Instruction Manual

ATEX/IECEX
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** 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 anytime without notice.

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General Description

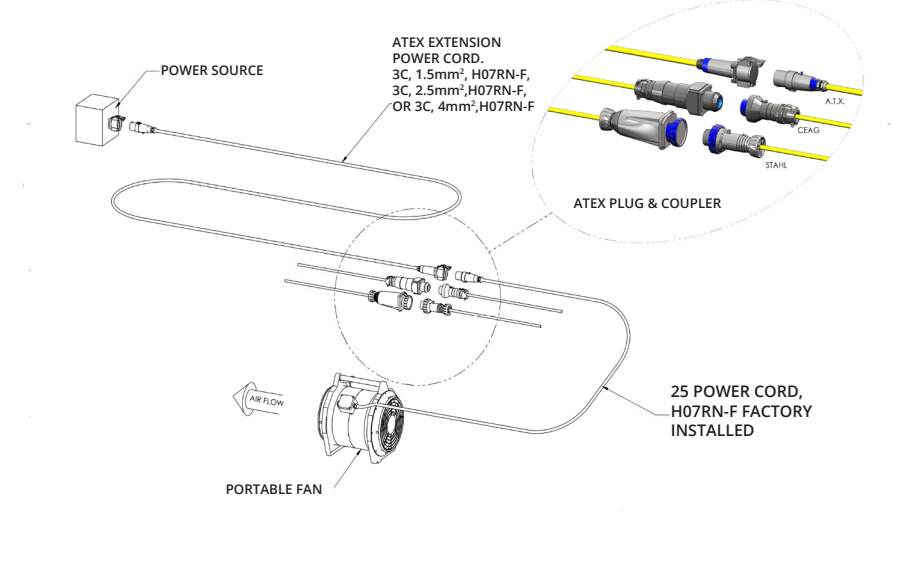
ATEX / IECEx Power Extension Cables are designed to temporarily extend the reach between an AC power source and an electrical device, such as portable fans, area lighting, etc., for use in hazardous locations.

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 commonly used European connectors for hazardous locations.

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 or 240VAC power requirements.

The Power Extension Cables have been certified to meet the ATEX Directive 2014/34/EU certification for Ex de G D Ex de IIB, Zone 1, 2, 21, & 22.



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.

PART NUMBER TABLE
(200-250VAC POWER CABLES)

H7 XX XXX2 - XX

CABLE TYPE	
XX	-
H7	H07RN-F

WIRE SIZE	
XX	GAUGE
15	1.5 mm^2
25	2.5 mm^2
40	4.0 mm^2

CABLE LENGTH (METERS)	
XX	-
01	1 m
02	2 m
↓	↓
99	99 m

CONNECTION TYPE		
XXX2	-	-
ATX2	APPLETON	240V
STA2	STAHL	240V
CEA2	CEAG	240V

PART NUMBER TABLE
(FOR 110-130VAC POWER CABLES)

H7 XX XXX1 - XX

CABLE TYPE	
XX	-
H7	H07RN-F

WIRE SIZE	
XX	GAUGE
15	1.5 mm^2
25	2.5 mm^2
40	4.0 mm^2

CABLE LENGTH (METERS)	
XX	-
01	1 m
02	2 m
↓	↓
99	99 m

CONNECTION TYPE		
XXX1	-	-
ATX1	APPLETON	110V
STA1	STAHL	110V
CEA1	CEAG	110V

Part Number Table

- Determine operating voltage 110 or 230VAC.
- Determine conductor based on application. NOTE: 2.5 mm^2 conductor size is most common but can be supplied with 1.5 or 4 mm^2 conductors.
- Determine brand and operating voltage for plug & couplers required to mate properly with power source and electrical devices.
- Determine overall power extension cable length required for application. Use tables here in as a guide to verify length needed will be appropriate. Verify power extension cable length does not exceed the maximum length, based on the amount of current required to run the electrical device.

  Note: The power extension cables are designed to handle a maximum current of 16 amps. Use charts enclosed as a guide to verify cable lengths are acceptable.
  Note: Maximum power extension cable lengths for AC synchronous motor applications with a run current less or equal to 16 amps, must be determined by the locked rotor current / motor start current of the motor.
- Select plug & coupler type.

