

Product data sheet

Characteristics

GV4PE12N6

Motor circuit breaker, TeSys GV4, 3P, 12.5A,
Icu 50kA, thermal magnetic, lugs terminals





Main

| | |
|--|---|
| Range | TeSys |
| Product name | TeSys GV4 |
| Product or component type | Circuit breaker |
| Device short name | GV4PE |
| Device application | Motor protection |
| Protection type | Overload Phase unbalance Short-circuit Phase loss Short time short-circuit protection Ground fault protection |
| Utilisation category | Category A |
| Suitability for isolation | Yes conforming to IEC 60947-1 |
| Poles description | 3P |
| [Ue] rated operational voltage | 690 V AC 50/60 Hz conforming to IEC 60947-2 |
| [In] rated current | 12.5 A |
| Trip unit technology | Electronic Thermal-magnetic |
| Magnetic tripping current | 212 A |
| [I _{sd}] short-time pick-up adjustment range | 13 x I _r |
| Thermal protection adjustment range | 5...12.5 A |
| Motor tripping class | 10 20 |
| Phase failure sensitivity | Yes conforming to IEC 60947-4-1 |
| Breaking capacity | I _{cu} 100 kA at 220...240 V AC 50/60 Hz conforming to IEC 60947-2 I _{cu} 50 kA at 380...415 V AC 50/60 Hz conforming to IEC 60947-2 I _{cu} 50 kA at 440 V AC 50/60 Hz conforming to IEC 60947-2 I _{cu} 15 kA at 525 V AC 50/60 Hz conforming to IEC 60947-2 65 KA at 208Y/120 V AC 50/60 Hz conforming to UL 60947 65 KA at 240 V AC 50/60 Hz conforming to UL 60947 35 KA at 480Y/277 V AC 50/60 Hz conforming to UL 60947 I _{cu} 8 kA at 660...690 V AC 50/60 Hz conforming to IEC 60947-2 I _{cu} 25 kA at 500 V AC 50/60 Hz conforming to IEC 60947-2 18 kA at 600Y/347 V AC 50/60 Hz conforming to UL 60947 |
| [I _{cs}] rated service breaking capacity | 100 KA at 220...240 V AC 50/60 Hz conforming to IEC 60947-2 50 KA at 380...415 V AC 50/60 Hz conforming to IEC 60947-2 50 KA at 440 V AC 50/60 Hz conforming to IEC 60947-2 25 KA at 500 V AC 50/60 Hz conforming to IEC 60947-2 15 KA at 525 V AC 50/60 Hz conforming to IEC 60947-2 2 kA at 660...690 V AC 50/60 Hz conforming to IEC 60947-2 |
| [U _{imp}] rated impulse withstand voltage | 8 kV conforming to IEC 60947-2 |
| [U _i] rated insulation voltage | 800 V conforming to IEC 60947-2 |

| | |
|-----------------------|--|
| Mechanical durability | 40000 cycles |
| Electrical durability | 40000 Cycles for AC-3 at 440 V In/2 40000 cycles for AC-3 at 440 V In |

Complementary

| | |
|-------------------------|--|
| Motor power kW | 3 KW at 400...415 V AC 50/60 Hz 3 KW at 500 V AC 50/60 Hz 4 KW at 500 V AC 50/60 Hz 5.5 KW at 660...690 V AC 50/60 Hz 7.5 KW at 660...690 V AC 50/60 Hz 4 KW at 400...415 V AC 50/60 Hz 5.5 KW at 400...415 V AC 50/60 Hz 5.5 KW at 500 V AC 50/60 Hz 7.5 KW at 500 V AC 50/60 Hz 9 KW at 660...690 V AC 50/60 Hz 11 kW at 660...690 V AC 50/60 Hz |
| Control type | Toggle |
| Handle padlocking | With a lock accessory |
| Number of slots | 1 slot(s) for alarm switch for fault signalling contact, plug-in 1 slot(s) for voltage release for electrical remote tripping, plug-in 1 slot(s) for auxiliary switch for open/close contact, plug-in |
| Local signalling | Flashing LED (green) for ready LED (red) for alarm (T° >95%) Green indicator for presence of auxiliary contacts |
| Standards | CSA C22.2 No 60947-4-1 EN/IEC 60947-2 UL 60947-4-1 EN/IEC 60947-4-1 |
| Product certifications | IEC UL CSA CCC EAC ATEX EU-RO MR |
| Quality labels | CE |
| Mounting mode | By screws By clips |
| Mounting support | 75 mm symmetrical DIN rail Plate 35 mm symmetrical DIN rail |
| Connections - terminals | Lugs-ring terminals |
| Connection pitch | 27 mm |
| Tightening torque | 9 N.M for 16...95 mm ² 5 N.m for 1.5...10 mm ² |
| Width | 81 mm |
| Height | 155 mm |
| Depth | 116 mm |
| Product weight | 1.45 kg |
| Colour | Grey (RAL 7016) |

