


CAP 437
COMPLIANT



POINT CIRCLE-H LIGHTS PTPS LED

TOUCHDOWN & POSITIONING SYSTEM LIGHTED TD/PM CIRCLE & H MARKINGS

Compliances: Listed CE 1180  II 2 G Ex e mb IIC T6 Gb Tamb -45 to +55 deg C, IP66 & IP67
Listed ATEX Directive 94/9/EC Annex VI & RoHS Directive: 2011/65/EU
ATEX Certificate Numbers: TRAC14ATEX0064X & TRAC15ATEX0052X
IECEX Certificate Numbers: IECEX TRC 14.0026X & IECEX TRC 15.0016X
ETL Listed Class I, Division 2, Groups A B C D, T6 at -55 deg C to +55 deg C
ETL Listed Class I, Zone 2, IIC, T6 at -55 deg C to +55 deg C
ETL Listed to UL 844 & UL 1598
ETL Listed to UL 1598A Marine Vessels
ETL Listed to CSA C22.2 No. 137-M1981 Canada
UK CAA CAP 437, Edition 8, December 2016
Registered ISO 9001:2008
American Bureau of Shipping (ABS) Type Approved Product
ABS Green Passport per MEPC179 (59)



The PTPS Touchdown & Positioning System is designed to fully comply with the UK CAA CAP 437 *Standards for Offshore Helicopter Landing Areas*, Edition 8, December 2016 for the *Lit Touchdown/Positioning Marking Circle and Lit Heliport Identification Marking* to insure visibility of the TD/PM Circle & 'H' during night and reduced visibility. Includes ICAO Standards and Recommended Practices relating to offshore helidecks. This system may be installed by any electro-mechanical contractor prequalified by Point Lighting Corporation.

Type	Classification	Mounting
PTPS	(blank)* Safe Area (all)	SCA Surface Cable - Adhesive
	AX* IECEx & ATEX zones 1&2 - safe area control	TDA Thru-Deck Cable - Adhesive
	EX* Class I, Division 2 - safe area control unit	SC Surface Cable - Mechanical
	AX2 IECEx & ATEX zones 1&2 (all)	
	EX2 Class I, Division 2 (all)	

Note: See page 2 for mounting system descriptions.

* Includes fiberglass safe area control unit enclosure

Note: Each constant current PTPS strip uses 0.75 watt or less.

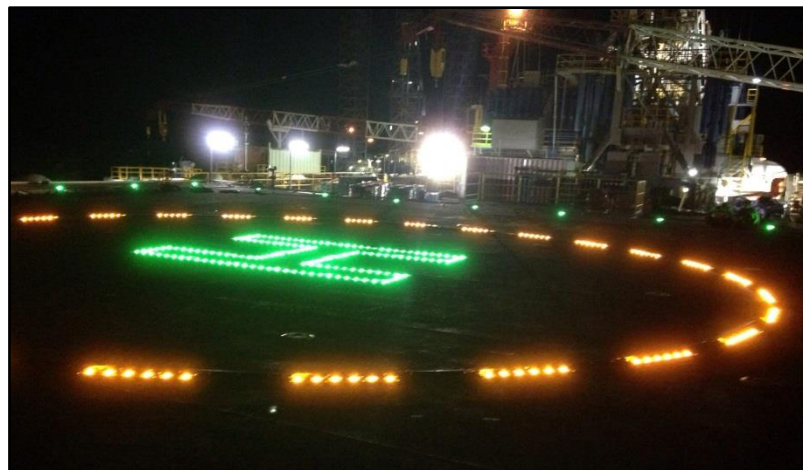
Power consumption is less than 100 watts for a typical system; see page 5.

Note: Control Unit input voltage may be 120V AC, 220-240V AC or 24V DC

All external hardware is grade 316 (A4) stainless steel.

Metal housings are copper-free (< 0.4%) heat treated aluminum. Also see page 5.

PTPS Class I, Division 2 system installed and operational on a rig in Singapore.



MOUNTING SYSTEMS

Most metal helidecks are not as “flat” as required for the installation of a highly technical 25mm thick lighting system. Proper mechanical integrity that assures CAP 437 photometrics requires a “table-top” flat surface.