ATEX / IECEx POWER EXTENSION CABLES
H07RN-F 2.5mm² CABLE
Maximum Cable Length Based on a Resistive AC Load Current

January 20,2020

MOTOR SPECIFICATIONS			ATEX POWER EXTENSION CABLE, MAX. LENGTH & VOLTAGE DROP			
V_{SOURCE} (volts, AC)	$I_{LOAD\ CURRENT}$ (amps, AC)	$V_{AC\ MIN}$ (volts, AC)	H07RN-F (Cable Size)	$R_{CABLE\text{-}PWR\text{-}EXT}$ Ω /1000 ft	$L_{CABLE\text{-}PWR\text{-}EXT}$ (length, meters)	$V_{CABLE\text{-}DROP}$ (volts, AC)
110 V_{AC}	1.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**1170 m**	16.50 V_{AC}
110 V_{AC}	2.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**585 m**	16.50 V_{AC}
110 V_{AC}	3.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**390 m**	16.50 V_{AC}
110 V_{AC}	4.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**292 m**	16.50 V_{AC}
110 V_{AC}	5.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**234 m**	16.50 V_{AC}
110 V_{AC}	6.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**195 m**	16.50 V_{AC}
110 V_{AC}	7.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**167 m**	16.50 V_{AC}
110 V_{AC}	8.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**146 m**	16.50 V_{AC}
110 V_{AC}	9.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**130 m**	16.50 V_{AC}
110 V_{AC}	10.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**117 m**	16.50 V_{AC}
110 V_{AC}	11.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**106 m**	16.50 V_{AC}
110 V_{AC}	12.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**97 m**	16.50 V_{AC}
110 V_{AC}	13.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**90 m**	16.50 V_{AC}
110 V_{AC}	14.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**84 m**	16.50 V_{AC}
110 V_{AC}	15.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**78 m**	16.50 V_{AC}
110 V_{AC}	16.0 A_{AC}	93.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**73 m**	16.50 V_{AC}
230 V_{AC}	1.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**2446 m**	34.50 V_{AC}
230 V_{AC}	2.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**1223 m**	34.50 V_{AC}
230 V_{AC}	3.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**815 m**	34.50 V_{AC}
230 V_{AC}	4.0A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**612 m**	34.50 V_{AC}
230 V_{AC}	5.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**489 m**	34.50 V_{AC}
230 V_{AC}	6.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**408 m**	34.50 V_{AC}
230 V_{AC}	7.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**349 m**	34.50 V_{AC}
230 V_{AC}	8.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**306 m**	34.50 V_{AC}
230 V_{AC}	9.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**272 m**	34.50 V_{AC}
230 V_{AC}	10.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**245 m**	34.50 V_{AC}
230 V_{AC}	11.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**222 m**	34.50 V_{AC}
230 V_{AC}	12.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**204 m**	34.50 V_{AC}
230 V_{AC}	13.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**188 m**	34.50 V_{AC}
230 V_{AC}	14.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**175 m**	34.50 V_{AC}
230 V_{AC}	15.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**163 m**	34.50 V_{AC}
230 V_{AC}	16.0 A_{AC}	195.5 V_{AC}	2.5 mm²	2.15 Ω/1000FT	**153 m**	34.50 V_{AC}

ATEX / IECEx POWER EXTENSION CABLES
H07RN-F 4mm² CABLE
Maximum Cable Length Based on a Resistive AC Load Current

