ISOTROL SYSTEMS
Medical Division of Bender Inc.

Power and Ground Modules

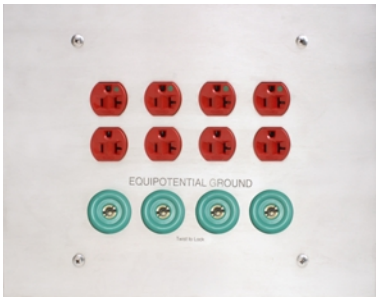
Applications
Hospital Grade outlet devices for supply and grounding of portable equipment

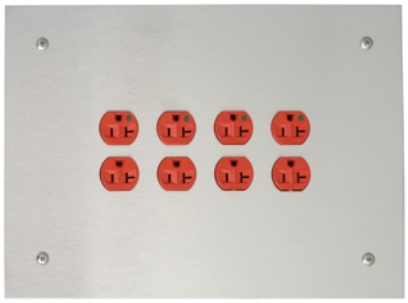
Features
- Hospital Grade Power Receptacles
- Hospital Grade Ground Jacks
- Aluminum or Copper Ground Buses

Mounting
Available for flush or surface mounted applications

Standards
UL Listed Product (UL1047)

Warranty
Industry's first 5 year limited warranty





PGM
RGM
RM
MGM

POWER AND GROUND MODULES

Introduction

ISOTROL SYSTEMS Power and Ground Modules provide a combination of hospital grade power receptacles and/or ground jacks to satisfy the requirements of general and critical care areas. Straight blade, single or duplex, and twist-to-lock receptacles can be provided in a wide array of configurations. Also available are hospital grade ground cords to facilitate the implementation of an equipotential environment.

The Power and Ground Modules are designed in strict compliance with UL Standard UL467, UL50, the National Electrical Code, and NFPA 99.

General

The Power and Ground Modules includes the Receptacle Ground Module (Type RGM) which contains hospital grade power receptacles and ground jacks, the Receptacle Module (Type RM) which provides hospital grade power receptacles only, and the Patient Ground Module (Type PGM) which only contains hospital grade ground jacks. An optional ground bus arrangement is available for the RGMs, RMs and PGMs. The Master Ground Module (Type MGM) typically contains a ground bus arrangement and serves as a collection point for all room grounding conductors.

Backbox

The outlet devices for RGMs, RMs and PGMs are available mounted on standard Stainless Steel wall plates that are compatible with standard contractor supplied electrical gang boxes with or without plaster ring.

Customized modules are available with a galvanized steel backbox for flush mounting. Surface mounted enclosures are finished with a coat of hospital ivory epoxy enamel and are also available in Stainless Steel. Various power receptacles and ground jack configurations are given on the following pages of this brochure.

Face Plate

The face plate shall be 14GA, Type 304 stainless steel with a #4 brushed finish. It shall be attached to the backbox with a minimum of four (4) #10-32 Stainless Steel Truss Head Phillips machine screws. The face plate for flush mounted modules, with a customized face plate, extends 1" on all sides of the backbox. For surface mounted modules, the face plate shall exactly match the dimensions of the backbox.

Modules for standard gang wall boxes shall have a wall plate fabricated from Type 304 Stainless Steel, with a #4 brushed finish and attached to the wall box as required.

Power Receptacles and Ground Jacks

The RGM, RM and PGM modules with standard gang wall plates can accommodate either one hospital grade power receptacle or one or two ground jacks per gang. The power receptacles are available in straight blade, single or duplex, and twist-to-lock style.

RGMs, RMs and PGMs with customized face plates are available in a wide variety of configurations with up to 8 sections. Each section can accommodate one power receptacle and one ground jack or one power receptacle or one or two ground jacks.

Outline drawings shown on the following pages of this brochure provide additional information on quantities and configuration.

A copper bus connects the ground jacks. A lug connected to the bus serves as a connection point to the overall equipotential grounding system.

Ground Bus

RGMs, RMs, PGMs and MGMs with a backbox and customized Stainless Steel face plate can be provided with a ground bus. The ground bus is constructed from highly conductive metal bar stock with a minimum of two bus bars per module. The assembly has a minimum of nineteen #14-4 screw connections for the attachment of grounding conductors. It also has at least one #4-2/0 lug for the system grounding conductor. As an option, RGMs, RMs, PGMs and MGMs are available with copper ground bus.

A Chicago style bus assembly constructed from 1/4" thick copper bar stock is also available as an option. Wires with ring type terminals are fastened with brass hexagonal head 1/4"-20 screws.

