Safety information

Roxtec recommends that all installations are performed without facility operation. Follow national regulations and installation codes. Any action affecting the routed service should be performed according to manufacturer recommendations.

General information

Installation and maintenance:
For European member countries of CENELEC, standards
EN 60079-14 and EN 60079-17 shall be considered. For countries members of IECEx, standards IEC 60079-14 and IEC 60079-17 shall be be considered. For other countries, applicable national regulation shall be considered.

The products fulfill the following standards:

EN IEC 60079-0:2018 (IEC 60079-0:2017)
EN 60079-7:2015/A1:2018 (IEC 60079-7:2015/A1:2018)
EN 60079-31:2014 (IEC 60079-31:2013)

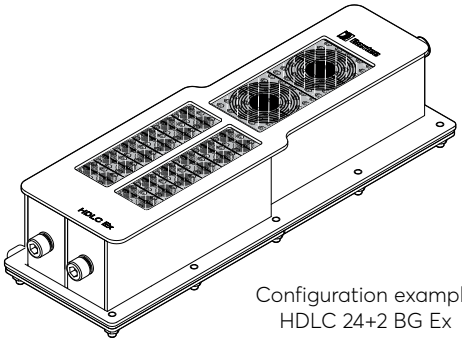
CSA Std. C22.2 No. 18.3-12
CSA Std. C22.2 No. 94.2-15
CAN-CSA C22.2 No. 60079-0: 15
CAN-CSA C22.2 No. 60079-7: 16
CAN/CSA C22.2 No. 60079-31: 15

UL Standard 514B, 6th Ed.
UL Standard 50E, 2nd Ed
UL 60079-0 - 6th Ed.
UL 60079-7 - 5th Ed
UL 60079-31 - 2nd Ed

The cable transit devices are intended for use with permanently installed circular cross-section cables, with or without armoring or braided screen. Cable transit devices may also be used with permanently installed cables of types TECK90 according to standard C22.2 No. 131-07, ACWU according to standard UL4, MC according to standard UL1569 and ACIC cables according to CSA C22.1-06 CEC, UL 444, UL 1685, UL 13, UL2250, IEC 61158-2.

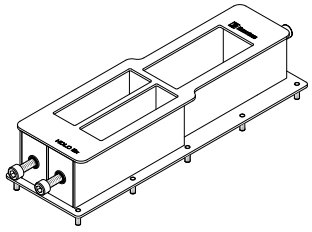
Roxtec

Installation instructions Roxtec HDLC Ex with Roxtec RX BG™ B modules

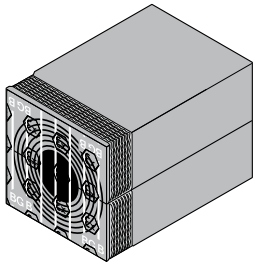


Configuration example
HDLC 24+2 BG Ex

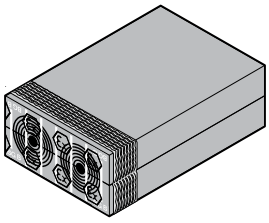
Components



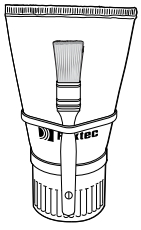
HDLC Ex frame
incl. fasteners



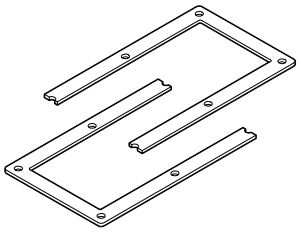
RX BG B module



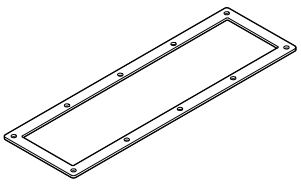
RX BG B module



Assembly gel Ex

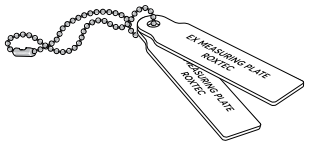


HDLC Ex counter frame

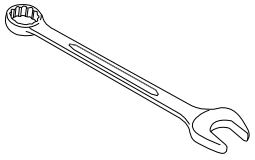


HDLC Ex gasket

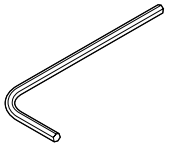
Tools



Roxtec Ex Gap Gauge



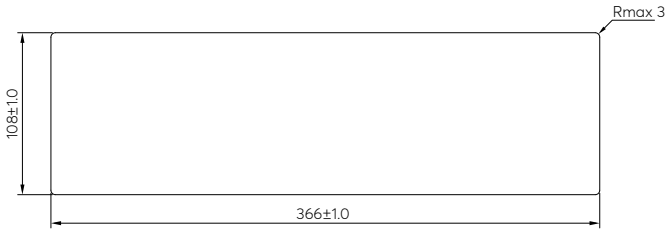
Spanner
10 mm
(not included)



Allen key
(not included)

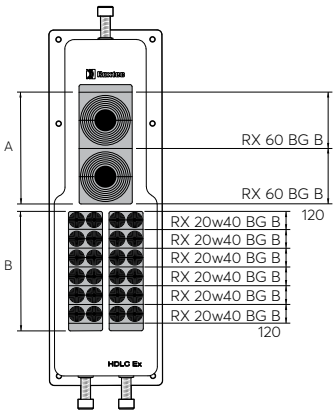
Aperture dimensions in cabinet

All measures in (mm).
Max wall/cabinet thickness: 5 mm



Packing space

All measures in (mm).



Example of module configuration:
The packing height is 120 mm for all three openings.
The combined height of modules for one opening must be equal to the packing height of 120 mm.

Adaptable Roxtec RX BG B modules

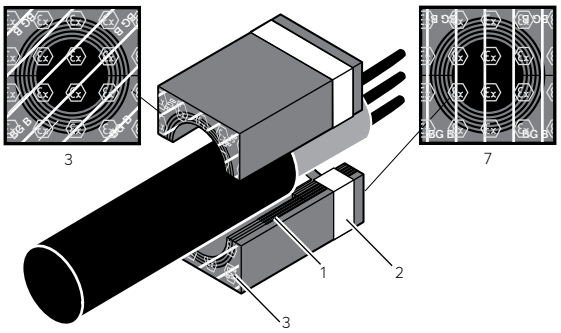
Module	For cable/pipe Ø (mm)	Approx. total braid cross-section sq mm/cable	Approx.eqv. AWG	Number of cables	Packing space
RX 20w40 BG B	0+4–15.5	4	11	2	B
RX 30w40 BG B	0+10–24	13	6	1	B
RX 40 BG B	0+21.5–33.5	21	4	1	B
RX 40/10-31 BG B	0+9.5–31	21	4	1	B
RX 30 BG B	0+10–24	13	6	1	A
RX 60 BG B	0+24–52	42	1	1	A

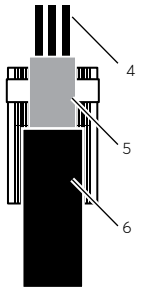
Solid compensation Roxtec RX BG B modules

Module	For cable/pipe Ø (mm)	Approx. total braid cross-section sq mm	Approx.eqv. AWG	Number of cables	Packing space
RX 10w40/0 BG B	-	8	8	-	B

Cable position in a Roxtec RX BG™ B module

Integrated environmental sealing system for bonding and grounding applications. For use with armored/shielded jacketed cables including smooth and corrugated cables such as interlocked and continuous welded metal clad cables or wired and braided cables. For approvals, see www.roxtec.com.



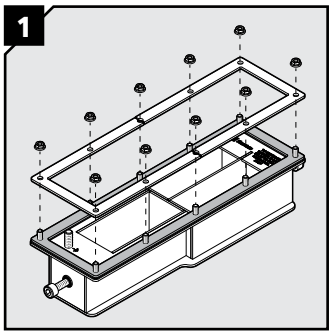


1. Multidiameter™ – adapts to cables and pipes of different sizes through removable layers
2. Bonding/grounding braid
3. Environmental side
4. Conductors
5. Cable armor/shield
6. Outer jacket
7. Termination side/interior side

See page 6 - 9 for cable preparation alternatives.
For non armored/shielded cables go to step 11 on next page.

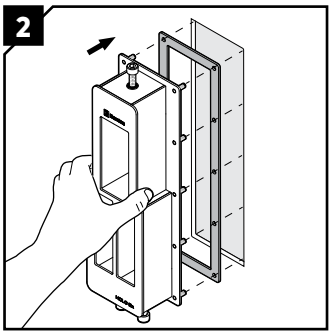
Installation

1



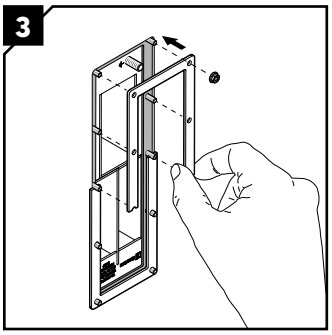
Remove all nuts and the two parts of the counter frame.

2



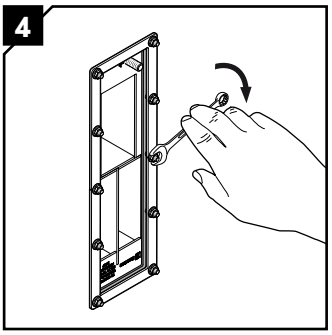
Insert the HDLC Ex frame from the outside of the cabinet. Ensure that the gasket is placed between the frame and the cabinet.

3



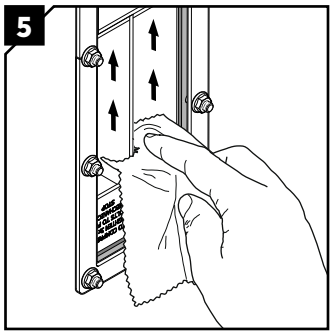
Attach the two parts of the counter frame and the nuts from the inside of the cabinet.

4



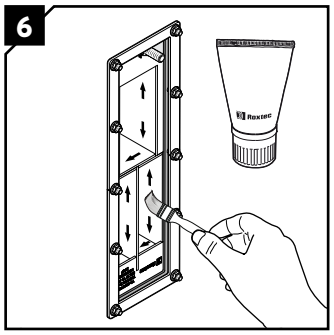
Tighten the nuts crosswise in small steps. Recommended torque 4 Nm. Do not overtighten.

5



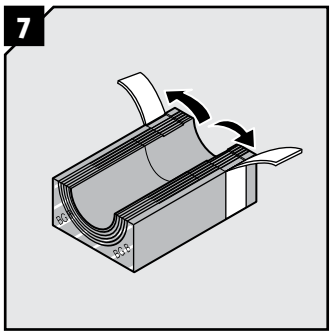
Clean the inside surfaces of the frame.

6



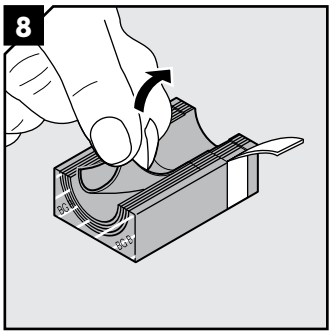
Lubricate the inside surfaces all around with Roxtec Assembly Gel Ex, especially into the corners.

7



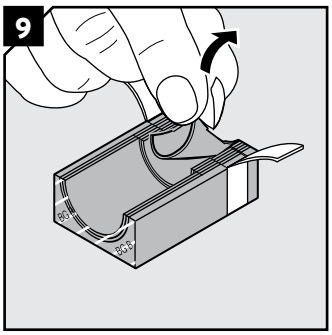
Remove the core and fold back the braid on the modules.

8



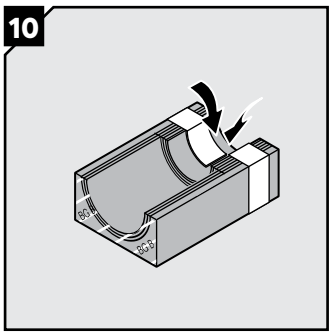
Adapt layers on the environmental protection side on both module halves to fit outer jacket.
NOTE: The halves may not differ by more than one layer.

9

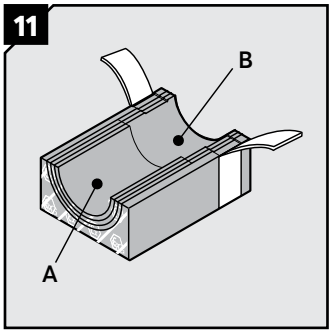


Adapt layers on the termination side on both module halves to fit cable screen/armor.

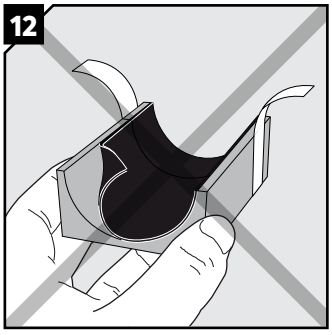
10



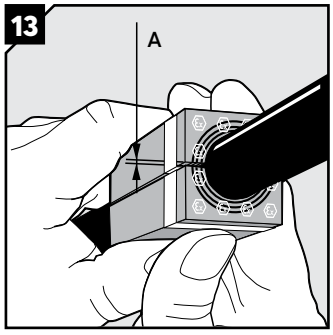
Fold the braid tightly inside the module.



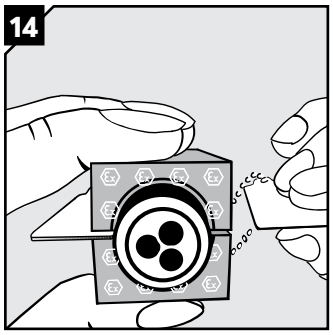
For non armored/shielded cables. Adapt the section corresponding to the cable outer sheath (A). Adapt the braid section (B) on both module halves by removing one layer more than on the cable sheath section.



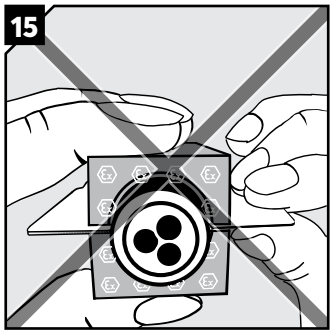
Do not remove the last layer.



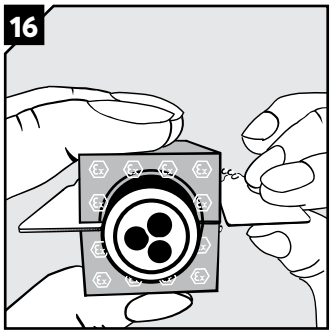
Achieve a 0.1-1.0 mm gap (A) between the two halves when held against the cable.



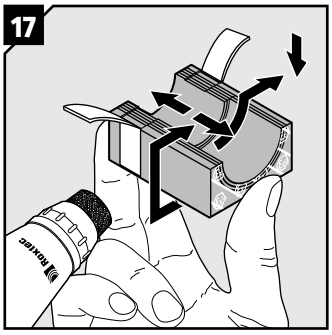
Measure the gap with the Roxtec Ex Gap Gauge by holding blade one in one gap and checking the other with blade two.



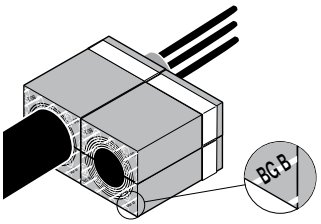
If the gap is too big, blade two will slip in easily.



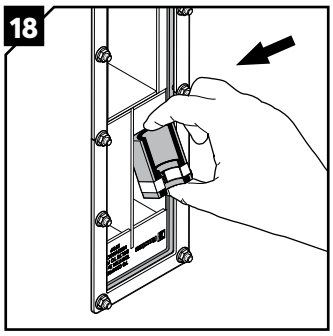
If the gap is correct, there will be no room for blade two.



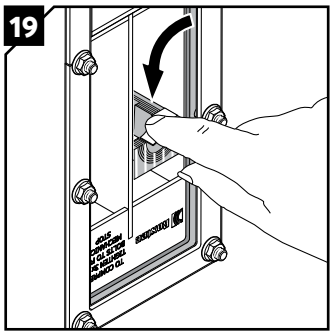
Lubricate all modules thoroughly with Roxtec Assembly Gel Ex, both the inside and the outside sealing surfaces.



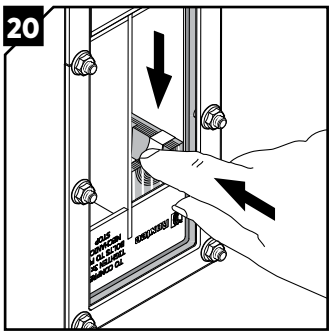
All modules must be of the same type, Roxtec RX BG B, in each opening and placed in the same direction. Note the markings on the module end.



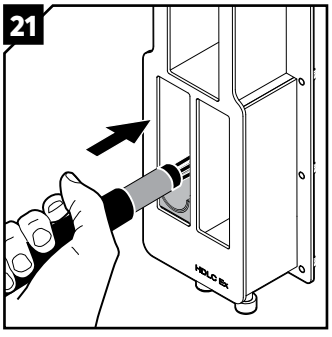
Insert the modules at an angle from the back side of the transit according to your packing plan. Start with the largest modules.



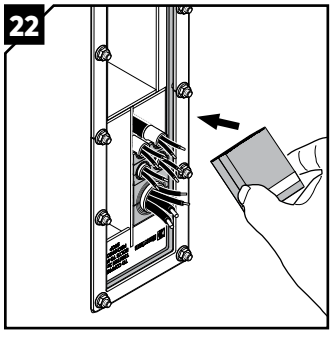
Turn the modules in line with the frame. Ensure that the environmental side of the module is facing outwards of the enclosure.



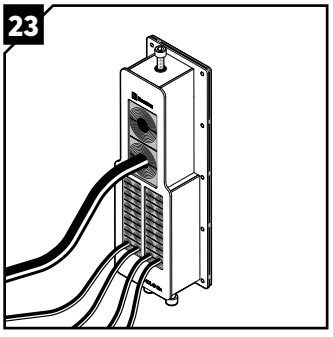
Push the modules in place. Ensure that the module rests against the stopping edge at the front.



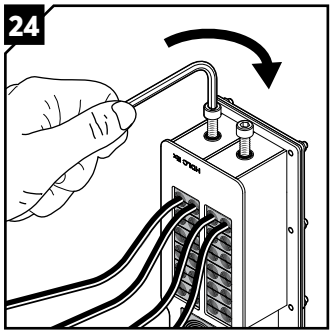
Insert the cables through the frame.

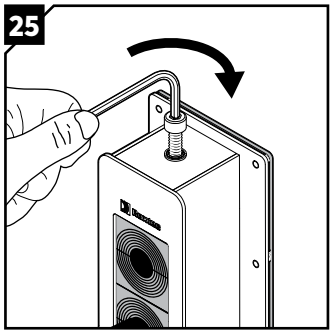


Continue to fill up the transit according to your packing plan.

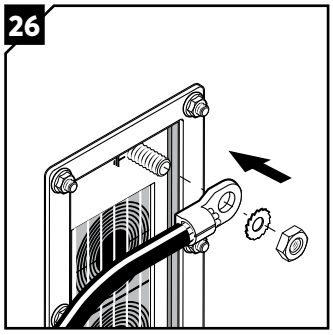


Ensure that the combined height of modules equals the packing height of 120 mm.

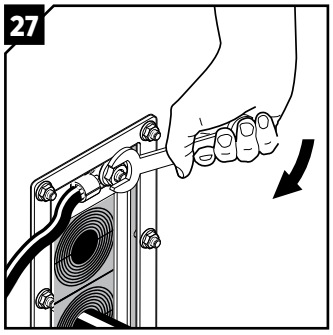




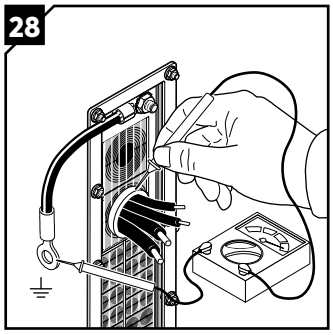
Tighten the 3 screws of the compression units until full mechanical stop. Do not exceed 20 Nm.



Attach the ground cable to the frame.

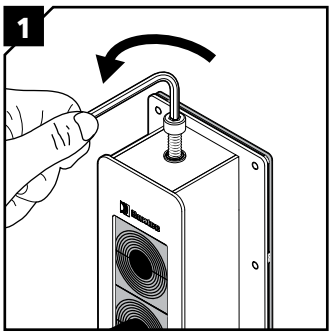


Tighten the nut firmly.

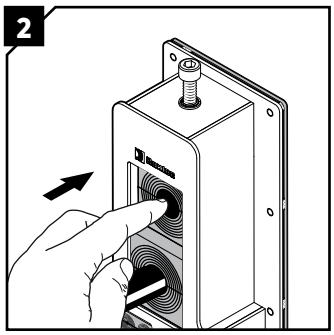


Verify earth continuity from each cable armor/screen to earth. Use a suitable instrument.

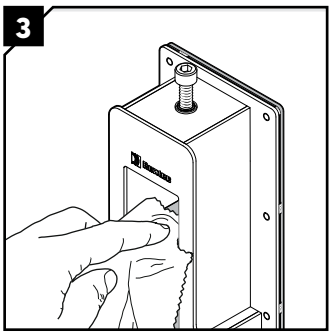
Disassembly and reinstallation



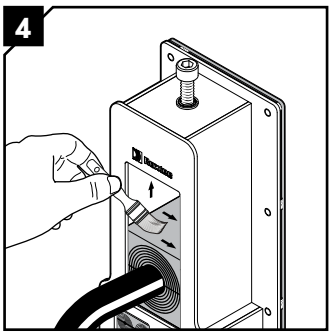
Release the compression by loosening the screws.



Push out the modules from the environmental side.



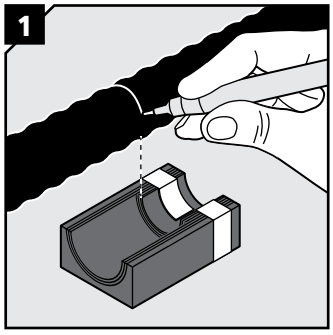
Make sure that the inside surfaces of the exposed packing space are free from dirt or dust.



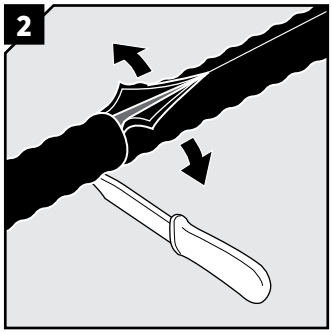
Lubricate the inside surfaces all around with Roxtec Assembly Gel Ex, especially into the corners. Continue the re-installation from step 7.

Preparation of metal clad and Teck cable

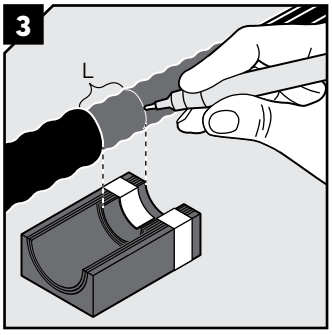
Finishing of interlocked and continuous welded armor.



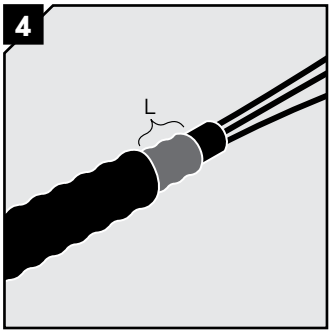
On the cable, mark where outer sheath is to be removed.



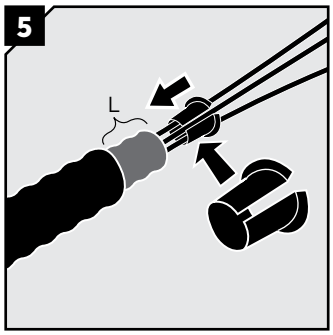
Remove the outer sheath with a tool of your choice. Make sure not to damage the cable armor. Remove any protection tape or plastics.



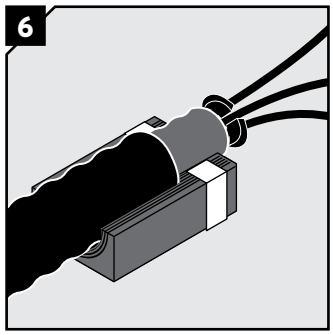
On the armor, mark with a pen the length that will match the braid section of the module half. Make sure that the armor is visible outside the module after installation.



Cut the cable armor at the mark with a tool of your choiche. Make sure not to damage the conductors.



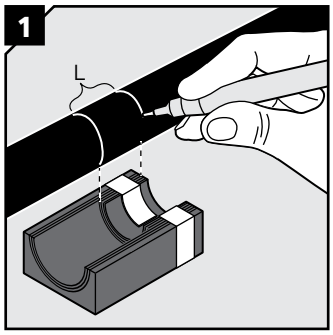
When required for inner conductor protection, fit an anti-short bushing (not supplied by Roxtec) or similar at the end cut of the cable armor.



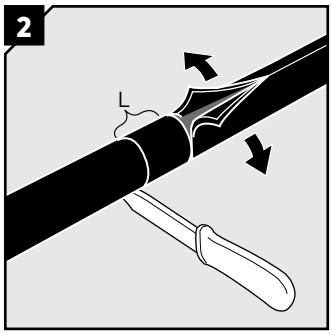
Make sure that the armor extends beyond the edge of the module and that the anti-short bushing is in place where applicable.

Preparation of SWA cable alternative 1

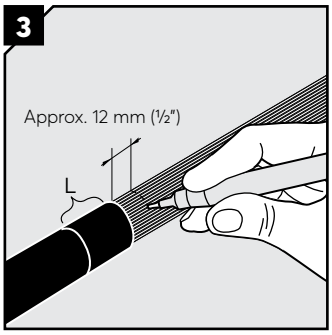
Finishing the end of the cable armor with a piece of cable sheath.



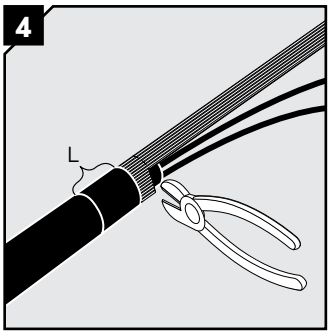
On the cable, make two marks where the outer sheath is to be cut.



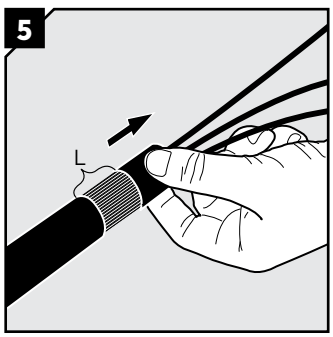
Cut the outer sheath at the two marks with a tool of your choice. Make sure not to damage the cable armor. Remove excess sheath.



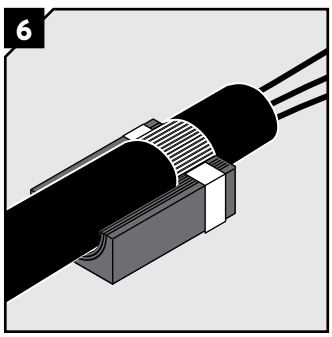
Mark where the armor is to be cut.



Cut the armor at the mark with a tool of your choice. Make sure not to damage the conductors.



Pull the piece of cable sheath away to cover the end of the armor. The exposed armor shall accommodate both the braid and the remaining rubber of the module.

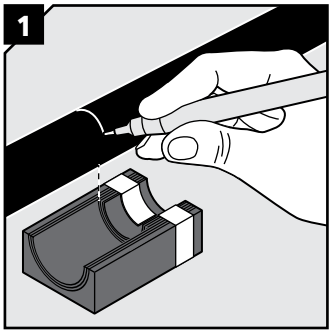


Make sure that the piece of cable sheath is completely outside the module.

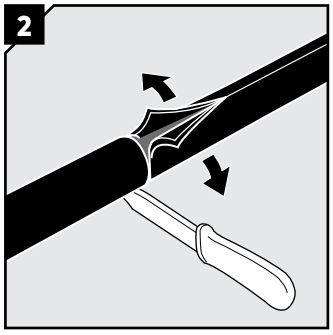
See next page for alternative 2.

Preparation of SWA cable alternative 2

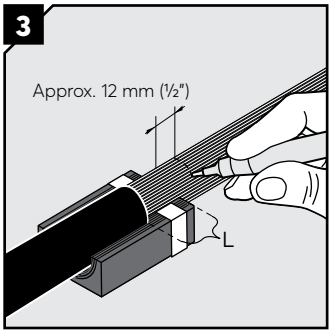
Finishing the end of cable armor with shrink tube or tape.



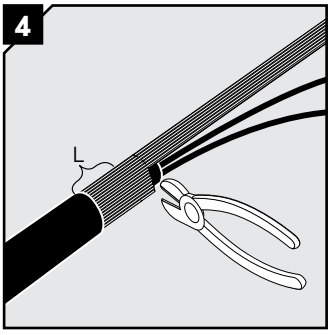
On the cable, mark where the outer sheath is to be cut.



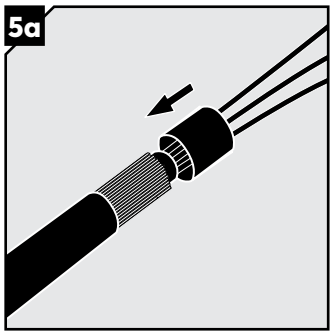
Cut the outer sheath at the mark with a tool of your choice. Make sure not to damage the cable armor.



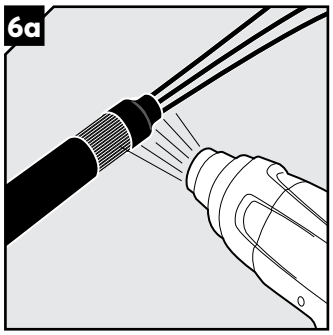
Mark where the armor is to be cut. Make sure that the armor extends beyond the module to support the shrink tube.



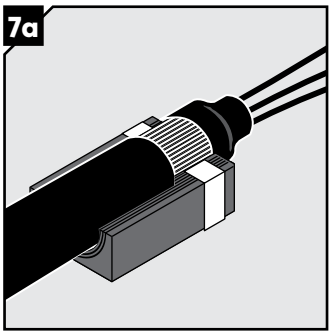
Cut the armor at the mark with a tool of your choice. Make sure not to damage the conductors.



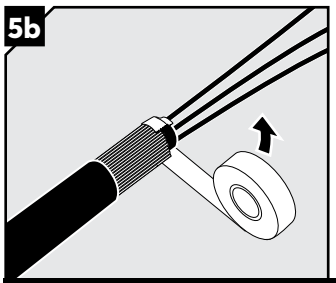
Cover the end of the armor with a piece of shrink tube.



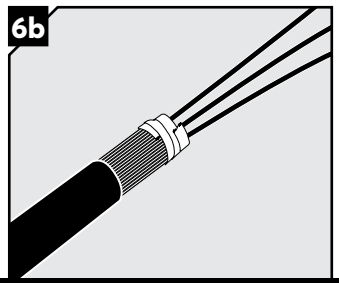
Use a hot air gun to shrink the tube.

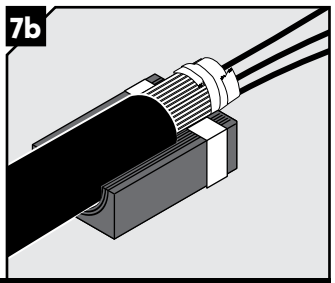


Make sure that the shrink tube is completely outside the module.



Secure the end of the armor with tape.





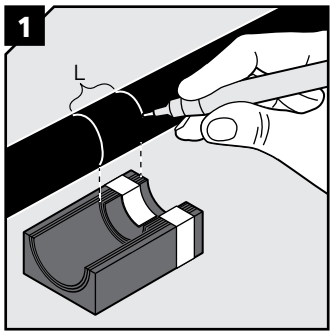
Make sure that the tape is completely outside the module.

Alternative

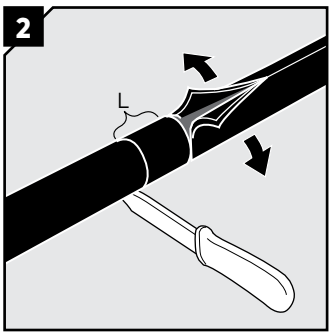
Return to page 3 to complete the installation.

Preparation of braided cable alternative 1

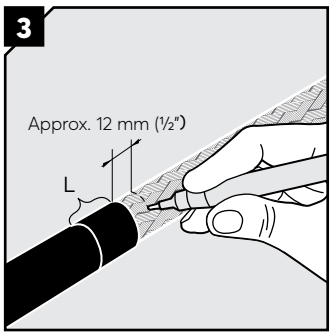
Finishing the end of the cable armor with a piece of cable sheath.



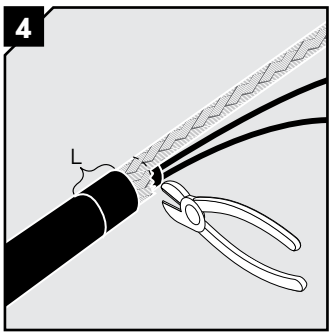
On the cable, make two marks where the outer sheath is to be cut.



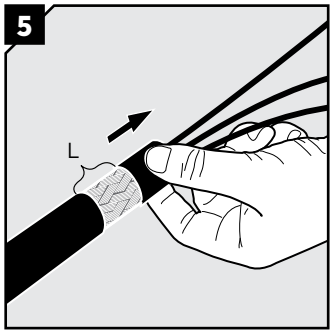
Cut the outer sheath at the two marks with a tool of your choice. Make sure not to damage the cable braid. Remove excess sheath.



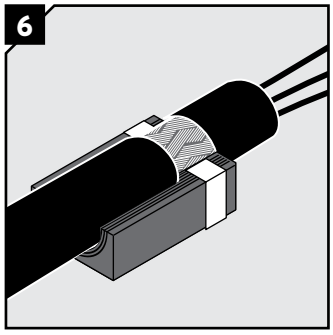
Mark where the braid is to be cut.



Cut the braid at the mark with a tool of your choice. Make sure not to damage the conductors.



Pull the piece of cable sheath away to cover the end of the armor. The exposed armor shall accommodate both the braid and the remaining rubber of the module.

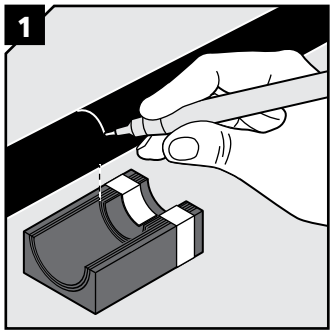


Make sure that the piece of cable sheath is completely outside the module.

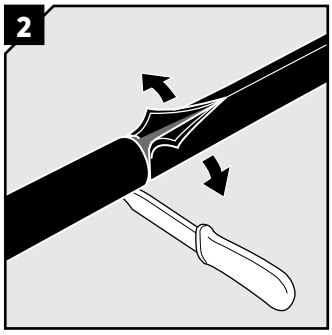
See next page for alternative 2.

Preparation of braided cable alternative 2

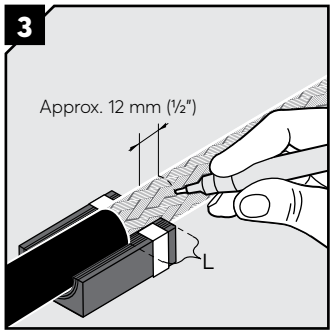
Finishing the end of the cable braid with shrink tube or tape.



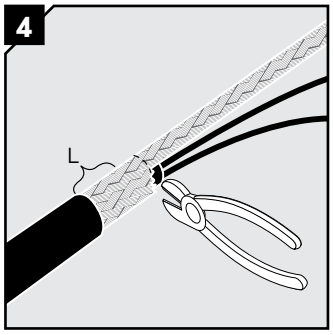
On the cable, mark where the outer sheath is to be cut.



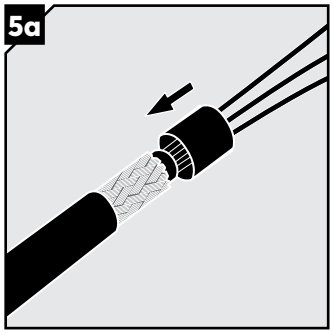
Cut the outer sheath at the mark with a tool of your choice. Make sure not to damage the cable braid.



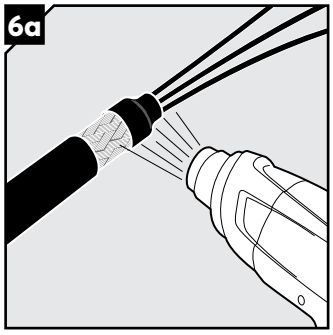
Mark where the braid is to be cut. Ensure that the braid extends beyond the module to support the shrink tube.



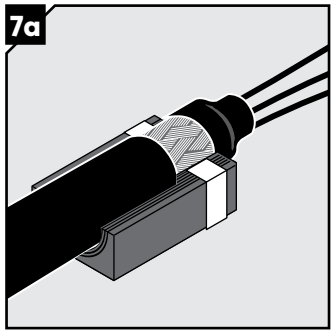
Cut the braid at the mark with a tool of your choice. Make sure not to damage the conductors.



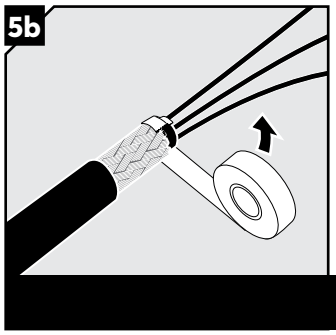
Cover the end of the braid with a piece of shrink tube.



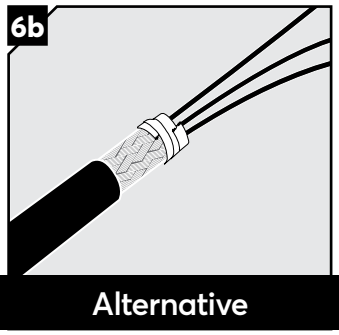
Use a hot air gun to shrink the tube.

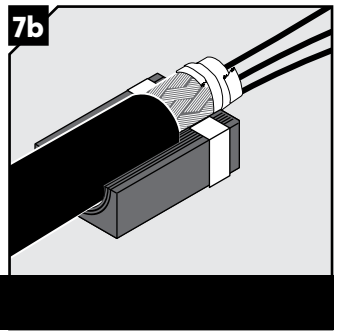


Make sure that the shrink tube is completely outside the module.



Secure the end of the braid with tape.





Make sure that the tape is completely outside the module.

Alternative

Return to page 3 to complete the installation.

Note

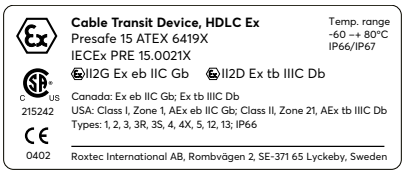
- An incorrectly adapted module shall be replaced (layers shall not be reused).
- Temperature range -60 to +80°C.
- You find EC Type Examination certificate at www.roxtec.com, or contact your local Roxtec supplier.
- To be used with: Ex parts.
- Permitted Roxtec module types: RX BG B and RMX. These instructions are applicable for RX BG B modules.
  Do not mix modules of different types in the same packing space.
- Cables shall go straight through the frame.

The following conditions for safe use shall be considered according to the EC Type Examination certificate and the IECEx Certificate of Conformity:

- For maintaining the explosion protection, the installation instructions that accompany the products shall be considered.
- Only cable for fixed installation is permitted for the cable entry.
- For optimum reliability, wait 24 hours or longer after installation before exposing the cables/pipes to strain or pressure.
- The cables shall have sufficient clamping to ensure that no pulling or twisting will be transmitted to the terminals.
- Cable transit devices must be installed in accordance with the applicable local electrical code and final acceptance is subject to inspection by the local authority having jurisdiction.

Frame label:

Year of manufacture → XXXX



DISCLAIMER

"The Roxtec cable entry sealing system ("the Roxtec system") is a modular-based system of sealing products consisting of different components. Each and every one of the components is necessary for the best performance of the Roxtec system. The Roxtec system has been certified to resist a number of different hazards. Any such certification, and the ability of the Roxtec system to resist such hazards, is dependent on all components that are installed as a part of the Roxtec system. Thus, the certification is not valid and does not apply unless all components installed as part of the Roxtec system are manufactured by or under license from Roxtec ("authorized manufacturer"). Roxtec gives no performance guarantee with respect to the Roxtec system, unless (I) all components installed as part of the Roxtec system are manufactured by an authorized manufacturer and (II) the purchaser is in compliance with (a), and (b), below.
(a) During storage, the Roxtec system or part thereof, shall be kept indoors in its original packaging at room temperature.
(b) Installation shall be carried out in accordance with Roxtec installation instructions in effect from time to time.

The product information provided by Roxtec does not release the purchaser of the Roxtec system, or part thereof, from the obligation to independently determine the suitability of the products for the intended process, installation and/or use.
Roxtec gives no guarantee for the Roxtec system or any part thereof and assumes no liability for any loss or damage whatsoever, whether direct, indirect, consequential, loss of profit or otherwise, occurred or caused by the Roxtec systems or installations containing components not manufactured by an authorized manufacturer and/or occurred or caused by the use of the Roxtec system in a manner or for an application other than for which the Roxtec system was designed or intended.
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