

■ Industrial - Explosion Proof - Battery Units

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■ Hazardous Locations Definitions

Hazardous areas are those in which a potential for explosion or fire exists, due to the presence of certain gases, liquid vapors, combustible dusts or fiber particles suspended in the air. The National Electrical Code®, NEMA, OSHA, UL, NFPA Life Safety Standards, as well as State and Local codes, prescribe the use of emergency lighting equipment. This equipment itself must not contribute to the ignition of flammable or explosive substances, present in the location. LightAlarms offers a complete line of emergency lighting equipment for use in hazardous locations.

▣ Hazardous Location Classifications

Class I (NEC-500-5)	Areas in which flammable gases or vapors may be present in sufficient quantities to be explosive or ignitable.
Class II (NEC-500-6)	Areas with risk of presence of combustible dust.
Class III (NEC-500-7)	Areas in which there are easily ignitable fibers or flyings present , due to the type of material being handled, stored or processed-but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.
Division 1 (NEC-500- 5,6 & 7)	Normal Situation: A hazard is present in the everyday normal production operation or during frequent repair and/or maintenance activity.
Division 2 (NEC-500- 5,6 & 7)	Abnormal Situation: Potentially hazardous material is expected to be safely confined within closed containers or closed systems, and will be present in the atmosphere only through accidental rupture, breakage, or abnormal operation.
Group A, B, C & D (NEC-500-3)	Gases and vapors in Class I locations are classified into four groups, by the code A, B, C, and D. These materials are grouped according to the ignition temperature of the substance, its explosion force and other flammability characteristics.
Groups E F & G (NEC-500-3)	Combustible dust in Class II locations are classified according to ignition temperature and the conductivity of the hazardous substance.

▣ Typical Class I Locations:

- Petroleum refineries, and gasoline storage and dispensing areas.
- Industrial firms that use flammable liquids in dip tanks for cleaning parts or other operations
- Petrochemical companies that manufacture chemicals from gas and oil.
- Dry cleaning plants where vapors from cleaning fluids can be present.
- Companies that have areas dedicated for spraying products with paint or plastics.
- Aircraft hangars and fuel servicing areas.
- Utility gas plants, and operations involving storage and handling of liquified petroleum gas or natural gas.

▣ Typical Class II Locations:

- Grain elevators, flour and feed mills.
- Plants that manufacture, use or store magnesium or aluminum powders.
- Plants that have chemical or metallurgical processes, producers of plastics, medicines, and fireworks etc.
- Producers of starch or candies.
- Spice grinding plants, sugar plants and cocoa plants.
- Coal preparation plants and other carbon handling or processing areas.

▣ Typical Class III Locations:

- Textile mills, cotton gins, cotton seed mills and flax processing plants.
- Clothing manufacturing plants
- Any plant that shapes pulverizes or cuts wood and creates saw dust or shavings.

FOR MORE INFORMATION CONSULT NEC CODE.

■ EC, E12C, EN, E12N Series

6 or 12 Volt Emergency Lighting Unit

For Operation in Hazardous Areas

Class I, Division 2, Groups C & D

Class II, Division 2, Groups E & F

Sealed Maintenance-free Lead Calcium or Nickel-Cadmium Battery

Series meets requirements for operation under

NEMA 1, 2, 3, 3R, 3S, 4, 4X, 12 and 13 conditions

This Series of emergency lighting units are designed to meet the specific requirements of Division 2 Hazardous areas. Typical applications include any location where flammable materials are stored, handled or pumped, adjacent areas where separation could break down under abnormal conditions.

■ FEATURES

Reliability

The **EC, E12C, EN and E12N Series** have a three-year full warranty (excluding lamps and fuses).

Unit Data

All units are housed in water and corrosion resistant cabinets constructed from glass-reinforced structural foam. Cabinets fully sealed and gasketed and all external hardware is stainless steel. Door covers are hinged in such a way to permit either retention of the hinge when opened or complete removal of the door. All external electrical components, including test switch and indicator light, are explosion proof in design and exceed requirements for Division 2 areas. The battery compartment is vented by a one-way breather device to permit exhaust of battery gases and relief of internal pressure without admitting external moisture or corrosives.

Lamp

Units are equipped with a choice of standard incandescent or halogen sealed beam lamps. Lamps are housed in gray, industrial thermoplastic shells with matching swivels. Lamp housings are rain-tight and corrosion resistant. Wire connections are silicone sealed.

PulseType Charger

- Automatic, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red charger monitor LED indicates state of charge of the battery.
- Amber AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

120/277Vac 60Hz, 0.3/0.15 Amp

■ OPTIONS

(Add Suffix to Model No.)

Suffix

Time Delay (specify 5, 10 or 15 minutes)-TD_

Shatter Resistant Lamp Coating.....-FP

■ ACCESSORIES

(Order as a separate item)

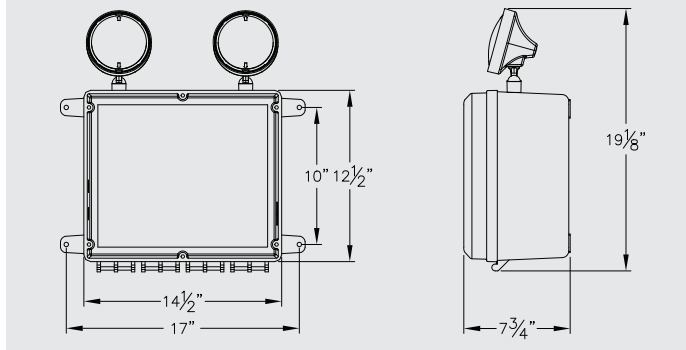
Model

Wire GuardWG3-L



■ DIMENSIONS

Dimensions are approximate and subject to change.



