GracePorts®

Any Cable. Any Connection. Any Combination. *They are just what you need.*

CATALOG

GracePorts® are communication ports that allow workers to access control panels easily through closed doors, which eliminates the risk of contamination to the panel. Thru-door access enhances compliance to NFPA 70E / CSA Z462 as well as global electrical safety standards. Our ability to fully customize your GracePort® to meet your precise needs means never having to compromise safety.

Welcome to GracePorts®

Definitions

UL: UL provides safety-related certification, validation, testing, inspection, auditing, advising and training services to a wide range of clients, including manufacturers, retailers, policymakers, regulators, service companies, and consumers.

UL is one of several companies approved to perform safety testing by the US federal agency Occupational Safety and Health Administration (OSHA). OSHA maintains a list of approved testing laboratories, which are known as Nationally Recognized Testing Laboratories.

CSA: CSA test products for compliance to national and international standards, and issue certification marks for qualified products. Certification marks tell customers and users that a product has been evaluated by a formal process–involving examination, testing and follow-up inspection–and that it complies with applicable standards for safety and performance.

CE: The CE Mark on a product or machine identifies it as complying with all the of safety requirements established by the European Union. The CE Mark is a requirement and not a voluntary process.

UL 508: Since the GracePort® products are UL recognized a UL 508 shop must have the product item number or at least the UL CCN NITW2 in their UL file. The customer must contact UL to add information to their UL file.
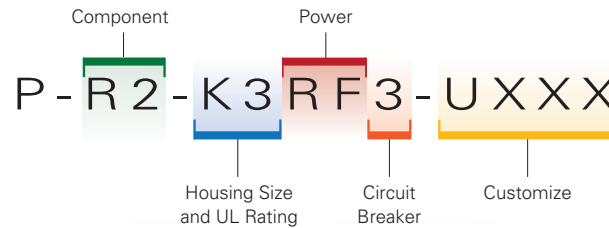
Please note the following:

   The GracePorts® are referred to as*:
   UL TYPE 1
   UL TYPE 3R
   UL TYPE 4
   UL TYPE 4X
   UL TYPE 12

This is only if the faceplate is marked with UL. If not marked with UL logo then the product has no UL rating.
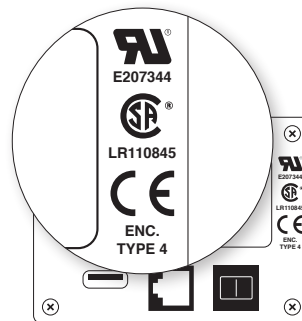
A Guide to Customizing Your GracePort®

Component   Power

P - R 2 - K 3 R F 3 - U X X X

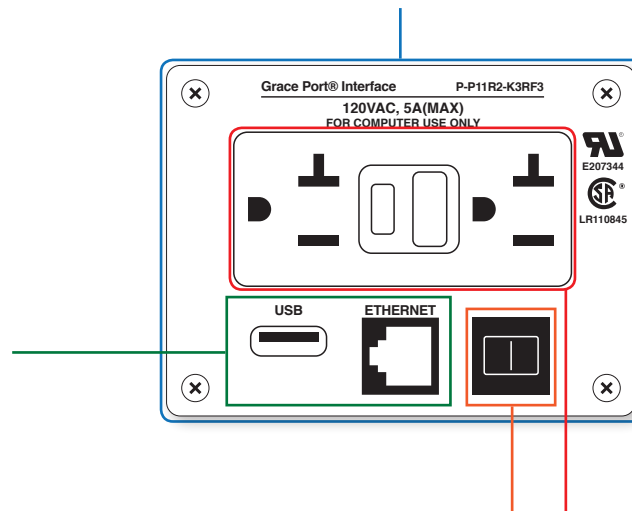Housing Size and UL Rating   Circuit Breaker   Customize

Housing Size & UL Rating

Several housing types are available to meet your needs. The size of your housing depends on several variables including the kinds of components you choose, the power option you want and, in some cases, the UL rating you need. UL ratings offered include UL Type 1, 3R, 4, 4X, 7, 9, and 12. The code for the housing size and UL rating is represented in our example by a letter/number combination: P-P11R2-**K3**RF3-UXXX

Components

There are various connectors available and are represented by a 2- to 3-digit code found in between the first two dashes of our GracePort® part number layout. Multiple connectors in a GracePort® are listed alpha-numerically, as seen here: P-**P11R2**-K3RF3-UXXX

Grace Port® Interface   P-P11R2-K3RF3

120VAC, 5A(MAX)
FOR COMPUTER USE ONLY

E207344

LR110845

USB   ETHERNET

Customize

Customizing your GracePort® means you can get exactly what you need…no more, no less. The Customize section in our part number layout allows customers to specify additional needs including special text, logos, cable lengths and hole cut-outs. This section is located after the third dash in our part number layout: P-P11R2-K3RF3-**UXXX**

Power Option / Circuit Breaker

Many power options for international and domestic use are available and are represented by a 1-, 2-, or 3-letter code. Because circuit breakers offer the ability to limit what devices can be run through the GracePort®, we offer different amperages, which is represented by the amperage number following the power option code. P-P11R2-K3**RF3**-UXXX

Top 24 GracePort® Configurations

P-P11-B3RX

(1) Type A USB Female to Male with 10' cable in a UL Type 4 Housing, no Outlet

P-R2-F2R0

(1) Ethernet (RJ45), in a UL Type 4X Housing, with Simplex Outlet

P-R2-H3R3

(1) Ethernet (RJ45), 3 amp CB, in a UL Type 4 Housing, with Simplex Outlet

P-Q7-B3RX

(1) DB-9 Female - Male, in a UL Type 4 Housing, no Outlet

P-A14-F3R0

(1) MicroLogix 8-pin mini-din/Female to 8-pin mini-din/Male with 10' cable in a UL Type 4 Housing, with Simplex Outlet

P-R2-K2RF0

(1) Ethernet (RJ45), in a UL Type 4X Housing, with Inside-Outlet®

P-R2-B3RX

(1) Ethernet (RJ45) in a UL Type 4 Housing, no Outlet

P-R2-F3R0

(1) Ethernet (RJ45) in a UL Type 4 Housing, Simplex Outlet

P-R2-K2RF3

(1) Ethernet (RJ45), 3 amp CB, in a UL Type 4X Housing, with Inside-Outlet®

P-R2#2-B3RX

(2) Ethernet (RJ45) in a UL Type 4 Housing, no Outlet

P-R2-F3R3

(1) Ethernet (RJ45), 3 amp CB, in a UL Type 4 Housing, with Simplex Outlet

H-RF0-K3

UL Type 4 Housing with Inside-Outlet®

P-P11R2-K3RF0

(1) Type A/USB Female to Type A/USB Male with 10' Cable, Ethernet (RJ45) in a UL Type 4 Housing, with Inside-Outlet®