Hospital Ground Cords

Also available are Hospital Grade Ground Cords (HGC). The HGC is available in custom lengths, contains a plug on the one end and a heavy duty clip or a lug on the other. More detailed information found in the Hospital Ground Cord and Hospital Ground Jack Data Sheet. This data can be found in ISOTROL's full catalog or is available by request.

Support and Services

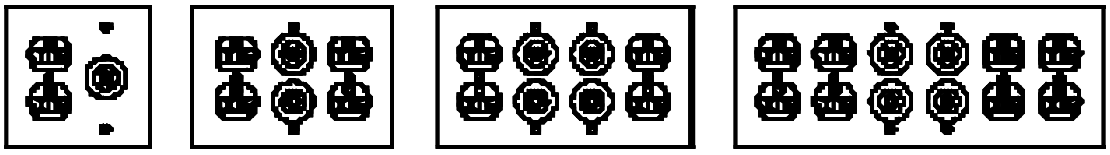
- On-site installation inspection and certification services
- System design assistance provided upon request
- Technical support hotline: (800) 833-6834

Outline Drawings of RGMs, RMs and PGMs with Stainless Steel Wall Plate

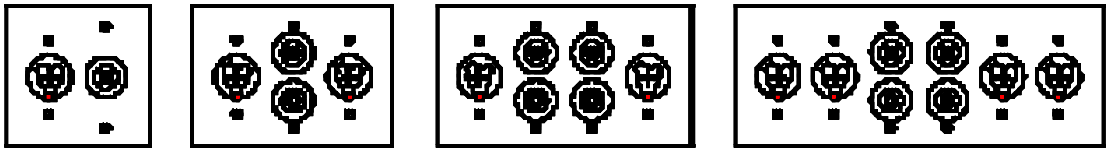
Receptacle Ground Modules (RGM)

Typical RGM configurations with hospital grade duplex receptacles and ground jacks

2 gang 3 gang 4 gang 6 gang

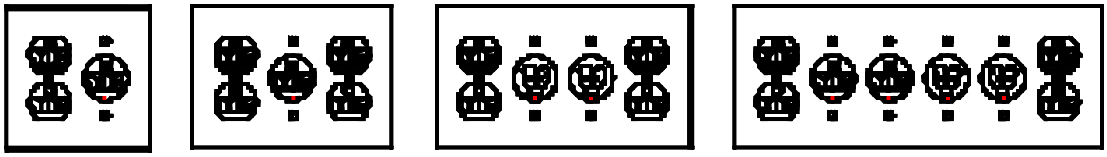


Typical RGM configurations with hospital grade twist-to-lock receptacles and ground jacks.



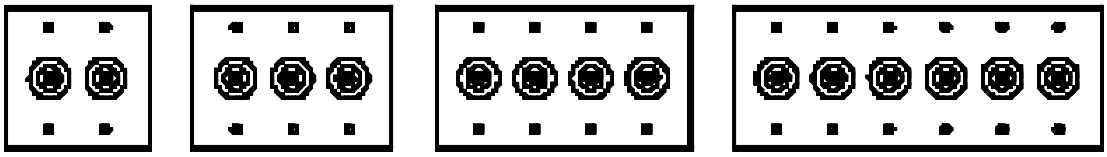
Receptacle Modules (RM)

Typical RM configurations with hospital grade duplex, twist-to-lock, and single receptacles.



Patient Ground Modules (PGM)

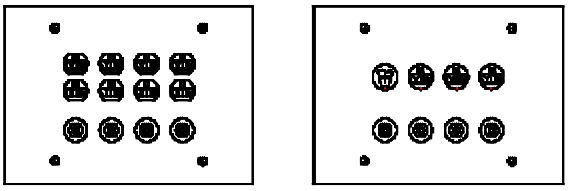
Typical PGM configurations with hospital grade ground jacks



Outline Drawings of RGMs, RMs PGMs and MGMs with Customized Stainless Steel Face Plate

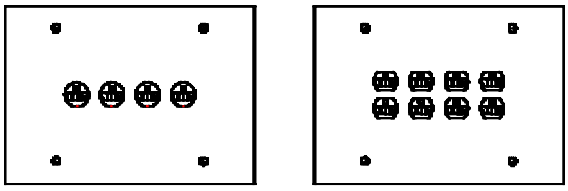
Receptacle Ground Modules (RGM)

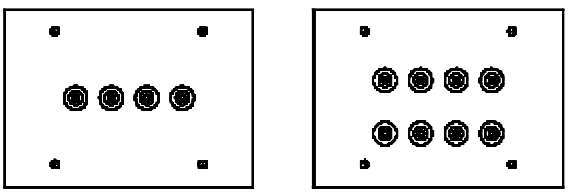
Typical RGM configurations with hospital grade duplex, twist-to-lock receptacles and ground jacks



Receptacle Modules (RM)

Typical RM configurations with hospital grade duplex and single receptacles.





