

# GV4PE50S6

Motor circuit breaker, TeSys GV4, 3P, 50A, Icu  
100kA, 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                                        | Short-circuit<br>Ground fault protection<br>Short time short-circuit protection<br>Phase unbalance<br>Overload<br>Phase loss                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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                                     | 50 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Trip unit technology                                   | Thermal-magnetic<br>Electronic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Magnetic tripping current                              | 850 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| [I <sub>sd</sub> ] short-time pick-up adjustment range | 13 x I <sub>r</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Thermal protection adjustment range                    | 20...50 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Motor tripping class                                   | 10<br>20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Phase failure sensitivity                              | Yes conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Breaking capacity                                      | I <sub>cu</sub> 120 kA at 220...240 V AC 50/60 Hz conforming to IEC 60947-2<br>I <sub>cu</sub> 100 kA at 380...415 V AC 50/60 Hz conforming to IEC 60947-2<br>I <sub>cu</sub> 70 kA at 440 V AC 50/60 Hz conforming to IEC 60947-2<br>I <sub>cu</sub> 30 kA at 500 V AC 50/60 Hz conforming to IEC 60947-2<br>I <sub>cu</sub> 18 kA at 525 V AC 50/60 Hz conforming to IEC 60947-2<br>100 KA at 208Y/120 V AC 50/60 Hz conforming to UL 60947<br>100 KA at 240 V AC 50/60 Hz conforming to UL 60947<br>65 KA at 480Y/277 V AC 50/60 Hz conforming to UL 60947<br>I <sub>cu</sub> 10 kA at 660...690 V AC 50/60 Hz conforming to IEC 60947-2<br>25 kA at 600Y/347 V AC 50/60 Hz conforming to UL 60947 |
| [I <sub>cs</sub> ] rated service breaking capacity     | 120 KA at 220...240 V AC 50/60 Hz conforming to IEC 60947-2<br>100 KA at 380...415 V AC 50/60 Hz conforming to IEC 60947-2<br>70 KA at 440 V AC 50/60 Hz conforming to IEC 60947-2<br>30 KA at 500 V AC 50/60 Hz conforming to IEC 60947-2<br>18 KA at 525 V AC 50/60 Hz conforming to IEC 60947-2<br>2.5 kA at 660...690 V AC 50/60 Hz conforming to IEC 60947-2                                                                                                                                                                                                                                                                                                                                     |
| [U <sub>imp</sub> ] rated impulse withstand voltage    | IEC 60947-2 8 kV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [U <sub>i</sub> ] rated insulation voltage             | 800 V conforming to IEC 60947-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| Mechanical durability | 40000 cycles                                                             |
| Electrical durability | 20000 Cycles for AC-3 at 440 V In/2<br>10000 cycles for AC-3 at 440 V In |

## Complementary

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor power kW          | 11 kW at 400...415 V AC 50/60 Hz<br>15 kW at 500 V AC 50/60 Hz<br>18.5 kW at 660...690 V AC 50/60 Hz<br>15 kW at 400...415 V AC 50/60 Hz<br>18.5 kW at 400...415 V AC 50/60 Hz<br>22 kW at 400...415 V AC 50/60 Hz<br>18.5 kW at 500 V AC 50/60 Hz<br>22 kW at 500 V AC 50/60 Hz<br>30 kW at 500 V AC 50/60 Hz<br>22 kW at 660...690 V AC 50/60 Hz<br>30 kW at 660...690 V AC 50/60 Hz<br>37 kW at 660...690 V AC 50/60 Hz<br>45 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<br>1 slot(s) for voltage release for electrical remote tripping, plug-in<br>1 slot(s) for auxiliary switch for open/close contact, plug-in                                                                                                                                                                                                                                                    |
| Local signalling        | Flashing LED (green) for ready<br>LED (red) for alarm (T° >95%)<br>Green indicator for presence of auxiliary contacts                                                                                                                                                                                                                                                                                                                                          |
| Standards               | CSA C22.2 No 60947-4-1<br>EN/IEC 60947-2<br>UL 60947-4-1<br>EN/IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                   |
| Product certifications  | IEC<br>UL<br>CSA<br>CCC<br>EAC<br>ATEX<br>EU-RO MR                                                                                                                                                                                                                                                                                                                                                                                                             |
| Quality labels          | CE                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Mounting mode           | By clips<br>By screws                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Mounting support        | 75 mm symmetrical DIN rail<br>35 mm symmetrical DIN rail<br>Plate                                                                                                                                                                                                                                                                                                                                                                                              |
| Connections - terminals | Lugs-ring terminals                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Connection pitch        | 27 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Tightening torque       | 9 N.M for 16...95 mm²<br>5 N.m for 1.5...10 mm²                                                                                                                                                                                                                                                                                                                                                                                                                |
| Width                   | 81 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Height                  | 155 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Depth                   | 116 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Net 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<br>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<br>Vibrations: 0.7 gn 13.2...100 Hz conforming to IEC 60068-2-6<br>Shocks: 15 gn 11 ms conforming to IEC 60068-2-27 |