P-R62-K3RF0

(1) Category 6 Ethernet Bulkhead, in a UL Type 4 Housing, with Inside-Outlet®

P-R62-M3RF0

(1) Category 6 Ethernet Bulkhead, in a UL Type 4 Housing, with Inside-Outlet®

P-R2-K3RF0

(1) Ethernet (RJ45) in UL Type 4 Housing with Inside-Outlet®

P-XX-K3RD0

UL Type 4 Housing, with a Duplex non-GFCI Outlet

P-R2-M3RF3

(1) Ethernet (RJ45), 3 amp CB, in a UL Type 4 Housing, with Inside-Outlet®

P-R2-K3RF3

(1) Ethernet (RJ45), 3 amp CB, in a UL Type 4 Housing, with Inside-Outlet®

P-R2-M3RA0

(1) Ethernet (RJ45), in a UL Type 4 Housing, Australian Outlet

P-E5-M3RF3

Ethernet Switch, 3 amp CB, in a UL Type 4 Housing, with Inside-Outlet®

P-R2-K3RF5

(1) Ethernet (RJ45), 5 amp CB, in a UL Type 4 Housing, with Inside-Outlet®

P-R2-M3RF0

(1) Ethernet (RJ45), in a UL Type 4 Housing, with Inside-Outlet®

P-R2-M5RF0

(1) Ethernet (RJ45), in a UL Type 4X #304 Stainless Steel Housing, with Inside-Outlet®

COMPONENTS

Varieties of components are available and can be paired together in your fully customizable GracePort®. Whether you need something as common as an RJ45 or as unique as a DVI female-to-female feed-thru bulkhead, Grace Engineered Products can design and create a GracePort® that fits your precise need.

P-**R2**-K3RF3-UXXX

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Computer and PLC Interfaces				

Ethernet & Network Interfaces

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Category 5e Ethernet	Bulkhead	RJ45Female	RJ45Female	**R2**
Category 5e Shielded	Bulkhead	RJ45Female	RJ45Female	**R33**
Category 6 Ethernet	Bulkhead	RJ45Female	RJ45Female	**R62**
Ethernet Switch (5 ports) *A 5-port unmanaged Ethernet switch provides simple communication between Ethernet devices. Diagnostics limited to the LEDs, you must be able to see the LEDs to diagnose communication problems. Our dual inside-out design allows you to see the status of each port from the inside and outside of the panel.*	Unmanaged	RJ45Female (1)	RJ45Female (4)	FRONT　　　BACK **E5**

Keyboard, Mouse & Monitor

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
DVI F/F (DVI-I, D, A)	Bulkhead	Female	Female	FRONT　　　BACK **Q102**
Keyboard (PS/2)	Cable	6MDINFemale	6MDINMale	**P3**
Keyboard (USB)	Cable	USBAFemale	USBAMale	**P28**
Modem	Bulkhead	RJ12Female	RJ12Female	**P7**
Mouse (PS/2)	Cable	6MDINFemale	6MDINMale	**P5**
Mouse (USB)	Cable	USBAFemale	USBAMale	**P29**
VGA Monitor	Cable	HDDB15Female	HDDB15Male	FRONT　　　BACK **P6**

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Parallel Pin-to-Pin Extension Cables				
8 Pin MiniDIN	Cable	8MDINFemale	8MDINMale	**R8**
8 Pin MiniDIN Locking	Cable	8MDINFemale	8MDINMale	**R28**
DB15 F/M	Cable	DB15Female	DB15Male	**R11**
DB15 M/F	Cable	DB15Male	DB15Female	**R10**
DB15HDM F/M (Not for VGA)	Cable	Female	Male	**R45**
DB15HDM M/F (Not for VGA)	Cable	Male	Female	**R44**
DB25 F/M	Cable	DB25Female	DB25Male	**P2**
DB25 M/F	Cable	DB25Male	DB25Female	**R9**
DB9 F/M	Cable	DB9Female	DB9Male	**R3**
DB9 M/F	Cable	DB9Male	DB9Female	**P1**
Serial, Parallel				
DB25 Parallel	Cable	DB25Female	DB25Male	**P2**
DB25 Serial	Cable	DB25Male	DB25Female	**P9**
DB9 Serial	Cable	DB9Male	DB9Female	**P1**

P-**R2**-K3RF3-UXXX

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Universal Serial Bus				
USB 4 to 1 Hub *USB Technology – USB compatibility 1.1 and 2.0; Connectors Types A and B high retention. Power – Source 5 VDC from USB Host; Downstream power provides 100mA per port to power downstream USB devices.*	Bulkhead	USB-AFemale	USB-BFemale	**P43**
USB Memory Stick *Recessed USB Flash drive holder with cable. Maintain your rating with the ability to insert your flash drive and close the lid while your program runs. Maximum flash drive dimensions = 2.25"L x 0.68"W x 0.35"L.*	Cable	USB-AFemale	USB-AMale	FRONT BACK **P50**
USB Mini Type B 5 POS	Cable	USB-BFemale	USB-BMale	BACK FRONT **P42**
USB Type A/B F/F	Bulkhead	USB-AFemale	USB-BFemale	**Q50**
USB Type A-A Cable *USB 2.0 cable Type A female to Type A male. The female connector is on the front of the GracePort®.*	Cable	USB-AFemale	USB-AMale	FRONT BACK **P11**
USB Type A-A F/F	Bulkhead	USB-AFemale	USB-AFemale	**P22**
USB Type B/A F/F	Bulkhead	USB-BFemale	USB-AFemale	**Q51**
USB Type B/B F/F	Bulkhead	USB-BFemale	USB-BFemale	**P27**
USB Type B/B M/M	Bulkhead	USB-BMale	USB-BMale	**P31**
USB Type B/F to USB Type B/M (6' integrated cable)	Cable	USB-BFemale	USB-BMale	**P15**

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Other Common Connections				

Banana Jacks

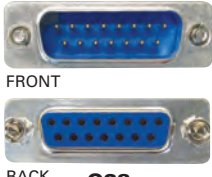| DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Black Banana Jack (sheathed)	Bulkhead	Female	Solder Terminal	**Q85**
Black Banana Jack (unsheathed)	Bulkhead	Female	Solder Terminal	**Q75**
Green Banana Jack (sheathed)	Bulkhead	Female	Solder Terminal	**Q86**
Green Banana Jack (unsheathed)	Bulkhead	Female	Solder Terminal	**Q76**
Red Banana Jack (sheathed)	Bulkhead	Female	Solder Terminal	**Q84**
Red Banana Jack (unsheathed)	Bulkhead	Female	Solder Terminal	**Q74**

