



I13G Ex nA IIC T5 Gc
I13D Ex t IIC T90°C Dc

EX.AMYRA

User Manual

ENGLISH



Index

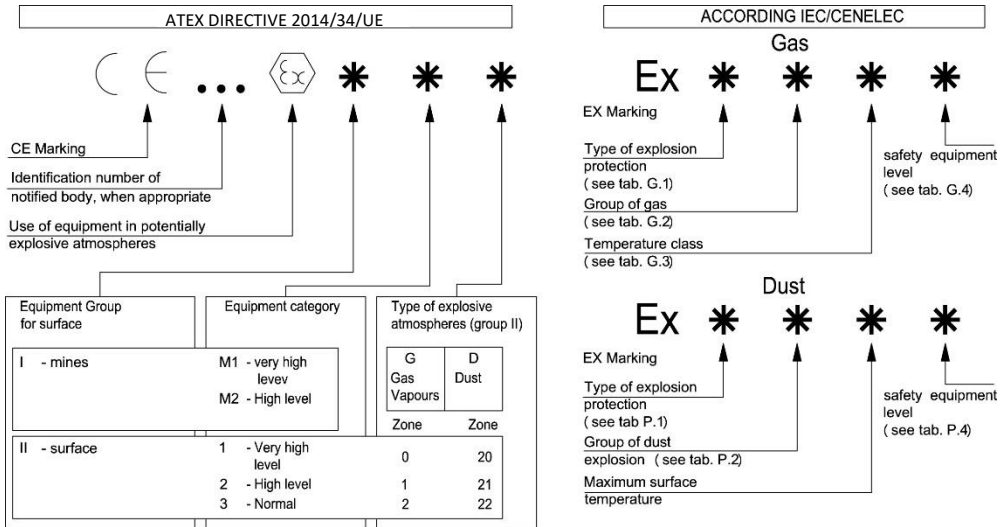
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1. General description of the product



- Lighting appliance for installation inside spray booths.
- Anodized aluminum structure.
- Front protection Tempered glass (EN60079-0:2012 §26.4.2) with an anti-glare internal prismatic cone diffuser.
- High luminous efficiency LED light source.
- Uniform white light 6500K
- Exceptionally powerful flow of light.
- 24VDC direct power supply.
- Available in five lengths in a recessed version.

2. ATEX guide – equipment markings



G.1 STANDARD AND TYPE OF PROTECTION

Electrical equipment for gas (G)

	Code	EN Rule	Category
General requirements	/	60079-0	/
Oil immersion	o	60079-6	M2-2G
Pressurized apparatus	p	60079-2	M2-2G
Powder filling	q	60079-5	M2-2G
Flameproof enclosure	d	60079-1	M2-2G
Increased safety	e	60079-7	M2-2G
Intrinsic safety	ia	60079-11	M1-1G
Intrinsic safety	ib	60079-11	M2-2G
Intrinsic safety	ic	60079-11	M2-3G
Encapsulation	m	60079-18	M2-2G
Protection type "n"	nA-nC-nR	60079-15	3G
Category 1G	/	60079-26	1G
Category M1	/	50303	M1

G.2 GROUP OF GAS

- I Mines (methane)
- II Industry of superficie
- IIA Propane
- IIB Ethylene
- IIC Hydrogen Acetylene

G.3 TEMPERATURE CLASS (group II G)

Class	Maximum surface temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Reference ambient Temperature -20°C/+40°C

G.4 CLASSIFICATION AREAS / PROTECTION LEVELS (GAS)

Frequency and duration explosive mixture	Zon2	Equipment group	Category	Explosion group security level	Security level EPL device	Level of protection
The explosive atmosphere is continuously present	Zone 0	II	1G	II	Ga	Very high Level
The explosive atmosphere is often present	Zone 1	II	2G	II	Gb	High level
The explosive atmosphere may accidentally be present	Zone 2	II	3G	II	Gc	Normal

P.1 STANDARD AND TYPE OF PROTECTION

Electrical equipment for gas (D)

	Code	EN Rule	Category
Protection by enclosures	Ex tD	61241-1	1D
Protection by pressure	Ex pD	61241-4	2D
Protection by intrinsic safety	Ex iD	61241-11	1D
Protection by encapsulation	Ex mD	61241-18	2D

P.2 DUST EXPLOSION GROUP

IIIA dust explosive
 IIIB non conductive dust
 IIIC conductive dust

P.3 TEMPERATURE CLASS (group II D)