## Packing Units

|                  |           |
|------------------|-----------|
| Package 1 Weight | 1.430 kg  |
| Package 1 Height | 17.000 cm |
| Package 1 width  | 11.000 cm |
| Package 1 Length | 22.000 cm |

## Offer Sustainability

|                             |                                                                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status    | Green Premium product                                                                                                           |
| REACH Regulation            | <a href="#"> REACH Declaration</a>             |
| EU RoHS Directive           | Compliant <a href="#"> EU RoHS Declaration</a> |
| Mercury free                | Yes                                                                                                                             |
| RoHS exemption information  | <a href="#"> Yes</a>                           |
| China RoHS Regulation       | <a href="#"> China RoHS Declaration</a>        |
| Environmental Disclosure    | <a href="#"> Product Environmental Profile</a> |
| Circularity Profile         | <a href="#"> End Of Life Information</a>       |
| 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                                                                                              |

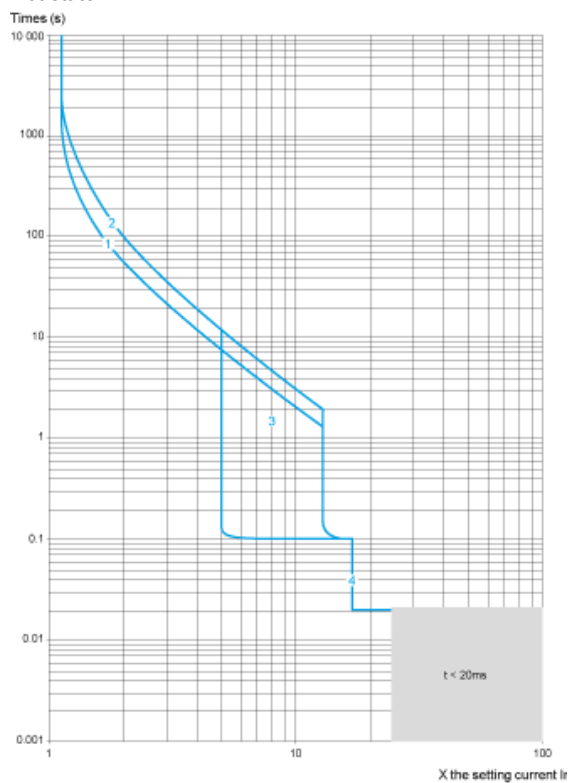
## Contractual warranty

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

### Thermal-Magnetic Tripping Curves for GV4P, GV4PE, GV4PEM

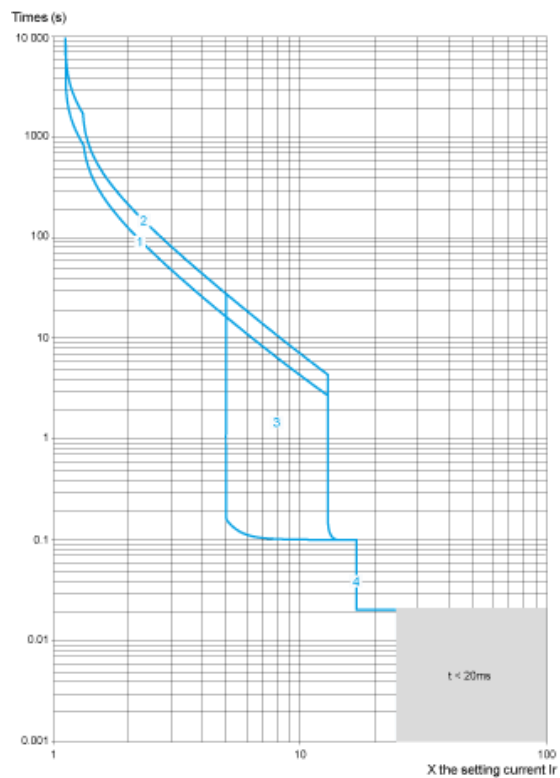
Average Operating Times at 20 °C Related to Multiples of the Setting Current

Hot state



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

## Cold state

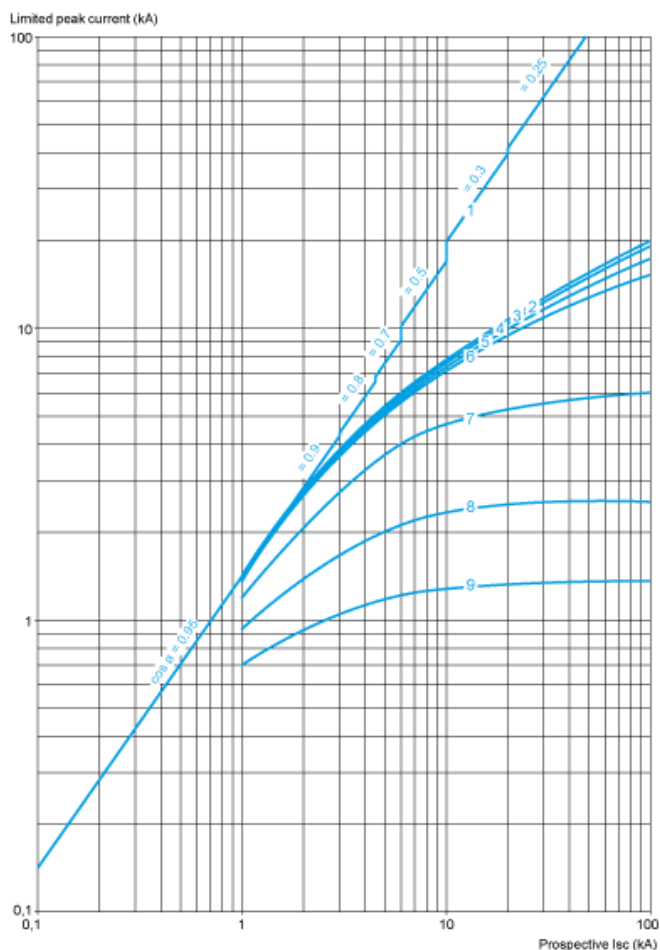


- 1 Class 10
- 2 Class 20
- 3  $I_{sd} = 5 \dots 13 \times I_r$
- 4  $I_i = 17 I_n$

