

# Instruction Manual

## ATEX/IECEX



### ECX-110 & ECX-240

### POWER EXTENSION CABLE



**Euramco  
Group**



## **READ MANUAL BEFORE STARTING FOR THE FIRST TIME!**

Thank you for purchasing the ATEX / IECEX POWER EXTENSION CABLE manufactured in the USA by Euramco Group, Inc.

For more than 30 years Euramco Group has been on the cutting edge of industrial, fire, and marine ventilation products. Each of our blower/exhausters, smoke ejectors, PPV & LSV fans and accessories represent the finest technologies available. Every product is constructed to demanding and exact specifications for quality, performance, and reliability.

When human life depends on having a fan that can deliver clean, safe air, you have only one choice you can trust RAMFAN.

Explore our website and online catalog at [www.euramco.com](http://www.euramco.com) and discover how RAMFAN can make a difference in the field.

All product information in the publication is based on the most current information available at the time of printing. Euramco Group, Inc. reserves the right to make changes at any time without notice.



SM-ECXCABLE Rev A



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# General Description

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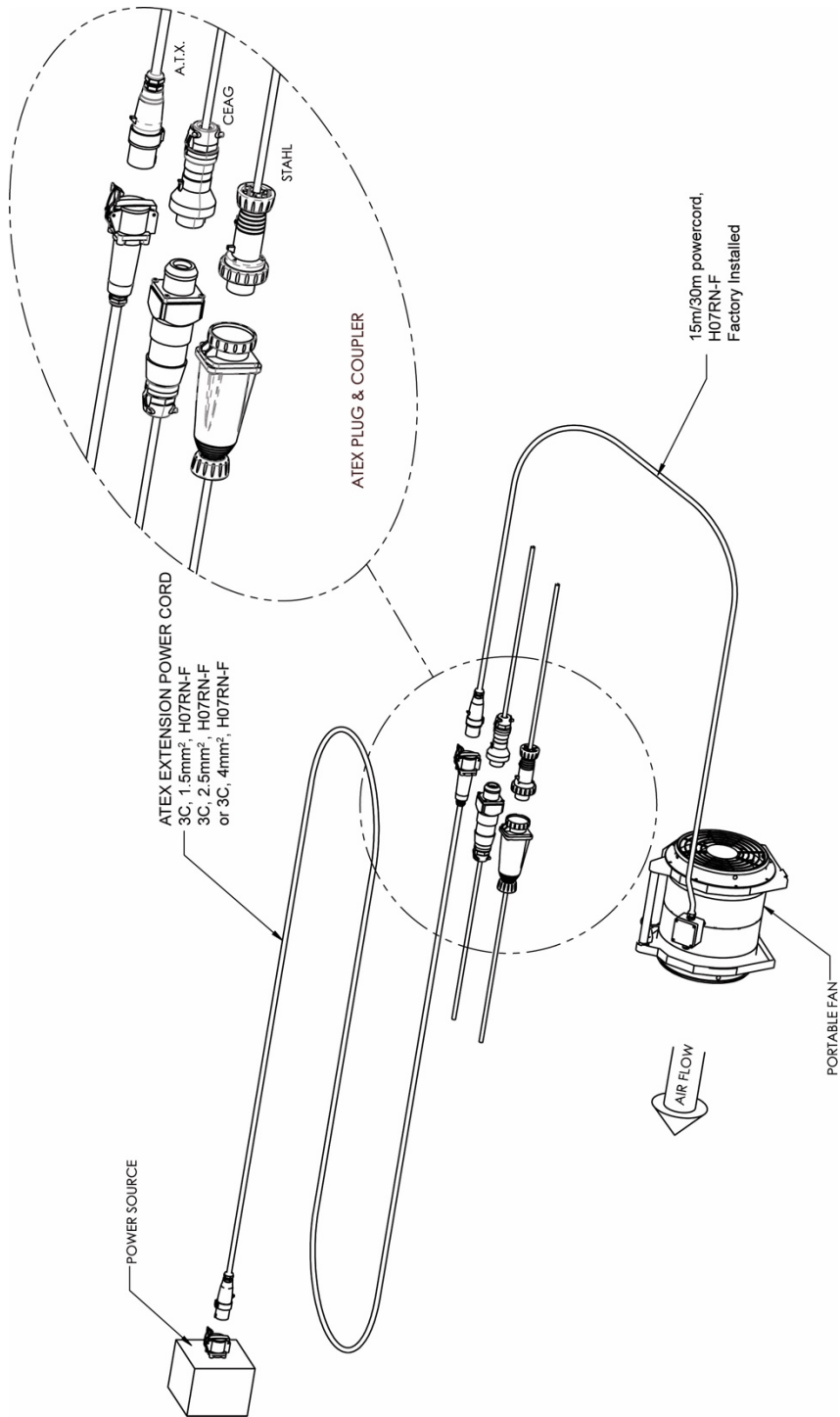
ATEX / IECEx Power Extension Cables, models ECX-110 & ECX-240, are designed to temporarily extend the reach between an AC power source and an electrical device, such as portable fans, area lighting, etc., for use in hazardous locations.

The power cables are built with three critical parts; Cable, Plug, and Couplers. Cables were selected based on the need for extra heavy-duty applications. Plugs and couplers were selected based on the most used European connectors for hazardous locations.

The ATEX/IECEx ECX-110 & ECX-240 power extension cables are sold to our distributors & end users as fully assembled, compliant power extension cables. No post assembly is required.

The drawing below depicts the ATEX / IECEx Power cable application, used to extend the reach of a portable ATEX fan with H07RN-F cable and with three of the most popular brands of A.T.X, CEAG, and R.Stahl, connectors.

The ATEX/IECEx Power Extension Cables are available for 110VAC Model ECX-110 or 240VAC Model ECX-240 power requirements.



The Power Extension Cables have been certified to meet the ATEX Directive 2014/34/EU certification for II 2 G Ex db eb IIC T6 Gb, II 2 D Ex tb IIIC T80°C Db

The Power Extension Cables described here are intended for use in Explosive Atmospheres in accordance within the limitation of the ratings. It is the user's responsibility to determine the suitability of the equipment for the intended purpose.

**Hazardous Location Rating**

Category, Group & Zone classification

II 2 G Ex db eb IIC T6 Gb

II 2 D Ex tb IIIC T80°C Db

Zone 1, 2, 21, & 22

0539 Demko 20 ATEX 2364X

IECEX UL 20.0034X

**Special Conditions for Safe Use**



The letter "X" at the end of the ATEX & IECEx certificate numbers indicates a special condition for safe use, this special condition of safe use for the ATEX/IECEx power extension cables states that the coupling socket devices must not be used in dust areas where highly charged generating processes, machine friction and separation processes, electron spraying (e.g. around electrostatic coating systems) and pneumatically conveyed dust occurs. The flameproof joints are not intended to be repaired.

# Model Numbers

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Model: **ECX-110** ATEX/IECEX Power Ext. Cable for  
110-130VAC

15 meter or 30 meter

Model: **ECX-240** ATEX/IECEX Power Ext. Cable for  
200-250VAC

15 meter or 30 meter

**ATEX / IECEx POWER EXTENSION CABLES**
**H07RN-F 1.5mm<sup>2</sup>, 2.5mm<sup>2</sup> & 4.0mm<sup>2</sup> CABLE**
**Maximum Cable Length Based on a Resistive AC Load Current**

LOAD SPECIFICATIONS			ATEX POWER EXTENSION CABLE, MAX. LENGTH & VOLTAGE DROP			
V <sub>SOURCE</sub> (volts, AC)	I <sub>LOAD CURRENT</sub> (amps, AC)	V <sub>AC MIN</sub> (volts, AC)	H07RN-F (Cable Size)	R <sub>CABLE-PWR-EXT</sub> Ω / 1000ft	L <sub>CABLE-PWR-EXT</sub> Max. length	V <sub>CABLE-DROP</sub> (volts, AC)
110 V <sub>AC</sub>	2.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	4.65 V <sub>AC</sub>
110 V <sub>AC</sub>	4.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	9.30 V <sub>AC</sub>
110 V <sub>AC</sub>	6.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	13.95 V <sub>AC</sub>
110 V <sub>AC</sub>	8.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	88 meters	16.50 V <sub>AC</sub>
110 V <sub>AC</sub>	10.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	70 meters	16.50 V <sub>AC</sub>
110 V <sub>AC</sub>	4.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	5.59 V <sub>AC</sub>
110 V <sub>AC</sub>	8.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	11.17 V <sub>AC</sub>
110 V <sub>AC</sub>	12.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	97 meters	16.50 V <sub>AC</sub>
110 V <sub>AC</sub>	16.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	73 meters	16.50 V <sub>AC</sub>
110 V <sub>AC</sub>	4.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	3.66 V <sub>AC</sub>
110 V <sub>AC</sub>	8.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	7.33 V <sub>AC</sub>
110 V <sub>AC</sub>	12.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	10.99 V <sub>AC</sub>
110 V <sub>AC</sub>	16.0 A <sub>AC</sub>	93.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	14.65 V <sub>AC</sub>
230 V <sub>AC</sub>	2.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	4.65 V <sub>AC</sub>
230 V <sub>AC</sub>	4.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	9.30 V <sub>AC</sub>
230 V <sub>AC</sub>	6.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	13.95 V <sub>AC</sub>
230 V <sub>AC</sub>	8.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	18.60 V <sub>AC</sub>
230 V <sub>AC</sub>	10.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	1.5 mm <sup>2</sup>	3.58 Ω/1000FT	99 meters	23.25 V <sub>AC</sub>
230 V <sub>AC</sub>	4.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	5.59 V <sub>AC</sub>
230 V <sub>AC</sub>	8.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	11.17 V <sub>AC</sub>
230 V <sub>AC</sub>	12.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	16.76 V <sub>AC</sub>
230 V <sub>AC</sub>	16.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	2.5 mm <sup>2</sup>	2.15 Ω/1000FT	99 meters	22.34 V <sub>AC</sub>
230 V <sub>AC</sub>	4.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	3.66 V <sub>AC</sub>
230 V <sub>AC</sub>	8.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	7.33 V <sub>AC</sub>
230 V <sub>AC</sub>	12.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	10.99 V <sub>AC</sub>
230 V <sub>AC</sub>	16.0 A <sub>AC</sub>	195.5 V <sub>AC</sub>	4.0 mm <sup>2</sup>	1.41 Ω/1000FT	99 meters	14.65 V <sub>AC</sub>

**NOTES:**

1. Maximum cable length is limited to 99 meters.
2. Maximum allowable 110AC voltage drop for most 110VAC resistive load applications is limited to 16.5VAC.
3. Maximum allowable 230AC voltage drop for most 230VAC resistive load applications is limited to 34.5VAC.



# Installation Instruction and Care

The ECX-110 & ECX-240 power extension cables are fully assembled and ready for use upon receipt. No post assembly required.

1. Completely uncoil power extension cable as to be used between AC power source and electrical device.
2. Inspect cable and connectors for damage or wear that could render the cable unsafe for hazardous locations.
3. Route cable to avoid contact with heavy machinery that could possibly damage cable or possible be a trip hazard for workers. Cables must be integrated into a system in a way to support accessibility for regular maintenance.
4. Connect plug end of the power extension cable to the AC power source.
5. Verify AC power source is providing an electrical ground connection.
6. **Verify electrical device is turned OFF before attaching power extension cable.**
7. Connect coupler end of cable to the electrical device.

The power extensions shall be installed, so far as is practicable, in positions that will prevent them being exposed to mechanical damage, to corrosion or chemical influences (for example solvents), to the effects of heat and to the effects of UV radiation.

These are the minimum allowed bend radii for the cables. 1.5mm<sup>2</sup>: ≥4in, 2.5mm<sup>2</sup> ≥5.5in, 4.0mm<sup>2</sup> ≥6.2in.

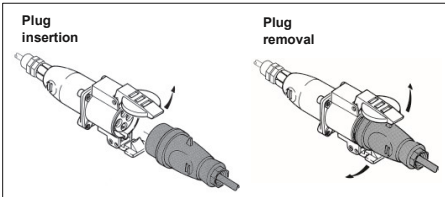
The bend radius of the cable should start at least 25mm from the end of the cable.

**Note:** For ATX connectors lift dust covers and insert plug into coupler until coupler dust cap latches snaps into position on plug. To break connection between coupler and plug lift dust cap to pull connectors apart.

**Note:** For CEAG connectors lift dust cover, insert plug into coupler, and rotate clockwise, to lock plug into coupler and to close power switch within the coupler. To break connection between coupler and plug lift dust cap and rotate plug counterclockwise to pull connectors apart.

**Note:** For R. STAHL connectors insert plug into coupler and rotate outer ring clockwise to secure plug to coupler.

## A.T.X. Connector Installation and Removal



### A.T.X: Plug to Socket & Coupler Compatible Table

<u>VOLTAGE</u>	<u>PLUG</u>	<u>WALL SOCKETS</u>	<u>COUPLER</u>
100 / 130V	PRE316PY	PRE316RY PRE316FY	PRE316MY
200 / 250V	PRE316PB	PRE316RB PRE316FB	PRE316MB

**CEAG Connector Installation and Removal**

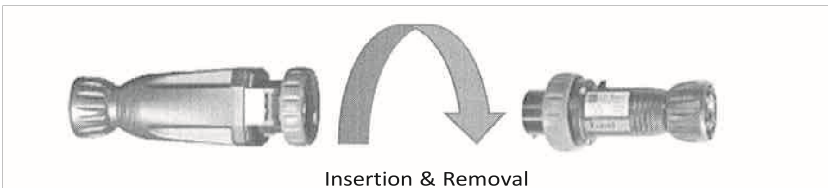
Euramco Safety has several optional anti-static/conductive airflow duct accessories designed explicitly for use with our Hazardous Location Fans to support various end user applications as identified in the list below.



**CEAG Eaton Crouse-Hinds: Plug to Socket & Coupler Compatible Table**

<u>VOLTAGE</u>	<u>PLUG</u>	<u>WALL SOCKETS</u>	<u>COUPLER</u>
100 / 130V	GHG 511 7304 R0001	GHG 511 4304 R0001 GHG 511 4304 R0002 GHG 511 4304 R3001 GHG 511 4304 R3003 GHG 511 8304 R0001	GHG 511 3304 R0001
200 / 250V	GHG 511 7306 R0001	GHG 511 4409 R0001 GHG 511 4409 R3001 GHG 511 4409 R3003 GHG 511 8409 R0001	GHG 511 3306 R0001

**R. STAHL Connector Installation and Removal**



**R. Stahl: Plug to Socket & Coupler Compatible Table**

<u>VOLTAGE</u>	<u>PLUG</u>	<u>WALL SOCKETS</u>	<u>COUPLER</u>
100 / 130V	8570/12-304	8570/11-304	8572/14-304
200 / 250V	8570/12-306	8570/11-306	8572/14-306

Disconnect power before disassembly or cleaning. Never immerse or directly spray cable and connectors with liquids. Clean cables with commercially available biodegradable cleaning solutions. Do not use solvents containing hydrocarbons (i.e. MEK, Acetone).

There are no user serviceable parts. Contact factory for replacement part applicability.

Do not change make or model number the power extension cables for any reason!

## Cautions

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The ATEX / IECEx Power Extension Cables are intended for use in Explosive Atmospheres in accordance with ATEX Directive 2014/34/EU. It is the user's responsibility to determine the suitability of the power extension cables for the intended purpose.

**CAUTION! THESE POWER EXTENSION CABLES ARE NOT INTENDED FOR USE IN MINES SUSCEPTIBLE TO FIREDAMP.**

Do not operate if there is any physical damage to cord, plug or receptacle.

Fatal electrical shock may result if power extension cables are not grounded in compliance with electrical code.

Keep away from children.

**ATEX / IECEx Extension Cable Rating:** II 2 G Ex db eb IIC T6 Gb, II 2 D Ex tb IIIC T80°C Db  
Euramco Safety hereby declares that the equipment listed in this manual conforms to the relevant Essential Health and Safety Requirements of the European Machinery Directive and standards listed below.

**Standards to which conformity is declared: See Declaration of Conformity (last page).** The ATEX / IECEx Power Extension Cables complies with International Standards EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-7:2015, & EN60079-31:2014.

### Category, Group and Zone Classifications

According to ATEX Directive (2014/34/EU)

The power cables are built with three critical parts; Cable, Plug, and Couplers. The H07RN-F cables were selected based on the need for extra heavy-duty applications. Plugs and couplers were selected based on the most used European connectors for hazardous locations.

The Power Extension Cables have been certified to meet the ATEX Directive 2014/34/EU certification for II 2 G Ex db eb IIC T6 Gb, II 2 D Ex tb IIIC T80°C Db

## Accessories

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None

# Warranty

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The ATEX / IECEx Power Extension Cables are warranted for one-year from date of original purchase, to be free of defects in material and workmanship. Misuse and normal tear and wear are not covered under the warranty.

RAMFAN products are warranted against manufacture defect. Failure to properly maintain power extension cables will invalidate warranty coverage. Please visit [www.euramco.com](http://www.euramco.com) for warranty details.

## How to Maintain Cable

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### How to maintain cable Maintenance

- Consult the relevant national regulations to determine the type and extent of inspections.
- Adapt inspection intervals to the operating conditions.

### At a minimum, check the following points during maintenance work on their device:

- Firm fit of the conductors.
- Damage on the enclosure; seals or surface.
- Dirt on the sleeves.
- Compliance with the permissible temperatures (according to IEC/EN 60079).
- Whether the device is used in accordance with its intended use.

### Cleaning

- To avoid electrostatic charging, the devices located in potentially explosive areas may only be cleaned using a damp cloth.
- When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- Do not use aggressive detergents or solvents.
- Prevent water and cleaning agents from penetrating the socket contacts.

### Disposal

- Observe national and local regulations and statutory regulation regarding disposal.
- Separate materials when sending it for recycling.
- Ensure environmentally friendly disposal of all components according to the statutory regulations.

# Declaration of Conformity


## DECLARATION OF CONFORMITY ATEX Power Extension Cables

This Declaration of Conformity is issued for ATEX certified, increased safety power extension cables, intended for use in potentially explosive atmospheres, manufactured by Euramco Safety, Inc. as referenced herein.

**Issue Date:** April 27, 2020

**Manufacturer:** Euramco Safety, Inc.  
2746 Via Orange Way  
Spring Valley, CA 91978 USA

**Equipment Descriptions:** ECX-110 110-130VAC Power Extension Cable  
ECX-240 200-250VAC Power Extension Cable

**Hazardous Location Rating:**  II 2 G Ex db eb IIC T6 Gb  
II 2 D Ex tb IIIC T80°C Db  
Zone 1, 2, 21 & 22

**Certification Number:** DEMKO 20 ATEX 2364X  
**IECEx Certification Number:** IECEx UL 20.0034X

**Notified Body:** UL International DEMKO A/S, Notified Body Number 0539  
Borupvang 5A  
2750 Ballerup, Denmark


**Standards to which Certificate Applies:** EN 60079-0:2018  
EN 60079-1:2014  
EN 60079-7:2015+A1:2018  
EN 60079-31:2014

**Self-Declared Compliance Directives:** 2006/42/EC – Machinery Directive  
2014/35/EU – Low Voltage Directive  
2014/30/EU – EMC Directive  
2011/65/EU – RoHS – Reduction of Hazardous Substances Directive

Euramco Safety, Inc. hereby declares that equipment described above conforms with the protection requirements of ATEX Council Directive 2014/34/EU on the approximation of the laws of the Member States Concerning Equipment and Protection Systems intended for use in Potentially Explosive Atmospheres.



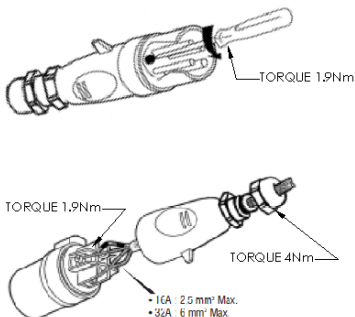
**Euramco  
Group**

  
Wayne Allen  
President and CEO

04/27/2020  
DATE

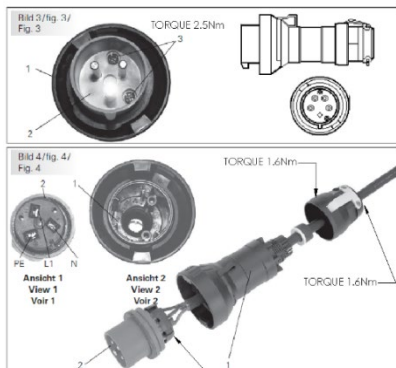
# ORIGINAL MANUFACTURER'S INSTALLATION INSTRUCTIONS

**APPLETON**  
PRE316PY & PRE316PB



STRIP CABLE SHEATH BACK 38.1mm.  
STRIP CONDUCTOR ENDS BACK 6.4mm.

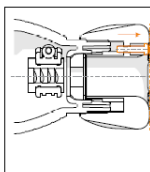
**CEAG**  
GHG 511 7304 R0001 & GHG 511 7306 R0001



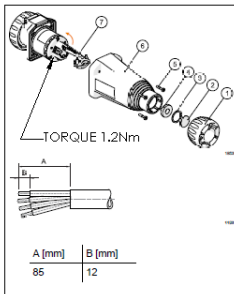
STRIP CABLE SHEATH BACK 38.1mm.  
STRIP CONDUCTOR ENDS BACK 6.4mm.

**STAHL**

8570/12-304 ARTICLE No.150599 & 8570/12-306 ARTICLE No.150579



- Unscrew the safety screw so that the screw head is flush with the enclosure screw connection.
- Remove the enclosure screw connection.
- After installing the cable, screw on the enclosure screw connection until the sealing ring is sufficiently tight.
- Screw the safety screw into the screw connection on the block to a torque of 0.6 Nm.



- Unscrew the screw connection (1) and remove the dust cover plate (2).
- Remove the pressure ring (3) and sealing ring (4).
- Loosen the enclosure screws (5) and remove the coupling enclosure (5).
- Insert the conductor into the screw connection, pressure ring and seal. If necessary, adjust the internal diameter of the seal by trimming it to match the conductor.
- Open the strain relief (7) and pivot it by 90°.
- Insert the conductors in the corresponding terminals and clamp them (for tightening torque, see chapter "Technical data").
- Make sure the stripped conductor ends are fully inside the terminal.
- Pivot the strain relief back and mount it on the conductor. The clamping point must not be under strain.
- Screw down the coupling enclosure (for tightening torque, see chapter "Technical data").
- Press the seal into the coupling enclosure (pre-stamped side pointing inwards), place the pressure ring and tighten the screw connection.

## SM-ECXCABLE Rev A

### EURAMCO GROUP

#### **USA Headquarters**

2746 Via Orange Way  
Spring Valley, CA 91978 USA  
Toll Free: (800) 472-6326  
Phone: +1 (619) 670-9590  
Fax: +1 (619) 670-7345

#### **Europe**

68 Avenue De La Liberté  
L-1930 Luxembourg, Luxembourg  
VAT Nr LU  
18816418

#### **MIDDLE EAST**

Dubai Logistic City Dubai,  
United Arab Emirates

#### **CHINA**

No. 128, Hezhou Road  
Ningbo, Zhejiang, China

#### **SINGAPORE**

1 Fullerton Road  
#02-01 One Fullerton  
Singapore 049213  
Tel : +65-9773 33 35