Environment

| | |
|---------------------------------------|--|
| Ambient air temperature for storage | -50...85 °C |
| Ambient air temperature for operation | -25...70 °C |
| Operating altitude | 0...2000 m without derating 2000...5000 m with derating |
| IP degree of protection | IP40 front face conforming to IEC 60529 |
| IK degree of protection | IK07 conforming to IEC 62262 |
| Pollution degree | 3 conforming to IEC 60947-1 |
| Tropicalisation | 2 conforming to IEC 68-2 |
| Mechanical robustness | Vibrations: +/- 1 mm 2...13.2 Hz conforming to IEC 60068-2-6 Vibrations: 0.7 gn 13.2...100 Hz conforming to IEC 60068-2-6 Shocks: 15 gn 11 ms conforming to IEC 60068-2-27 |

Packing Units

| | |
|------------------------------|----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Weight | 1.418 kg |
| Package 1 Height | 17 cm |
| Package 1 width | 11 cm |
| Package 1 Length | 22 cm |
| Unit Type of Package 2 | BB1 |
| Number of Units in Package 2 | 1 |
| Package 2 Weight | 1.5 kg |
| Package 2 Height | 12.5 cm |
| Package 2 width | 9 cm |
| Package 2 Length | 22 cm |
| Unit Type of Package 3 | PAL |
| Number of Units in Package 3 | 256 |
| Package 3 Weight | 396 kg |
| Package 3 Height | 110 cm |
| Package 3 width | 80 cm |
| Package 3 Length | 120 cm |

Offer Sustainability

| | |
|-----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Compliant EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End Of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| PVC free | Yes |
| Halogen content performance | Halogen free plastic parts product |

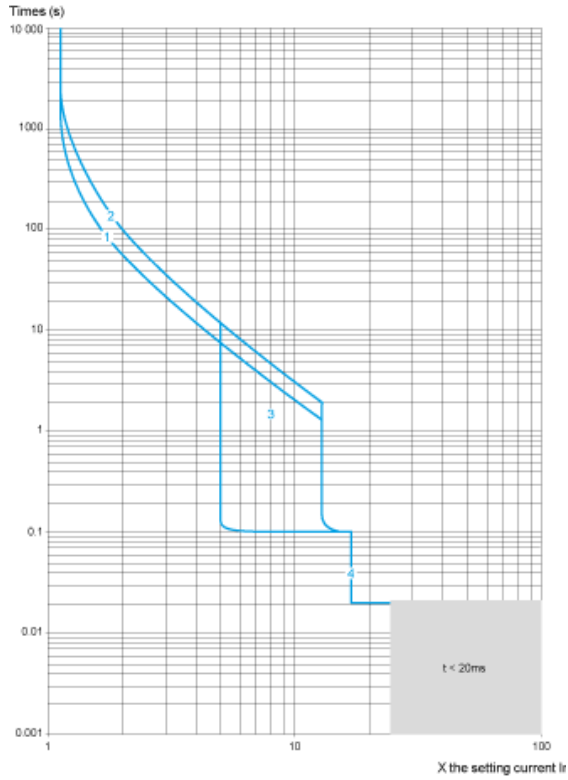
Contractual warranty

| | |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Thermal-Magnetic Tripping Curves for GV4P, GV4PE, GV4PEM

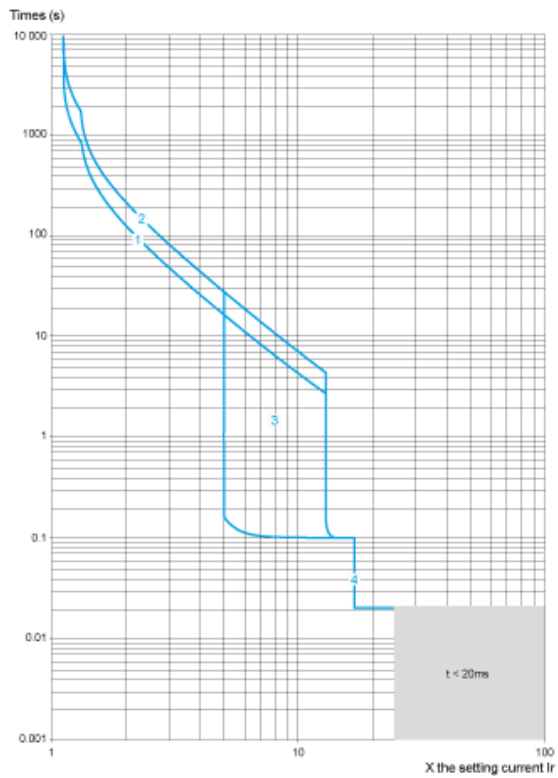
Average Operating Times at 20 °C Related to Multiples of the Setting Current

