

EIH/EIHT Instrument Enclosure Installation & Maintenance Information

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

EIH and EIHT Instrument Enclosures are designed to house instrumentation and control equipment as well as act as a conduit outlet body in hazardous, abusive, and wet locations.

The EIH and EIHT enclosure is approved by Underwriters Laboratories Inc., Canadian Standards Association and Factory Mutual, for use in Class I, Groups B*, C†, D, Class II, Groups E, F, G, and Class III hazardous (classified) locations as defined by the National Electrical Code® and Canadian Electrical Code. It is also NEMA/UL/CSA Type 4X and IP66 rated for watertight applications.

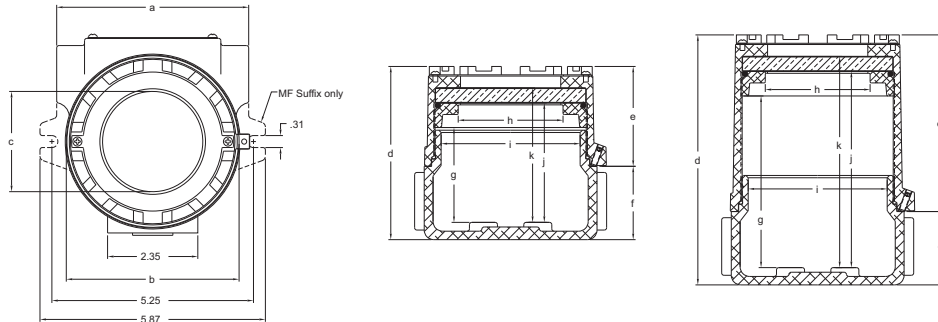
*With conduit seals installed within 18 inches (46 cm) of enclosure. For ATEX, a seal is required at the enclosure wall.

†For CSA Group C applications, unsealed conduit lengths must not exceed 5 ft. (152 cm).

The EIH enclosures are also approved by KEMA to the ATEX Directive 94/9/EC and IEC standard EN60079-0:2006 and EN60079-1:2007 for use in II 2 G Ex d IIB hazardous locations. Certificate number: KEMA 02ATEX2265U.

When installed as an IEC / CENELEC flameproof enclosure, all cable entry devices and blanking elements of unused openings shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.

DIMENSIONS

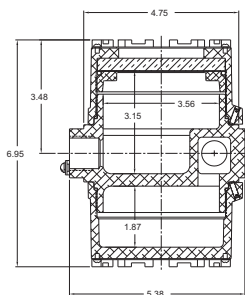


EIH 20 and 21

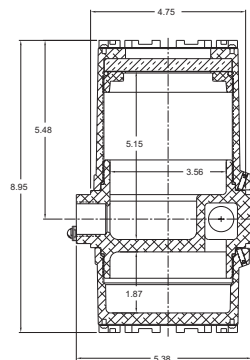
EIH 20 and 21

EIH 22 and 23

Type	a	b	c	d	e	f	g	h	i	j	k
EIH20	5.00	4.50	-	4.51	2.60	1.91	-	-	3.62	-	3.47
EIH21	5.00	4.50	2.60	4.51	2.60	1.91	2.45	2.61	3.62	3.09	3.50
EIH22	5.00	4.50	-	6.51	4.60	1.91	-	-	3.62	-	5.47
EIH23	5.00	4.50	2.60	6.51	4.60	1.91	4.45	2.61	3.62	5.09	5.50



EIHT 200 and
EIHT 210



EIHT 220 and
EIHT 230

INSTALLATION

WARNING

If a heat producing instrument or device is mounted in the enclosure do not install in any classified location where the operating temperature of the enclosure exceeds the ignition temperature of the hazard present.

WARNING

Electrical power must be "OFF" before and during installation and maintenance.

CAUTION

- Select a mounting location so that the enclosure will not be subjected to impact by heavy objects. Impacts can damage enclosed devices or glass lens.
- The hazardous location information specifying class and group listing of each instrument enclosure is marked on the nameplate of each enclosure.
- All unused conduit openings must be plugged. Plug unused conduit openings with Cooper Crouse-Hinds PLG2. Plugs must be a minimum of 1/8" thick and engage a minimum of five (5) full threads. For ATEX, unused openings shall only be closed with ATEX certified Ex plugs.