■ LAMP SELECTION CHART

	DC Voltage	Lamp Wattage	Lumen Output	Lamp Type	Lamp Suffix (Add to Unit Model No.)
Use With 6-Volt ECN, ENN Series	6	8	180	Halogen	H7551
		18	220	Incand.	4014
		25	350	Incand.	4510
Use with 12-Volt E12CN, E12NN Serie	12	8	180	Halogen	H7555
		18	220	Incand.	4414
		25	350	Incand.	4446

■ UNIT SELECTION CHART

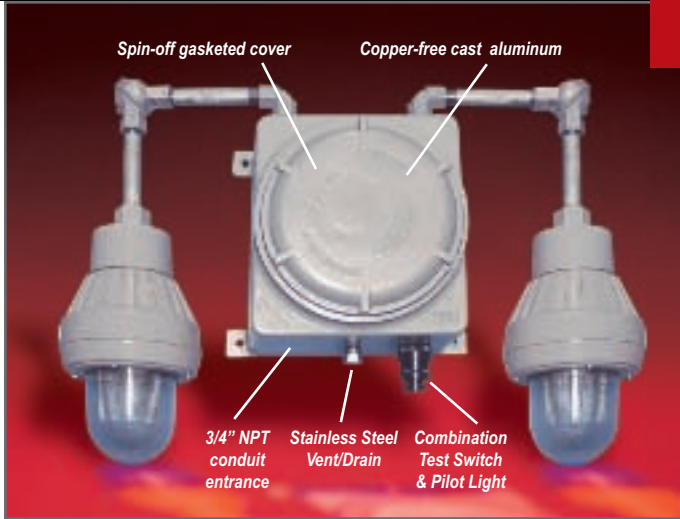
Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Input Watts	Watts to 87.5% of			
				1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2EC50	Sealed	18	50	40	30	22
	2EC100	Lead-Calcium	60	100	75	50	36
	2EN25	Sealed	40	25	20	13	9
	2EN50	NiCad	40	50	40	25	19
12	2E12C50	Sealed	18	50	40	30	22
	2E12C100	Lead-Calcium	60	100	75	50	36
	2E12N50	Sealed NiCad	60	50	40	28	20

*National Electrical Code Specification

■ ORDERING FORMAT

2	EC	100	/H7551	-TD
No. of Heads	Series	Capacity Indicator	Lamp Suffix 6V 8W Incandescent	Option Time Delay

■ EXP6N, EXP12N Series



6 or 12 Volt Hazardous Location Emergency Unit
Sealed Maintenance-free Nickel-Cadmium Battery
For operation in Hazardous areas

Class I, Divisions 1 & 2, Groups C & D

Class II, Divisions 1 & 2, Groups E, F & G

Lighting Fixture and battery housing comply with NEC, OSHA and NEMA specifications for all above Classes and Groups

The EXP Series explosion proof lighting systems are completely self-contained and designed to allow safe operation of the battery and electronics in the classified areas specified above.

□ FEATURES

Reliability

The EXP Series has a three-year full warranty (excluding lamps and fuses).

Unit Data

The EXP systems consist of a power unit and any combination of lighting fixture and/or exit sign. The entire system can be located within the hazardous area. Manufactured in accordance with UL 844, 1203 and 924, the EXP systems feature an explosion-proof cabinet and spin-off gasketed cover. Each piece is constructed of one-piece heavy gauge, corrosion resistant, copper-free cast aluminum, to prevent propagation of internally generated arcs into the hazardous atmosphere. A Silicone conformal coating on circuit board helps to protect the electronics against humidity.

The EXP series features a sealed maintenance-free Nickel-Cadmium battery with a long life, minimal gassing and superior resistance to temperature extremes.

Lamp

Series EXP systems are designed so that one or two explosion-proof fixtures can be mounted on the cabinet, in various configurations, i.e., one lamp and one exit fixture, two lamp fixtures, two exit fixtures, etc. Fixtures mounted on the cabinet are ordered as part of the system by catalog number. See "ordering format".

Lightalarms lamp fixtures are heavy cast aluminum with pyrex® lenses. Medium Screw Base are standard, Double Contact Bayonet Base and Halogen lamps are optional. For complete information refer to the Series EPF401 spec sheets. Pyrex® is a registered trademark of Corning Glass.

Lightalarms exit signs are a rectangular, heavy duty steel box with exit lettering on single face (X402) or double face (2X402). Exit signs are for DC or AC operation.

For complete information refer to the X402 Series.

Charger

Completely automatic, the charger will feature a solid state transfer and be capable of recharging the batteries in accordance with UL 924. The charger will provide a high charge rate immediately upon restoration of AC power and a trickle rate to maintain the battery charged. Charger shall be a constant current type.

Controls

Combination momentary test switch and AC-ON pilot light.

Power Requirements

Dual input voltage transformer, 120/277Vac 60Hz, 0.3/0.15 Amp (other voltages available on request)

□ OPTIONS

(Add Suffix to Model No.)

