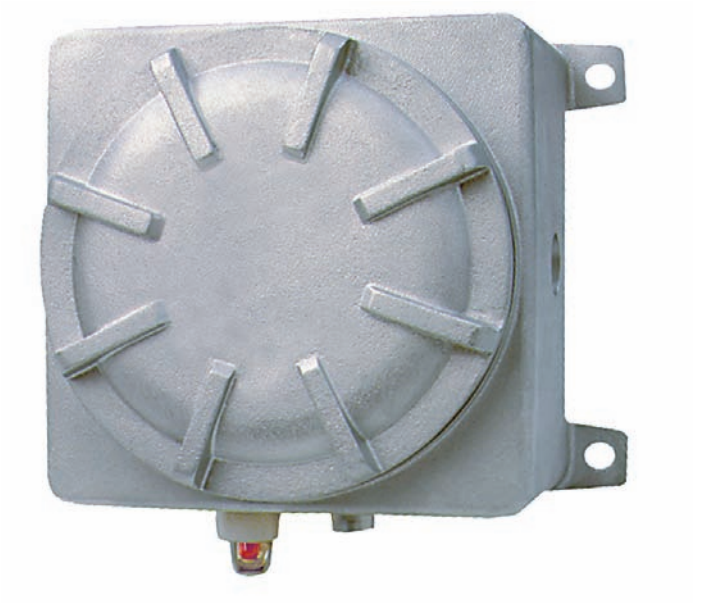
GUTH®
LIGHTING FOR DEMANDING ENVIRONMENTS

G700 Series
Explosion-Proof Units



Description

Suitable for use in NEC Class I, Division 1, Groups C&D, Zones 0, 1 & 2, Groups IIA, IIB+H_2 & IIC; Class I, Division 2, Groups C&D, Zone 2, Groups IIA, IIB+H_2 & IIC; Class II, Division 1, Groups EF&G; Class II, Division 2, Groups F&G and Class III hazardous location areas

Features

- *6VDC, 12VDC and 120VAC output models offered*
- *Corrosion-resistant, high strength cast aluminum housing*
- *Operates attached or remotely mounted fixtures*
- *120VAC output model provides normally-on load operation*
- *Provisions for direct attachment of one or two lighting fixtures/exit sign combinations*
- *Maintenance-free nickel cadmium battery provided on G714, G730 and G750 models*
- *Maintenance-free pure lead battery provided on G785 model*
- *90 Minutes of emergency illumination*
- *Universal 120/277VAC input*
- *Fully automatic, surge protected charger*
- *Automatic low voltage battery disconnect protects battery from deep discharge*
- *Automatic brownout protection*
- *AC lockout feature reduces installation time*
- *Momentary test switch and AC ready indicator*
- *Meets NFPA Life Safety Code 101, NEC, OSHA, State and local Codes*
- *UL924, UL1203, UL1604 and UL844 listed*

Specifier Reference

Project:_____

Fixture Type:_____

Model No.:_____

Comments:_____

_____

Ordering Guide

Model No.	Output Volts	Watts For 1 1/2 Hrs.	Battery Type	Lamp Type Operated	Load Operation Mode
G730	6VDC	28	Nickel Cadmium	Incandescent	Normally-Off
G785	6VDC	85	Pure Lead	Incandescent	Normally-Off
G750	12VDC	50	Nickel Cadmium	Incandescent	Normally-Off
G714	120VAC	14	Nickel Cadmium	Fluorescent	Normally-On

NOTE: *All product specifications shown are subject to change without notice.*

Options (1)(2)

Order Model	Description
/TD1	15-Minute Retransfer Delay For 120VAC Operation
/TD2	15-Minute Retransfer Delay For 277VAC Operation
/EX	Special Input Voltage or Frequency (Specify)
/KL	Key Lock Battery Disconnect For Servicing

(1) Other options available. Consult factory.
(2) Some options may impact product UL listing. Consult factory.

Accessories

Order Model	Description
OB3	3-Way, 3/4" Conduit Hub
SEA	Swivel Elbow Arm (3)
EVLA12	Class 1, 12V Directional Lighting Head (4)
EVLA12GB	Class 1, 12V Directional Lighting Head (Group B) (4)
RW* **	Class 1, Remote Lighting Fixture - Wall Mount (5)
RC* **	Class 1, Remote Lighting Fixture - Ceiling Mount (5)
RP* **	Class 1, Remote Lighting Fixture - Pendant Mount (5)
EXK	Three Face Exit Kit (6)
SDR	Straight Dome Reflector
AR	25° Angled Reflector

(3) For use in connecting RP Series pendant fixtures to OC3 hubs or 700 Series units.
(4) Supplied with 12V, 12W MR16 halogen lamp.
(5) Specify lamp identification suffix when ordering. Refer to "R-Series Fixtures" section on the following page for ordering information.
(6) Connects to R-Series lighting fixtures. Available with red letters only.