Connector to Terminal Block PCB

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
DB9F (PCB Pins 1-9 to Terminal Block)	Term	DB9Female	Terminal Block	**R1**
DB9M (PCB Pins 1-9 to Terminal Block)	Term	D9Male	Terminal Block	**R12**
RJ-45 (PCB Pins 1-8 to Terminal Block)	Term	RJ45Female	Terminal Block	**R15**

Data Switch
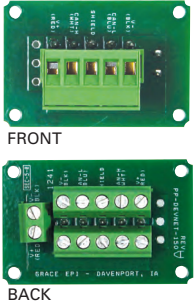
DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
DB9F 2:1	Custom	Female	Female	FRONT / BACK **R38**
DB9F 4:1	Custom	Female	Female	**R39**
DB15 2:1	Custom	Female	Female	**R47**
DB15 4:1	Custom	Female	Female	**R48**
Crossover – Generic DB9F	Custom	Qty (2) DB9	–	**R49**
VGA 2:1	Custom	Female	Female	**R102**
50 OHM BNC 2:1	Custom	Female	Female	**R101**

P-**R2**-K3RF3-UXXX

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Generic Bulkhead Interfaces				
4MDIN F/F	Bulkhead	Female	Female	**Q26**
50 ohm BNC	Bulkhead	Female	Female	**Q42**
6MDIN F/F	Bulkhead	Female	Female	**Q28**
75 ohm Bulkhd, Feed-Thru, Coaxial F/F (non BNC)	Bulkhead	Female	Female	**Q40**
8MDIN F/F	Bulkhead	Female	Female	**Q29**
DB-15 F/F	Bulkhead	Female	Female	**Q35**
DB-15 F/M	Bulkhead	Female	Male	**Q37**
DB-15 M/F	Bulkhead	Male	Female	FRONT BACK **Q38**
DB-15 M/M	Bulkhead	Male	Male	**Q36**
DB-15HD F/F	Bulkhead	Female	Female	**Q18**
DB-15HD F/M	Bulkhead	Female	Male	**Q11**
DB-15HD M/F	Bulkhead	Male	Female	**Q12**
DB-15HD M/M	Bulkhead	Male	Male	**Q19**
DB-15HDVGA F/F	Bulkhead	Female	Female	**Q22**
DB-15HDVGA F/M	Bulkhead	Female	Male	**Q24**

Generic Bulkhead Interfaces (continued)

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
DB-15HDVGA M/F	Bulkhead	Male	Female	FRONT / BACK **Q23**
DB-15HDVGA M/M	Bulkhead	Male	Male	**Q25**
DB-25 F/F	Bulkhead	Female	Female	**Q4**
DB-25 F/M	Bulkhead	Female	Male	**Q8**
DB-25 M/F	Bulkhead	Male	Female	FRONT / BACK **Q10**
DB-25 M/M	Bulkhead	Male	Male	**Q16**
DB-9 F/F	Bulkhead	Female	Female	**Q3**
DB-9 F/M	Bulkhead	Female	Male	**Q7**
DB-9 M/F	Bulkhead	Male	Female	FRONT / BACK **Q9**
DB-9 M/M	Bulkhead	Male	Male	**Q15**
RJ-11/12 F/F	Bulkhead	Female	Female	**Q6**
RJ-45 F/F	Bulkhead	Female	Female	**Q17**
S-Video F/F	Bulkhead	Female	Female	**Q26**

P-**R2**-K3RF3-UXXX

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
Manufacturer-Specific Components				
Allen-Bradley (Rockwell Automation)				
A-B FlexLogix	Cable	DB9Male	DB9Female	**A17**
A-B SLC 500 DH-485	Bulkhead	RJ45Female	RJ45Female	**B14**
AIC+ Port 2	Cable	8 MDIN-Female	8 MDIN-Male	**A13**
CompactLogix	Cable	DB9Male	DB9Female	**A16**
ControlLogix	Cable	DB9Male	DB9Female	**A8**
DeviceNet (8A Max)	Term	5RTBMale	Terminal Block	FRONT BACK **D4**
MicroLogix (Series C)	Cable	8 MDIN-Female	8 MDIN-Male	**A14**
MicroLogix 1500-LRP (DB-9)	Cable	DB9Male	DB9Female	**A18**
PanelView (Serial)	Cable	DB9Male	DB9Female	**A5**
PLC-5 Channel 0 (DB-25)	Cable	DB25Female	DB25Male	**A11**
PowerFlex	Cable	8 MDIN-Female	8 MDINMale-lock	**A19**
PowerFlex 40,400	B/H Cable	RJ45Female	RJ45Male	**A20**
SCANport	Cable	8 MDIN-Female	8 MDINMale-lock	**A10**
SLC 500 DH-485 (20' Cable)	Term	RJ45Female	RJ45Male	**B1**
SLC-500 Channel 0	Cable	DB9Male	DB9Female	**A12**
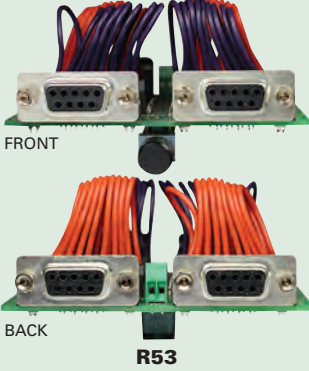
DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE

Allen-Bradley (Rockwell Automation) (continued)

ControlNet
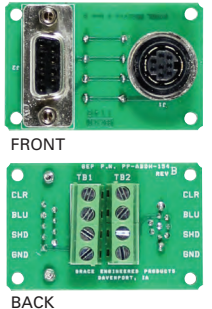
DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
A-B ControlNet (20' Cable)	B/H Cable	RJ45Female	RJ45Male	**B10**
ControlNet (75 Ohm BNC tap)	Term	BNCFemale	BNCFemale	**B7**
ControlNet RJ-45 (20' Cable)	Term	RJ45Female	RJ45Male	**B4**

Crossover Switch

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
MicroLogix 1000, 1200, 150LSP to PanelView 300 Micro	Custom	Qty (2) DB9	–	FRONT BACK **R53**
MicroLogix 1500 LRP, SLC,PLC5, Control Logix, Compact Logix, Flex Logix to PanelView(+) 300-1500	Custom	Qty (2) DB9	–	**R55**
MicroLogix 1500 LRP, SLC,PLC5, Control Logix, Compact Logix,Flex Logix to PanelView 300 Micro	Custom	Qty (2) DB9	–	**R54**