Time Delay (specify 5, 10 or 15 minutes)-TD_

Transfer Switch option-TS

□ UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Input Watts	Watts to 87.5% of				
			1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.	8 hrs.
6	EXP6N18	18	18	12	-	-	-
	EXP6N25	25	25	18	9	9	-
	EXP6N36	36	36	21	12	12	6
	EXP6N50	50	50	36	18	18	10
12	EXP12N36	36	36	21	12	12	6
	EXP12N50	50	50	36	18	18	10
	EXP12N72	72	72	42	24	24	12

*National Electrical Code Specification

□ ORDERING FORMAT

Example 1: System with 2 lamp fixtures only

EXP6N25	E402/LH7	2
6V Explosion-Proof Unit	Lighting Head with 10W Halogen Lamp	Number of Heads Attached to Cabinet

Example 2: System with 1 lamp fixture and 1 exit sign

EXP6N25	E402/LH7	TS	X402
6V Explosion-Proof Unit	Lighting Head with 10W Halogen Lamp	Transfer Switch	Single Face Exit

▣ LAMP SELECTION CHART

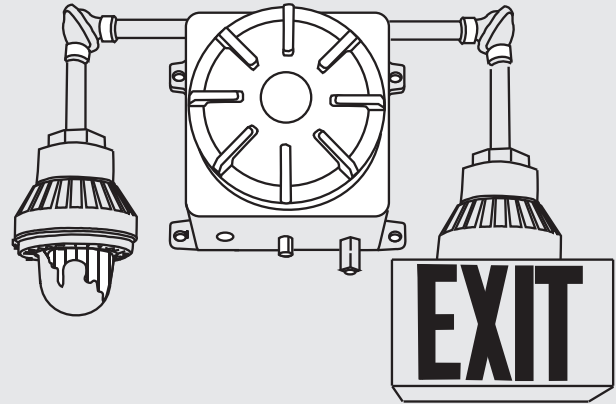
Lamp Type	Voltage	Lamp Wattage	Replacement Part #	Lamp Suffix (Add to Unit Model No.)
High Intensity Tungsten (HIT)	6V	9W	135	L9
	6V	18W	136	L18
	12V	9W	138	L9
	12V	18W	139	L18
	12V	25W	140	L25
BI-PIN Halogen	6V	6W	784	LH4
	6V	8W	785	LH5
	6V	10W	787	LH7
	6V	12W	786	LH6
	6V	15W	JC6V-15W	LH1
	12V	8W	774	LH8
	12V	12W	783	LH3

Note: Units are supplied standard with appropriate wattage (HIT) high intensity tungsten lamps (unless otherwise specified). Alternate wattage lamps or halogen lamps may be substituted as required. For run times other than 90 minutes, refer to Unit Rating Chart.

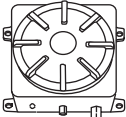
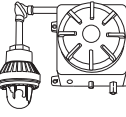
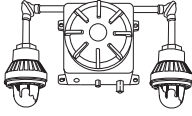
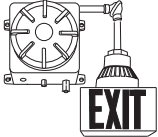
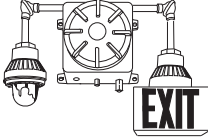
▣ DIMENSIONS

Dimensions are approximate and subject to change.

Housing: 12" X 12" X 9-1/2". (4)
 Mounting Lugs: 10" and 13-1/2" on center
 Overall dimensions (including fixtures): 38" X 38" X 10"



▣ STANDARD CONFIGURATIONS FOR EXP SERIES

Unit	Catalog Number	Description
 (Remote capability)	EXP12N50 EXP12N50-TS	12 volt self-contained hazardous area emergency lighting power unit complete with battery and charger. 12V self contained hazardous area emergency lighting. power unit complete with battery charger and transfer switch.
	EXP6N50E402/LH1 EXP6N50E402/LH1-TS	Single head unit with 6 volt, 15 watt Bi-Pin halogen lamp. Single head unit with 6V lamp shown with Transfer Switch option.
	EXP6N50E402/L9-2 EXP6N50E402/L9-TS-2	6 volt self-contained hazardous area emergency lighting power units complete with battery and charger and two heads. Each fixture supplied with one 9 watt HIT lamp. 6V self contained hazardous area emergency lighting. Power unit complete with battery, charger, 2 heads and transfer switch. Each fixture supplied with one 9 watt HIT lamp.
	EXP6N25TSX402R	Self-contained unit with integral low voltage transfer panel (TS) to operate max. the 15W exit lamp in both normal and emergency modes. Suggested catalog number shown indicates single face exit with red stencil faceplate. For green, substitute G for R. For double face, substitute 2X402 for X402.
	EXP6N50E402LH1TSX402R	In addition to the max. 15W exit lamp which operates in both normal and emergency modes, greater emergency lighting can be achieved with (1) additional emergency lighting head. Each fixture supplied with one 6 volt, 15 watt (LH1) Bi-pin halogen lamp.

Note: Above units are supplied with appropriate wattage (HIT) High Intensity Tungsten lamps (unless otherwise specified). Alternate wattages lamps or halogen lamps may be substituted as required. Exit provided with 25 watt lamps only.

■ X402 Series



Explosion-Proof, Remote Exit Sign Fixture
 For operation in Hazardous and/or Wet locations
 AC or DC Operation
 Class I, Divisions 1 & 2, Groups C & D (300W PS-25 max)
 Class II, Divisions 1 & 2, Groups E, F & G (60W max)
 Class III, Division 1 & 2 (150W max)
 Lighting Fixture complies with NEC, OSHA and NEMA specifications for all above Classes and Groups and is UL listed for use in Paint Spray areas (75W max)
 These Remote Emergency Exit signs are designed for mounting in locations that are remote from their power source.