Hot state



- 1 Class 10
- 2 Class 20
- 3 $I_{sd} = 5...13x I_r$
- 4 $I_i = 17 I_n$

Cold state

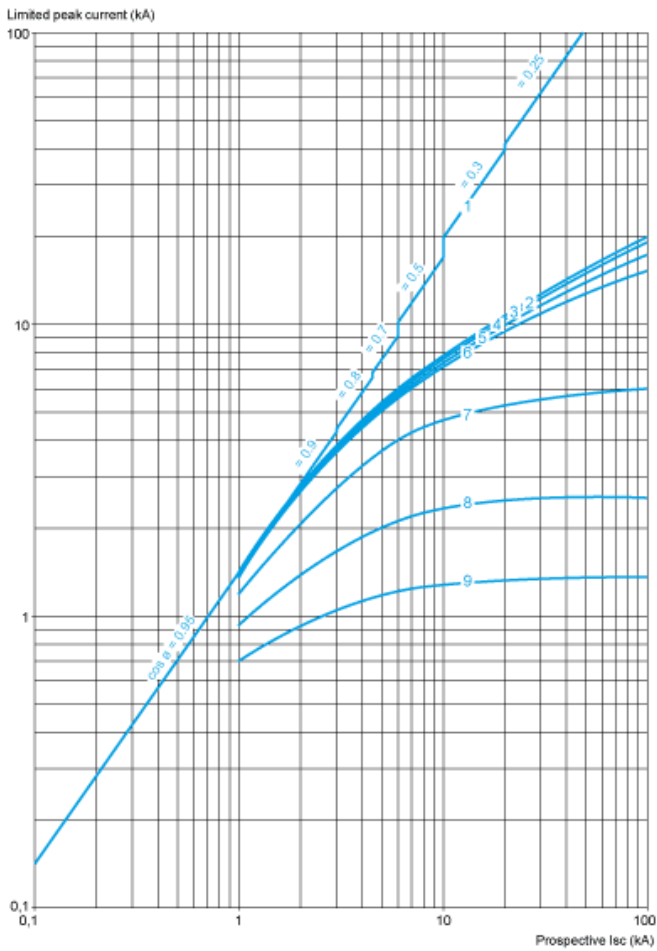


- 1 Class 10
- 2 Class 20
- 3 $I_{sd} = 5 \dots 13 \times I_r$
- 4 $I_i = 17 \times I_r$

Current Limitation on Short-Circuit for GV4P, GV4PE, GV4PEM (3-Phase 400/415 V)

Dynamic Stress

$I_{\text{peak}} = f(\text{prospective } I_{sc}) \text{ at } 1.05 U_e = 435 \text{ V}$