SCA SURFACE CABLE – ADHESIVE

This is the standard mounting system offered for most applications because it creates a perfectly flat surface for the system segments. Interlocking 316L stainless steel plates are predrilled and tapped for mounting the PTPS circle segments and “H” subsections as well as all the surface cable protective covers. All the required 316L stainless steel hardware is included right down to the washers that protect the segment finish. All system lighting segments use our exclusive Marine Treatment process described on page 6. This coating process and a very thin neoprene gasket isolates the copper-free aluminum of the segment from the 4.76mm thick stainless steel plate. The adhesive (by others) isolates the plate from the metal deck surface. The stainless steel mounting plates on the yellow circle are finished in yellow. The mounting plates also replace the deck’s painted H and are all finished in white. The installer does not have to paint the H. We recommend specific adhesives in the instructions and our recommended installer is well trained in suitable adhesives.

Typical PTPS-SCA arrangement on interlocking 316L stainless steel mounting plates to form the “H”.

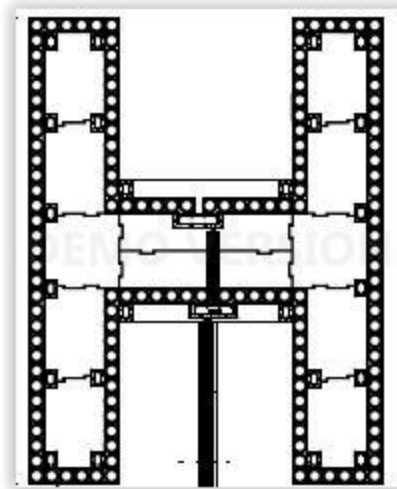
SC SURFACE CABLE – MECHANICAL

This is an optional mounting system intended for a “table-top” flat landing surface such as a land-based concrete pad or a new perfectly flat metal deck surface. There are no mounting plates so there are about 1,000 mounting points to be installed in the landing surface. The hardware choice and supply is by others (not included). This is a much more labor intensive installation than SCA.

Note: All PTPS installations must be performed as one efficiently planned process under dry conditions for system integrity.

CATALOG NUMBERING

All PTPS catalog numbers end in a 7-character serial number that defines the system size, voltage and special features.
Example: PTPS-AX-SCA-A901335



TDA THRU-DECK CABLE - ADHESIVE

This optional mounting system is a variation of SCA as the same interlocking and predrilled 316L stainless steel plates are used, but the junction boxes are designed for the cables to exit through holes in the deck surface. This may be some of the cables or only at certain points so it is customized to the specific situation. Some decks cannot have any penetration of the surface in which case the SCA system should be used.

LOCATION OF CONTROL UNIT

The standard SCA mounting system includes enough cable and protective covers to exit the edge of the deck surface as well as some additional cable. The PTPS control unit has one simple 3-position switch on the door ON-OFF-REMOTE where the REMOTE position allows for a simple switch at another location such as a control panel. Therefore, the PTPS control unit can be mounted anywhere inside or outside within 200-ft of the helideck yet still be controlled from a more distant location. In accordance with CAP 437, there is a one-time brightness adjustment in the control unit. CAP 437 does not allow for manual brightness control by an operator.

ANTI-CORROSIVE FINISH

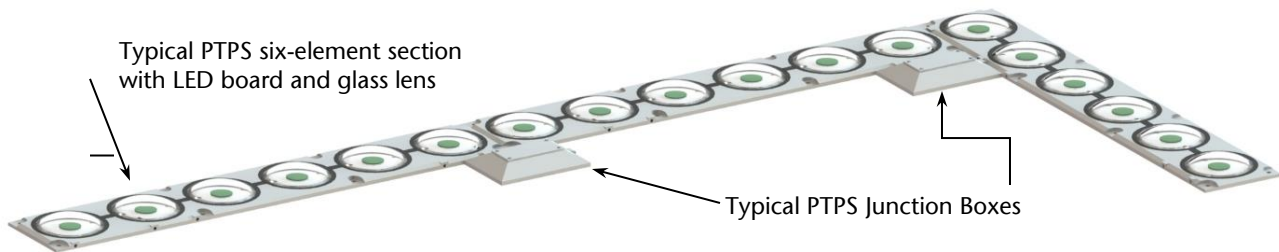
The exclusive POINT LIGHTING CORPORATION Marine Treatment (MT) finish is used for all marine, high salt content air and other corrosive environments. The H strips are MT white finish and the TD/PM Circle strips are yellow finish. See page 5 for treatment process.

MOUNTING HARDWARE

POINT LIGHTING supplies all mounting hardware for the standard -SCA system only. All mounting thru-holes in the segments, junction boxes and cable covers are 7mm diameter for ¼-inch or M6 hardware.

