



INSTALLATION AND MAINTENANCE MANUAL FOR  
LIGHT FITTING

# INS400LED-...-EXIT



Carefully read the instructions before  
mounting the light fitting.

# TABLE OF CONTENTS

1.	GENERAL INFORMATION.....	3
2.	TECHNICAL INFORMATION .....	3
3.	PHOTOMETRICAL DATA.....	4
4.	CONSTRUCTION DESCRIPTION .....	4
5.	PRELIMINARIES .....	4
6.	LIGHT FITTING MOUNTING .....	5
7.	ELECTRICAL CONNECTION .....	5
8.	EMERGENCY WORK .....	6
9.	CONDITIONS OF SAFETY USE:.....	7
10.	LIGHT FITTING MAINTENANCE AND SERVICING.....	7
11.	PARTS EXCHANGE .....	8
12.	REPAIRING .....	8
13.	LAMPS EXCHANGE .....	8
14.	TRANSPORT AND CONDITIONS OF STORAGE.....	8
15.	DISPOSAL OF WASTE EQUIPMENT.....	8
16.	WARRANTY .....	8

## 1. GENERAL INFORMATION

Waterproof and dustproof luminaire - industrial lighting fixture with LED modules. Housing made of aluminum, diffuser made of glass or polycarbonate, aluminum end caps. Three versions of optics matched to the client's project. The luminaire can work in accordance with the IP66 / 67 degree of protection. Optional emergency version, for operation with a central battery, with the DALI control system or with a motion sensor.