For dust Class put the maximum surface temperature after the T example T100°C

P.4 CLASSIFICATION AREAS / PROTECTION LEVELS (DUST)

Frequency and duration explosive mixture	Zone	Equipment group	Category	Explosion group security level	Security level EPL device	Level of protection
The explosive atmosphere is continuously present	Zone 20	II	1D	II	Ga	Very high Level
The explosive atmosphere is often present	Zone 21	II	2D	II	Gb	High level
The explosive atmosphere may accidentally be present	Zone 22	II	3D	II	Gc	Normal

3. ATEX zone classification for spray booths

Spray booths (liquids)

Spray booths create demanding conditions due to the exposure to explosive atmospheres.

Standard UNI EN 12215 “Spray booths for the application of liquid coating materials – Safety requirements” lays down the protective measures to be adopted in order to prevent any risks of explosion.

This standard requires that concentrations of flammable substances are kept below the LEL through forced ventilation. In particular, 2 situations are planned:

- Concentration under 25% of the LEL (booth with operator present).

Zone 2: the internal volume of the booth (including the air recirculation ducts) and the external volume around the booth up to 1m from the permanent openings.

- Concentration under 50% of the LEL (booth without operator present).

The booth must be fitted with an LEL control system that cuts off the supply of flammable substances once 50% of the LEL is reached.

Zone 1: the internal volume of the booth (including the air recirculation ducts).

Zone 2: the external volume around the booth up to 1m from the permanent openings.

Spray booths (powders)

Standard UNI EN 12981 “Spray booths for the application of powder coating materials – Safety requirements” lays down the protective measures to be adopted in order to prevent any risks of explosion. This standard requires that concentrations of flammable substances are kept below 50% of the LEL for powders through forced ventilation; if the LEL value is not reliable, the average concentration must not exceed 10 g/m³.

In particular, the following classification is planned:

Zone 22: the internal volume of the booth (including the air recirculation ducts and the open powder recovery systems);

- **Zone 21:** the external volume around the booth up to 1m from the permanent openings;

- **Zone 20:** the closed powder recovery systems.

The properties of the powders used vary greatly and depend heavily on the type of product used.

The LEL is approximately 10÷100 g/m³, while the operating temperatures vary between 350÷400 °C (cloud) and 200÷250 °C (layer); we always recommend checking the

information on the product safety data sheets.

According to legal requirements, the explosion risk assessment (area classification, explosion protection document, choice of machinery and the relative equipment) must be carried out by staff with specific expertise in this subject.

The purpose of the classification is to identify places where potentially explosive atmospheres could form so that appropriate equipment for the environment (hazardous area) can be properly selected and installed.

4. Safety Instructions

Each lighting appliance in the **EX.AMYRA** series is designed and manufactured using state-of-the-art technology. They are made with select high-quality materials. They are carefully checked during every production phase, right through to packaging, using a technical manufacturing table which guarantees reliability and safety.

Nevertheless, material damage or personal injury can occur during use.



- This manual is an integral part of the device. It should be kept close to the appliance.
- Please read all the instructions and information inside.
- Follow the warnings in the instructions and on the appliance.
- Only use the appliance if it is in perfect technical condition, taking into account the hazards and safety warnings.
- This device complies with the ATEX Directive 2014/34/UE for the class specified under paragraph 2.2. Therefore do not remove any identification labels or open the lamp.

- The manufacturer accepts no liability from any tampering and/or improper use of the device.

4.1 Proper use

This lighting appliance is designed for installation inside spray booths.

4.2 Product safety

4.2.1 Electrical hazards

Improper or incorrect use of the appliance can cause personal injury or material damage.

- It must be connected by a qualified electrician.
- Turn off the electricity before carrying out any installation, maintenance or repair work.
- Only connect to a 24VDC supply. Match the polarities of the electrical conductors.
- Make sure that the power supply is in line with the voltage indicated on the label.
- Maintenance and repair work must only be carried out by qualified staff.

4.2.2 Safe assembly

- Do not drop this lighting appliance, even if still in its packaging, and do not hit it aggressively. It can cause personal injury and/or material damage.

- Use the screws suitable for the installation environment for to fasten the lamp.
- Regularly check that the lamp is fastened to the structure.

4.2.3 Hazardous glare caused by bright light sources

Staring directly at the light source can temporarily reduce your vision. It can cause irritation, discomfort, damage or accidents.

