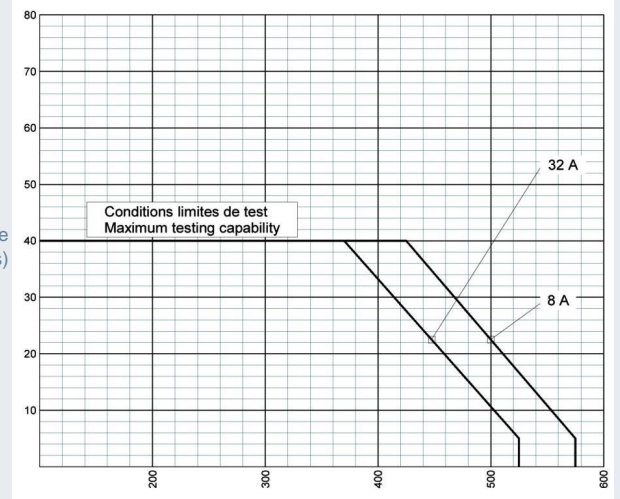
**I²t multiplier coefficient
5 to 32A**



Applied AC voltage (V)

Clearing I²t and arcing time correction factor

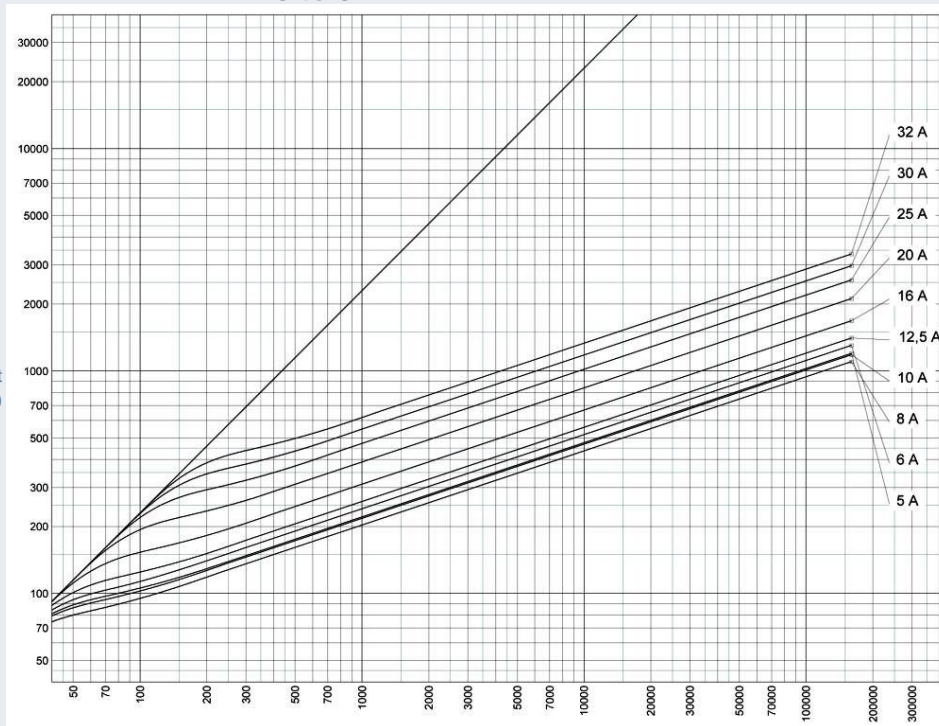
**L/R time constant vs DC voltage capability
5 to 32A**



DC voltage capability (V)

L/R time constant (ms)

**Peak let thru characteristics
5 to 32A**



50 Hz rms symmetrical prospective current (Ip) (A)

Maximum peak let thru current (A)