HUBBELL ELECTRICAL PRODUCTS
A Division of HUBBELL INCORPORATED (Delaware)
3940 Martin Luther King Drive
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HKB, HKBD, 2HKB, HKSB, HKSBD & 2HKSB SERIES ENCLOSURES INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

Classified by Underwriters Laboratories Inc. as to explosion and fire hazard only. Enclosure for use in Hazardous Locations. UL & CSA certified for Class I, Groups B, C & D, Class II, Groups E, F & G, Class III, Enclosure Type 3, 4 &4X.
Class 1, Zone 1 & 2 Groups IIA, IIB & IIC
IECEx UL 14.0071U
DEMKO 01 ATEX 015742U
0518 Ex II 2 G / D
For Use In Zone 1 & 2 Groups IIA, IIB & IIC Category 2 G / D, IP66 Hazardous Locations
Method of Protection Code Ex db IIC Gb, Ex tb IIIC Db
Service / Ambient Temperature -60°C to +70°C
IEC 60079-0, Ed. 6 EN 60079-0, Ed .6
IEC 60079-1, Ed. 7 EN 60079-1, Ed. 7
IEC 60079-31, Ed. 2 EN 60079-31, Ed. 2

IMPORTANT: ALL MACHINING, DRILLING AND TAPPING ON THIS ENCLOSURE MUST BE PROVIDED BY KILLARK. THE DEMKO CERTIFICATIONS ARE VOIDED IF FIELD MACHINING IS DONE. THE END SUPPLIER MUST BEAR THE BURDEN OF PROOF FOR THE FINAL EVALUATION, TESTING AND DOCUMENTATION.

Electrical Data:
Grounding Conductor Size: #10 AWG or 6.6mm^2 Maximum

Openings for Conduit & Cable Fittings: The openings provided for conduit & cable fitting connections are ¾ NPT or ½ NPT when a Killark R-EX / RE-EX reducer or a certified Ex d IIC reducer per EN/IEC 60079-1 is installed. When customer specified, a ¾ or ½ NPT opening may be provided in the side or back wall pads.

Conduit Sealing Fittings: Conduit sealing fittings must be certified “Ex db" or "Ex db" components per EN/IEC 60079-1, whose design and installation comply with North American standards. Sealing fittings must be installed within 18” of this enclosure when conduit is used.

Cable Fittings: Cable fittings must be certified “Ex db” components per EN/IEC 60079-1. For lines which are not permanently installed, only cable fittings appropriate for this purpose can be used. They are to be protected from loosening and locked against rotation, i.e. clips, cemented, etc., per EN/IEC 60079-1.

Unused Openings: All unused openings must be closed with a “Ex db” certified close-up plug or sealing plug per EN/IEC 60079-1.

Flame Arrestor / Drain & Breather: Killark KB1FA & KBM20FA series flame arrestors and Killark KB & KDB series drain and breather per Certificate numbers IECEx CSA 10.0007U / Sira 10ATEX 1351U may be installed.

Cover Locking Screw: The cover locking screw is a #6-32 x 3/8 long socket head cap screw, either plated steel or stainless steel.

INSTALLATION INSTRUCTION

Trained, qualified and competent personnel must install this junction box. Installation must comply with local, state and country regulations, as well as safety practices for this type of equipment.
Warning: Electrical power must be **OFF** during installation. **Disconnect** all power sources and **lock out.**
The mounting location must be flat and provide proper clearance, rigidity and strength to support the enclosure and all contained devices.
Securely fasten the enclosure to the mounting location, using up to a ¼" (M6) diameter steel bolt and washer.
Install sealed cable glands or conduit and sealing fittings using an approved electrical conducting type lubricant on the threads. The conduit and glands must be a tapered pipe thread conforming to ANSI/ASME B1.20.1; a minimum of 5 fully engaged threads is required for all conduit and gland connections. The enclosure must have a conduit-sealing fitting installed within 18"(457mm). The sealing fitting must be approved for the specific hazardous location where the enclosure is being installed.
NOTE: Inspect and clean the machined, threaded surfaces of both the box and cover. Clean surfaces by wiping with a clean, lint-free cloth. Apply a light coating of Killark "LUBG" lubricant to the cover threads. Install and hand tighten cover to the box. Wrench down cover locking screw. When installing a breather and/or drain, they must be approved for the specific hazardous location the enclosure is being installed in.