- Do not stare directly at the light source.
- Install the appliance so that the flow of light is not directly aimed at people's faces.

4.2.4 Hazardous laser beams

The EX.AMYRA series lighting appliance must **not** be used around high power lasers, such as cutting lasers, because the laser beam can destroy the LED lights.

4.2.5 Hazardous high temperatures

If you install and use the appliance in environments which exceed the permitted operating temperature, it will drastically reduce the life of the LEDs and will break the electronic components inside.

- **Do not** use the appliance in environments which exceed the maximum temperature permitted.
- Avoid direct sunlight.

- Keep the lamps off during operations of the dryer ovens

4.2.6 Hazardous repairs

If you dismantle or repair the product without appropriate knowledge of the appliance, it can cause damage to persons or property.

- Do not attempt to dismantle or repair the lamp. Contact qualified staff if you have any technical problems.
- Any unauthorised modifications or tampering with the product will void all warranty conditions.



Do not open and/or dismantle the lamp

4.3 Installation in ATEX environments



ATEX EX.AMYRA lighting systems comply with the requirements laid down for Group II, categories 3G and 3D of Directive 2014/34/UE. They are therefore designed to function in conformity with the operational parameters established by the manufacturer and to ensure a normal level of protection.

The equipment in this category is intended for use in areas in which explosive atmospheres caused by gases, vapours, mists, or air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

The equipment in this category ensures the requisite level of protection during normal operation.

The equipment in this category complies with the supplementary requirements referred to in Annex II, 2. 3 of the ATEX Directive.

EX series lighting appliances may be installed in the following ATEX areas:



II3G Ex nA IIC T5 Gc



II3D Ex t IIIC T90°C Dc

4.4 Hazard levels



HAZARD

Hazards which, if ignored, **immediately** cause serious injury or even death.



WARNING

Hazards which, if ignored, **could** cause serious injury or even death.



ATTENTION

Hazards which, if ignored, could cause injury.

CAUTION

Hazards which, if ignored, could cause material damage.

5. Available versions

The following table is provided so you can properly and optimally install and use this lighting appliance. You can therefore identify your chosen model and check its properties.

NOTE: the product code can be found on the plate on the lighting appliance.

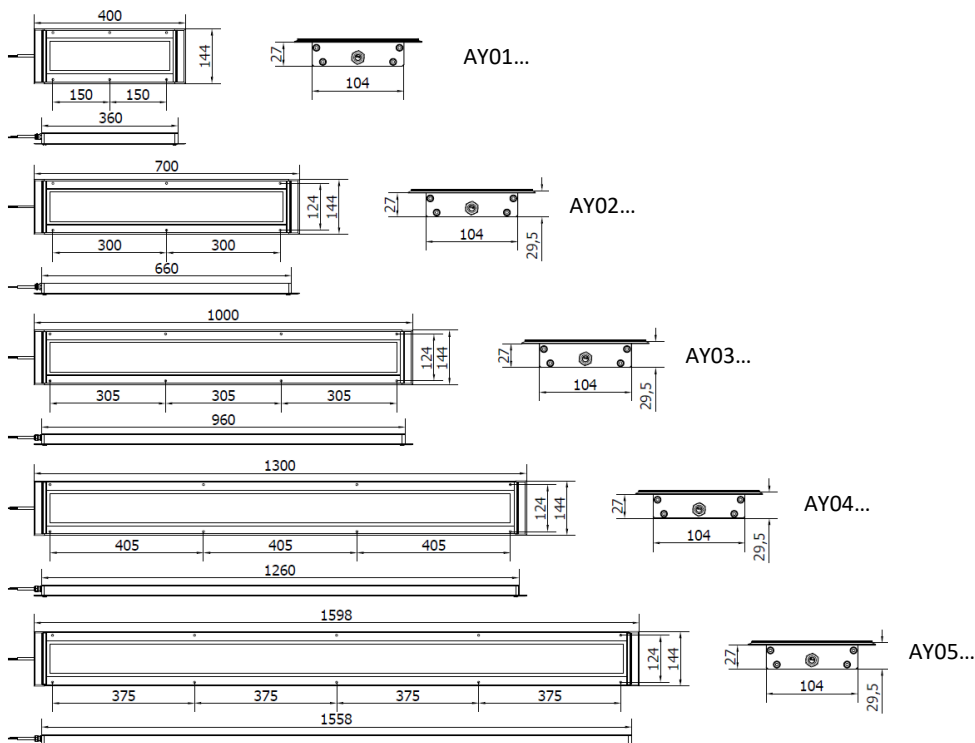
- Find the code on the plate on the lighting appliance;
- Find and compare the model type from the table below;
- The barcode on the code label identifies the week and year of production of the appliance.