CAUTION

Use care to prevent dirt, grit or other foreign material from lodging on threads. If any such material settles on these threads, clean them with kerosene or Stoddard solvent*, then relubricate with Cooper Crouse-Hinds Type STL thread lubricant.

*To avoid the possibility of an explosion, oxidation and corrosion, do not use gasoline or similar solvent.

- EIH Instrument Enclosures are furnished with 3/4" NPT offset throughfeed cast hubs for conduit entries. EIHT Instrument Enclosures are supplied with 3/4" NPT offset throughfeed cast hubs on the power side and one (1) 3/4" NPT hub on the instrument side for conduit entries. (Use Cooper Crouse-Hinds RE21-SA to reduce to 1/2" hubs).
- Secure the enclosure to the conduit system. If the enclosure has mounting feet, select a mounting location that will provide sufficient strength and rigidity to support the enclosure as well as the enclosed device and wiring.
- Install Cooper Crouse-Hinds EYS Sealing Fittings required by Section 501-5 and/or 502-5 of the National Electrical Code and Section 18 of the Canadian Electrical Code as well as any other applicable local codes and when enclosure is installed in Class I, Group B hazardous locations. (For CSA Group C applications, unsealed conduit lengths must not exceed 5 ft. or 152 cm).
- Unthread instrument (and power side) covers and carefully set aside to prevent damage to the cover threads and glass lens (when glass lens cover is used).
- Pull wires into enclosure, making certain they are long enough to make the required connections and to remove the instrument or power supply if servicing is required. Install instrument and a power supply, if applicable, and make all electrical connections. (If installing an EIHT and connections need to be made between the two halves of the EIHT enclosure, see DRILLING BETWEEN ENCLOSURE WALL section of instruction sheet).

NOTE: When installing device, be sure to check instrument dimensions to avoid interference with clamping ring on glass lens units and the cover on standard units.

- Test wiring for correctness by checking continuity and also check for unwanted grounds with insulator resistance tester. Make sure test equipment being used will not damage instrument to be housed in the EIH or EIHT instrument enclosure.
- Carefully rethread cover to enclosure housing. Tighten cover until cover flange contacts body face.

DRILL & TAP INTERNAL MOUNTING PADS (EIH only)

- Prepare a template or mark the position of the device mounting holes on the mounting pads in the bottom of the enclosure. See Figure 1.
- Holes can be drilled and tapped in the mounting pads. See Figure 2.

WARNING

To maintain the explosionproof integrity of the enclosure with a screw in a tapped mounting pad hole, there must be a minimum of 1/16" of material between the drill point and the back wall. If, for any reason, a screw will not be threaded into the drilled hole, a minimum of 1/8" of material must remain between the drill point and the back wall.

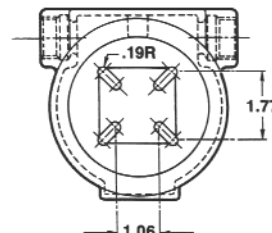


Figure 1. Internal Mounting Pad Dimensions

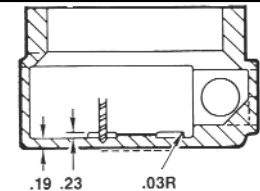


Figure 2. Mounting Pad and Back Wall Dimensions

DRILL & TAPPING FOR CONDUIT ENTRIES (EIH Only)

The external pad has a wall thickness suitable for drilling and tapping an additional 3/4" or 1/2" conduit entry.

WARNING

The size of the pad only allows for either one (1) 3/4" or one (1) 1/2" NPT conduit entry. DO NOT attempt to drill and tap two conduit entries or an entry larger than 3/4".

NOTE: The conduit entrance must lie within the shaded area outlined in Figure 3.

