

Protistor[®] size 20x127 gR (GRB/C/D)

1000 to 1500VDC

SEMICONDUCTOR PROTECTION FUSES

IEC HIGH-SPEED CYLINDRICAL FUSE-LINKS DC PROTECTION



Specially developed for DC applications, 20x127 gR cylindrical is a fast acting, full range fuse used in the protection of auxiliaries, control circuit and other measuring and monitoring devices.

TECHNICAL DATA OVERVIEW

| | |
|----------------------|-------------------|
| Voltage Range DC | 1000 ... 1500 VDC |
| Ampere Range (A) | 6 ... 63 A |
| Speed/Characteristic | gR |
| Product Size | 20x127 mm |

FEATURES & BENEFITS

- International 20x127mm (13/16" x 5") for worldwide acceptance
- gR Class according to VDE 636-23 and IEC 60269-4
- Low I²t for improved semiconductor protection
- Eliminate all overloads
- Extremely fast acting
- Current limiting
- Excellent cycling capability

APPLICATIONS

- DC control circuit, measuring & monitoring auxiliaries circuit

STANDARDS

- UL Recognized for some ratings
- UL file No. E76491
- IEC 60269-4 Compliance



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Protistor® size 20x127 gR (GRB/C/D)

1000 to 1500VDC

PRODUCT RANGE



FD20GB100V6T

Size 20x127 gR 1000VDC with striker

| Catalog number | Item number | Rated voltage DC (IEC) | Rated current I _n | Rated breaking capacity DC | Power dissipation at I _n | Package | Weight |
|----------------|-------------|------------------------|------------------------------|----------------------------|-------------------------------------|---------|--------|
| FD20GB100V6T | Z088020 | 1000 V | 6 A | 100 kA | 3.5 W | 10 | 97 g |
| FD20GB100V8T | T088774 | 1000 V | 8 A | 100 kA | 3.8 W | 10 | 97 g |
| FD20GB100V10T | A089493 | 1000 V | 10 A | 100 kA | 4.2 W | 10 | 97 g |
| FD20GB100V12T | B089494 | 1000 V | 12 A | 100 kA | 5.3 W | 10 | 97 g |
| FD20GB100V16T | C089495 | 1000 V | 16 A | 100 kA | 6.6 W | 10 | 97 g |
| FD20GB100V20T | D089496 | 1000 V | 20 A | 100 kA | 7.7 W | 10 | 97 g |
| FD20GB100V25T | E089497 | 1000 V | 25 A | 100 kA | 9 W | 10 | 97 g |
| FD20GB100V32T | F089498 | 1000 V | 32 A | 100 kA | 10.5 W | 10 | 97 g |
| FD20GC100V40T | S086795 | 1000 V | 40 A | 100 kA | 13.2 W | 10 | 97 g |
| FD20GC100V50T | F086186 | 1000 V | 50 A | 100 kA | 15.5 W | 10 | 97 g |
| FD20GC100V63T | F083656 | 1000 V | 63 A | 100 kA | 17.4 W | 10 | 97 g |

