



Explosion Proof Cable Gland

CGB-C1D1-MCHL

Series Instruction

Manual



Thank you for your purchase of an Explosion Proof Cable Gland from the Larson Electronics' CGB-C1D1-MCHL series.

WARNING

Standard Warning (General)

WARNING:

READ CAREFULLY BEFORE INSTALLING FIXTURE. RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.

CRITICAL SAFETY INSTRUCTIONS:

- INSTALLATION SHOULD ONLY BE CONDUCTED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH NEC AND ANY RELEVANT LOCAL BUILDING CODES.
- RISK OF FIRE OR ELECTRIC SHOCK. FIXTURE INSTALLATION REQUIRES KNOWLEDGE OF FIXTURE'S ELECTRICAL SYSTEMS. IF NOT QUALIFIED, CONTACT A QUALIFIED ELECTRICIAN.
- BE CERTAIN ELECTRICAL POWER IS OFF BEFORE AND DURING INSTALLATION AND MAINTENANCE.
- MAKE SURE THE SUPPLY VOLTAGE IS THE SAME AS THE FIXTURE'S RATED VOLTAGE.
- TO PREVENT WIRING DAMAGE OR ABRASION, DO NOT EXPOSE WIRING TO EDGES OF SHEET METAL OR SHARP OBJECTS. SUITABLE FOR DAMP LOCATIONS.



WARNING: MAKE SURE POWER IS TURNED **OFF** BEFORE STARTING THE INSTALLATION OR PERFORMING ANY MAINTENANCE.

RISK OF FIRE/ELECTRIC SHOCK – DISCONNECT POWER AT BREAKER BEFORE INSTALLING OR SERVICING.

RISK OF PERSONAL INJURY – FIXTURE MAY BECOME UNSTABLE OR DAMAGED IF NOT INSTALLED PROPERLY.

RISK OF BURN – ALLOW FIXTURE TO COOL BEFORE SERVICING.

Standard Warnings (Cord Cap/Receptacles/Extension Cords)

WARNING:

USER SHOULD BE TRAINED IN THE PROPER USE AND MAINTENANCE OF THIS DEVICE. THIS LINE CORD IS INTENDED TO ALLOW OPERATORS TO EXTEND POWER TO EQUIPMENT WHEN STATIONARY OUTLETS ARE NOT READILY AVAILABLE.

IMPROPER USE OF THIS CORD, PLUG, AND RECEPTACLE CAN LEAD TO SERIOUS INJURIES OR DEATH TO PERSONNEL.

PERIODIC INSPECTION OF THE CORD IS NECESSARY.

THE CORD MUST BE ROUTINELY CHECKED FOR CUTS, BREAKS, OR ANY SEVERE ABRASIONS, AND IF ANY ARE FOUND, THE CORD MUST BE REPLACED BEFORE RESUMING USE.

Explosion Proof Warnings (General)**WARNING**

TO AVOID THE RISK OF FIRE, EXPLOSION OR ELECTRIC SHOCK, THIS PRODUCT SHOULD BE INSTALLED, INSPECTED AND MAINTAINED BY A QUALIFIED ELECTRICIAN ONLY, IN ACCORDANCE WITH ALL APPLICABLE ELECTRICAL CODES.

TO AVOID ELECTRIC SHOCK:

- BE CERTAIN ELECTRICAL POWER IS OFF BEFORE AND DURING INSTALLATION AND MAINTENANCE.
- PRODUCT MUST BE CONNECTED TO A WIRING SYSTEM WITH AN EQUIPMENT-GROUNDING CONDUCTOR.

TO AVOID EXPLOSION:

- MAKE SURE THE SUPPLY VOLTAGE IS WITHIN THE VOLTAGE RATING.
- ENSURE THE MARKED T RATING IS LESS THAN THE IGNITION TEMPERATURE OF THE HAZARDOUS ATMOSPHERE.
- DO NOT OPERATE IN AMBIENT TEMPERATURES ABOVE THOSE INDICATED ON THE PRODUCT NAMEPLATE.
- DO NOT OPERATE IF THE LENS, CORD, SEALS, HOUSING, RECEPTACLES, ETC. IS CRACKED OR DAMAGED. IF SO, DISCONTINUE USE AND CONTACT MANUFACTURER FOR REPLACEMENT PARTS.
- ALL FASTENERS SHOULD BE PROPERLY SEATED.

