



# GARD

*Unparalleled Protection*



#### BENEFITS OF THE M-GARD:

- Very high sensitivity (down to 10ma) the m-GARD is ideal for people safety in areas wherever the public is exposed to water and electricity, such as water parks and fountains
- Ideal for motor control centers
- Solidly grounded or resistance grounded systems
- 3-phase or single phase loads
- Wide range of trip levels/delays
- Wide range AC and/or DC control voltage
- CSA Approved

## M-GARD

The I-Gard m-GARD is a microprocessor based ground fault relay designed and built to be used on solidly grounded or resistance grounded systems. This innovative digital electronic relay measures ground fault current using built-in zero sequence current sensor (ZSCS). It operates on any control voltage from 40-240V direct current (DC) or alternating current (AC), and contains an isolated power supply. Options are available for operation at 5V DC, 12V DC and 24V DC.

The m-GARD reacts to alternating current only and will reject direct current signals. With the harmonic filtering feature enabled, the m-GARD rejects all higher frequencies than fundamental. This can be used to eliminate false tripping when the relay is used on systems with variable frequency drives. With the harmonic filter disabled, the relay responds to AC currents 25 - 400Hz. The relay can connect to the m-GARD-SYM remote indicator (with Modbus connectivity) for remote test/reset and monitoring. The m-GARD-SYM provides detailed device status information.



I-Gard m-GARD-SYM

Connects to m-Gard-SYM remote indicator

Modbus connection to external network

Remote data collection

Remote relay reset

Monitors up to 50 devices on a single MODBUS address

Isolation protects entire network

Contains an isolated power supply and an internal "Z" form contact relay for true fail-safe operation

## TECHNICAL SPECIFICATIONS

### Temperature Range:

Operating Temperature: -40°C to +65°C

Storage Temperature: -40°C to +85°C

### Ground Fault:

Pickup Settings: From 10mA to 12A

Pickup Tolerance: -15%, +0%

Delay Settings: From 20ms to 10 seconds

Delay Tolerance: ±2.5%

### Physical: Weight: 0.40kg (0.88lbs)

All models have a small profile, therefore they are very convenient for installations where space is limited.

### Dielectric:

Relay contacts to chassis: 1480V rms. for 1 minute

Control terminals to chassis: 1480V rms. for 1 minute

### Output Contacts: Main Trip Relay:

Type: Form Z (NO and NC pair)

Rating: 10A @250V AC, 10A @30V DC, 1/2HP @240V AC

In order to respond to the different needs of our customers (system voltages, trip levels and delays) I-Gard has the following m-GARD models available:

MODEL	CONTROL POWER	CURRENT PICKUP	DELAY SETTINGS
m-GARD-10-A	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-10-A/5V DC *m-GARD-10-A/12V DC *m-GARD-10-A/24V DC *m-GARD-10-A/48V DC	5V DC: 4.5-9V DC, 1.5W 12V DC: 9-18V DC, 1.5W 24V DC: 18-36V DC, 1.5W 48V DC: 36-76V DC, 1.5W	5%, 10%, 15%, 30%, 25%, 50%, 75%, 100% of 10A	½, 1, 1½, 2, 2½, 5, 7½, 10
m-GARD-10-A1	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-10-A1/5V DC *m-GARD-10-A1/12V DC *m-GARD-10-A1/24V DC *m-GARD-10-A1/48V DC	5V DC: 4.5-9V DC, 1.5W 12V DC: 9-18V DC, 1.5W 24V DC: 18-36V DC, 1.5W 48V DC: 36-76V DC, 1.5W	10mA, 20mA, 30mA, 50mA, 100mA, 120mA, 150mA, 210mA, 300mA, 500mA, 600mA, 1A, 2.4A, 3A, 4.2A, 6A	20ms, ½s, 2s, 5s
mGARD-10-A2	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-10-A2/5V DC *m-GARD-10-A2/12V DC *m-GARD-10-A2/24V DC *m-GARD-10-A2/48V DC	5V DC: 4.5-9V DC, 1.5W 12V DC: 9-18V DC, 1.5W 24V DC: 18-36V DC, 1.5W 48V DC: 36-76V DC, 1.5W	1, 2, 2½, 4, 6, 8, 10	½, 1, 1½, 2, 2½, 5, 7 ½, 10
m-GARD-100	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-100/5V DC *m-GARD-100/12V DC *m-GARD-100/24V DC *m-GARD-100/48V DC	5V DC: 4.5-9V DC, 1.5W 12V DC: 9-18V DC, 1.5W 24V DC: 18-36V DC, 1.5W 48V DC: 36-76V DC, 1.5W	30mA, 40mA, 60mA, 90mA, 150mA, 250mA, 400mA, 600mA, 900mA, 10A, 12A	20ms, 50ms, 100ms, 200ms, 0.5s, 1s, 2s, 5s
m-GARD-125	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-125/5V DC *m-GARD-125/12V DC *m-GARD-125/24V DC *m-GARD-125/48V DC	5V DC: 4.5-9V DC, 1.5W 12V DC: 9-18V DC, 1.5W 24V DC: 18-36V DC, 1.5W 48V DC: 36-76V DC, 1.5W	0.1A, 0.2A, 0.3A, 0.4A, 0.5A, 1A, 1.5A, 2A	20ms, 50ms, 100ms, 200ms, 0.5s, 1s, 2s, 5s
m-GARD-250	40-240V AC/DC: 36-264V AC/DC 3V AC or 3W DC		
*m-GARD-250/5V DC	5V DC: 4.5-9V DC, 1	*options available upon request	