Size 20x127 gR 1000VDC without striker

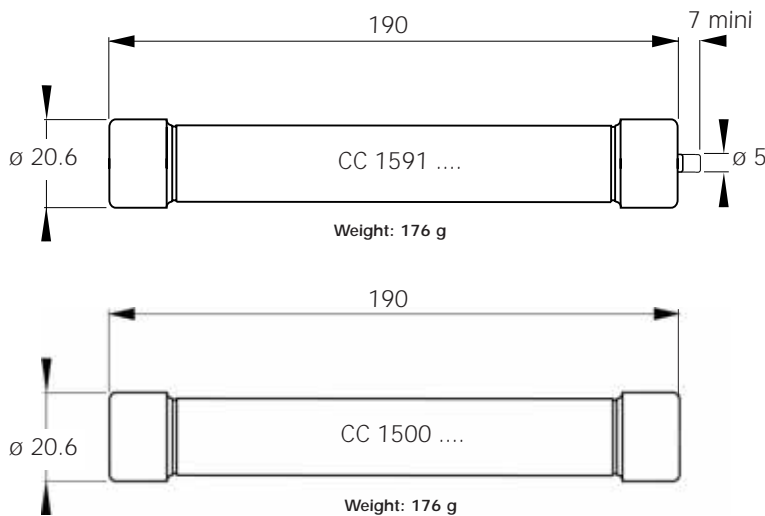
| Catalog number | Item number | Rated voltage DC (IEC) | Rated current I _n | Rated breaking capacity DC | Power dissipation at I _n | Package | Weight |
|----------------|-------------|------------------------|------------------------------|----------------------------|-------------------------------------|---------|--------|
| FD20GB100V6 | N089482 | 1000 V | 6 A | 100 kA | 3.5 W | 10 | 0.1 kg |
| FD20GB100V8 | P089483 | 1000 V | 8 A | 100 kA | 3.8 W | 10 | 0.1 kg |
| FD20GB100V10 | Q089484 | 1000 V | 10 A | 100 kA | 4.2 W | 10 | 0.1 kg |
| FD20GB100V12 | R089485 | 1000 V | 12 A | 100 kA | 5.3 W | 10 | 0.1 kg |
| FD20GB100V16 | S089486 | 1000 V | 16 A | 100 kA | 6.6 W | 10 | 0.1 kg |
| FD20GB100V20 | T089487 | 1000 V | 20 A | 100 kA | 7.7 W | 10 | 0.1 kg |
| FD20GB100V25 | V089488 | 1000 V | 25 A | 100 kA | 9 W | 10 | 0.1 kg |
| FD20GB100V32 | W089489 | 1000 V | 32 A | 100 kA | 10.5 W | 10 | 0.1 kg |
| FD20GC100V40 | Z087054 | 1000 V | 40 A | 100 kA | 13.2 W | 10 | 0.1 kg |
| FD20GC100V50 | K083660 | 1000 V | 50 A | 100 kA | 15.5 W | 10 | 0.1 kg |
| FD20GC100V63 | J083659 | 1000 V | 63 A | 100 kA | 17.4 W | 10 | 0.1 kg |

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DC Ferrule Fuses 20x190 gR 1500V DC

gRC from 6 to 32 A

Dimensions



Trip force: 4.5N at 0 mm - 2.5N at 7 mm

Main Characteristics

| Size | Current rating I_N (A) | Breaking Capacity | Watts loss | | Designation | Reference Number | Catalog Number |
|--------|-----------------------------|-------------------------------------|------------------|--------------|--------------------------|------------------|----------------|
| | | | 0.8 I_N (W) | I_N (W) | | | |
| 20x190 | 6 | @ 1500 V DC 60 kA L/R = 40 ms | 4.8 | 7.8 | CC 1591 CP gRC 20x190/6 | D083102 | FD20GC150V6T |
| | 8 | | 5.3 | 8.8 | CC 1591 CP gRC 20x190/8 | V083738 | FD20GC150V8T |
| | 10 | | 6.5 | 10.5 | CC 1591 CP gRC 20x190/10 | G087245 | FD20GC150V10T |
| | 12 | | 7.0 | 11.5 | CC 1591 CP gRC 20x190/12 | Y080429 | FD20GC150V12T |
| | 16 | | 8.0 | 13 | CC 1591 CP gRC 20x190/16 | N088378 | FD20GC150V16T |
| | 20 | | 9.5 | 15 | CC 1591 CP gRC 20x190/20 | Q087345 | FD20GC150V20T |
| | 25 | | 12 | 19.5 | CC 1591 CP gRC 20x190/25 | Z080430 | FD20GC150V25T |
| | 32 | | 16 | 26 | CC 1591 CP gRC 20x190/32 | G085911 | FD20GC150V32T |
| | 6 | | 4.8 | 7.8 | CC 1500 CP gRC 20x190/6 | Z089469 | FD20GC150V6 |
| | 8 | | 5.3 | 8.8 | CC 1500 CP gRC 20x190/8 | A089470 | FD20GC150V8 |
| | 10 | | 6.5 | 10.5 | CC 1500 CP gRC 20x190/10 | B089471 | FD20GC150V10 |
| | 12 | | 7.0 | 11.5 | CC 1500 CP gRC 20x190/12 | C089472 | FD20GC150V12 |
| | 16 | | 8.0 | 13 | CC 1500 CP gRC 20x190/16 | D089473 | FD20GC150V16 |
| | 20 | | 9.5 | 15 | CC 1500 CP gRC 20x190/20 | E089474 | FD20GC150V20 |
| | 25 | | 12 | 19.5 | CC 1500 CP gRC 20x190/25 | F089475 | FD20GC150V25 |
| | 32 | | 16 | 26 | CC 1500 CP gRC 20x190/32 | G089476 | FD20GC150V32 |