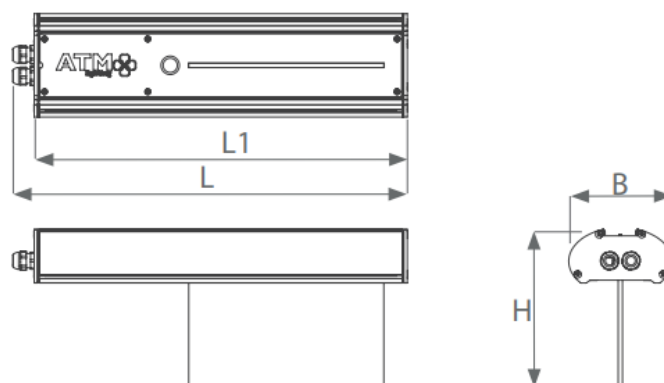
INS400LED		- 3 E -		- ALU -						AMOA		
<b>grupa</b>	0 3 0 0	A 1	4	30	10	M	20	GL	A3S	EXIT	NB	AMOB
oprawy przemysłowe	0 6 0 0	B 2	5	33	11	P	25	SGL	ZB		ASY	AMOC
<b>typ</b>	1 2 0 0		4	...	20*	S		PC	ZBT			AMOD
<b>źródło światła</b>	1 5 0 0			80	21*	PCI		PM	ZBC			AMOE
moduły LED									ZBD			
<b>przybliżona długość</b>				88	22*				ZBR			
~ 300mm, 600mm, 1200mm i 1500mm									ZBS			
<b>typ modułu LED</b>									ZBH			
<b>ilość modułów LED</b>									ZBM			
<b>zasilanie</b>									BT			
34E - 230V, 50=60Hz									DA			
35E - 230V, 0/50=60Hz									CLO			
<b>okablowanie</b>												
30 - 1 x terminal 3-polowy → 3		60 - 1 x terminal 6-polowy → 6										
33 - 2 x terminal 3-polowy → 3 3		66 - 2 x terminal 6-polowy → 6 6										
40 - 1 x terminal 4-polowy → 4		70 - 1 x terminal 7-polowy → 7										
44 - 2 x terminal 4-polowy → 4 4		77 - 2 x terminal 7-polowy → 7 7										
50 - 1 x terminal 5-polowy → 5		80 - 1 x terminal 8-polowy → 8										
55 - 2 x terminal 5-polowy → 5 5		88 - 2 x terminal 8-polowy → 8 8										
<b>wpusty kablowe - ilość</b>												
10 - jeden wpust kablowy z boku obudowy → 1 0												
11 - po jednym wpuscie po każdej ze stron dna obudowy → 1 1												
20 - dwa wpusty kablowe po jednej ze stron obudowy → 2 0												
21 - dwa wpusty po jednej ze stron obudowy i jeden z drugiej → 2 1												
22 - po dwa wpusty kablowe po każdym z boków obudowy → 2 2												
<b>wpusty kablowe - materiał</b>												
M - dławnice metalowe		5 - gniazdo wtyk z tworzywa										
P - dławnice plastikowe		PCI - gumowy wpust kablowy										
<b>wpusty kablowe - rozmiar</b>												
20 - Ø20		25 - Ø20										
<b>materiał obudowy</b>												
ALU - aluminium anodowane												
<b>materiał klosza</b>												
GL - szkło hartowane		PC - poliwęglan stabilizowany UV										
SGL - szyba hartowana laminowana (safety-glass)		PM - pomilmetakrylan metylu (PMMA)										
<b>wersje awaryjne i specjalne</b>												
A3S - wersja z modułem zasilania awaryjnego 3h dostępna w opcji zasilania 34E. Praca w temp. -20°C do +45°C. Wymagane okablowanie 40 lub 44.												
ZB - wersja przeznaczona do współpracy z baterią centralną - bez modułu przełączającego, wymagane okablowanie 30 lub 33.												
ZBT - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym TM-AM, wymagane okablowanie 60 lub 66, 80 lub 88 (dla DALI).												
ZBC - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym V-CG-S 4-400W, wymagane okablowanie 30 lub 33.												
ZBD - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym V-CG-SE 4-400W, wymagane okablowanie 50 lub 55.												
ZBS - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym MSU 35, wymagane okablowanie 50 lub 55.												
ZBR - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym MU05, wymagane okablowanie 60 lub 66.												
ZBH - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym MAPS-01, wymagane okablowanie 80 lub 88.												
ZBM - wersja przeznaczona do współpracy z baterią centralną - z modułem przełączającym LMP-1, wymagane okablowanie 50 lub 55.												
BT - wersja sterowana poprzez Bluetooth 4.0 z poziomu aplikacji. Wyposażona w moduł CBU-ASD firmy CASAMBI. Możliwość regulacji strumienia.												
DA - wersja z zasilaczem z interfejsem DALI, wymagane okablowanie 50 lub 55.												
CLO - wersja z funkcją <i>Constant Lumen Output</i> , dostosowującą zasilanie w czasie życia oprawy LED, co zapewnia stały strumień świetlny przez cały okres użytkowania.												
<b>wersje ewakuacyjne</b>												
brak - brak wersji ewakuacyjnej		EXIT - wersja ewakuacyjna z piktogramem										
<b>optyka</b>												
do wyboru jedna z trzech optyk: standard, wąskostrumieniowa (NB), asymetryczna (ASY). <i>Patrz: Fotometria</i>												
<b>montaż</b>												
<i>patrz: mocowania</i>												

Risk group of used LED RG modules = 1.

## 2. TECHNICAL INFORMATION

Typ oprawy	Moc źródła	Napięcie	IP	Klasa ochrony	Współczynnik mocy
INS400LED-0300-A1	10 W	230V 0,50,60Hz	66/67	I	≥0,95

TYP	L	L1	H	B
INS400LED-0300-...-EXIT	554	524	170	145



#### STANDARD KIT



### 3. PHOTOMETRICAL DATA

Typ oprawy	Temperatura barwowa	CRI	Żywotność modułów	Luminancja znaku
INS400LED-0300-A1	4000K	>80	>70000 h	>200cd/m <sup>2</sup>

LED module lifetime: L<sub>80</sub>B<sub>10</sub>

### 4. CONSTRUCTION DESCRIPTION

Light fittings are built according to common electrical engineering rules. The product meets the essential requirements of the Directives and the harmonized standards listed in the EU Declaration of Conformity.