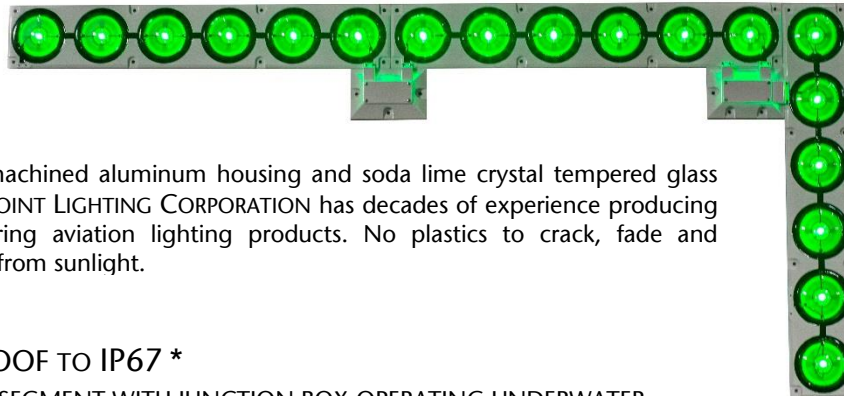
DETAIL

THE 'H' INTERCONNECTED PTPS SUBSECTIONS WITH JUNCTION BOXES



DETAIL

INTERCONNECTED "H" PTPS SIX-ELEMENT SUBSECTIONS WITH WHITE FINISH EMIT GREEN LIGHT



Strong machined aluminum housing and soda lime crystal tempered glass lenses. POINT LIGHTING CORPORATION has decades of experience producing load-bearing aviation lighting products. No plastics to crack, fade and crumble from sunlight.

CERTIFIED WATERPROOF TO IP67 *

THE TD/PM CIRCLE PTPS SEGMENT WITH JUNCTION BOX OPERATING UNDERWATER.

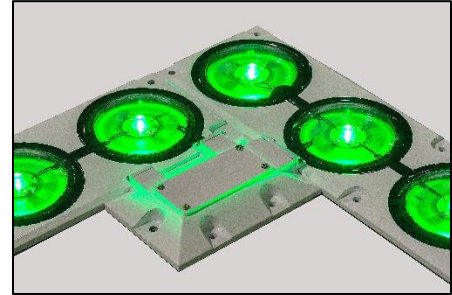
* When properly installed. Certified to IP66 & IP67.



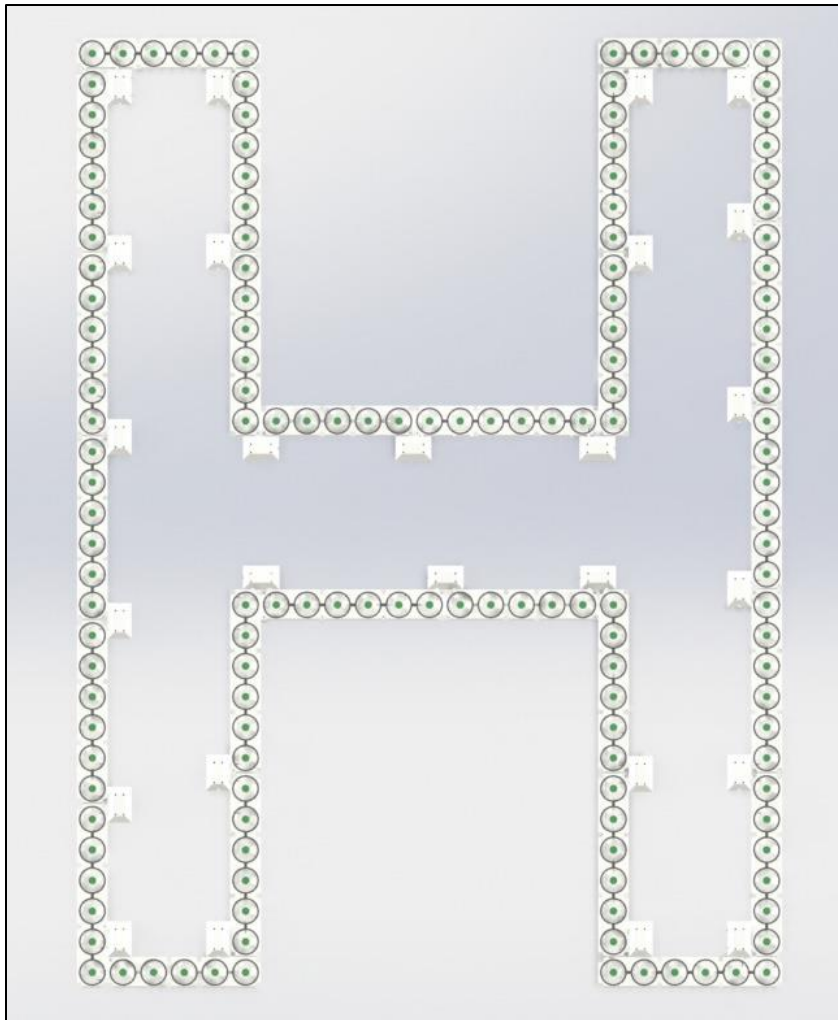
**POINT CIRCLE-H LIGHTS
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The 'H' is painted white and also marked with PTPS subsections with white finish and emitting green light. The PTPS subsections securely interlock for a mechanically and electrically sealed installation.