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

Dynamic Stress

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

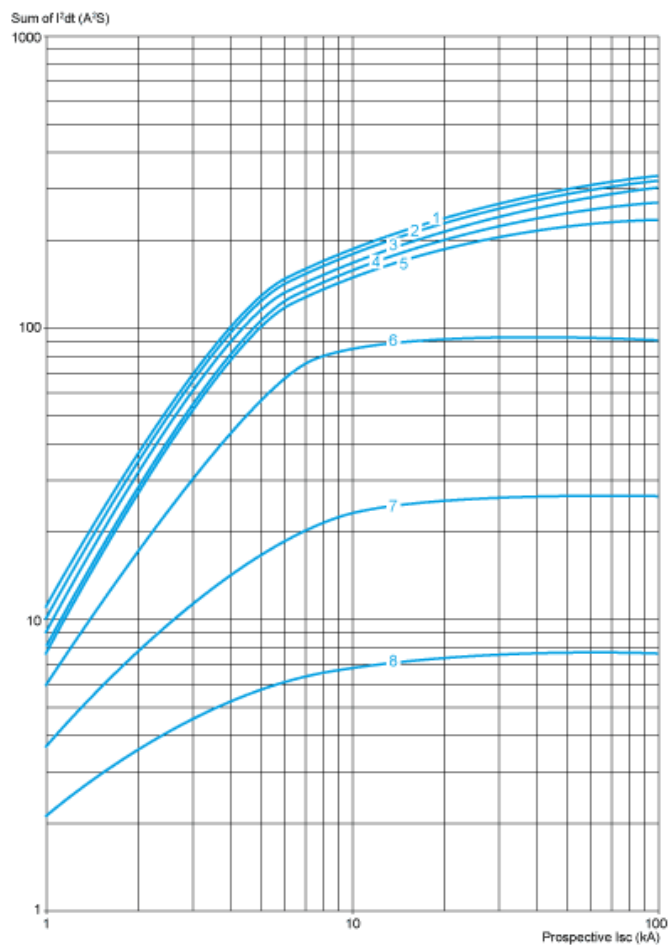


- 1 Maximum peak current
- 2 GV4P115
- 3 GV4P80
- 4 GV4P50
- 5 GV4P25
- 6 GV4P12
- 7 GV4P07
- 8 GV4P03
- 9 GV4P02

### 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  $1.05 U_e = 435 V$

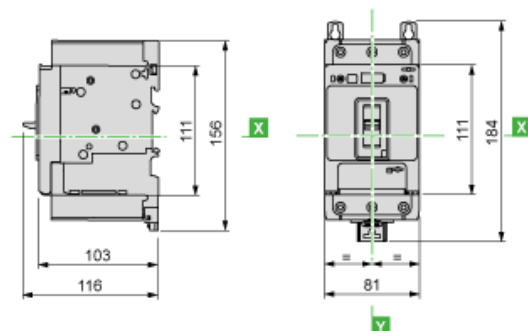


- 1 GV4P115
- 2 GV4P80
- 3 GV4P50
- 4 GV4P25
- 5 GV4P12
- 6 GV4P07
- 7 GV4P03
- 8 GV4P02

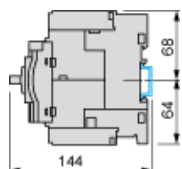


## GV4 with Toggle: GV4LE, GV4PE, GV4PEM

With EverLink® Connector

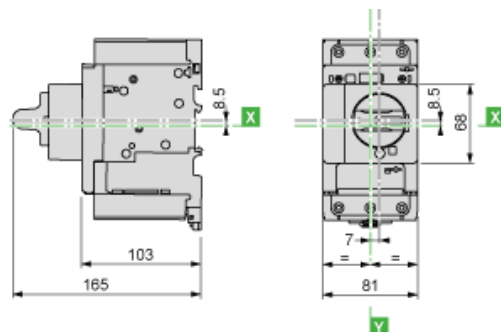


With Crimp Lug Connector



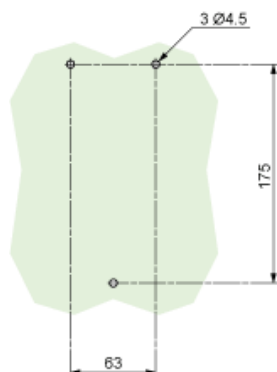
## GV4 with Rotary Handle: GV4L, GV4P, or GV4LE, GV4PE, GV4PEM with GV4ADN01, GV4ADN02 Direct Mounting Rotary Handle

Dimensions

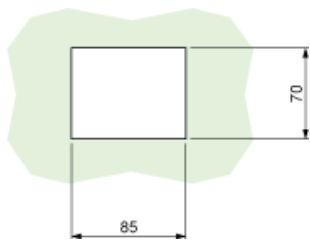


## GV4L, GV4P, GV4LE, GV4PE, GV4PEM

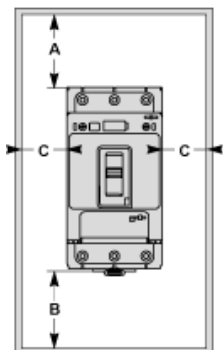
Panel Mounting with M4 Screws



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

