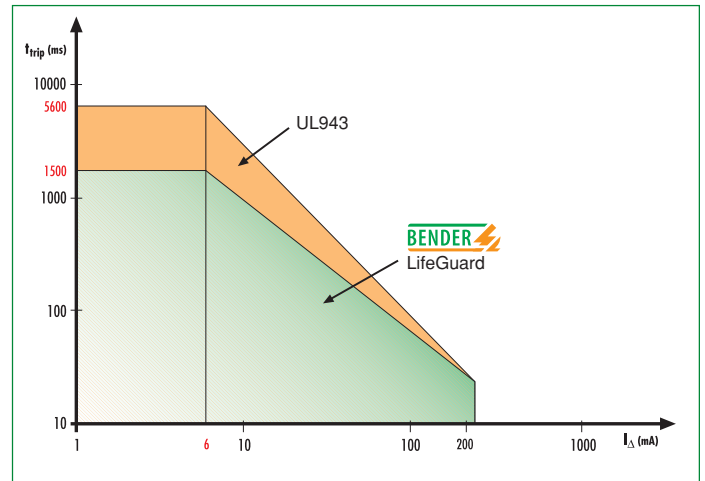


- For Grounded and High-resistance Grounded Single & Three-phase AC system including systems with variable frequency drives
- UL943 Class A Listed GFCI
- Built-in Contactor for Stop/Start Operation
- Terminals for remote control
- Built-in ON and ALARM LEDs

Product Description

The BENDER LIFEGUARD 100 Single & Three-Phase GFCI extends the capability of standard ground fault circuit interrupters to the detection of ground leakage currents in all stages of power conversion equipment from simple rectifiers to sophisticated variable frequency drive and brushless DC motor controllers with signal content extending from pure DC to low kHz. The LifeGuard GFCIs can detect AC and DC ground fault leakage currents including pure DC.

The alarm set-point value is preset to 6mA in accordance to UL943, the standard for personnel protection. The minimum response time is 25msec. at leakage currents of 250mA and above. UL943 - Class A GFCIs have to trip in accordance to a special timecurve which is shown below.



Operational Information

The GFCI has to be connected to a power supply via terminal strips on the line side of the GFCI. The load will be connected to the contactor terminals. As soon as power is applied to the GFCI, the green LED indicates that the GFCI is operating. Control terminals on the line side are provided for external testing of the GFCI, additional alarm indications, external test & reset and emergency stop. The built-in contactor can be used for stop/start function.

The monitoring circuitry will trip the contactor when a hazardous situation (ground fault) occurs and the yellow alarm LED will activate. The unit has to be manually reset after a fault has been cleared.

The complete GFCI module is designed for use in control cabinets or sealed areas.

Technical Data:

GFCI Ground Fault Circuit Interrupter
LifeGuard100

GF-Evaluator: RCMA473L6-33
Grounded Neutral Protection and Trip Amplifier: INS466
Contactor: A75-40-00/4-Pole

Line voltage: 120, 208, 240V 3PhAC
Load current: 100Amps
Alarm setpoint: 6mA or 20mA fixed
Response time: in accordance with UL943 time curve

Example trip time: <5sec at 6mA
<25msec at \geq 264mA

Power wiring:
Terminals T1/T2/T3 Loadside See LifeGuard "Wiring & Mounting guide" for conductor sizes
Terminals L1/L2/L3 Lineside

Control wiring:
(In combination with pushbutton station)
AWG16, MTW, AWM or THHN, stranded wire

Alarm/Trip indication: LED red "Circuit Tripped" on PB station. (Has to be externally provided for fixed installations)
LED yellow "Alarm" on GFCI

Power "On" indication: LED green "Power On" on PB station. (Has to be externally provided for fixed installations)
LED green "On" on GFCI

Dimensions : Overall 13" x 11" x 6.5"

Weight: 12 lbs.

Wiring Diagram: Page 3,4

Ordering Guide:

GFCI modules are available for different single and three phase applications. The 6mA versions are listed under UL943 Class A. BENDER also offers 20mA versions which are designed in accordance to the standard, but trip at 20 mA due to the fact that 6 mA settings are likely to create nuisance tripping in systems with higher current and voltage requirements. The LifeGuard GFCI is available for both, fixed installed and portable use.