□ FEATURES

Reliability

The **X402 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

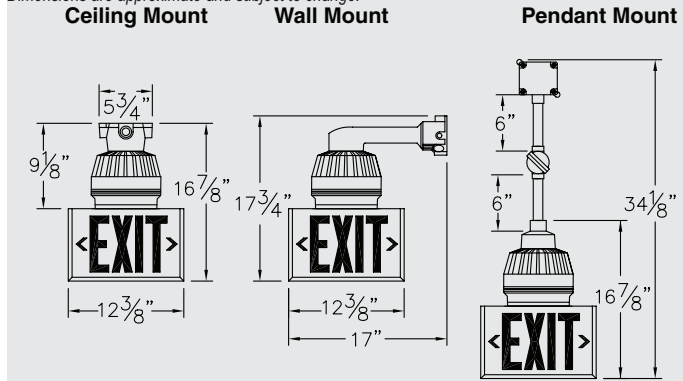
The **X402 fixtures** are manufactured of heavy cast aluminum with Pyrex** lenses. All attached hardware was designed for explosion-proof applications. The exit housing is heavy-duty steel box with a gray baked enamel finish. Stenciled exit lettering is available on one or two faces. The legend is available in red or green lettering and meets UL 924 with respect to brush stroke and width. All X402 series exit signs have extra large down-light openings. They can be wall, ceiling or pendant mount. **The X402 Series** of exit signs are designed for mounting in locations that are Remote from their Power source*. They are offered with 6, 12, and 24 Volt lamps for DC operation.

*If power source is installed outside hazardous areas, the length of connection wires should be carefully considered to assure that voltage of emergency power unit and wire size of connecting circuit are adequate to offset voltage drop in circuit.

**Registered trademark of Corning Glass

□ DIMENSIONS

Dimensions are approximate and subject to change.



OPTIONS

(Add Suffix to Model No.)

Open face panels with special symbols or legends**Contact Factory**

3 sided exit face triangle**3F**

(Unbreakable 3 sided white acrylic triangle with easy mounting to regular explosion-proof lighting fixture. Open design permits full air circulation for cool operation and provides excellent down light. 6" high EXIT letters with red 3/4" stroke on white background meets all safety specification. Directional Arrows included).

Single Face Exit = X402W or X402C or X402P

Double Face Exit = 2X402W or 2X402C or 2X402P

□ TRANSFER CIRCUIT

(not designed for hazardous areas)

TS panels is required for remote explosion-proof fixtures that are NORMALLY ON as constant operation fixtures.

Panels are available for 25, 50, 75, or 100 watt. Maximum load (6V max. 50W, 12V max. 100W, 24V max. 200W) .

To Order Model TS

To make the proper TS selection, the following information is required:

- 1) DC output voltage of emergency lighting system MUST be matched to DC input of TS panel load.
- 2) Number of fixtures to be connected to TS panel.
- 3) Total wattage of fixtures to be connected to TS panel.

NOTE: For normally-on applications (e.g. exit signs) use only long-life lamp (XX) Series.

How to Order Transfer Panel

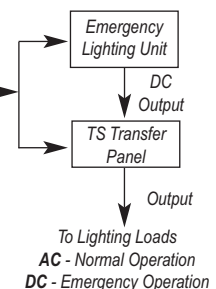
120 / 12 - TS - 50

AC DC Model Watts

Input Output

(For multi-phase monitoring, contact factory)

AC Input assigned to same breaker (and/or phase)



Mounting

The transfer circuit is not designed for use in hazardous or explosive areas. The transfer circuit is to be mounted remotely from hazardous areas.

Electrical Specifications for Transfer Panel

Input Voltage: From AC - 120 Volt, 60Hz, 1 phase (other voltages available).
 From DC - 6, 12, 24 or 120 Volt (select).

Output Voltage: Must be identical to DC Input Voltage

□ LAMP SELECTION CHART

Lamp Type	Voltage	Lamp Wattage	Lamp Type	Average Life (hours)	Suffix	Replacement Part #
Quartz Bi-Pin	6V	15W	JC-6V15W	2,000	6	580.0086
	12V		25A-12	1,000	12	570.0071
Medium Base	24V	25W	143A	1,000	24	570.0118
	120V		A19	2,500	120	570.0136

□ ORDERING FORMAT

# Faces	Series	Mounting	Lamp Type	Letter Color
Blank = 1	X402	C = ceiling	6 = 6V-15W	-R = red
2 = double		P = pendant	12 = 12V-25W	-G = green
		W = wall	24 = 24V-25W	

EPF401 Series

Explosion-Proof, Remote Lighting Fixture

For operation in Hazardous and/or Wet locations

AC or DC Operation

EPF401 Fixtures are designed for mounting in locations that are remote from their power source*. They are offered with 6, 12, and 24-volt lamps for DC operation. Lighting Fixture complies with NEC, OSHA and NEMA specifications for all above Classes and Groups and is UL listed for use in Paint Spray areas (75W max)

FEATURES

Reliability

The **EPF401 Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

The **EPF401 Series** fixtures are manufactured of heavy cast aluminum with Pyrex** lenses. All attached hardware was designed for explosion-proof applications. Single and double pendant mount fixtures include elbows, swivels, a conduit extension pipe (6 inch increments) and a combination explosion-proof junction box/mounting plate. They can be wall, ceiling or pendant mount. The EPF401 Series are designed for mounting in locations that are Remote from their Power source*. They are offered with 6, 12, and 24 Volt lamps for DC operation.

*If power source is installed outside hazardous areas, the length of connection wires should be carefully considered to assure that voltage of emergency power unit and wire size of connecting circuit are adequate to offset voltage drop in circuit.

**Registered trademark of Corning Glass

OPTIONS

(Add Suffix to Model No.)