Housing, end-caps and mounting plate is made of aluminum, diffuser made of tempered glass, UV resistance polycarbonate or PMMA. Silicone gasket.

### 5. PRELIMINARIES

#### CONDITIONS OF SAFETY RULES

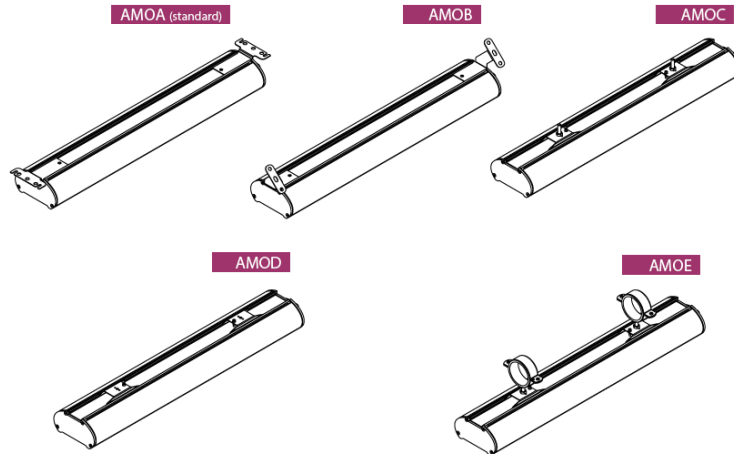
- Carefully read all the information included in the manual before mounting the light fitting
- General safety must be applied.
- Failure to comply with rules of the installation and use can lead to personal injury or property losses. Company ATM Lighting sp. z o.o. takes no responsibility in such cases.

Failure to comply with rules included in manual results with void of the manufacturer warranty.

## 6. LIGHT FITTING MOUNTING

Light fitting is mounted with use of brackets, designed for installation on a ceiling or on a wall.

Below are the possible versions of the brackets:

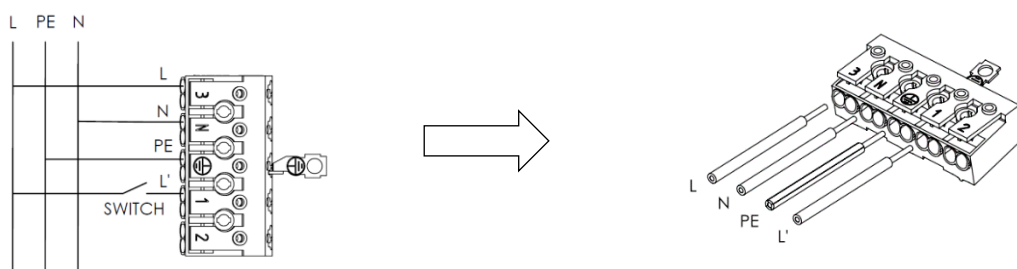


## 7. ELECTRICAL CONNECTION

To connect power supply:

- enter the power cable to the housing through the cable entry (gland),
- carefully unisolate the cables cores (8-10mm), and put it into the connector according to marking inside the light fitting,
- precisely tighten power cable in the gland with two wrench,
- check the effectiveness of grounding.

Power connection:



Remarks:

- If light fitting is equipped with rubbed cable entries to enter power cable to housing carefully make a hole in the grommet. Diameter of the hole must ensure tight fit to membrane of the grommet
- Use one wrench to tighten the sealing nut, while using the second wrench to block gland body against rotation, otherwise damage of the sealing can be caused and therefore sealing level will be decreased.

## 8. EMERGENCY WORK

- The light fitting is equipped with emergency power supply module EM converter LED ST 205 made by TRIDONIC, which is powered by 230V AC, 50-60Hz. During normal work module charges the battery pack with appropriate current. Failure of mains supply will switch light fitting into emergency mode.
- Time of full charge of battery is 24h (first charge is 48h). