

Multi 9™ GFP Ground Fault Protectors

for Equipment Ground Fault Protection from 30 mA to 300 mA



2-pole GFP



**4-pole GFP (used
for 3 or 4 wires)**

The Multi 9 GFP Ground Fault Protectors provide ground fault protection for electrical equipment, opening a circuit automatically upon detecting a ground fault or earth leakage greater than 30 mA, 100 mA or 300 mA, depending on the model. These GFPs operate without an auxiliary source of power supply.

The GFP Ground Fault Protectors are available in three versions:

- ◆ Two poles for 120 or 240 Vac
- ◆ Two poles for 277 or 480Y/277 Vac
- ◆ Four poles for 240 Vac to 480Y/277 Vac

They can be used in 50 Hz or 60 Hz applications. Listed per UL 1053 Class 1 and certified to IEC 61008, they can be used in OEM equipment built for the U.S. or international markets.

A red mechanical indicator on the front face shows when the GFP has been tripped due to a ground fault. In addition, a test button located on the front of GFP permits recommended periodic testing of the ground fault function.

NOTE: *The GFP Ground Fault Protectors have only one protective function – detection of ground faults or earth leakage current. There is no thermal or magnetic protection for overload or short circuit conditions. Therefore, the circuit must be protected by a recommended upstream circuit breaker such as the Multi 9 C60 or C120 miniature circuit breakers.*

Product Features

- Current ratings from 25 A to 100 A complement the Multi 9 C60 and C120 miniature circuit breaker range
- Protects equipment at most voltages, including 120, 240, 277 and 480Y/277 Vac
- Trips at maximum ground fault levels of 30 mA, 100 mA or 300 mA
- Is designed for noise immunity, even in the industrial environment
- Provides positive break indication via a red flag
- Conforms to international standards, including UL 1053 and IEC 61008, and features the CE mark

Benefits to the Equipment User

- Protects equipment from damage due to ground faults and reduces downtime needed to repair equipment
- Provides warning that preventive maintenance should be done to the equipment
- Indirectly protects personnel from fires, malfunctioning equipment, etc.

Benefits for OEMs

- Enables selection of appropriate sensitivity and amperage to provide maximum protection with minimal risk of nuisance tripping
- Qualifies equipment for international sales (where ground fault protection is often mandatory)

Super-Immunized (Si) for Noisy Electrical Environments

The GFP Ground Fault Protectors feature Merlin Gerin's exclusive Si (Super-immunized) design to minimize risk of nuisance tripping due to an electrically noisy environment. Si is ideal for maintaining continuity of service on networks susceptible to high risk of nuisance tripping, including:

- Surges due to lightning strikes
- Variable speed controllers, frequency converters
- Electronic ballasts
- Presence of switchgear that incorporates interference filters; e.g., lighting, microcomputing, etc.

The GFP will also effectively detect ground faults in conditions that might mask ground fault levels, including:

- Presence of harmonics or high frequency rejection
- Presence of DC components: diodes, thyristors and triacs
- Low temperature

“SiE” Type for Humid and/or Corrosive Environments

In addition to noise immunity, the GFP is also designed for harsh environments. They are particularly suitable for use in humid environments and/or environments polluted by corrosive agents, for example, swimming pools, marinas, the food-processing industry, water treatment plants and industrial sites.

GFP UL1053 Electrical Specifications

- Voltage rating:
 - ◆ Two poles @ 120 or 240 Vac (-15/+10%)
 - ◆ Two poles @ 277 or 480Y/277 Vac (-15/+10%)
 - ◆ Four poles @ 240 Vac or 480Y/277 Vac (-15/+10%)
- Current rating (40°C):
25 A, 40 A, 63 A, 80 A or 100 A (depending on catalog number)
- Ground fault sensitivity:
 - ◆ GFP30 – must trip at 29.9 mA; must not trip below 22.1 mA
 - ◆ GFP100 – must trip at 98.9 mA; must not trip below 73.1 mA
 - ◆ GFP300 – must trip at 299 mA; must not trip below 221 mA
- Short-circuit current rating: 10 kA with recommended circuit breaker or fuse upstream (see bulletin GHA1080850AB-12/05)
- Frequency: 50 or 60 Hz