EARTHING: When enclosure is properly mounted, a earthing conductor must be installed to the external terminal and fastened by the green external #8-32 binding head screw. The terminal is located on the external mounting lug.

MAINTENANCE INSTRUCTIONS

After installation, the unit should be inspected at regular intervals to verify the cover is tight; that all conduit or gland connections are intact and free of corrosion and that the enclosure mounting bolts are tight and in good condition.
WARNING: Before servicing the enclosure, care must be taken to be certain the electrical power is **OFF**.
Disconnect the enclosure from all power sources and **lock out**.
Inspect the threaded surfaces of both the box and cover. Threads must be free of nicks, dirt or any foreign particle build-up that would prevent a proper seal. Should the threads be damaged, consult factory. Never attempt to rework the threads in the field. Threads must seat fully against each other to provide the proper explosion-proof joint. Apply a light coating of Killark "LUBG" lubricant to the cover threads before re-installing on the box. Wrench down cover locking screw. An improper flame joint can result in an explosion with the possibility of physical injury and property damage.

SCHEDULE OF LIMITATIONS

1. The equipment is to be used only in Zone 1 and Zone 2 hazardous locations.
2. Where necessary for safety, the contents of the enclosure shall comply with the appropriate requirements of relevant standards for electrical apparatus for use in potentially explosive atmospheres.
3. The assembled equipment shall comply with the appropriate requirements of relevant standards for electrical apparatus for use in potentially explosive atmospheres.
4. The enclosure's apparatus may be placed in any arrangement, provided that an area of at least 40% of each cross-sectional area remains free to permit unimpeded gas glow and, therefore, unrestricted development of an explosion.
5. For the purposes of note 3 above, separate relief areas may be aggregated, provided that each area has a minimum dimension in any direction of 12.5 mm.
6. Rotating or other devices which create turbulence shall not be incorporated.
7. Liquids shall not be used when there is risk of producing an explosive mixture by the decomposition of or release of oxygen by these liquids.
8. The use of energy storage devices may present difficulties, due to the possibility of sparking, after isolation from the supply, when the enclosure cover is removed. In addition, secondary cells, and in some cases, primary cells, may emit flammable gas not considered under the normal certification conditions. The following requirements shall apply:
   - 8.1 All such devices shall be provided with adequate means to prevent incentive sparking when flameproof covers are removed.
   - 8.2 Enclosures which can be opened more quickly than the time necessary for the discharge of incorporated capacitors to a residual energy of:

     0.2 mJ for electrical apparatus of Group I of Group IIA, or
     0.06 mJ for electrical apparatus of Group IIB
     0.02 mJ for electrical apparatus of Group IIC

     shall be provided with a label stating the delay required before attempting to open the enclosure. If enclosed components have a temperature above that of the temperature classification of the electrical apparatus, a label shall be provided stating the delay necessary before attempting to open the enclosure to allow the component to cool below the temperature classification.
9. Oil-filled contactors shall not be used.
10. No holes, whether for mechanical or electrical purposes, and whether blind or clear, shall be drilled in the enclosure, other than those shown on the Component Certificate drawings 20675 & 20676
11. All entry devices shall be of a type specified in the certification documents having an appropriate Component Certificate and suitable for the conditions of use, or be specifically certified with the apparatus.
12. Any unused entry shall be closed by a device specified in the certification documents, having an appropriate Component Certificate or be specifically certified with the apparatus.
13. The holder of the final Certificate will be required to provide information to enable the test authority to verify compliance with the above and the relevant parts of the certification standard not explicitly covered by the Component Certificate (e.g. temperature classification).
14. The window temperature must not exceed 120°C.
15. Flame proof joints are not to be repaired in the field. If the flame path is damaged the enclosure is to be removed from service and replaced with a new properly working enclosure.
16. The sealing cement on the windows shall not exceed 87°C.