N.B. keep the lamp's labels so you can make a claim if necessary.

Version with CABLE						
Model	Length	Optics	Power	Power Usage	E Connection	Weight
AY0131S01	400 mm	Diffuser	110°	20 W	24 Vdc	CABLE 1,5 m ~ 2,00 kg
AY0231S01	700 mm	Diffuser	110°	40 W	24 Vdc	CABLE 1,5 m ~ 3,00 kg
AY0331S01	1000 mm	Diffuser	110°	60 W	24 Vdc	CABLE 1,5 m ~ 4,00 kg
AY0431S01	1300 mm	Diffuser	110°	80 W	24 Vdc	CABLE 1,5 m ~ 5,10 kg
AY0531S01	1598 mm	Diffuser	110°	100 W	24 Vdc	CABLE 1,5 m ~ 6,20 kg

6. Installation guide

6.1 Lamp sizes



Code	N° Holes Ø 5.5 mm	Built-in window frame
AY0131S01	6	362x106mm
AY0231S01	6	662x106mm
AY0331S01	8	962x106mm
AY0431S01	8	1262x106mm
AY0531S01	10	1560x106mm

Tab. 6.1.A Lamp body lengths. The tolerances depend on the working procedure of the raw materials. We recommend the installation of the lamp with passing screws.

6.2 Installation



ATTENTION

If the lamp falls, it could cause personal or material damage.

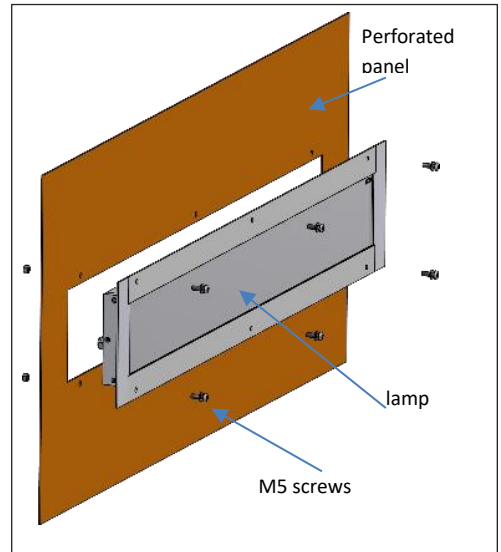
- Only use suitable fasteners to install the lamp.



WARNING

Always switch off the electricity before proceeding with installation.

- Mark out the positions of the fastening holes on the installation surface. See the sizes table on page 8 for the drilling centre lines (see tab on page 12)
- Position the appropriately sized window frame so the body of the lamp can pass through (see tab 6.1 on page. 12)
- Rest the lamp on the structure and then fasten lining up the holes.
- Using proper M5 screws according to the application, place and surface where the product is mounted.



CAUTION

Regularly check the fastening systems of the lamp.

7. Electrical connection



WARNING

Always switch off the electricity before proceeding with the electrical wiring of the lamp.

Low-voltage 24VDC connection with cable

CAUTION

Any material damage caused by wiring errors will damage the lamp.

- The electrical connection must be carried out by qualified staff.
- Match the polarities of the conductors.
- Use power cables with sections of at least 0.50 mm²

N.B. The cable outlet is on the back of the lamp.

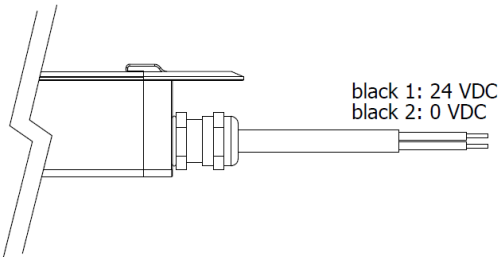
Cable type: PVC 2x0,75mm²

CAUTION

- Stay within the input voltage range for the lamp so you don't damage the LED drivers:

**Range of permitted voltage values
23 ÷ 36VDC**

- Use a constant voltage power supply suitable for LEDs



8. Switching on and off

- The lamp is not fitted with an independent system to switch it on and off.
- The lamp switches on when power is supplied and switches off when the power cuts off.