Angle Reflector Highly reflective white finish inside and out. Attaches to globe holder ring with four screws



Dome Reflector Highly reflective white finish inside and out. Attaches to globe holder ring with four screws



Guard One-piece aluminum casting

LAMP SELECTION CHART

Lamp Type	DC Voltage	Lamp Wattage	Replacement Part #	Lamp Suffix (Add to Unit Model No.)
High Intensity Tungsten (HIT)	6V	9W	135	L9
	6V	18W	136	L18
	12V	9W	138	L9
	12V	18W	139	L18
	12V	25W	140	L25
BI-PIN Halogen	6V	6W	784	LH4
	6V	8W	785	LH5
	6V	10W	787	LH7
	6V	12W	786	LH6
	6V	15W	JC6V-15W	LH1
	12V	8W	774	LH8
	12V	12W	783	LH3

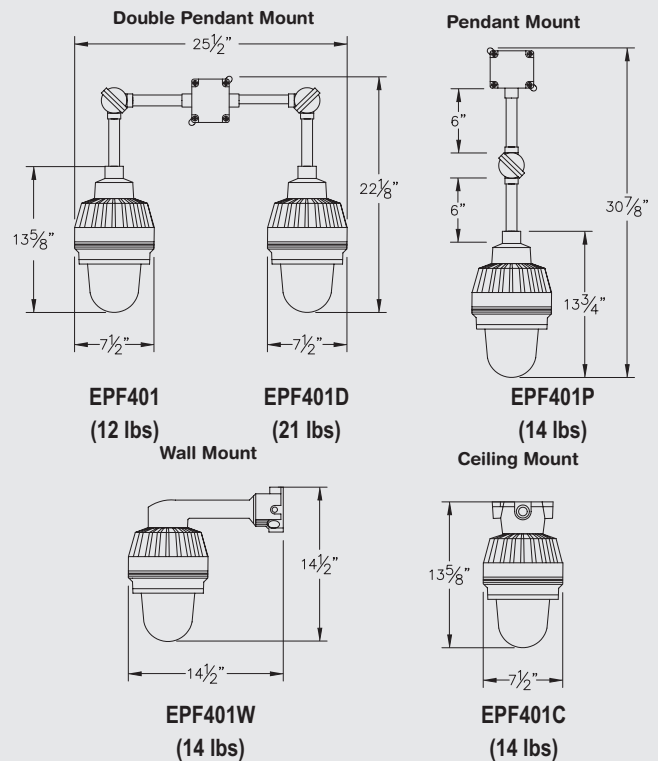
Note: Units are supplied standard with appropriate wattage (HIT) high intensity tungsten lamps (unless otherwise specified). Alternate wattage lamps or halogen lamps may be substituted as required. For run times other than 90 minutes, refer to Unit Rating Chart.



For AC or DC Operation

DIMENSIONS

Dimensions are approximate and subject to change.



ORDERING FORMAT

EPF401	W	/L25	12
Model	Wall mount	Lamp Suffix	Voltage

■ Severe XVHZ



Hazardous Location Exit Sign

Class I, Division 2 Compliant Exit Sign

The **XVHZ Series** of Exit signs has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **XVHZ Series** of Exits is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

Sealed Maintenance-Free Batteries

- Nickel-Cadmium

□ APPLICATIONS

- Manufacturing Plants, • Chemical Plants, Food Processing Areas,
- Paint Shops, • Moisture, Dirt or Dust Concerns, • Oil Refineries
- Wet or Corrosive Conditions, • Gas Stations

□ DIAGNOSTIC / SELF TEST FEATURE (STANDARD)

Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exit's readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single "Service Required" indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The self test will test the unit for the minimum 30 seconds each month, 30 minutes every 60 days and 90 minutes annually.

□ FEATURES

- CSA US listed for hazardous locations
- Evaluated to UL 844 standard for Class I Division 2, Groups A, B, C and D
- Evaluated to UL 924 and UL 1598 standards
- Temperature Code: T6 (maximum 85°C - 185°F)
- Suitable for cold-weather: -20°C (self-powered with "CW" option) and -40°C (AC only)
- 120 to 277Vac two-wire universal AC-input
- Single face heavy-duty 1/8-inch thick aluminum back plate
- Energy Efficient: consumes less 2.5 Watts in any configuration
- Sealed faceplate constructed of heavy-duty, vandal-resistant polycarbonate
- Polyvinyl chloride frame, with built-in gasket to prevent water infiltration
- Exit sign module illuminated by long-life, energy-efficient LEDs
- Tamper-resistant, hermetically sealed magnetic test switch
- Self-test / self-diagnostic circuitry is standard on self-powered models
- Comes standard with industrial-grade, die-cast aluminum junction box
- ½ inch electrical conduit entry on both sides and at the top
- Each unit comes standard with one tamper-proof driver bit.

□ OPTIONS

Description	Suffix
Cold Weather (-20°C)(-4°F) (Self-Powered)	-CW
Accessories (order as a separate item)	
Tamper-Proof Bit (extra).....	TBP
Convert single to double face, red*	DFKR
Convert single face to double face, green*	DFKG

*In the field

Reliability

The **XVHZ Series** has a 5-year full warranty.

Unit Data

Will not dent, peel, rust or corrode. The sealed faceplate is constructed of heavy duty, vandal resistant polycarbonate and features an evenly illuminated legend. The fully gasketed faceplate is fastened with stainless steel tamper-resistant screws. Magnetically operated test switch. Models can be wall or ceiling mounted. Legend and chevron complies with UL and CSA requirements. **Severe XVHZ Series** signs are unaffected by the vibrations, ambient temperature swings and typical power surges detrimental to standard exit light sources.