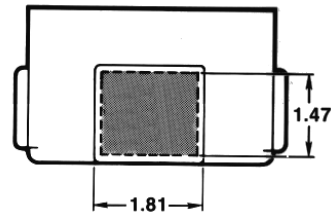
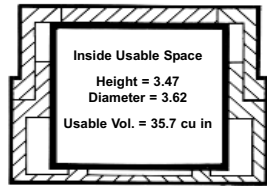
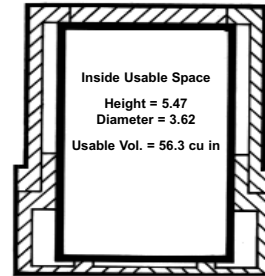


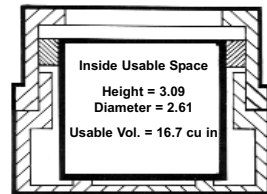
Figure 3.
Dimensions Suitable For Drilling and Tapping of External Pad



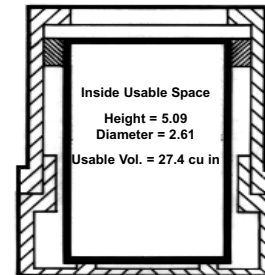
EIH 20



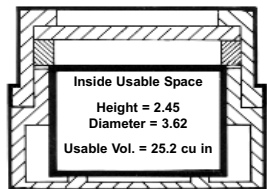
EIH 22



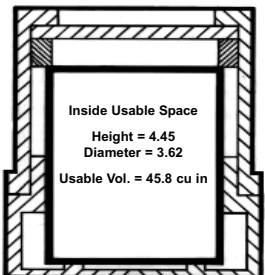
EIH 21*



EIH 23*



EIH 21*



EIH 23*

Figure 4. Internal Usable Space

*For EIH21 and 23, determine usable volume based on diameter and height of the instrument to be enclosed. At least 20% of the cross-sectional area shall remain free to permit an unimpeded gas flow.

DRILL & TAPPING FOR CONDUIT ENTRIES (EIH Only) Continued

Female conduit entries must be taper tapped with the thread form and taper (3/4 in. per ft.) conforming to NPT. A standard NPT male gage must enter the tapped opening 1-1/2 turns past the gage notch. The opening is tapped deeper than standard NPT gage to ensure a minimum of five (5) full threads engagement with standard NPT threaded conduit (refer to current NEMA FB-1).

For ATEX, NPT threads may not have a deeper tapping than flush to +2 turns large. For ATEX, with a flanged joint glass gap of .04mm and width of 15mm, the threaded cover must have 9.6 engaged threads.

Opening may be tapped to accept listed reducers that provide an integral conduit stop or openings may be tapped and counterbored 1/16 to 1/8 inch larger than conduit O.D. to a depth that will still provide a tapped surface of sufficient length for the number of threads within the limits shown in Table 1. This will allow assembly of a conduit bushing to the end of the conduit protruding through the wall.

TABLE 1

Number of threads in a conduit opening without a conduit stop. (Minimum five (5) threads, maximum 20 threads per inch).

Trade Size of Conduit (Inch)	Number of Threads per Inch	Maximum Number of Threads
1/2	14	7
3/4	14	7

CAUTION

Sealing fittings must be installed with access allowing the dams to be made and the sealing compound to be properly poured.

DRILLING BETWEEN ENCLOSURE WALL (EIHT Only)

Up to six (6) 1/4" holes can be drilled between the wall of the two sides of the EIHT enclosure for pass throughs. The minimum spacing between holes must be 0.187 inches.

1. Remove both threaded covers before attempting to drill holes through the EIHT wall.
2. See Figure 5 for defined area for pass throughs.

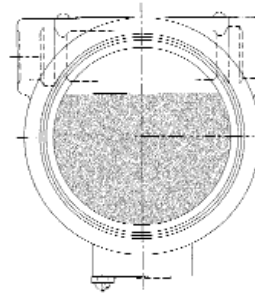


Figure 5

MAINTENANCE

WARNING

Always disconnect primary power source before opening enclosure for inspection or service.

1. Frequent inspection should be made. A schedule for maintenance checks should be determined by the environment and frequency of use. It is recommended that it should be at least once a year.
2. Perform visual, electrical, and mechanical checks on all components on a regular basis.
 - Visually check for undue heating evidenced by discoloration of wires or other components, damaged or worn parts, or leakage evidenced by water or corrosion in the interior.
 - Electrically check to make sure that all connections are clean and tight and that the device is operating properly.

All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof are not guaranteed. In accordance with Crouse-Hinds "Terms and Conditions of Sale", and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his intended use and assumes all risk and liability whatsoever in connection therewith.