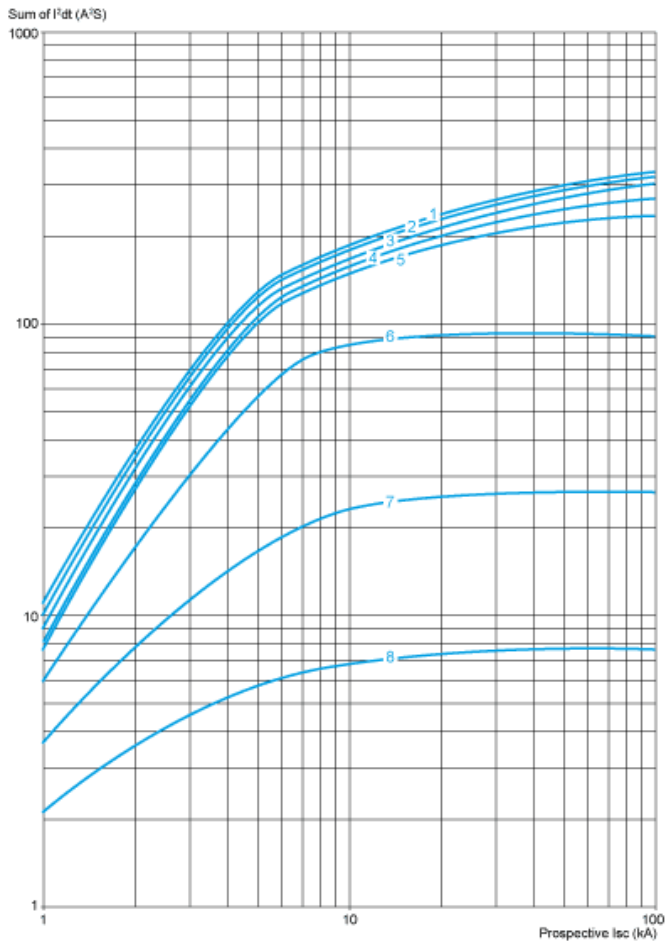


- 1 Maximum peak current
- 2 GV4P115
- 3 GV4P80
- 4 GV4P50
- 5 GV4P25
- 6 GV4P12
- 7 GV4P07
- 8 GV4P03
- 9 GV4P02

Thermal Limit on Short-Circuit for GV4P, GV4PE, GV4PEM

Thermal Limit in kA^2s in the Magnetic Operating Zone

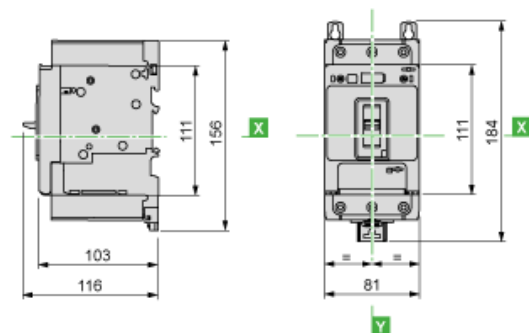
Sum of $I^2dt = f$ (prospective Isc) at $1.05 U_e = 435 V$



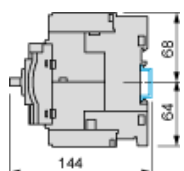
- 1 GV4P115
- 2 GV4P80
- 3 GV4P50
- 4 GV4P25
- 5 GV4P12
- 6 GV4P07
- 7 GV4P03
- 8 GV4P02

GV4 with Toggle: GV4LE, GV4PE, GV4PEM

With EverLink® Connector

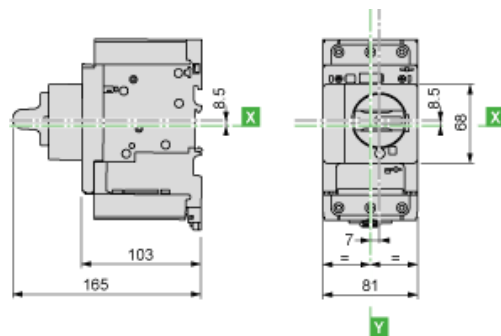


With Crimp Lug Connector



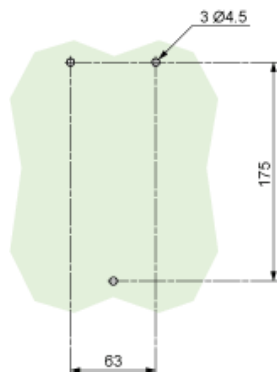
GV4 with Rotary Handle: GV4L, GV4P, or GV4LE, GV4PE, GV4PEM with GV4ADN01, GV4ADN02 Direct Mounting Rotary Handle

Dimensions

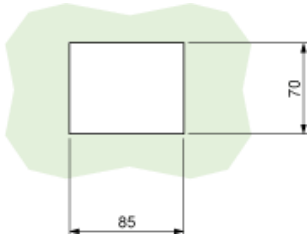


GV4L, GV4P, GV4LE, GV4PE, GV4PEM

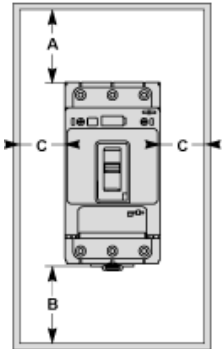
Panel Mounting with M4 Screws



Door Cut-Out for Rotary Handle



Minimum Safety Clearance



Toggle-type, rotary handle-type: identical clearance values.

| Safety Clearance (mm) | | | | | | |
|-----------------------|---------------------|---|---|------------------|---|---|
| | Painted Sheet Metal | | | Bare Sheet Metal | | |
| | A | B | C | A | B | C |
| No accessory | 30 | 0 | 0 | 40 | 0 | 5 |
| Interphase barriers | 0 | 0 | 0 | 0 | 0 | 5 |
| Long terminal shield | 0 | 0 | 0 | 0 | 0 | 5 |

Magnetic Motor Circuit Breakers

GV4P, GV4PE, GV4PEM