9. Troubleshooting

If the lamp does not switch on:

- Check whether the lighting system is connected to the power supply.
- Check that the connector pins are wired correctly.

If the lamp is faulty, please contact the CCEA technical support service.

CCEA technical support
Tel. +39 0444 572083
tecnico@ccealights.com
www.ccealights.com



WARNING

Do not attempt to dismantle or open the lamp, otherwise you might run the risk of an electric shock or jeopardise the lamp's airtight seal. The warranty will be void.



10. Replacing the light source

The exceptional duration of the LED light source, which lasts over 50,000 hours, means that you do not need to replace the LED circuits during the lamp's lifetime. If you need to replace the LED light source for reasons not covered by the warranty, please contact C.C.E.A. or see your authorised dealer.

11. Product maintenance and cleaning



WARNING

Always switch off the electricity before proceeding with any maintenance.

The lamp does not require any specific maintenance work.

- Switch the lamp off and wait for all parts to cool down before cleaning it.
- Use a soft cloth and mild detergents so you don't scratch the surface.

12.Repairs

CAUTION

Any material damage caused by faulty repairs will damage the lamp.

- Any repairs must be carried out by the manufacturer or by qualified staff.
- Do not open and/or dismantle the lamp.



- Repairs or attempted repairs by staff not authorised by CCEA Srl;
- Use of the equipment under environmental conditions other than those specified in the user manual;
- Penetration of liquids inside the lamp;
- Failure to comply with the recommended precautions for transporting and shipping any returns for repair (please use the original packaging).

14. Disposal

According to the provisions of Directive 2002/96/EC, electrical and electronic equipment must be recycled and may not be disposed of as urban waste. Therefore, when you decide to discard this piece of equipment and all its components, including the subsystems and consumables that form an integral part of the product, they must be taken to a local collection centre so they can be disposed of properly in accordance with existing legislation. Ask for information from your local municipal offices to find out where these centres are located.

13.Warranty

Warranty terms

CCEA guarantees to carry out any checks and repairs exclusively at the CCEA Technical Service or at an authorised official dealer throughout the product's lifetime. So please keep the lamp's labels and boxes for any potential repairs.

You will be notified of the costs of any repairs and spare parts once the faults have been analysed.

The warranty does not cover:

- Transport, packaging or shipping costs;
- Deterioration or damaged caused by:
 - Installation and/or use other than the instructions indicated in the user manual;

15. Technical information







NOTE: the information shown on the lamp's label shall apply

Power supply	23-36VDC
Power	20-40-60-80-100W (see label)
Class IEC	III
Protection rating	IP67
LED driver	IDS system
Light colour	6500K
CRI	80

Operating Temperature -5 + 45 °C

For other values see the table on page 11

16. Symbols

	CE conformity marking
	Compliant with the ATEX Directive
IP67	IP67 protection
	LED lamp
	Class III insulation appliance
24VDC	24VDC lamp power supply
	Disposal according to Directive 2002/96/EC
	Do not open and/or dismantle the lamp

17. Declaration of conformity

C.C.E.A. SRL, Via Piave, 2 - 36077 Altavilla Vicentina (VI) - VAT No and Tax Code 02374040240, declares under its sole responsibility that the EX.AMYRA code AY0131S01-AY0231S01-AY0331S01-AY0431S01-AY0531S01 series lighting system covered by this declaration complies with Directive 2006/95/EEC on low voltage, with Directive 89/336/EEC on electromagnetic compatibility and, in particular, with the following regulations:

Directive	Description
ATEX 2014/34/UE	Directive 2014/34/UE of the European Parliament session of 26 February 1994.
IEC EN 60598-1	Lighting equipment. Part 1: General requirements and tests.
IEC EN 62471	Photobiological safety of lamps and lamp systems.
IEC EN 62031	LED modules for general lighting - Safety specifications.
IEC EN 61347-2-13	Lamp control gear - Part 2-13: Particular requirements for D.C. or A.C. supplied electronic control gear for LED modules.
IEC EN 62384	D.C. or A.C. electronic driver for LED modules - Performance requirements.

This is a standard product and as such it has been made by the manufacturer according to a certain set of parameters, which guarantees trials and destructive tests to ensure it is safe, functional and durable.

C.C.E.A. SRL accepts no liability from any tampering and/or improper use of the device.

Date:

Week of production:

Item code:

C . C . E . A . s r l

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