Earth Tag Rating Table

Larson Electronics LLC Earth Tag Size	Short Circuit Ratings Symmetrical Fault Current (kA) for 1 second
20	3.06
25	4.06
32	5.40
40	7.20
50	10.40
63	10.40
75	10.40

Installation Instructions

Installation should only be performed by a competent person using the correct tools. Read all instructions before beginning installation.

INSTALLATION GUIDANCE NOTES

1. In accordance with NEC requirements, glands with NPT and Metric entry threads are suitable for Divisions.
2. In accordance with CEC requirements, glands with NPT threads are suitable for both Divisions and Zones. Glands with Metric threads are only suitable for Zones fitted with an approved Metric to NPT thread conversion adapter.
3. For IEC and/or ATEX installations:
 - a. All tapes/shields/foils must be removed and any twisted pairs/triples unwound to form individual conductors.
 - b. Drain Wires: Pass sleeving/heat shrink tube over the drain, making sure it is positioned within the resin Tube/Resin Dam area. If required, shrink the tube by applying heat, then treat the drain wire as a conductor.
4. For NEC Class 1 Div 1 and Zone 1 see article 501.15 of the NEC.
5. The interface between a cable entry device and its associated enclosure / cable entry will require additional sealing to achieve ingress protection (IP) ratings higher than IP54. The minimum protection level is IP54 for explosive gas atmospheres and IP6X for explosive dust atmospheres. Parallel threads (and tapered threads when using a non-threaded entry) require a sealing washer or integral O-ring face seal (where available) to maintain IP66. It is the installer's responsibility to ensure the IP rating is maintained at the interface.

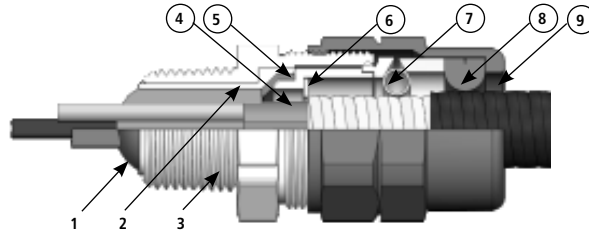
Note: When fitted to a threaded entry, all tapered threads on a CGB series product will automatically provide an ingress protection rating of IP66.
6. A Larson Electronics LLC earth tag should be used when it is necessary to provide an earth bond connection. Larson Electronics LLC earth tags have been independently tested to comply with Category B rating specified in IEC 62444 (there are no ratings stated in IEC 60079-0). Ratings are shown in the associated table. Larson Electronics LLC earth tags slip over the cable gland or accessory entry thread from inside/outside the enclosure and must be secured with a locknut (if fitted internally).
7. Metric entry threads comply with ISO 965-1 and ISO 965-3 with a 6g tolerance as required by IEC 60079-1:2014. The standard metric thread pitch is 1.5mm for threads up to M75, and 2.0mm from M90 and above. Special thread pitches between 0.7 – 2.0mm are available on all products on request. See certificate for details of other thread types. NPT threads are in accordance with ASME B1.20.1-2013 gauging to CI 3.2 for external threads. For details of other thread types refer to IECEx certificate.
8. Enclosures must be strong enough to support the cable and cable gland assembly. The enclosure surface finish must be smooth and flat to facilitate sealing with an O-ring or Entry Thread Sealing Washer for the required IP rating.
9. Enclosure walls must be sufficiently strong to support the cable and cable gland assembly. Enclosure entries shall be perpendicular. Any draft angles from the casting/moulding process should have a perpendicular flat spot machined to facilitate sealing with an O-ring or Entry Thread Sealing Washer.
10. It is recommended that when using the cable gland with a through-hole, the hole must be circular, free of burrs and the diameter no larger than 0.7mm above the thread major diameter. A suitable locknut shall be used to secure the product.

SPECIAL CONDITIONS FOR SAFE USE

1. The glands shall only be fitted to enclosures where the temperature, at the point of mounting, is below 85°C (185°F).
2. The cable shall be effectively clamped as close as possible to the gland.
3. When used for increased safety (Ex e) or dust protection by enclosure (Ex t) applications, the user shall provide a suitable interface seal between the gland and associated enclosure to maintain the appropriate level of ingress protection of IP54 for increased safety and IP6X for dust protection by enclosure.
4. The TMC2X cable glands comprise a flameproof labyrinth joint having length and gap dimensions which are other than those specified in IEC 60079-1 and are not intended to be repaired in service.
5. Installation must be according to CEC wiring method for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas, according to 60079-14 installation wiring method restrictions.
6. Installation must be according to US (NEC) wiring method for the types of cables that can be used in Class I, Div. 1 and 2 and Class I, Zone 1 and 2 Classified Areas, according to 60079-14 installation wiring method restrictions.
7. Prior to commissioning or operation of electrical equipment in the presence of flammable materials, the sealing compound must be cured for 24 hours at a temperature of no less than 5°C (41°F).
8. For Metric threads, the installer shall follow guidance from the NEC or CEC to ensure that the enclosure entry meets the requirements for thread engagement.
9. When the connector is supplied with metric entry threads, an entry thread washer should be fitted between the connector and the enclosure to prevent the ingress of moisture or dust into the enclosure. Thread tape must not be applied to the entry threads. Before installing the connector, ensure that the connector thread form and enclosure thread form are compatible.

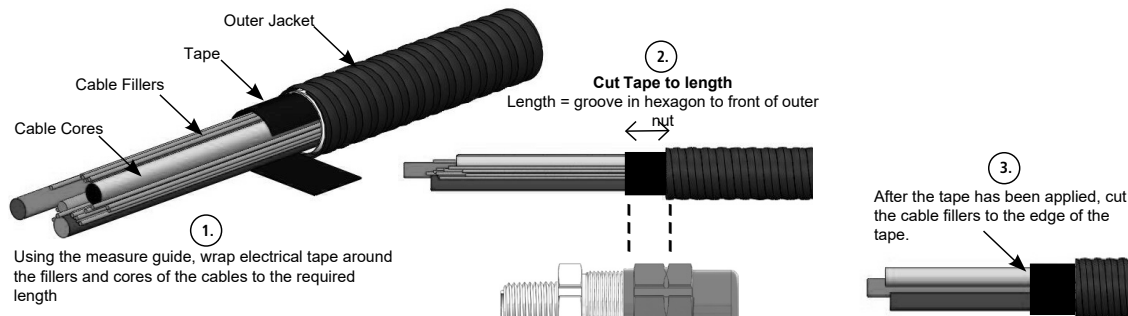
INSTALLATION INSTRUCTIONS FOR CGB-C1D1-MCHL Series

1. RapidEx Resin
2. Resin Tube
3. Entry Component
4. Sealant Tape or Inner Jacket
5. Resin Dam
6. End Stop
7. Grounding Spring
8. Jacket Seal
9. Outer Nut



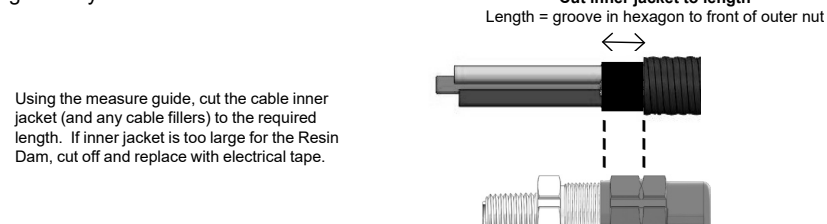
1. Cable preparation — Without Inner Jacket

Strip back the jacket armor to suit the equipment geometry.

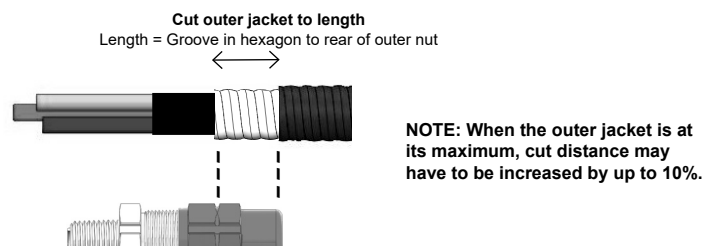


1. Cable preparation — With Inner Jacket

Strip back the jacket armor to suit the equipment geometry.

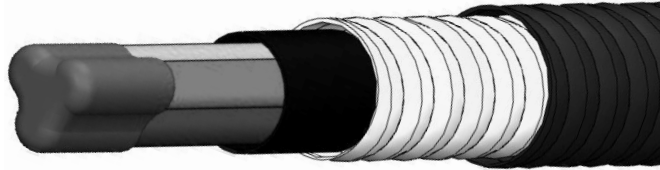


2. Using the armor measure guide, expose the armor further by stripping back the cable jacket.

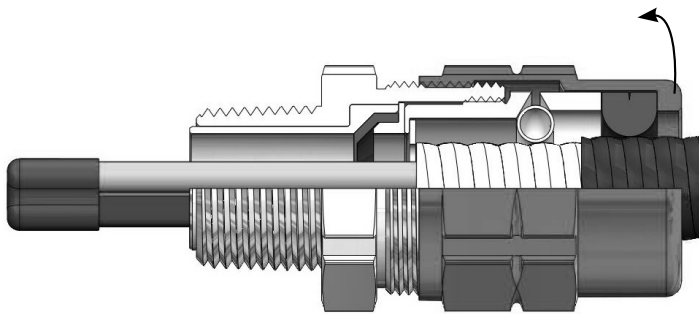


3. Electrical tape **MUST** be wrapped around the tips of the cable cores.

This is to ensure the cable cores are together and also to cover any sharp edges that could potentially tear the resin dam during installation.



4. Pass the cable through the gland until the armor makes contact with the end stop. If it is not possible for the insulated conductors to pass through the end stop then it should be removed so that the armor can make contact with the integral end stop within the entry component. At this stage unscrew the outer nut and slide it back over the cable, enough to have access to the armor spacer. If no access is gained repeat step 2 and trim the outer jacket up to the length plus 10%. Assemble the gland.

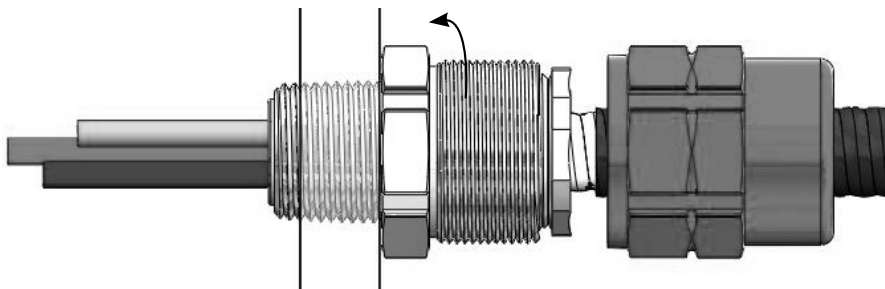


Hand tighten the outer nut to compress the grounding spring to secure the armor. Do not over tighten the outer nut. Remove electrical tape from cable core tips. Separate the cable cores slightly to allow resin to flow between them. When insulating grounding conductors are present, spread the strands slightly to allow the resin to form a full seal.

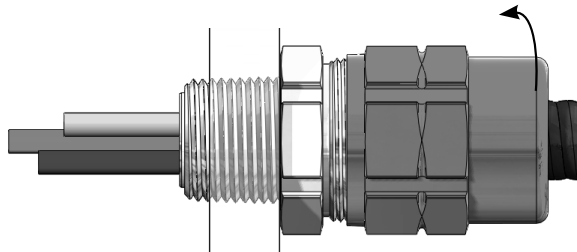
Refer to sealing compound instructions to fill the gland resin tube with the required amount of sealing compound.

Note: For instrumentation cables utilizing shielded cable, individual/overall drain wires, see Installation Guidance Notes overleaf.

5. Once the resin has cured, loosen the outer nut to ensure that the grounding spring is not gripping the cable. Slide the outer nut back over the cable, enough to loosen the armor spacer from the entry component. Screw the entry component into the enclosure. Retighten the armor spacer when the entry component is fully tightened into the enclosure.



6. Finally, holding the cable central in the gland, tighten the Outer Nut to compress the Grounding Spring to secure the armor and the seal to engage the cable jacket. Do not over tighten the Outer Nut. The Entry Component and Outer Nut do not have to close face-to-face.



USE AND CARE

Unauthorized modification may impair the function and/or safety of this device and could affect the life of the equipment. Always check for damaged or worn out parts before using the device. Store it in a secure place out of the reach of children when not in use. Inspect for good working condition prior to storage and before re-use.

REPLACEMENT PARTS

The CGB-C1D1-MCHL series of Explosion Proof Cable Glands is designed to provide years of reliable performance. Should the need for replacement parts arise, please contact Larson Electronics.

THESE INSTRUCTIONS MAY NOT COVER ALL DETAILS OR VARIATIONS OF THIS PRODUCT FOR YOUR EQUIPMENT OR INSTALLATION REQUIREMENTS. SHOULD FURTHER INFORMATION NOT COVERED BY THESE INSTRUCTIONS BE REQUIRED, PLEASE CONTACT LARSON ELECTRONICS BY EMAIL AT SALES@LARSONELECTRONICS.COM OR BY PHONE AT 1-877-348-9680 FOR FURTHER ASSISTANCE.

PLEASE VISIT LARSONELECTRONICS.COM FOR **WARRANTY** AND **RETURN** INFORMATION.