LifeGuard 100 (example ordering)

LG100-120-3/4-6-N (No enclosure, 100A, 120/208V)
LG100-208-3/3-6-4X-FG-CH (100A, 208V, with enclosure)

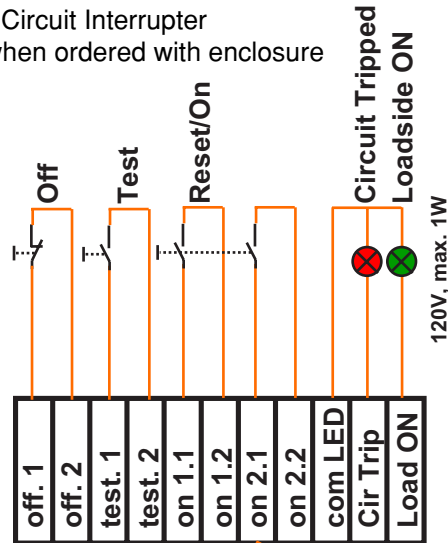
See Ordering Information on next page (page 5)

The portable LifeGuard 100 is enclosed in an industrial grade NEMA4X enclosure and has been designed to withstand physical impact, dirt and moisture. The unit is equipped with indicator lights and operator pushbuttons which are easy to use. Various types of electrical connectors can be attached to the portable LifeGuard.



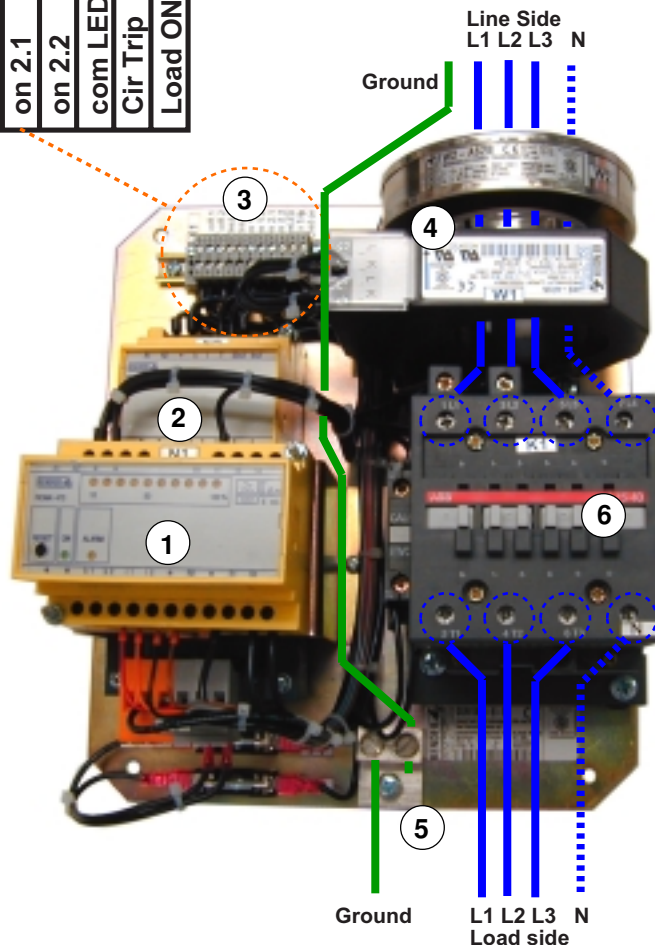
Wiring Example:

Lifeguard 100 - Ground Fault Circuit Interrupter
 Inside Wiring - Not required when ordered with enclosure



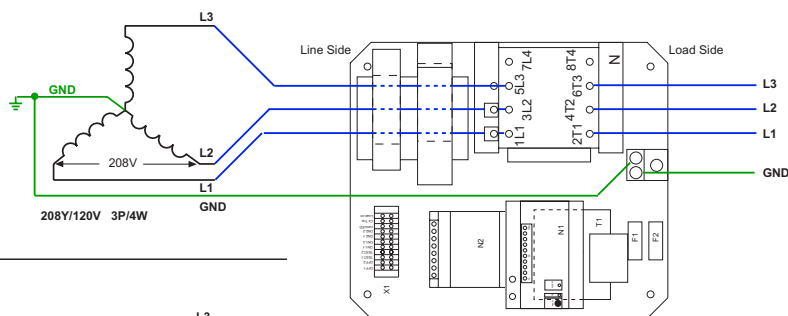
Components Inside the Lifeguard 100

- 1 - RCMA473L6-33 Ground Fault Evaluator**
Evaluates the ground fault current
- 2 - INS466 Grounded Neutral Protection**
Detects a "grounded neutral condition"
The GFCI interrupts power, if the neutral has been grounded at the load
- 3 - Terminal strip**
Enables external controls and indicators
- 4 - Current transformers**
For use with fault current and grounded neutral detection circuitry
- 5 - Ground Lug**
Incoming and outgoing ground connection
Please note: The ground wire bypasses the current transformers
- 6 - Contactor**
Contactor will interrupt the power circuitry in case of an alarm