Data Highway

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
DH+ / Remote I/O	Term	3RTBMale	Terminal Block	**B6**
DH+ Combo (DB9/8MDIN)	Term	8MDIN/DB9Female	Terminal Block	FRONT BACK **B9**

P-**R2**-K3RF3-UXXX

DESCRIPTION	TYPE	GENDER FRONT	GENDER BACK	CONNECTOR CODE
GE				
GE Fanuc (340 SNP, 9/30)	Cable	DB15Female	DB15Male	**G2**
GE Fanuc Genius	Cable	DB9Male	DB9Female	**G1**
Mitsubishi				
Mistsubishi USB Mini Type B 5 POS	Cable	Female	Male	**P42**
Mitsubishi A Series PLC	Cable	DB25Female	DB25Male	**M11**
Mitsubishi FX Series PLC	Cable	8MDINFemale	8MDINMale	**M10**
Mitsubishi Q-Series PLC	Cable	6MDINFemale	6MDINMale	**M13**
Schneider				
Micro, E284-258/265/275/285	P/O	DB9Female	RJ-45	**M7**
ModBus (Serial-Extension Cable Version)	Cable	DB9Female	DB9Male	**M8**
ModBus Plus	Cable	DB9Female	BLUNT	**M6**
ModBus Plus Industrial Tap	Term	RJ-45	Terminal Block	**M4**
Modicon ModBus Plus Tap	Term	RJ-45	Terminal Block	**D4**
Momentum	Cable	DB9Female	RJ45Male	**M17**
Momentum (Peripheral Port)	Cable	RJ45Female/Female	RJ45Male	**M16**
Schneider Automation - FIPWay	Term	DB9Female	Terminal Block	**M9**
Telemechanique UniTelway 8MDIN Locking Cable	Cable	8MDINFemale	8MDINMale	**M5**
Siemens				
Profi-Bus (12MB max)	Term	DB9Female	Terminal Block	**M4**
Siemens Micro-Master	Cable	DB15Female	DB15Male	**H6**
Siemens Simatic 545-(1103,1104,1105,1106), 555-(1103,1104,1105,1106), 575-(2104,2105,2106)	Cable	DB9Female	DB9Male	**H5**
Non-Manufacturer-Specific Components				
DL05,06,105,205,D3-350,D4-450 CPU Ports	Cable	DB15HD-Female	Male	**M22**
DL06, D2-250 Bottom Port	B/H Cable	RJ-11Female/Female	Male	**M20**
DL340/CPU Ports	B/H Cable	RJ-12Female/Female	Male	**M21**
DL405 CPU/Bottom/DCM, DL305 w/DCU RS232	Cable	DB25-Female	Male	**M24**
DL405 Port CPU, DL405 SLICE I/O	Cable	DB15-Female	Male	**M23**
Omron CS/CJ/CQ Peripheral Port (Use Omron Programming Cable)	Bulkhead	DB9Female	DB9Male	**M15**
Omron Serial (DB9)	Cable	DB9Male	DB9Female	**M14**

HOUSING SIZE AND UL RATINGS

Whether you need 304 or 316 Stainless Steel, Surface Mount, or our Thru-View® panel mount housing, our housings are all UL rated.

P-R2-**K3**RF3-UXXX

UL Type 4

Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure.

Thru-View® Housing: From the smallest B-size to the largest M-size, this is our most commonly used of the Thru-View® series.

UL Type 4X

Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water and hose-directed water; undamaged by the formation of ice on the enclosure; resists corrosion.

Thru-View® Housing: Designed to maintain enclosure integrity, this Thru-View housing lets you "see" inside the cabinet without opening the panel door.

Stainless Steel Housing: Keep stainless steel enclosures closed and maintain panel integrity with our 100% stainless steel housings available in both Type 304 and 316. See page 24.

UL Type 3R

Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.

Thru-View® Housing: Designed for wet or damp locations, In-use extra-duty housings allow items to be plugged in while the cover is closed, which offers protection against rain and moisture.

UL Type 12

Indoor use to provide a degree of protection against dust, dirt, fiber flyings, dripping water and external condensation of noncorrosive liquids.

*Thru-View® Housing: From the smallest B-size to the largest M-size.*

UL Type 1

Indoor use primarily to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.