Note:
All displayed modules with customized stainless steel face plate have the following dimensions:
Backbox: 12"W x 8"H x 4"D
Face plate: 14"W x 10"H

Patient Ground Modules (PGM)

Typical PGM configurations with hospital grade ground jacks

Master Ground Modules (MGM)

Selection Guide for Power and Ground Modules (Type PGM, RGM, RM & MGM)

When selecting the Power and Ground Module for your application, use the product code below. If you have any questions or need further assistance, please call us using our toll-free number: (800) 833-6834.

Please note that not all codes are applicable for the various modules.

Code A - Basic Designation

PGM: Patient Ground Module
RGM: Receptacle Ground Module
RM: Receptacle Module
MGM: Master Ground Module

Code B - Quantity of Ground Jacks (applies to RGM and PGM)

Code C - Quantity of Power Receptacles (applies to RGM and RM)

Standard gang Stainless Steel Wall Plates
Each gang can accommodate either one power receptacle or one or two ground jacks

Customized Stainless Steel Face Plate
Each section can accommodate one power receptacle and one ground jack or one power receptacle or one or two ground jacks

Code D - Type of Power Receptacle (applies to RGM and RM)

Enter the designation S1, S2, SM, D1, D2, DM, T1, T2 or TM into the box for Code D

		SINGLE			DUPLEX			TWIST-TO-LOCK		
Type		S1	S2	SM	D1	D2	DM	T1	T2	TM
Voltage		125V	250V	OTHER	125V	250V	OTHER	125V	250V	OTHER
Hubbell	Style#	HBL8310R	HBL5461I		HBL8300HR	HBL8400I		HBL23000HG	HBL2320	
	Color	Red	Ivory		Red	Ivory		Black	Black	
NEMA#		5-20R	6-20R		5-20R	6-20R		n/a	L6-20R	

Notes: - Above receptacles are 2P/3W, 20A, single phase.
- If the RGM or RM contain several types of receptacles, expand the product code by adding multiple blocks of Code C and D as shown in the example on the next page.

Code E - Type of Ground Bus

A: Aluminum alloy bus bar
B: Copper bus bar
C: Chicago Style ground bus
N: No Ground Bus (skip Code F and continue with Code G)

Code F - Total Number of Grounding Connections

For RGMs, RMs, PGMs, MGMs with ground bus Type "A" and customized front trim

20: 19 grounding connections size #14-4, 1 grounding connections size #4-2/0
31: 30 grounding connections size #14-4, 1 grounding connections size 250MCM-6
37: 36 grounding connections size #14-4, 1 grounding connections size 250MCM-6
M: Custom number and type of grounding connections; call factory for details

For RGMs, RMs, PGMs, MGMs with ground bus Type "B" and customized front trim

25: 24 grounding connections size #14-6, 1 grounding connections size 250MCM-6
31: 30 grounding connections size #14-6, 1 grounding connections size 250MCM-6
37: 36 grounding connections size #14-6, 1 grounding connections size 250MCM-6
M: Custom number and type of grounding connections; call factory for details

For RGMs, RMs, PGMs, MGMs with ground bus Type "C" and customized front trim

20: 19 grounding connections size #14-4, 1 grounding connections size #4-2/0

Selection Guide for Power and Ground Modules (Type PGM, RGM, RM, & MGM)

Code G - Size and Type of Wall Plate/Face Plate (applies to: RGM, RM, PGM, MGM)

1 to 8: # of gang - Stainless Steel Wall Plate - without backbox
0: Customized Stainless Steel Face Plate - with backbox - (see code I)

Code H - Type of Mounting

F: Flush (available for all wall plates and modules with customized Stainless Steel Face Plate)
S: Surface (available for modules with customized Stainless Steel Face Plate only)

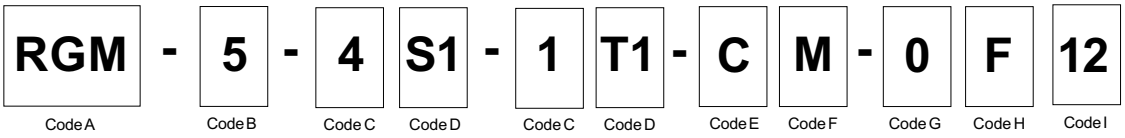
Code I - Box Size - Standard Sizes

8: 8" x 8" x 4" (WxHxD) 12: 12" x 8" x 4" (WxHxD) 18: 18" x 8" x 4" (WxHxD)