□ ACCESSORIES

(order as a separate item)

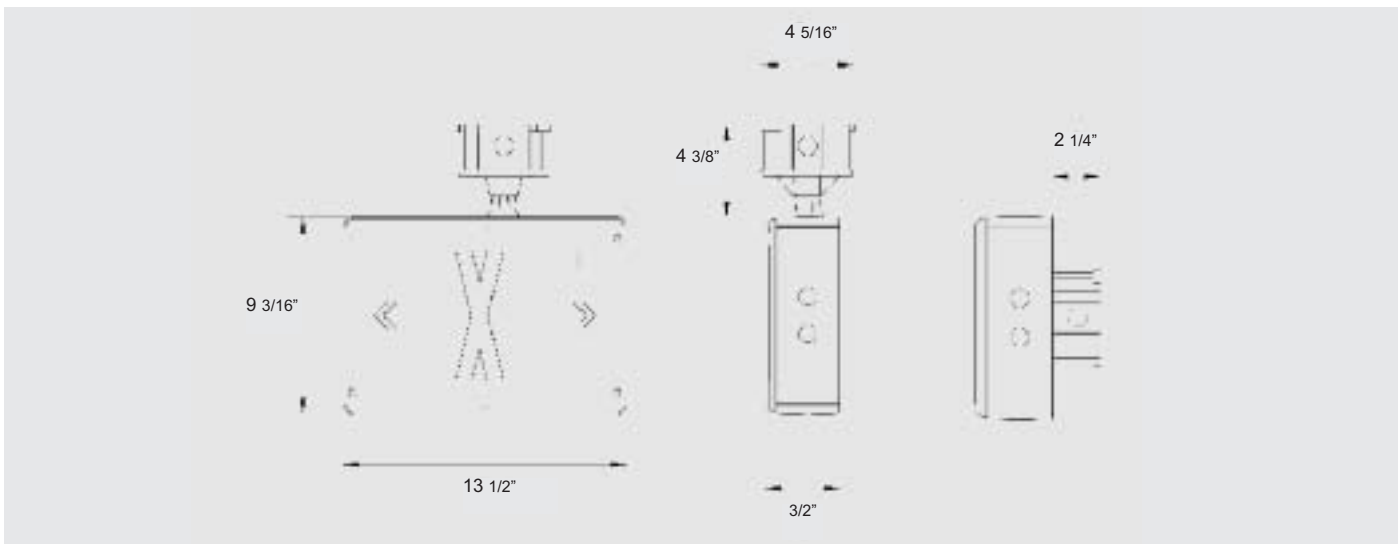
Tamper-Proof Bit	690.0454-L
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□ HIGH PERFORMANCE CIRCUITRY

- Self Contained... Batteries & circuitry located inside the exit housing.
- Battery-operated units come standard with self-testing and diagnostic circuitry.
- Fully automatic charger is solid state.
- AC, AC/DC and Self-Powered Models have universal, 2-wire input 120V to 277Vac 50/60 Hz.
- Sealed, maintenance-free Nickel-Cadmium battery provides 90 minutes of emergency operation.
- Batteries recharge per UL924 requirements.

▣ DIMENSIONS

Dimensions are approximate and subject to change.



▣ POWER CONSUMPTION

Model	AC Specs		DC Specs	
AC-only red	120 to 277Vac	Less than 2 W	-	-
AC-only green	120 to 277Vac	Less than 1.5 W	-	-
Self-powered red	120 to 277Vac	Less than 2 W	Ni-Cd battery	Min. 90 minutes
Self-powered green	120 to 277Vac	Less than 2.5 W	Ni-Cd battery	Min. 90 minutes

▣ ORDERING FORMAT

GG	XVEHZ	-2	-R	-D	-4X	CW
Colour of Body/Face GG= Gray/Gray	Series XVHZ= AC only XVEHZ= Self-powered (NiCad)	Face(s) 1= single (Ceiling/Wall Mount) 2= double (Ceiling Mount only)	Legend R= Red G= Green	Diagnostic D= Improved Diagnostic* NEX= Nexus interface*	Housing 4X= Suitable for Wet Locations	Options CW= Cold weather
				*self-powered only		(-20 deg.C for self-powered, -40 deg.C for ac/dc)

Severe XVH



Hazardous Location Combination Exit Emergency Battery Unit Class I, Division 2 Compliant Exit Sign

The **XVH Series** of Combination Exit Emergency Battery Unit has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **XVH Series** is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

Sealed Maintenance-Free Batteries

- Nickel-Cadmium
- Nickel-Metal Hydride

APPLICATIONS

- Manufacturing Plants, • Chemical Plants, Food Processing Areas,
- Paint Shops, • Moisture, Dirt or Dust Concerns, • Oil Refineries
- Wet or Corrosive Conditions, • Gas Stations

FEATURES

- CSA US listed for hazardous locations
- Evaluated to UL 844 standard for Class I Division 2, Groups A, B, C and D
- Evaluated to UL 924 and UL1598 standards
- Polyvinyl chloride frame, with built-in gasket to prevent water infiltration
- Designed for wall-mount installation only
- Heavy-duty 1/8-inch thick aluminum back plate with key-holes for secure wall-mount installation
- Comes standard with industrial-grade, die-cast aluminum junction box
- Sealed faceplate constructed of heavy-duty, vandal-resistant polycarbonate
- Exit sign module illuminated by long-life, energy-efficient LEDs
- Two MR16 halogen lamps, shielded by a cast aluminum housing and a polycarbonate cover
- Sealed, maintenance-free Nickel-Cadmium or Nickel-Metal Hydride batteries
- Comes standard with self-test / self-diagnostic functions
- 1/2 inch electrical conduit entry on both sides and at the top

Reliability

The **Severe XVH Series** has a 5-year full warranty (excluding lamps and fuses).

Unit Data

The rugged PVC body will not dent, peel, rust or corrode. The sealed faceplate is constructed with a heavy duty, vandal-resistant polycarbonate cover and fastened with stainless steel tamper-resistant screws. The test switch is magnetically operated. Models are only wall mounted. The innovative, fully field adjustable lamp head assembly comes standard with a selection of MR16 lamps for optimum illumination over the path of egress.