Panel mount, no housing

Panel Mount UL Type 4-IP65

		MOUNTING DIMENSIONS (inches [mm])					OVERALL DIMENSIONS (inches [mm])							
Housing Code	Weight (oz)	A	B	C	D	EØ	F	G	H	I	J	K	LØ	MØ
B3	3.8	2.06±.010 [52.4±.2]	1.42±.010 [36.0±.2]	2.76±.004 [70.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	3.15 [80.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.33 [110.1]	.96 [24.4]	N/A	.18±.004 [4.5±.1]
F3	5.1	3.36±.010 [85.4±.2]	1.42±.010 [36.0±.2]	4.03±.004 [102.4±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	4.45 [113.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
H3	5.9	4.42±.010 [112.4±.2]	1.42±.010 [36.1±.2]	5.12±.004 [130.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	5.51 [140.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
K3	10.8	3.39±.010 [86.0±.2]	2.91±.010 [74.0±.2]	4.41±.004 [112.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	5.08 [129.0]	3.54 [90.0]	4.79 [121.6]	1.60 [40.7]	8.28 [210.2]	.45 [11.4]	.45 [11.5]	.26±.004 [6.5±.1]
M3	13.2	4.80±.010 [122.0±.2]	3.15±.010 [80.0±.2]	5.83±.004 [148.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	6.50 [165.0]	3.78 [96.0]	5.02 [127.6]	1.60 [40.7]	8.52 [216.4]	.57 [14.4]	.45 [11.5]	.26±.004 [6.5±.1]
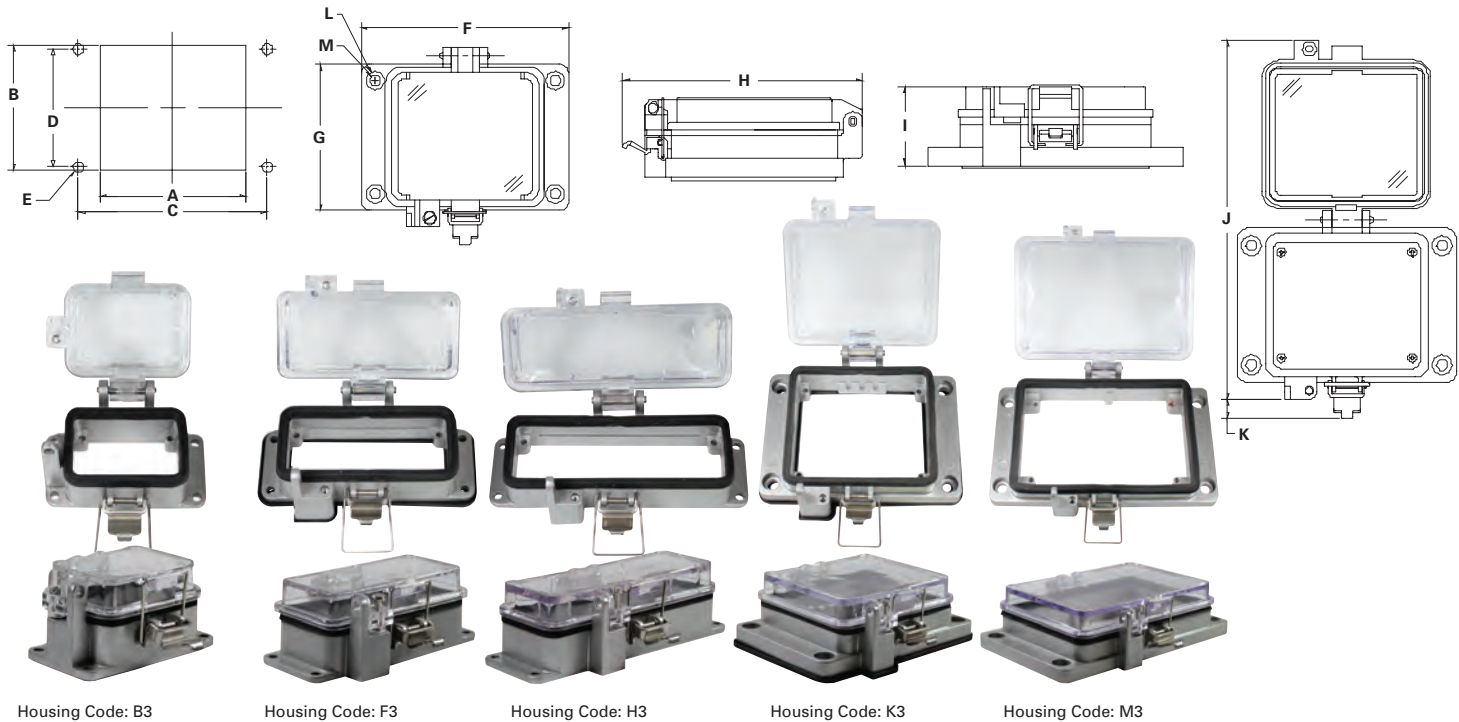
Housing Code: B3   Housing Code: F3   Housing Code: H3   Housing Code: K3   Housing Code: M3

P-R2-**K3**RF3-UXXX

Panel Mount UL Type 4X-IP65

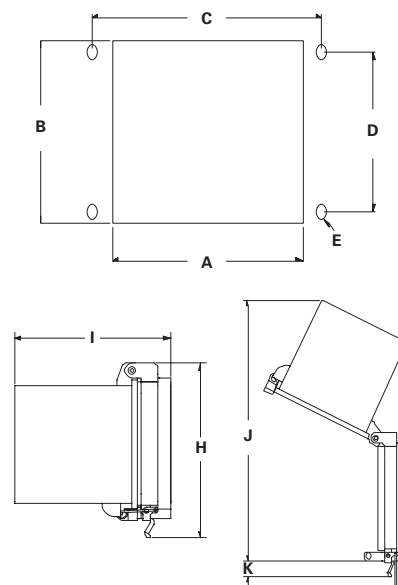| Housing Code	Weight (oz)	MOUNTING DIMENSIONS (inches [mm])					OVERALL DIMENSIONS (inches [mm])							
		A	B	C	D	EØ	F	G	H	I	J	K	LØ	MØ
B2	3.8	2.06±.010 [52.4±.2]	1.42±.010 [36.0±.2]	2.76±.004 [70.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	3.15 [80.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.33 [110.1]	.96 [24.4]	N/A	.18±.004 [4.5±.1]
F2	5.1	3.36±.010 [85.4±.2]	1.42±.010 [36.0±.2]	4.03±.004 [102.4±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	4.45 [113.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
H2	5.9	4.42±.010 [112.4±.2]	1.42±.010 [36.1±.2]	5.12±.004 [130.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	5.51 [140.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
K2	10.8	3.39±.010 [86.0±.2]	2.91±.010 [74.0±.2]	4.41±.004 [112.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	5.08 [129.0]	3.54 [90.0]	4.79 [121.6]	1.60 [40.7]	8.28 [210.2]	.45 [11.4]	.45 [11.5]	.26±.004 [6.5±.1]
M2	13.2	4.80±.010 [122.0±.2]	3.15±.010 [80.0±.2]	5.83±.004 [148.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	6.50 [165.0]	3.78 [96.0]	5.02 [127.6]	1.60 [40.7]	8.52 [216.4]	.57 [14.4]	.45 [11.5]	.26±.004 [6.5±.1]
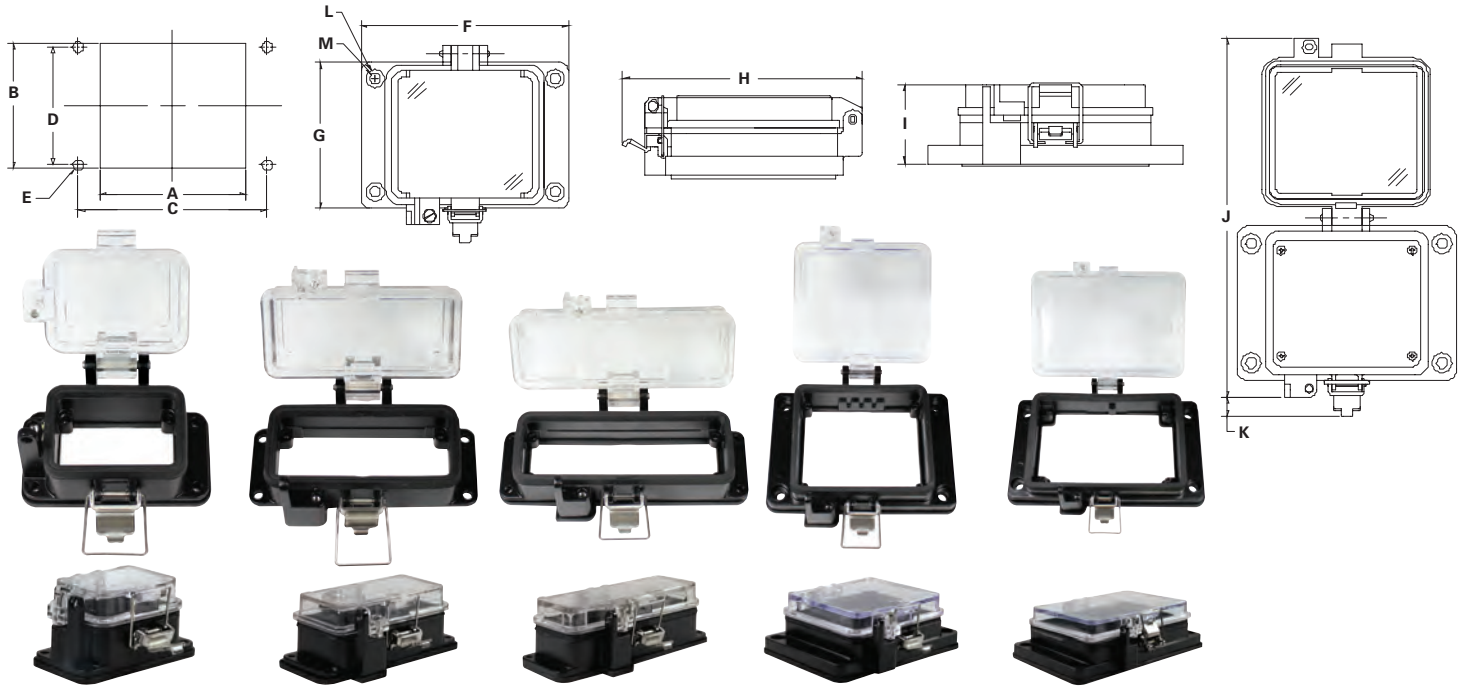
Housing Code: B2   Housing Code: F2   Housing Code: H2   Housing Code: K2   Housing Code: M2
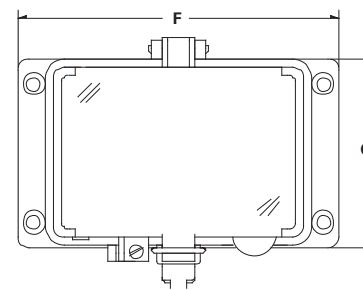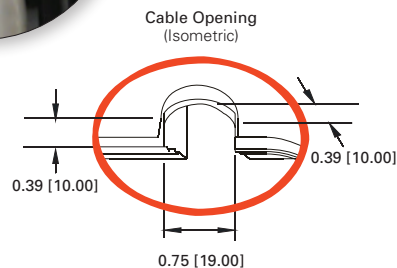
Extra-Duty Weather Resistant M8 UL Type 3R Panel Mount In-Use Housing