Minimum trip indicator operating voltage: 90 V

See Fuse Blocks, Fuse Holders and Fuse clips

Pack: 1 piece

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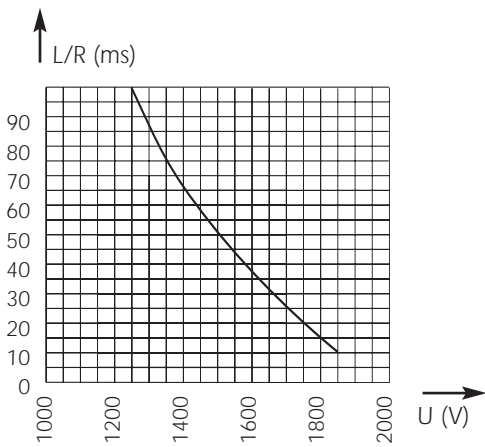
DC Ferrule Fuses 20x190 gR 1500V DC



gRC from 6 to 32 A

Electrical characteristics

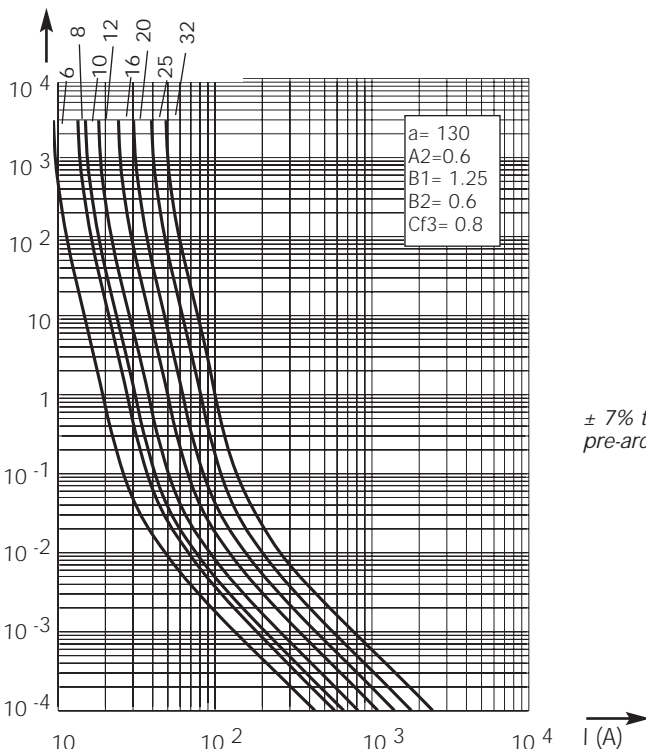
DC applications data



Above: Curve indicates maximum permissible value of time constant L/R as a function of DC working voltage

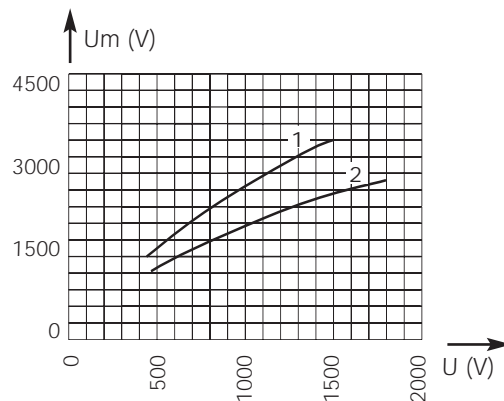
Max. AC voltage (50/60 Hz):
3000 V with breaking capacity of 50 kA

Time vs. current characteristics



Above: Curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.