Construction

Housing: *Heavy duty, copper-free cast aluminum housing with screw-on cover designed and constructed to withstand the pressure of explosions caused by an internal arc without propagating them into the hazardous atmosphere.*

Installation

Mounting: *Units are designed for wall mounting by means of external housing ears using 1/2" mounting hardware.*

Wiring: *Surface wiring is provided for by three threaded openings in the unit housing for the attachment of 3/4" rigid conduit.*

Illumination

Optional lighting fixtures are available for attachment directly to the unit housing or for operation remotely. Fixtures may be specified for use with incandescent, halogen or compact fluorescent lamps.

Code Information

G700 Series units meet NEC Class I, Division 1, Groups C&D, Zones 0, 1 & 2, Groups IIA, IIB+H_2 & IIC; Class I, Division 2, Groups C&D, Zone 2, Groups IIA, IIB+H_2 & IIC; Class II, Division 1, Groups EF&G; Class II, Division 2, Groups F&G and Class III hazardous location requirements. All models are UL924, UL1203, UL1604, UL844 Listed and meet NFPA 101, NEC, BOCA, OSHA, IBC, State and local Codes

Charger and Electronics

Models G714, G730 and G750 Charger Type: *Fully automatic, constant current charger*

Model G785 Charger Type: *Fully automatic, temperature compensating, voltage regulated charger*

Utility Input: *120/277VAC, 60 Hz.*

Power Consumption: *15 watts (maximum)*

Models G714, G730 and G750 Temperature Range: *20ºF to 95ºF (-7ºC to 35ºC)*

Model G785 Temperature Range: *65ºF to 86ºF (19ºC to 30ºC)*

Recharge Duty Cycle: *24 hours*

Controls: *Combination momentary test switch and AC-On indicator light*

Safety Circuitry:

AC Lockout: *Prevents battery discharge prior to initial unit power-up saving installation time.*

Low Voltage Battery Disconnect: *Protects the battery from being severely damaged by deep discharge during prolonged power failures.*

Brownout Protection: *Automatically switches the unit to emergency mode when utility voltage is reduced to the point at which most fluorescent light fixtures would extinguish.*

Battery

Models G714, G730 and G750 Battery: *Maintenance free nickel cadmium*

Model G785 Battery: *Maintenance free pure lead*

Emergency Operation

Upon failure of the normal utility power, a solid-state transfer switch automatically connects the unit's battery to the emergency lamp. Emergency illumination will be supplied for a minimum of 90 minutes. During emergency operation, the unit battery is protected from severe discharge damage by an automatic low voltage disconnect circuit. When normal utility power is restored, the battery is automatically disconnected from the load and a recharging cycle begins that will return the battery to full capacity within 24 hours.

Warranty

Unit: *(excluding lamps) 3-years full coverage against defects in materials and workmanship from date of shipment*

Battery: *5 years full warranty plus an additional 5 years of pro-rata coverage for models G714, G730 and G750. 1 year full warranty plus an additional 4 years of pro-rata coverage for model G785.*

R-Series Fixtures

Description

Hazardous location lighting fixtures designed for use in conjunction with G700 Series emergency units or as stand alone fixtures in extreme environments. R-Series fixtures may be connected to or operated remotely from G700 Series emergency units. R-Series fixtures may also be remotely powered from AC or DC power sources located outside the hazardous location.

R-Series fixtures are suitable for use in NEC Class I, Division 1, Groups C&D, Zones 0, 1 & 2, Groups IIA, IIB+H_2 & IIC; Class I, Division 2, Groups C&D, Zone 2, Groups IIA, IIB+H_2 & IIC; Class II, Division 1, Groups EF&G; Class II, Division 2, Groups F&G and Class III hazardous locations.

Construction

Housing: *Heavy duty, copper-free cast aluminum housing designed and constructed to withstand the pressure of explosions caused by an internal arc without propagating them into the hazardous atmosphere. Housings have a corrosion resistant, epoxy powder coat finish. All R-Series fixtures include a high impact, heat resistant globe with a cast aluminum globe guard and stainless steel hardware.*

Installation

Wiring: *Ceiling and wall mount fixtures provide a universal junction box with four threaded openings for the attachment of 3/4" rigid conduit.Three close-up plugs are provided. Pendant mount fixtures provide a threaded 3/4" top hub.*

Maximum ambient temperature limit is 320ºF (160ºC).