GFP IEC 61008 Electrical Specifications

- Impulse withstand level 8/20 μ s: 3 kA
- Short circuit current withstand ($I_c = I_{nc}$): 10 kA with approved circuit breaker or fuse upstream
- Current rating at 40°C: 25 A to 100 A
- Breaking and making capacity:
 - ◆ rated (I_m); 1000 A
 - ◆ rated residual (I_{dm}); 1000 A
- Rated impulse withstand voltage (U_{imp}): 6 kV
- Utilization category (IEC):
 - ◆ AC 23A rating \leq 63 A
 - ◆ AC 22B ratings 80 A and 100 A

GFP Mechanical Specifications

- Mounting: 35 mm DIN rail
- Connection, box lug: (75°C copper wire only, stranded or solid)
- Wire: #14 to #2 AWG (2.5 to 35 mm²); Torque 31 lb.-in. (3.5 N.m)
- Padlocking in the “tripped” position is possible using a padlocking device (not supplied)
- Ground fault indication on front panel by means of a mechanical red flag indicator

GFP Environmental Specifications

- Operating temperature: -25 to +60°C
- Storage temperature: -40 to +70°C
- Tropicalisation: treatment 2 (relative humidity 95% at 55°C)
- Weight (oz/g):
 - ◆ 2-pole = 7.70/220
 - ◆ 4-pole = 15.9/450
- Dimensions W x H x D (in./mm):
 - ◆ 2-pole = 1.42 x 3.19 x 3.00 / 36 x 81 x 76
 - ◆ 4-pole = 2.84 x 3.19 x 3.00 / 72 x 81 x 7

Ordering information

Poles	Voltage	Current (A)	Maximum Sensitivity (mA)	Tripping Range	Family	Cat. No.
2	UL 1053 120/240, 240 60 Hz IEC 61008 230, 240 50 Hz	25	30	22.1 to 29.9 mA	GFP 30	60949
			100	73.1 to 98.9 mA	GFP 100	60950
			300	221 to 299 mA	GFP 300	60951
		40	30	22.1 to 29.9 mA	GFP 30	60952
			100	73.1 to 98.9 mA	GFP 100	60953
			300	221 to 299 mA	GFP 300	60954
		63	30	22.1 to 29.9 mA	GFP 30	60955
			100	73.1 to 98.9 mA	GFP 100	60956
			300	221 to 299 mA	GFP 300	60957
		80	300	221 to 299 mA	GFP 300	60958
		100	300	221 to 299 mA	GFP 300	60959
		2	UL 1053 277, 480Y/277 60 Hz IEC 61008 230/240 240/415 50 Hz	25	30	22.1 to 29.9 mA
100	73.1 to 98.9 mA				GFP 100	60970
300	221 to 299 mA				GFP 300	60971
40	30			22.1 to 29.9 mA	GFP 30	60972
	100			73.1 to 98.9 mA	GFP 100	60973
	300			221 to 299 mA	GFP 300	60974
63	30			22.1 to 29.9 mA	GFP 30	60975
	100			73.1 to 98.9 mA	GFP 100	60976
	300			221 to 299 mA	GFP 300	60977
80	300			221 to 299 mA	GFP 300	60978
100	300			221 to 299 mA	GFP 300	60979
4	UL 1053 240, 480Y/277, 60 Hz IEC 61008 230/240 240/415 50 Hz			25	30	22.1 to 29.9 mA
		100	73.1 to 98.9 mA		GFP 100	60990
		300	221 to 299 mA		GFP 300	60991
		40	30	22.1 to 29.9 mA	GFP 30	60992
			100	73.1 to 98.9 mA	GFP 100	60993
			300	221 to 299 mA	GFP 300	60994
		63	30	22.1 to 29.9 mA	GFP 30	60995
			100	73.1 to 98.9 mA	GFP 100	60996
			300	221 to 299 mA	GFP 300	60997
		80	300	221 to 299 mA	GFP 300	60998
		100	300	221 to 299 mA	GFP 300	60999

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