Housing Code	MOUNTING DIMENSIONS (inches [mm])					OVERALL DIMENSIONS (inches [mm])					
	A	B	C	D	EØ	F	G	H	I	J	K
M8	4.80±.010 [122.0±0.2]	3.15±.010 [80.0±0.2]	5.83±.004 [148.0±0.1]	2.76±.004 [70.0±0.1]	.26+.010 [6.50+0.3]	6.50 [165.0]	3.78 [96.0]	5.02 [127.6]	4.59 [116.7]	9.03 [229.4]	0.57 [14.4]

Housing Code: M8

Cable Opening (Isometric)

0.39 [10.00]

0.39 [10.00]

0.75 [19.00]

P-R2-**K3**RF3-UXXX

Panel Mount UL Type 12

Housing Code	Weight (oz)	MOUNTING DIMENSIONS (inches [mm])					OVERALL DIMENSIONS (inches [mm])							
		A	B	C	D	EØ	F	G	H	I	J	K	LØ	MØ
B4	3.8	2.06±.010 [52.4±.2]	1.42±.010 [36.0±.2]	2.76±.004 [70.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	3.15 [80.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.33 [110.1]	.96 [24.4]	N/A	.18±.004 [4.5±.1]
F4	5.1	3.36±.010 [85.4±.2]	1.42±.010 [36.0±.2]	4.03±.004 [102.4±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	4.45 [113.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
H4	5.9	4.42±.010 [112.4±.2]	1.42±.010 [36.1±.2]	5.12±.004 [130.0±.1]	1.26±.004 [32.0±.1]	.18+.010 [4.5+.2]	5.51 [140.0]	1.72 [43.6]	3.20 [81.2]	1.60 [40.7]	4.87 [123.7]	.57 [14.4]	N/A	.18±.004 [4.5±.1]
K4	10.8	3.39±.010 [86.0±.2]	2.91±.010 [74.0±.2]	4.41±.004 [112.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	5.08 [129.0]	3.54 [90.0]	4.79 [121.6]	1.60 [40.7]	8.28 [210.2]	.45 [11.4]	.45 [11.5]	.26±.004 [6.5±.1]
M4	13.2	4.80±.010 [122.0±.2]	3.15±.010 [80.0±.2]	5.83±.004 [148.0±.1]	2.76±.004 [70.0±.1]	.26+.010 [6.5+.2]	6.50 [165.0]	3.78 [96.0]	5.02 [127.6]	1.60 [40.7]	8.52 [216.4]	.57 [14.4]	.45 [11.5]	.26±.004 [6.5±.1]