Charger

Fully automatic pulse charger offers 120/277 Vac, 60 Hz., Current limiting, temperature compensated, short circuit proof, low voltage battery disconnect, brownout protection and standard solid state transfer features.

POWER CONSUMPTION

Model	AC Input (Vac)	Maximum		Stand-by		Unit Power*			
		Current (A)	Power (W)	Current (A)	Power (W)	1.5	2hrs	3hrs	4hrs
XVH	120 / 277	0.15 / 0.07	16	0.09 / 0.03	8	20	15	-	-
XVH12N	120 / 277	0.30 / 0.08	29	0.13 / 0.05	10	24	18	12	-
XVH12H	120 / 277	0.30 / 0.08	29	0.13 / 0.05	10	40	30	20	12

*National Electrical Code Specification

DIMENSIONS

Dimensions are approximate and subject to change.



DIAGNOSTIC / SELF TEST FEATURE (STANDARD)

Diagnostic / Self Test circuitry is standard on all self-powered models. This circuitry is programmed to ensure the exit's readiness and reliability by continuously monitoring every critical function of the unit. If a problem occurs, a single "Service Required" indicator illuminates immediately. A detailed diagnostic display is located on the inside of the exit sign, out of sight from the general public. The detailed diagnostic display inside the exit sign will further indicate the nature of the fault. The unit shall automatically self test for a minimum of 30 seconds every 30 days, 30 minutes in the 6th month and 90 minutes annually.

OPTIONS

Description	Suffix
Nexus Interface	NEX
Improved-Diagnostics (Non-Audible)	D
Improved-Diagnostics (Audible)	DA

Accessories (order as a separate item)

Tamper-Proof Bit (extra).....	TBP
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TEMPERATURE CODES

Lamp Rating	Temperature Code	Max. Temperature	Replacement part #
6V 10W	T3C	160°C	580.0079
12V 12W	T3A	180°C	580.0080
12V 20W	T2D	215°C	580.0068

Note: Use qualified replacement lamps to avoid risk of over-heating

ORDERING FORMAT

GG	XVH	R	D	/2	M10
Housing / Face Color GG= grey/grey	Series XVH= 6v20w, NICD XVH12N= 12v 24w, NICD XVH12H= 12v 40w, NIMH	Legend Color R= Red Legend G= Green Legend	Diagnostic D= Improved diagnostics Non-audible DA= Improved diagnostics - Audible NEX= Nexus system interface	# of Heads /0= 0 head* /2= Two heads * A remote load must be attached.	Lamp/Wattage M10= 6V - 10W MR16 M12= 12V - 12W MR16 MH20= 12V - 20W MR16 High output *No other lamp



EL, E12L Series

6 or 12 Volt, Class I, Division 2 Emergency Unit
 Sealed Maintenance-Free Lead Calcium battery
 UL Listed

This series of self-contained emergency lighting units are designed to meet the specific requirements of Class I, Division 2 hazardous areas, Groups A, B, C and D. Typical Applications: Manufacturing or Chemical Plants, Paint Shops, Wet or Corrosive Areas and Food Processing Areas*.
 *Shatter resistant Teflon lamp coating optional.

FEATURES

Reliability

The **EL, E12L Series** has a three-year full warranty (excluding lamps and fuses).

Unit Data

All units are housed in water and corrosion resistant cabinets constructed from glass reinforced structural foam and are fully sealed and gasketed. External electrical components, including text switch and indicator light, are explosion proof in design and exceed requirements for Class I, Division 2, Group A, B, C & D. The battery compartment is vented by a one-way breather device to permit exhaust of battery gases and relief of internal pressure without admitting external moisture or corrosives. For temperature codes, please contact factory.

Lamp

Units are equipped with a choice of standard incandescent or halogen sealed beam lamps. Lamps are housed in gray, industrial thermoplastic shells with matching swivels. Lamp housings are rain-tight and corrosion resistant. Wire connections are silicone sealed.

Pulse Type Charger

- Micro-controller based, temperature compensated, pulse type charger.
- High capacity, automatic, dust-tight instantaneous transfer relay.
- Low voltage disconnect prevents over discharge of battery. Automatic brownout protection is provided.
- Labor saving AC line latch prevents battery discharge during installation to a non-energized circuit.
- Fused output circuit.

Controls

- Red AC-ON LED indicates AC power is on.
- Momentary test switch allows for quick operational check of entire system.

Power Requirements

- 120/277Vac 60Hz, 0.3/0.15 Amp
- Diagnostic feature: Red pilot light will flash in case of battery or lamp failure.

OPTIONS

(Add Suffix to Model No.)	Suffix
Time Delay (specify 5, 10 or 15 minutes)	-TD_
Thermal Jacket (120 Volt Heater)	-H1
Thermal Jacket (277 Volt Heater)	-H2
Shatter Resistant Teflon Coated Lens	-FP*

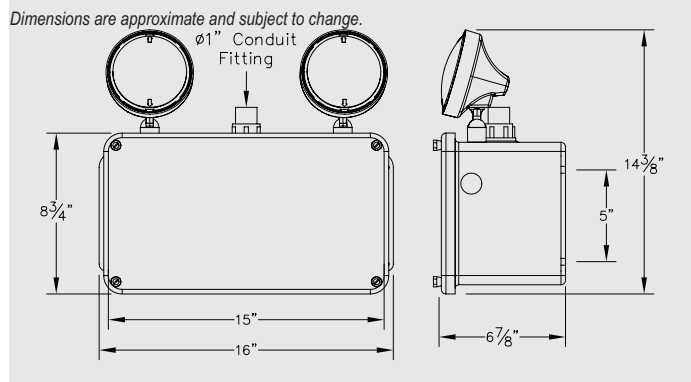
ACCESSORIES

LAMP SELECTION CHART

	DC Voltage	Lamp Wattage	Lumen Output	Lamp Type	Lamp Suffix (Add to Unit Model No.)
Use With 6-Volt 2EL24 Series	8	8	180	Halogen	H7551
	9	9	220	Incand.	7613
Use With 12-Volt 2E12L56 Series	8	8	350	Halogen	H7555
	12	12	180	Incand.	4044