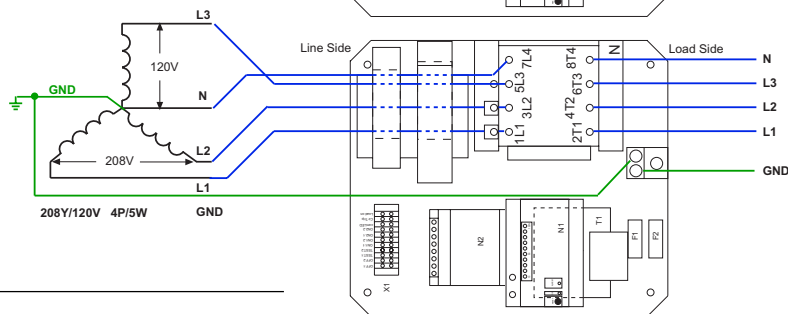


Wiring Diagrams

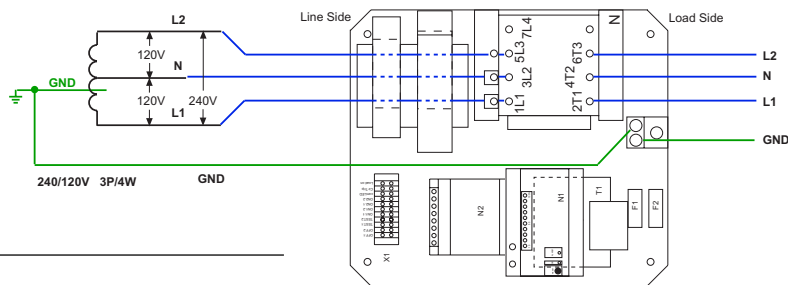
208Y/120V 3P/4W



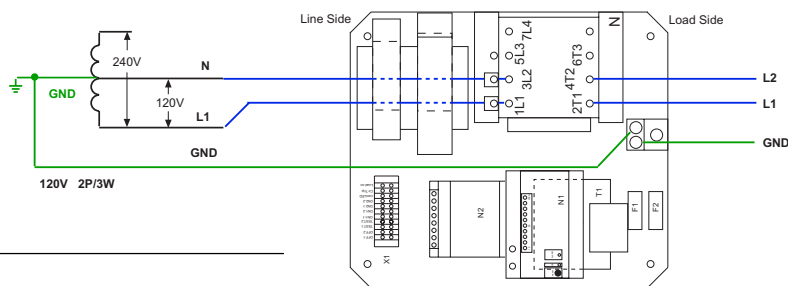
208Y/120V 4P/5W



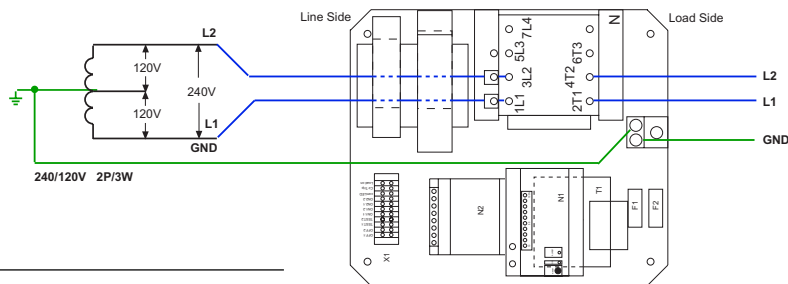
240/120V 3P/4W



120V 2P/3W



240/120V 2P/3W



BENDER GFCI – Easy to order or request

Select between more than 200 variations –
for your application, for your demands, for the best protection of people and machines

Example: LifeGuard 100 – 480 – 3/3 – 6 – 4X – PL – SC

Code: A – B – C – D – E – F – G

Code A – Electrical: Amperage

20 20 A

40 40 A

60 60 A

80 80 A

100 100 A

Other _____

Code E – Mechanical: Enclosure type

N No enclosure, back plate only

1 Nema 1

12 Nema 12

4X Nema 4X

Other _____

Code B – Electrical: Voltage

120 120 VAC

208 208 VAC

240 240 VAC

277 277 VAC

480 480 VAC

Other _____

Code F – Mechanical: Enclosure material

PA Painted

FG Fiber glass

PL Plastic

SS Stainless Steel

Code C – Electrical: Number of poles/wires

1/2 Single phase / L & N

2/2 Single phase / L1, L2

2/3 Single phase / L1, L2 & N

3/3 Three phase / L1, L2, L3

3/4 Three phase / L1, L2, L3 & N

Code G – Mechanical: Enclosure style

SC Screw cover

CH* Continuous hinge

CL Clamp

*Add (L) if "Locked"

Code D – Electrical: Trip level

6 6 mA

20 20 mA

A Adjustable 6...600 mA

B Adjustable 10 mA...10 A

If you have a special application
or have additional questions –
please don't hesitate to contact us.

Company

Department/Group

First Name

Last name

Address line 1

Address line 2

City

State

Zip

Telephone

Fax

E-mail

Date



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Power in electrical safety