Housing Code: B4*   Housing Code: F4*   Housing Code: H4*   Housing Code: K4   Housing Code: M4
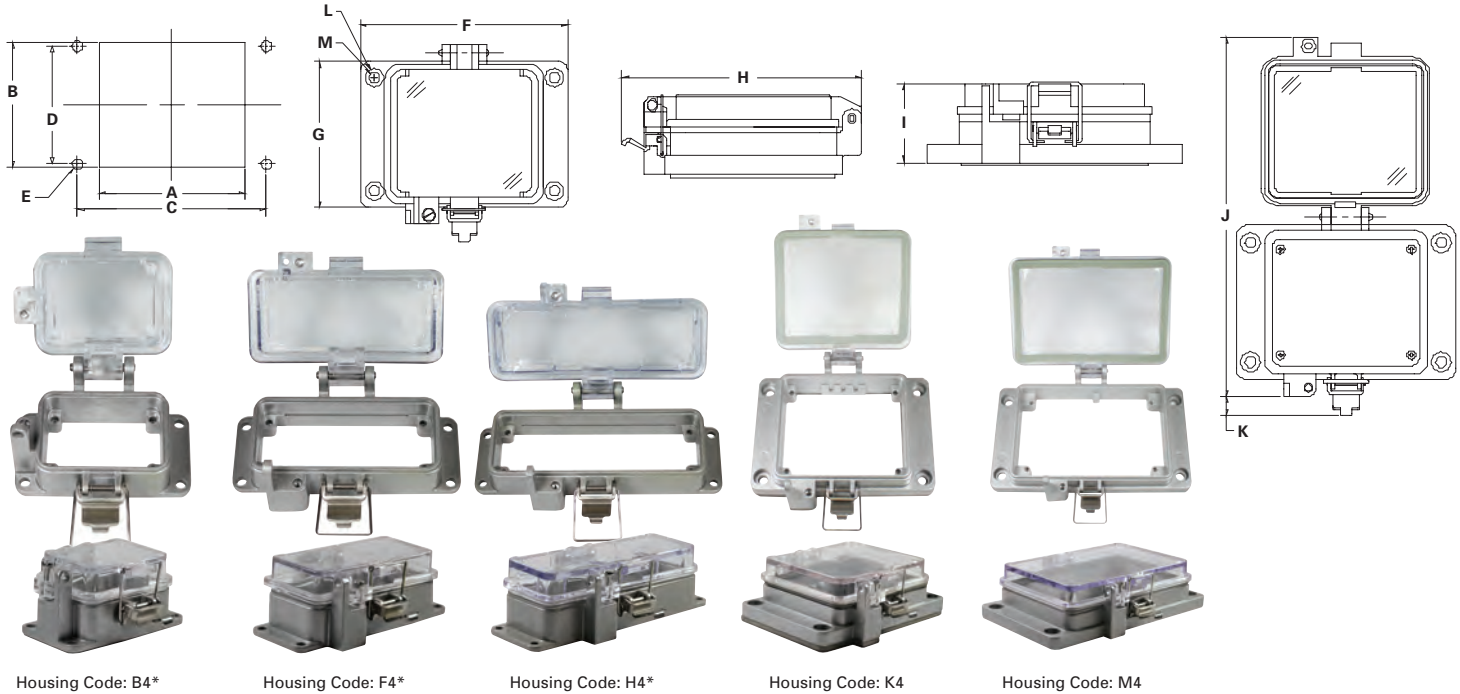
*Pictured without gasket.

GracePort® Thru-Door "Clean Panel" Interface UL Type 1

GracePort® UL Type 1 Panels bring "connections" complete with cables or bulkhead connectors to the outside of your panels. Choose from our standard sizes and interfaces or a custom interface to fit your exact requirements. Custom printing text and logos add value to your application.

Units can be built with gasketing to offer an extra measure of protection against dust and other contaminates. If you want a gasket included, add a -G to the end of the part number.

We offer quick delivery of connector plate interface panels from our huge inventory of cables, connectors and bulkhead connectors.

HOUSING ENVIRONMENT	SIZE: (H x W, INCHES)	UL TYPE
B1	1.72 x 3.15	1
F1	1.72 x 4.45	1
H1	1.72 x 5.51	1
K1	3.54 x 5.08	1
M1	3.79 x 6.50	1
S1	Custom panel	1

Need something special?
Your custom is our standard!

Custom Options

B1

F1

H1

K1
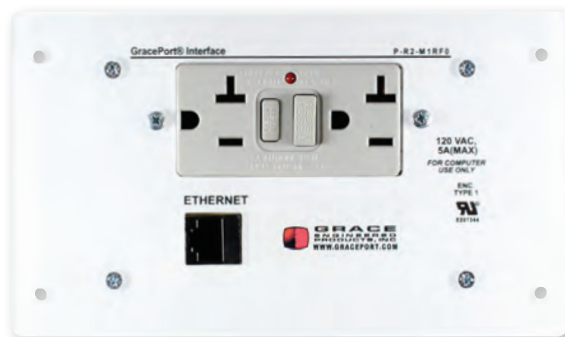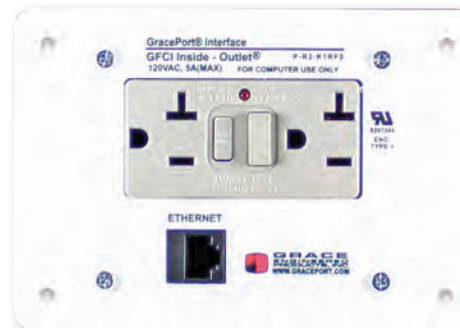
M1

P-R2-**K3**RF3-UXXX

GracePort® Stainless Steel UL Type 4X Housing

P-R2#2-M5RF3
Type 316 Available

A typical interface example

Now padlockable to meet FDA regulation #21CFR211

Keep stainless steel enclosures **CLOSED** with the **#304** or **#316** stainless steel GracePort® interface. Grace offers thousands of combinations of cables, connectors and outlets, all available to ship in days!

The 100% stainless steel **M5** or **M6** GracePort® is designed to meet the rigorous requirements of the pharmaceutical, food processing, dairy and chemical industries.

GracePort® Hazardous Location Housing

The **Hazardous Location GracePort® (M7)** is intended for environments where the user must do a "sniff test" and typically obtain a "Hot Work Permit" before opening the enclosure. Computer access ports and specific network solutions are available for Ethernet, DeviceNet, Data Highway Plus, Modbus Plus, Profibus, Fipway and others. The housing is especially well suited for use with the GracePort Low Profile Circuit Board for ease of field wiring.

Housings only meet both domestic and international code requirements.

Class I, Div. 1 & 2, Groups A,B,C,D
Class I, Zones 1 & 2, Groups IIB +H2, IIA
Class II, Div. 1 & 2, Groups E,F,G
Class III
NEMA 3,4,7 (B,C,D), 9 (E,F,G)
CENELEC - EEx D IIB IP66

P-R2-M7RX

Other interfaces are also available

5.26
6.14
5.51
.25" DIA.
3.93
.75 inches
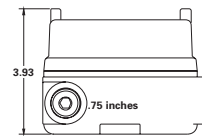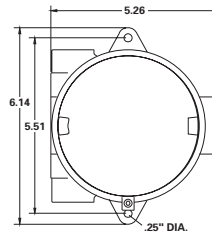
Dimensions are in inches

Surface Mount UL Type 4

Housing Code	Weight (oz)	A	B	C	D	E	F	G
MOUNTING AND OVERALL DIMENSIONS (inches [mm])								
A3	7.5	2.76[70]	1.57[40]	3.22[82]	2.05[52]	.22[5.5]	2.64[67]	1/2" NPT
G3	11.9	5.20[132]	1.77[45]	5.67[144]	2.24[57]	.22[5.5]	2.80[71]	3/4" NPT
L3	45.2	4.37[111]	4.17[106]	5.55[141]	4.72[120]	.25[6.4]	4.65[118]	1" NPT