TYPICAL "H" LAYOUT



The TD/PM circle is painted yellow and also marked with PTPS six-element segments with yellow finish and emitting yellow light.





PTPS PHOTOMETRIC COMPLIANCE

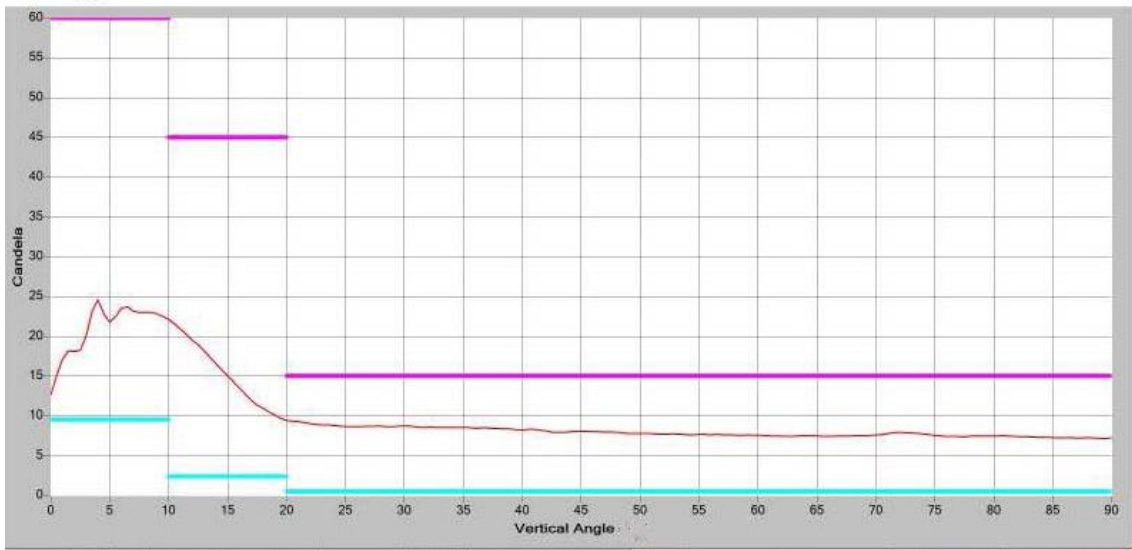
Testing performed by Hoffman Engineering goniometer serial number AGS-1130-004 and Spectrometer SMS-700 serial number HEC-6542.

Calibration Date: 19 September 2014

Test Date: 18 November 2014

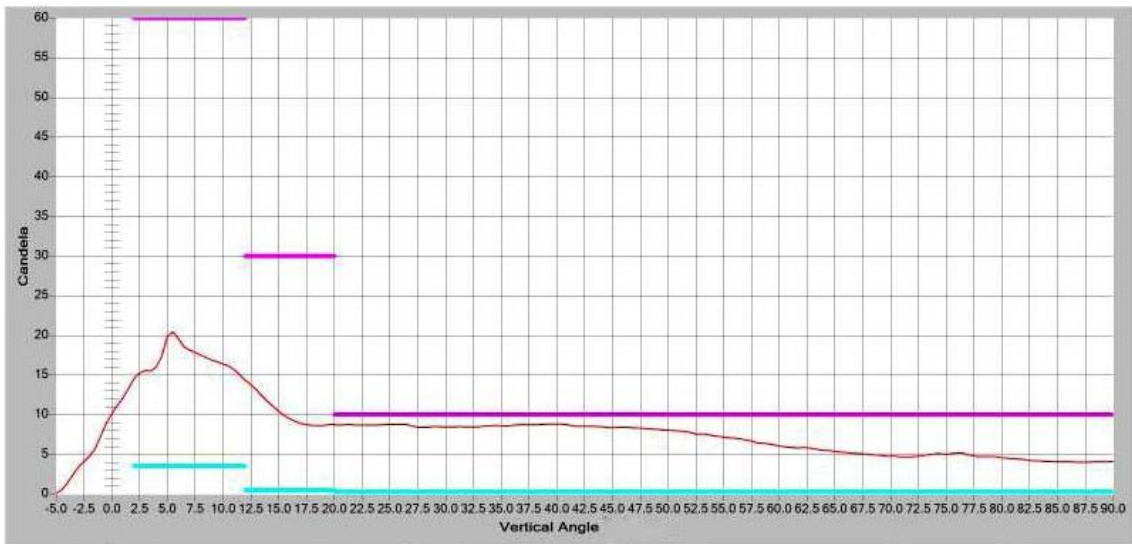
PTPS YELLOW CIRCLE SEGMENT

CAP 437 PHOTOMETRIC COMPLIANCE CHART

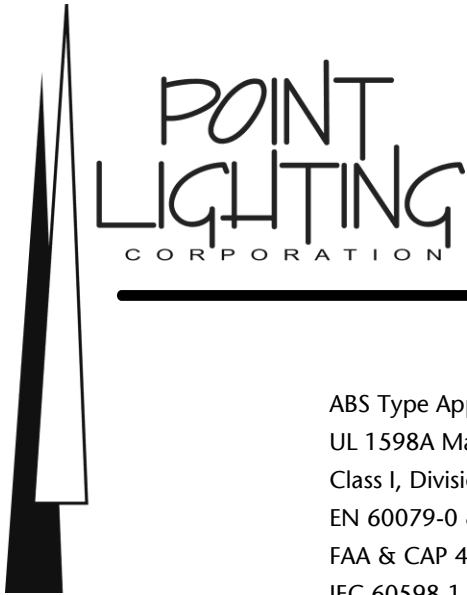


PTPS GREEN "H" SUBSECTION

CAP 437 PHOTOMETRIC COMPLIANCE CHART



Note: The colored lines define the limits set in CAP 437. The brown line is the graph of the measured points.



POINT CIRCLE-H LIGHTS PTPS LED TOUCHDOWN & POSITIONING SYSTEM LIGHTED TD/PM CIRCLE & H MARKINGS

TESTED CERTIFICATIONS AVAILABLE

ABS Type Approval	ABS Classed Vessels, MODU or Facility
UL 1598A Marine Vessels	Installation on Marine Vessels
Class I, Division 2 (Zone 2)	UL & CSA for Use in Hazardous Areas
EN 60079-0 & MIL-C-7989B	Glass Impact
FAA & CAP 437	Load-bearing
IEC 60598-1	Ingress Protection IP66 & IP67
UL 746C (f1)	Ultraviolet Light
CAP 437	Chromaticity & Photometry (Optics)

POWER CONSUMPTION

Total power consumption for a typical system for a D-value of 22-meters:

CAP 437 standard intensity setting:	62 watts	99 VA
CAP 437 increased intensity setting:	95 watts	154 VA

CORROSION PROTECTION MARINE TREATMENT SPECIFICATION

The Point Lighting Corporation PTPS corrosion protection process goes far beyond simple powder coat painting. For example, the chrome-free conversion coating is the only treatment used by Rolls Royce for aircraft engine turbine blades.

Application: Circle & H Segments and Junction Boxes

The treatment process shall be:

- Clean with Mild Acid Cleaner
- Glass Bead Blast
- Apply Chrome-Free Aluminum Conversion Coating
- Oven Dry
- Apply Epoxy Powder Coat with zinc free primer
- Oven Dry
- Apply Polyester Powder Coat Finish Coat
- Oven Dry
- Apply Clear Anti-Skid Textured Coating to applicable surfaces

GENERAL GUIDELINE FOR NUMBER OF TD/PM CIRCLE SEGMENTS

The TD/PM circle lighting is centered on the 1-meter wide painted circle. Therefore, lighting is positioned on a circle defined by the mean diameter of the TD/PM yellow painted circle. The diameter of the TD/PM circle should be as defined in CAP 437 based on the maximum D-value of the helideck landing surface. This guideline is for estimating purposes only and the purchaser is responsible to specify the actual mean diameter of the painted TD/PM circle.

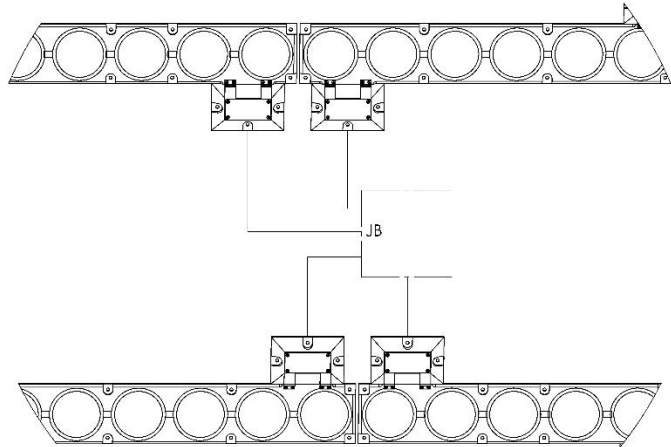
D-Value:	18.1 to 20 meters	Segments:	24
	20.1 to 22		26
	22.1 to 24		28
	24.1 to 26		30
	26.1 to 28		32

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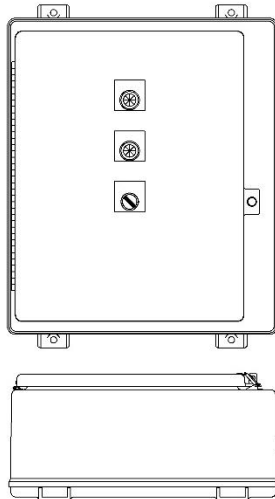
CROSSBAR DETAIL OF THE LIGHTED H

The detail at right shows that only four surface junction boxes have cables that penetrate the deck through 1-inch holes. These cables link to junction box (by others) below the deck.



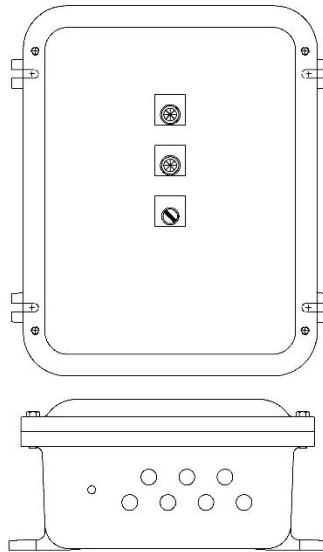
CONTROL UNIT ENCLOSURES

Safe Area: NEMA 4X



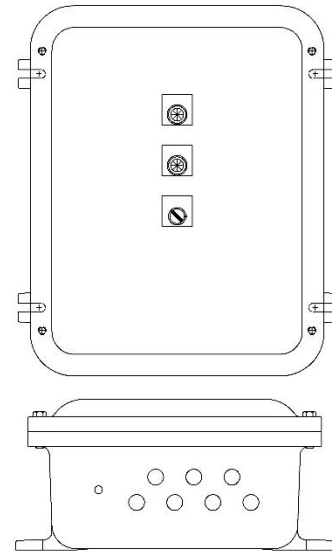
NEMA 4X ENCLOSURE: 24.89(632) X 21.24(539) X 9.9(251)
INCHES(mm) H W D
MOUNTING PATTERN: 25.75(654) X 14(356)
SCREW HOLE DIAMETER (QTY 4) 0.50(13)
ENCLOSURE MATERIAL: FIBERGLASS

AX: ATEX zones 1 & 2



CENELEC / ATEX RATING
II 2 G Ex d IIB + H2
IP66 RATED
NEMA 4X
29.12(740) X 21.76(553) X 11.87(302)
INCHES(mm) H W D
MOUNTING PATTERN: 18.38(467) X 21.76(553)
SCREW HOLE DIAMETER (QTY 4) 0.68(17)

EX: Class I, Division 2
(Zone 2)



ENCLOSURE UL CLASSIFIED
CLASS I, DIVISION 1 & 2 GROUPS B, C & D
CLASS II, DIVISION 1 & 2 GROUPS E, F & G
CLASS III, ENCLOSURE NEMA 4X
29.12(740) X 21.76(553) X 11.87(302)
INCHES(mm) H W D
MOUNTING PATTERN: 18.38(467) X 21.76(553)
SCREW HOLE DIAMETER (QTY 4) 0.68(17)

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