Illumination

Available with low voltage halogen lamps and 7-watt compact fluorescent lamps if emergency power is provided by a model G714 unit.

R-Series fixtures are compatible with medium base incandescent or 13 watt compact fluorescent lamps for non-emergency lighting applications.

RC Series
(Ceiling)

RW Series
(Wall)

RP Series
(Pendant)

Ordering Guide

R — Series

W — Mounting
C = Ceiling
W = Wall
P = Pendant

120 — Input Voltage*
120 = 120VAC
277 = 277VAC

** This field required only when fluorescent lamps are specified*

P13 — Lamp Identification Suffix
AC Only Operation(1)
HF = 150W-A19 Incandescent
P13 = 13W Compact Fluorescent
P26 = Two 13W Compact Fluorescent
Emergency Operation(2)
HF7 = 6V, 7W Halogen
HF10 = 6V, 10W Halogen
HF12 = 6V, 12W Halogen
THF12 = 12V, 12W Halogen
HFP7 = 7W Compact Fluorescent (3)(4)

(1) Lamps not provided with fixture
(2) Lamps provided with fixture
(3) For use with G714 emergency unit only
(4) Maximum mounting distance from G714 emergency unit is 8 feet

EXK Exit Kit

R-Series Fixture shown with EXK 3-face exit kit installed.

EVLA12 Directional Head

Construction

Housing: *Heavy duty, copper free cast aluminum construction with a corrosion resistant, epoxy powder coat finish. Head assembly is fully adjustable.*

Code Information

EVLA12 heads meet NEC Class I, Division 1 & 2, Groups B+, C & D; Class II, Division 1, Groups E, F & G; Class III; NEMA 3, 3R & 12 hazardous location requirements.

Installation

Wiring: *Designed for direct or remote attachment to 750 Series emergency units or operation remotely from a 12VDC emergency source located in a non-hazardous area.*

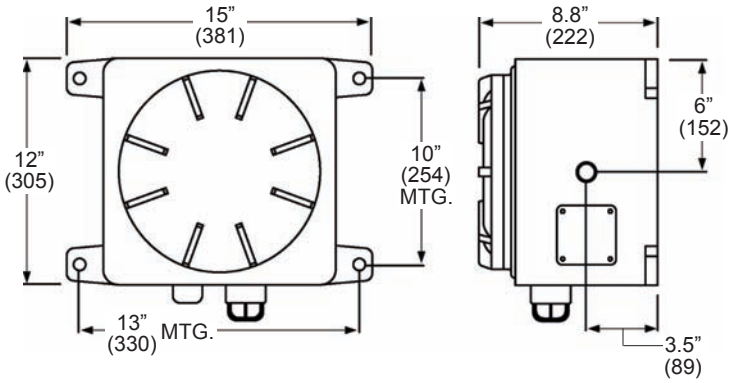
Maximum ambient temperature limit is 131ºF (55ºC).

Illumination

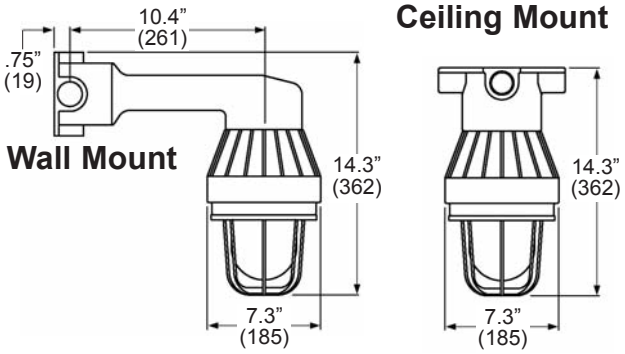
Supplied with 12V, 12W MR16 Halogen lamp.