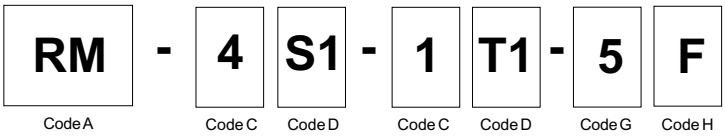
Call the factory for additional equipment or custom requirements

Example for ISOTROL type RGM, RM, PGM, and MGM Product Code

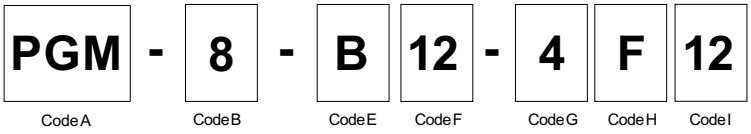
RECEPTACLE GROUND MODULE (Backbox Configuration Shown)



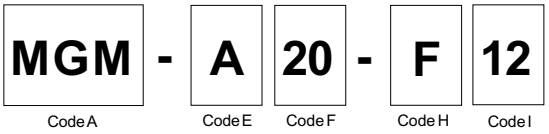
RECEPTACLE MODULE (Wall Plate Configuration Shown)



PATIENT GROUND MODULE (Backbox Configuration Shown)



MASTER GROUND MODULE (Backbox Configuration Available Only)



Suggested Specification for ISOTROL SYSTEMS

Type PGM Patient Ground Module, RGM Receptacle Ground Module, RM Receptacle Module, MGM Master Ground Module

Furnish and install ISOTROL SYSTEMS Types PGM Patient Ground Module, RGM Receptacle Ground Module, RM Receptacle Module, and MGM Master Ground Module in the locations shown on the architectural / electrical drawings. The PGM, RGM, RM, and MGM shall be UL Listed and labeled as an assembly. The modules shall consist of the following:

Receptacle and Ground Module (RGM)
The RGM shall contain hospital grade power receptacles and ground jacks and a ground bus arrangement that is wired into the overall equipotential grounding system.

Receptacle Module (RM)
The RM shall contain hospital grade power receptacles and a ground bus arrangement that is wired into the overall equipotential grounding system.

Patient Ground Module (PGM)
The PGM shall contain hospital grade ground jacks and a ground bus arrangement that is wired into the overall equipotential grounding system.

Master Ground Module (MGM)
The MGM shall contain a ground bus arrangement that is wired into the overall equipotential grounding system.

Backbox
Shall be flush or surface mounted as indicated on the contract documents. Flush mounted units shall be fabricated from 16GA galvanized sheet steel. Surface mounted units shall be 16GA galvanized sheet steel and shall have a finish coat of hospital ivory, epoxy enamel. The dimensions of the backbox shall be 8"W x 8"H x 4"D or 12"W x 8"H x 4"D or 18"W x 8"H x 4"D or standard electrical gang wall box, with or without plaster ring, supplied by the contractor.

Wall Plate / Face Plate
Shall be fabricated from 14GA Type 304 Stainless Steel, with #4 brushed finish. The faceplate for flush mounted units extends 1" on all sides of the backbox. For surface mounted units, the faceplate shall exactly match the dimensions of the backbox. The faceplate shall be attached to the backbox by means of four (4)#10-32 x 1" Stainless Steel Truss Head Phillips machine screws.

Faceplates for standard electrical gang wall boxes shall have a wall plate fabricated from Type 304 Stainless Steel, with a #4 brushed finish and attached to the wall box as required.

Power Receptacles
Shall be UL Listed / Recognized Hospital Grade and/or NEMA configuration with ampacity, voltage, color, and in quantities in accordance with contract drawings.

Ground Jacks
Shall be UL Listed for hospital application as well as green in color and provide modules with the quantity of ground jacks as shown on the contract drawings.

Ground Bus
Shall contain a minimum of nineteen (19) #14-4 screw connections for the attachment of grounding conductors. It shall have at least one (1) #4-2/0 lug for the system grounding conductor.

A Chicago style bus assembly constructed from 1/4" thick copper shall be available as an option.

Our Address
ISOTROL SYSTEMS
700 Fox Chase
Coatesville, PA 19320
Phone: 800-833-6834
610-383-9655
Fax: 610-383-7100
E-mail: isotrol@bender.org

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