DIMENSIONS




UNIT SELECTION CHART

Volts	Model No. (Unit/Lamp Suffix)	Battery Type	Input Watts	Watts to 87.5% of rated battery voltage*			
				1 1/2 hrs.	2 hrs.	3 hrs.	4 hrs.
6	2EL24	Lead-Calcium	24	24	18	10	6
12	2E12L56			56	37	21	12

*National Electrical Code Specification

STANDARD FEATURE (all models)

Radius of Protection: 2 ft.
 Normal Life Span: 1 yr.



VC2-1 Vapor Capsule
 Stahlin Vapor Capsules contain a unique vapor phase inhibitor designed to protect metallic surfaces within an enclosure against airborne corrosion. By simply placing these self-contained capsules inside an enclosure the vapors readily permeate every point, passivating all metallic surfaces. When the capsule is removed from its sealed package, it begins to emit an invisible, non-toxic vapor which is diffused throughout the surrounding atmosphere until the air is saturated. The vapor then passivates the metal surfaces against atmospheric corrosion by reducing the electro-chemical activity on the metal surfaces.

ORDERING FORMAT

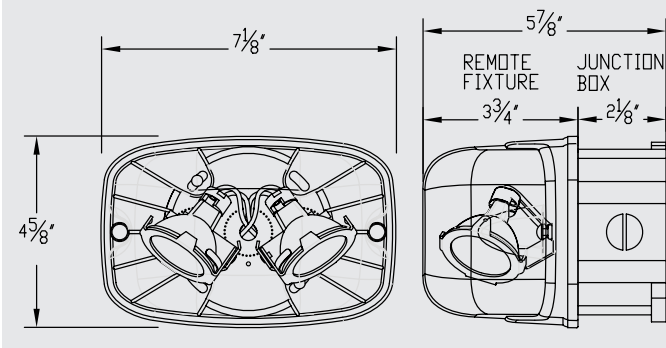
No. of Heads	Series	Capacity Indicator	Lamp Suffix	Option
2	S12E	4	/H7551	-V
			6V 8W Halogen	Time Delay

■ Severe ELF651 Series



▣ DIMENSIONS

Dimensions are approximate and subject to change.



Hazardous Location Remote Fixture

Class I, Division 2 Compliant Remote Fixtures

The **ELF651 Series** of Remote Fixture has been designed specifically for installation in hazardous locations and other high abuse industrial environments. Weather resistant, high impacts, vibrations and variations in temperature. The **ELF651 Series** of Remote Fixtures is ideally suited for areas with the risk of presence of flammable gases, vapors or liquids able to create an explosive gas atmosphere.

▣ POWER AND TEMPERATURE RATINGS

Lamp Type	Input Voltage	Power (each of 2 lamps)	Temperature Code
MR16	6Volts	10 Watts	T3B (max. 165°C)
MR16	12, 24 Volts	12 Watts	T3B (max. 165°C)
MR16	12, 24, 120 Volts	20 Watts	T2C (max. 230°C)

Note: Use qualified replacement lamps to avoid risk of over-heating

▣ ORDERING FORMAT

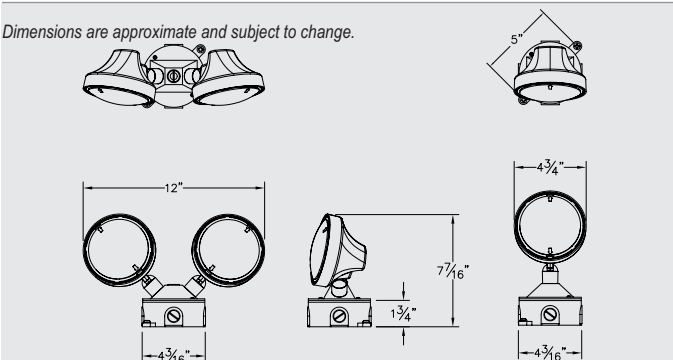
ELF651	/M10	-M	6
Series	Lamp Type/Wattage	Color	Voltage
ELF651= Single	/M10= MR16 10Watts (6V only)	-G= Gray	6= 6V
ELF651D= Double	/M12= MR16 12Watts (12V, 24V)		12= 12V
	/M20= MR16 20Watts (12V, 24V, 120V)		24= 24V
	/MH20= MR16-IR		120= 120Vac/Vdc

■ ELF647C Severe Series



▣ DIMENSIONS

Dimensions are approximate and subject to change.



DESCRIPTION: Class I Division 2, Group A, B, C and D Single lighting head with fully adjustable swivel - with gasketed aluminum canopy and junction box

FINISH: Black (-B), Gray (Blank)(standard)

MOUNTING: Standard with round plate for mounting directly to 4" outlet box

LAMPS:

- Wedge base incandescent
- Bi-PIN Halogen
- PAR36 sealed Beam

VOLTS: 6 or 12 volt

MAXIMUM WATTS:

12 watts per head

▣ ORDERING FORMAT

ELF647C	/M12	-M	12
Series	Lamp Type/Wattage	Color	Voltage
ELF647C= single head	For optional lamps types and wattages refer to the lamp data chart on page(108-109).	-G= blank	6= 6V
EF647DC= double head	(Maximum Watts 12 watts per head)	-B= black	12= 12V