Peak arc voltage vs. working voltage



1- L/R = 45 ms
2- L/R = 15 ms

Above: Curves indicate for various time constants L/R peak arc voltage which may appear across fuse terminals, vs. DC working voltage

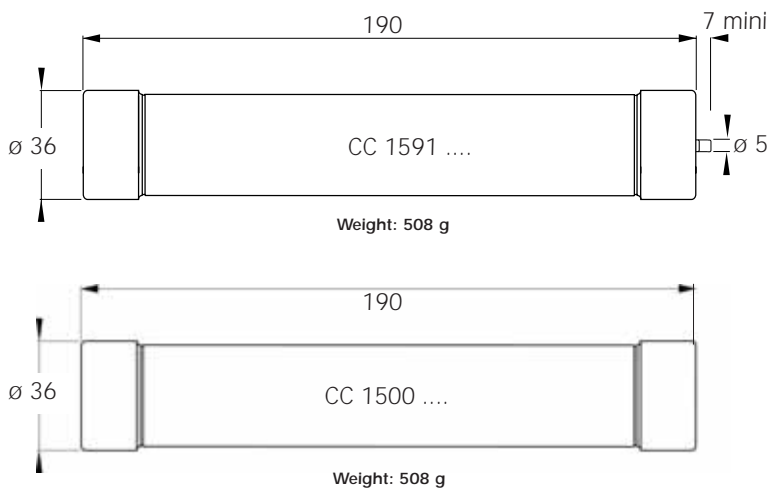
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DC Ferrule Fuses 36x190 gR 1500V DC

gRC - gRD from 40 to 100 A

Dimensions



Trip force: 4.5N at 0 mm - 2.5N at 7 mm

Main Characteristics

| Size | Current rating I_N (A) | Breaking Capacity | Watts loss | | Designation | Reference Number | Catalog Number |
|--------|-----------------------------|--------------------------------------|------------------|--------------|---------------------------|------------------|----------------|
| | | | 0.8 I_N (W) | I_N (W) | | | |
| 36x190 | 40 | @ 1500 V DC 60 kA L/R = 60 ms | 14 | 26 | CC 1591 CP gRC 36x190/40 | M 080419 | FD36GC150V40T |
| | 50 | | 16.5 | 30 | CC 1591 CP gRC 36x190/50 | N 080420 | FD36GC150V50T |
| | 63 | | 20.6 | 38 | CC 1591 CP gRC 36x190/63 | P 080421 | FD36GC150V63T |
| | 80 | | 18 | 33 | CC 1591 CP gRD 36x190/80 | N 221134 | FD36GD150V80T |
| | 100 | | 23 | 42 | CC 1591 CP gRD 36x190/100 | Y 220154 | FD36GD150V100T |
| | 40 | @ 1500 V DC 100 kA L/R = 30 ms | 14 | 26 | CC 1500 CP gRC 36x190/40 | H 089477 | FD36GC150V40 |
| | 50 | | 16.5 | 30 | CC 1500 CP gRC 36x190/50 | J 089478 | FD36GC150V50 |
| | 63 | | 20.6 | 38 | CC 1500 CP gRC 36x190/63 | K 089479 | FD36GC150V63 |
| | 80 | | 18 | 33 | CC 1500 CP gRD 36x190/80 | Q 078007 | FD36GD150V80 |
| | 100 | | 23 | 42 | CC 1500 CP gRD 36x190/100 | K 078025 | FD36GD150V100 |