MOTOR SPECIFICATIONS			ATEX POWER EXTENSION CABLE, MAX. LENGTH & VOLTAGE DROP			
V_{SOURCE} (volts, AC)	$I_{LOAD\ CURRENT}$ (amps, AC)	$V_{AC\ MIN}$ (volts, AC)	Super-Trex (Cable Size)	$R_{CABLE\text{-}PWR\text{-}EXT}$ Ω /1000 ft	$L_{CABLE\text{-}PWR\text{-}EXT}$ (length, meters)	$V_{CABLE\text{-}DROP}$ (volts, AC)
110 V_{AC}	1 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**1783.9 m**	16.5 V_{AC}
110 V_{AC}	2 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**891.9 m**	16.5 V_{AC}
110 V_{AC}	3 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**594.6 m**	16.5 V_{AC}
110 V_{AC}	4 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**446 m**	16.5 V_{AC}
110 V_{AC}	5 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**356.8 m**	16.5 V_{AC}
110 V_{AC}	6 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**297.3 m**	16.5 V_{AC}
110 V_{AC}	7 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**254.8 m**	16.5 V_{AC}
110 V_{AC}	8 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**223 m**	16.5 V_{AC}
110 V_{AC}	9 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**198.2 m**	16.5 V_{AC}
110 V_{AC}	10 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**178.4 m**	16.5 V_{AC}
110 V_{AC}	11 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**162.2 m**	16.5 V_{AC}
110 V_{AC}	12 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**148.7 m**	16.5 V_{AC}
110 V_{AC}	13 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**137.2 m**	16.5 V_{AC}
110 V_{AC}	14 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**127.4 m**	16.5 V_{AC}
110 V_{AC}	15 A_{AC}	93.5 V_{AC}	4 mm²	1.41 Ω/1000FT	**118.9 m**	16.5 V_{AC}
230 V_{AC}	1 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**3729.9 m**	34.5 V_{AC}
230 V_{AC}	2 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**1864.9 m**	34.5 V_{AC}
230 V_{AC}	3 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**1243.3 m**	34.5 V_{AC}
230 V_{AC}	4 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**932.5 m**	34.5 V_{AC}
230 V_{AC}	5 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**746 m**	34.5 V_{AC}
230 V_{AC}	6 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**621.6 m**	34.5 V_{AC}
230 V_{AC}	7 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**532.8 m**	34.5 V_{AC}
230 V_{AC}	8 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**466.2 m**	34.5 V_{AC}
230 V_{AC}	9 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**414.4 m**	34.5 V_{AC}
230 V_{AC}	10 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**373 m**	34.5 V_{AC}
230 V_{AC}	11 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**339.1 m**	34.5 V_{AC}
230 V_{AC}	12 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**310.8 m**	34.5 V_{AC}
230 V_{AC}	13 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**286.9 m**	34.5 V_{AC}
230 V_{AC}	14 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**266.4 m**	34.5 V_{AC}
230 V_{AC}	15 A_{AC}	195.5 V_{AC}	2.5 mm²	1.41 Ω/1000FT	**248.7 m**	34.5 V_{AC}

Installation Instruction and Care

1. Completely uncoil power extension cable as to be used between AC power source and electrical device.

Inspect cable and connectors for damage or wear that could render the cable unsafe for hazardous locations.

Route cable to avoid contact with heavy machinery that could possible 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.

2. Connect plug end of the power extension cable to the AC power source.

3. Verify AC power source is providing an electrical ground connection.

4. **Verify electrical device is turned OFF before attaching power extension cable.**

5. Connect coupler end of cable to the electrical device.

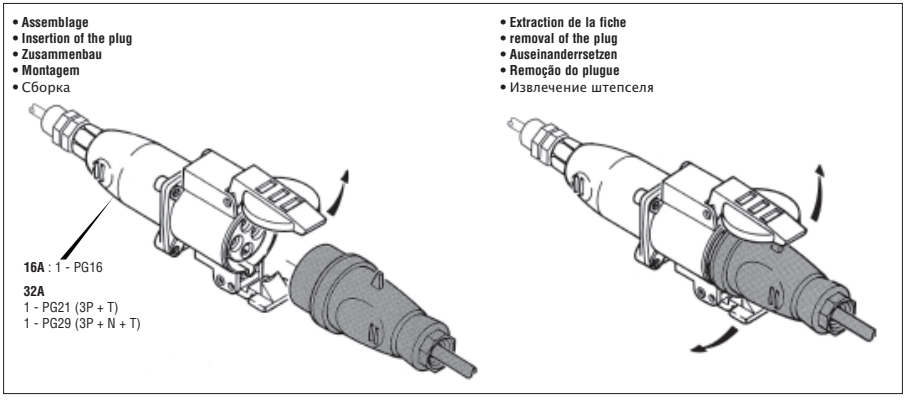
Note: For ATX connectors lift dust covers and insert plug into coupler until coupler dust cap latches snaps into position on plug. To break connection between coupler and plug lift dust cap to pull connectors apart.

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 counter-clockwise to pull connectors apart.

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

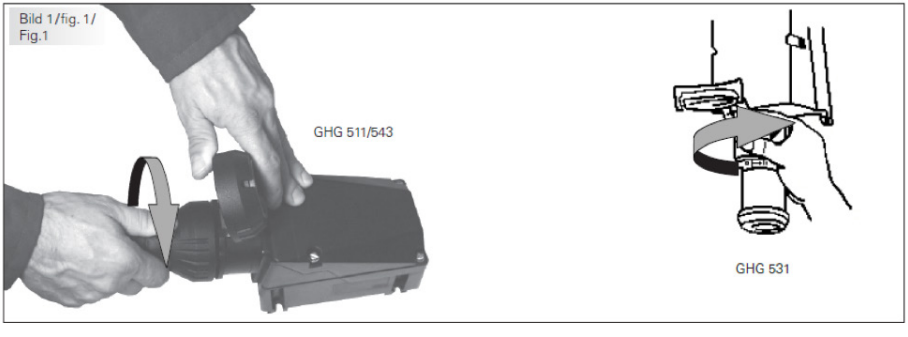
See illustrations.

A.T.X. Connector Installation and Removal



CEAG Connector Installation and Removal

Euramco Safety has a number of 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.



R. STAHL Connector Installation and Removal

STAHL

Insertion & Removal

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

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: Ex de G D Ex IIB, Zone 1, 2, 21, & 22
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-R and SOOW cables were selected based on the need for extra heavy-duty applications. Plugs and couplers were selected based on the most commonly used European connectors for hazardous locations.

The Power Extension Cables have been certified to meet the ATEX Directive 2014/34/EU certification for Ex de G D Ex de IIB, Zone 1, 2, 21, & 22.

Accessories

None

Warranty

The ATEX / IECEx Power Extension Cables are warranted for one year form 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 for warranty details.

How to Maintain Cable

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

Euramco Group

May 3, 2019

ATEX / IECEx POWER EXTENSION CABLES
List of Applicable Harmonized Standards

UL Project Number 4788784924

STANDARDS	TITLES
2014/34/EU	ATEX Directive
2006/42-EC	Machinery Directive
2014/30/EU	Electromagnetic Compatibility Directive
2014/35/EU	Low Voltage Directive
EN 60079-0:2012+A11:2013	Explosive Atmospheres. General Requirements
EN 60079-1:2014	Explosive Atmospheres – Part 1: Equipment Protection by Flameproof Enclosures
EN 60079-7:2015	Explosive Atmospheres – Part 7: Equipment Protection by Increased Safety “e”
EN 60079-31:2014	Amendment 1 – Explosive Atmospheres – Part 7: Equipment Protection by Increased Safety “e”

DECLARATION OF CONFORMITY
ATEX Certified Portable Fans

This Declaration of Conformity is issued for ATEX certified, flame proof, increased safety, portable fans, intended for use in potentially explosive atmospheres, manufactured by Euramco Safety, Inc. as referenced herein.

Issue Date:	**December 10, 2019**
Manufacturer:	**Euramco Safety, Inc.** 2746 Via Orange Way Spring Valley, CA 91978 USA
Equipment Descriptions:	**UB20xx** 8" / 20 cm ATEX Blower Exhauster **EFi75xx** 12" / 30 cm ATEX Blower Exhauster **EFi120xx** 16" / 40 cm ATEX Blower Exhauster **EFi150xx** 16" / 40 cm ATEX Blower Exhauster
Hazardous Location Rating:	**Ex II 2 G Ex db eb IIB T6 Gb** **T6, non-mining gases up to 85˚C**
Notified Body:	**UL International DEMKO A/S, Notified Body Number 0539** Borupvang 5A 2750 Ballerup, Denmark
Certification Number:	**DEMKO 09 ATEX 0926969X Rev. 3**
Notification Number:	**10 ATEX Q137286 Rev. 2**
Standards to which Certificate Applies:	**EN 60079-0:2018** **EN 60079-1:2014** **EN 60079-7:2015+A1:2018** **EN 14986:2017**
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

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