Housing Code: A3

Housing Code: G3

Housing Code: L3
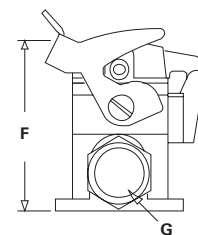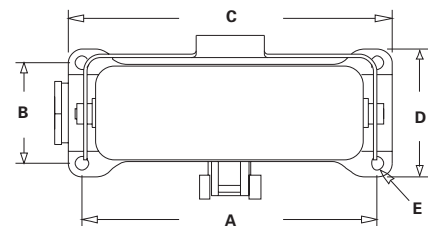
P-R2-**K3**RF3-UXXX

Inside-Outlet® GFCI Utility Receptacle

Grace Engineered Products' Inside-Outlet® is unique because it has three GFCI-protected receptacles – two outside and one inside the panel. Additionally, this GFCI receptacle's purpose is to provide companies a trouble-free step toward complying with NFPA 79, which states all externally-mounted utility receptacles must be GFCI protected and tested every 30 days. Accomplishing this directive is simple and time efficient with Inside-Outlet®. The non-GFCI outlets inside a panel can be wired through the Inside-Outlet®, which is then externally mounted on the panel door. Now testing is easy – just walk up to the door, flip the protective cover and push the button!

INSIDE-OUTLET® GFCI OUTLETS	PART NUMBER
UL Type 12/4	H-RF0-K3
with 15A CB	H-RF15-K3
with 20A CB	H-RF20-K3
with Class CC Fuse Holder*	H-RF030-M3-H
UL Type 4X	H-RF0-K2
with 15A CB	H-RF15-K2
with 20A CB	H-RF20-K2
with Class CC Fuse Holder*	H-RF030-M2-H
UL Type 1	H-RF0-K1
with 15A CB	H-RF15-K1
with 20A CB	H-RF20-K1
with Class CC Fuse Holder*	H-RF030-M1-H

*For higher interrupting rating, class CC Fuseholder (30A) included requires larger "M" sized housing. Fuse by customer.

Clear Cover

Tool Entry

Locking Hasp
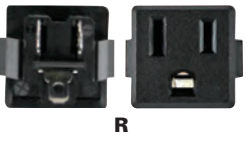
POWER /
CIRCUIT BREAKER

We have various power options for international and domestic use available. Because circuit breakers offer the ability to limit what devices can be run through the GracePort®, we offer different amperages to fit your exact need.

P-R2-K3**RF3**-UXXX

Domestic Power Options

DESCRIPTION	VAC	AMPS	POWER CODE
Null Power Option			**RX**
Simplex	120	15	**R**
NEMA 6-15R	250	15	**RC**
Duplex Outlet	125	20	**RD**
GFCI Inside-Outlet® Rear Outlet 15 AMP, *(UL recognized for 15 AMPs)*	125	20	**RF**
Isolated Ground *(Duplex)*	125	15	**RG**
IEC 320 Male Power Entry Module	250	15	**RM**
IEC 320 Female Power Entry Module	250	10	**RP**
Two Duplex Outlets			**RDD**
Outlet (2) Square			**RR**
Outlet (3) Square			**RRR**

DESCRIPTION	VAC	AMPS	POWER CODE
TWIST LOCK Receptacle	125	15	**RN**
Power AC Inlet with On/Off Switch, 2 Pole	250	10	**RS**
DC Jack Female	12	5	**RL**
220 Volt Power Outlet	12	5	**RY**
USB Charger Receptacle: 2 Port, 3 amp, 5 VDC USB	125	15	**RDC**

International Power Options

DESCRIPTION	VAC	AMPS	POWER CODE
Australia, New Zealand & People's Republic of China	250	10	RA
United Kingdom, Hong Kong, Ireland, Singapore & Malaysia	250	13	RB

DESCRIPTION	VAC	AMPS	POWER CODE
Continental Europe "Schuko" *(Germany, Finland, Netherlands, Norway, Sweden, Portugal, Spain, Greece, Soviet Republic & Eastern Bloc)*	250	16	RE
France & Belgium	250	16	RH
India	250	15	RU

P-R2-K3**RF3**-UXXX

DESCRIPTION	VAC	AMPS	POWER CODE
Thailand & Brazil	250	15	RW
Israel	250	16	RZ
Argentina	250	10	RAG
Continental Europe GFCI	230	16	REF

DESCRIPTION	VAC	AMPS	POWER CODE
Italy	250	16	RI
Switzerland	250	10	RSW
Universal International	250	20	RUV

Circuit Breaker Codes

No Breaker	0
1 AMP	1
2 AMP	2
3 AMP	3
5 AMP	5

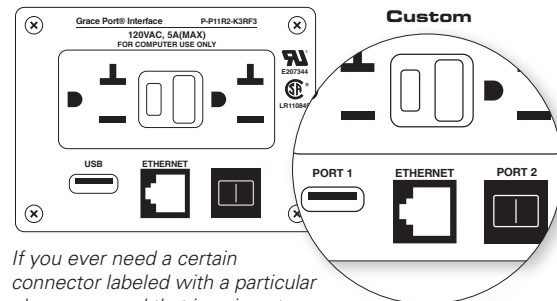| 6 AMP	6
8 AMP	8
10 AMP	10
15 AMP	15

CUSTOMIZE

We customize. That's what sets a GracePort® apart from other communication ports. We can create a custom-built GracePort, including special text, cut-outs, cable lengths, and even adding your company logo, all in just a few days. Assembled in the USA and created just the way you want it.

Special Text

YOUR LOGO   **YOUR LOGO**   **YOUR LOGO**

*We can print any logo, no limitations.
(JPG, BMP; minimum 600 dpi required)*

Non-Custom

Grace Port® Interface   P-P11R2-K3RF3
120VAC, 5A(MAX)
FOR COMPUTER USE ONLY
E207344
LR11084
USB   ETHERNET

Custom

PORT 1   ETHERNET   PORT 2

If you ever need a certain connector labeled with a particular phrase or word that is unique to your industry or company, we can do that for you! Call us at 800.280.9517 for more information!

Cable Lengths

At Grace, our standard cable length for most components with cables is 10', however we often have longer or shorter cables available. To find out if the component you need has a different cable length, contact Inside Sales at 800.280.9517.

P-R2-K3RF3-**UXXX**

Custom Cutouts

If you have a proprietary item that is not available in the commercial market, we can incorporate it into our GracePort® and provide you with a custom cutout to which you can mount your device.

Special Size UL Type 1

If you need a special control board, you can use our custom UL Type 1, which will allow us to create a GracePort® up to 24" x 10" without a housing for you to mount. Contact Inside Sales at 800.280.9517 for additional information.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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R-3D2 P-P11R2-K3RF0 P-R2-H3R3 P-R2-F2R0 P-R2-F3R3 R-T3WS-LCH P-R2-K3RF0 P-R2-B3RX R-3W-KB-L R-3W-L