Dimensions

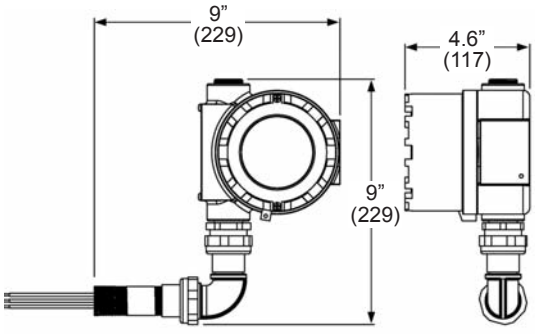
G700 Series Units



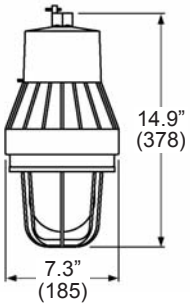
R-Series Lighting Fixtures



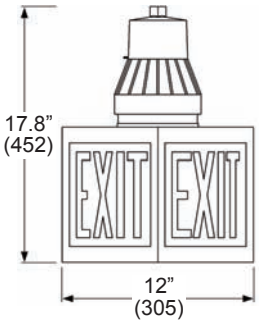
EVLA12 Directional Head



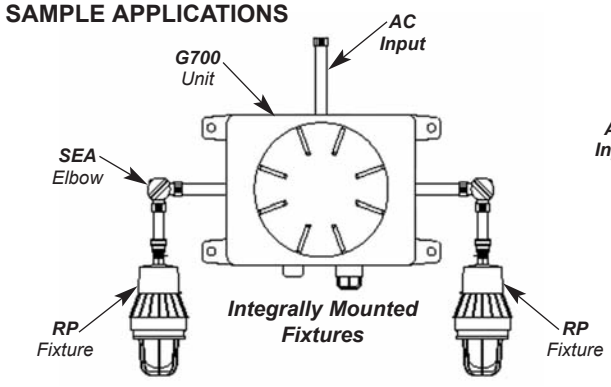
Pendant Mount

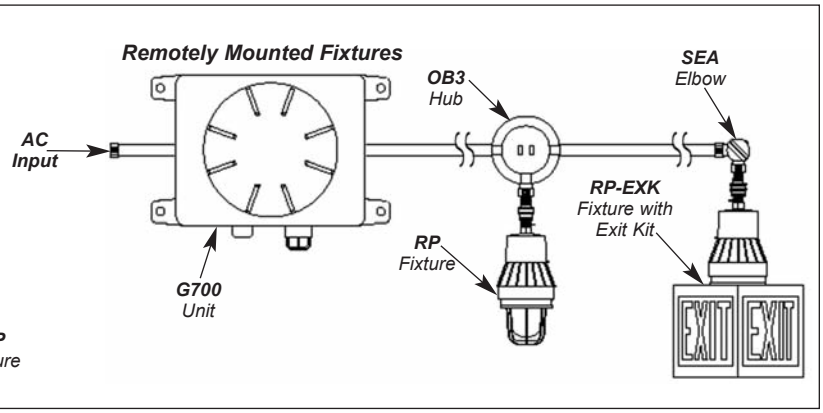


EXK Exit Kit



SAMPLE APPLICATIONS





Article 500
National Electric Code
2005 Edition
Hazardous (Classified) Location
Classes I, II and III
Divisions 1 and 2

Articles 500.5 and 500.6 define NEC Class and Division requirements for electrical equipment used in locations where fire or explosion hazards may exist due to flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers or flyings.

500.5(B) Class I Locations

Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures. Class I locations shall include those specified in 500.5(B)(1) and (B)(2).

(1) Class I, Division 1. A Class I, Division 1 location is a location
(1) In which ignitable concentrations of flammable gases or vapors exist under normal operating conditions; or
(2) In which ignitable concentrations of such gases or vapors may exist frequently because of repair or maintenance operations or because of leak age; or
(3) In which breakdown or faulty operation of equipment or processes might release ignitable concentrations of flammable gases or vapors, and might also cause simultaneous failure of electric equipment in such a way as to directly cause the electrical equipment to become a source of ignition.
FPN No. 1: This classification usually includes the following locations:
(1) Where volatile flammable liquids or liquefied flammable gases are transferred from one container to another
(2) Interiors of spray booths and areas in the vicinity of spraying and painting operations where volatile flammable solvents are used
(3) Locations containing open tanks or vats of volatile flammable liquids
(4) Drying rooms or compartments for the evaporation of flammable solvents
(5) Locations containing fat and oil extraction equipment using volatile flammable solvents
(6) Portions of cleaning and dyeing plants where flammable liquids are used
(7) Gas generator rooms and other portions of gas manufacturing plants where flammable gas may escape
(8) Inadequately ventilated pump rooms for flammable gas or for volatile flammable liquids
(9) The interiors of refrigerators and freezers in which volatile flammable materials are stored in open, lightly stoppered, or easily ruptured containers
(10)All other locations where ignitable concentrations of flammable vapors or gases are likely to occur in the course of normal operations.
FPN No. 2: In some Division 1 locations, ignitable concentrations of flammable gases or vapor may be present continuously or for long periods of time.
Examples include the following:
(1) The inside of inadequately vented enclosures containing instruments normally venting flammable gases or vapors to the interior of the enclosure
(2) The inside of vented tanks containing volatile flammable liquids
(3) The area between the inner and outer roof sections of a floating roof tank containing volatile flammable fluids
(4) Inadequately ventilated areas within spraying or coating operations using volatile flammable liquids
(5) The interior of an exhaust duct that is used to vent ignitable concentrations of gases or vapors.
Experience has demonstrated the prudence of avoiding the installation of instrumentation or other electric equipment in these particular areas altogether or where it cannot be avoided because it is essential to the process and other locations are not feasible [see 500.5(A), FPN] using electric equipment or instrumentation approved for the specific application or consisting of intrinsically safe systems as described in Article 504.

(2) Class I, Division 2. A Class I, Division 2 location is a location
(1) In which volatile flammable liquids or flammable gases are handled, processed, or used, but in which the liquids, vapors, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or break down of such containers or systems, or in case of abnormal operation of equipment; or
(2) In which ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation, and which might become hazardous through failure or abnormal operation of the ventilating equipment; or
(3) That is adjacent to a Class I Division 1 location, and to which ignitable concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive pressure ventilation from a source of clean air and effective safeguards against ventilation failure are provided.
FPN No. 1: This classification usually includes locations where volatile flammable liquids or flammable gases or vapors are used but that, in the judgement of the authority having jurisdiction, would become hazardous only in case of an accident or of some unusual operating condition.The quantity of flammable material that might escape in case of accident, the adequacy of ventilating equipment, the total area involved, and the record of the industry or business with respect to explosions or fires are all factors that merit consideration in determining the classification and extent of each location.
FPN No. 2: Piping without valves, checks, meters, and similar devices would not ordinarily introduce a hazardous condition even though used for flammable liquids or gases. Depending on factors such as quantity and size of the containers and ventilation, locations used for the storage of flammable liquids or liquefied or compressed gases in sealed containers may be considered either hazardous (classified) or unclassified locations. See NFPA 30-2003, Flammable and Combustible Liquids Code, and NFPA 58-2004, Liquefied Petroleum Gas Code.

(C) Class II Locations. Class II locations are those that are hazardous because of the presence of combustible dust. Class II locations shall include those specified in 500.5(C)(1) and (C)(2).
(1) Class II, Division 1. A Class II, Division 1 location is a location
(1) In which combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures; or
(2) Where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electric equipment, through operation of protection devices, or from other causes; or
(3) in which Group E combustible dusts may be present in quantities sufficient to be hazardous.
FPN: Dusts containing magnesium or aluminum are particularly hazardous, and the use of extreme precaution will be necessary to avoid ignition and explosion.

(1) Class II, Division 2. A Class II, Division 2 location is a location
(1) In which combustible dust due to abnormal operations may be present in the air in quantities sufficient to produce explosive or ignitible mixtures; or
(2) Where combustible dust accumulations are present but are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus, but could as a result of infrequent malfunctioning of handling or processing equipment become suspended in the air; or
(3) In which combustible dust accumulations on, in, or in the vicinity of the electrical equipment could be sufficient to interfere with the safe dissipation of heat from electrical equipment, or could be ignitible by abnormal operation or failure of electrical equipment.
FPN No. 1: The quantity of combustible dusts that may be present and the adequacy of dust removal systems are factors that merit consideration in determining the classification and may result in an unclassified area.
FPN No. 2: Where products such as seed are handled in a manner that produces low quantities of dust, the amount of dust deposited may not warrant classification.

(D) Class III Locations. Class III locations are those that are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. Class III locations shall include those specified in 500.5(D)(1) and (D)(2).

(1) Class III, Division 1. A Class III, Division 1 location is a location in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured or used.
FPN No. 1: Such locations usually include some parts of rayon, cotton, and other textile mills; combustible fiber manufacturing and processing plants; cotton gins and cotton-seed mills; flax-processing plants; clothing manufacturing plants; woodworking plants; and establishments and industries involving similar hazardous processes or conditions.
FPN No. 2: Easily ignitable fibers and flyings include rayon, cotton (including cotton linters and cotton waste), sisal or henequen, istle, jute, hemp, tow, cocoa fiber, oakum, baled waste kapok, Spanish moss, excelsior, and other materials of similar nature.

(2) Class III, Division 2. A Class III, Division 2 location is a location in which easily ignitable fibers are stored or handled, other than in the process of manufacturing.

Form 1129H 7/10
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