Minimum trip indicator operating voltage: 90 V

See Fuse Blocks, Fuse Holders and Fuse clips

Pack: 1 piece

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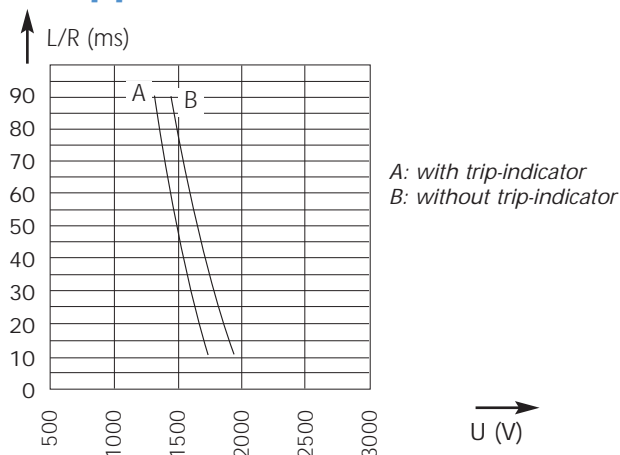
DC Ferrule Fuses 36x190 gR 1500V DC



gRC - gRD from 40 to 100 A

Electrical characteristics

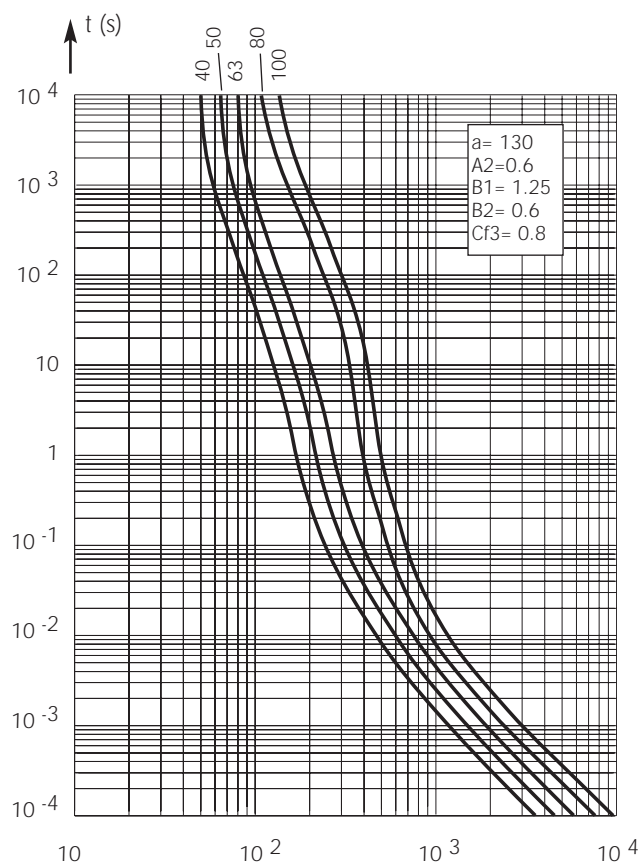
DC applications data



Above: Curve indicates maximum permissible value of time constant L/R as a function of DC working voltage

Max. AC voltage (50/60 Hz):
3000 V with breaking capacity of 50 kA

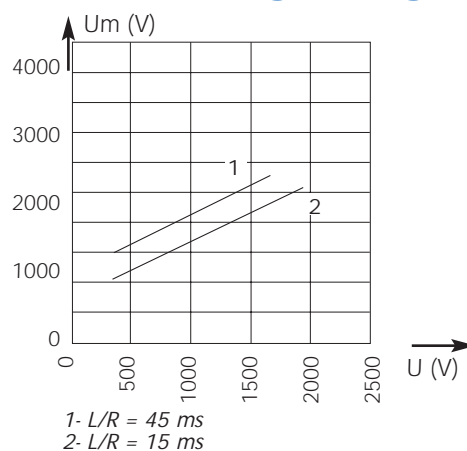
Time vs. current characteristics



$\pm 9\%$ tolerance for mean pre-arcing current

Above: Curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.

Peak arc voltage vs. working voltage



Above: Curves indicate for various time constants L/R the peak arc voltage which may appear across fuse terminals, vs. DC working voltage

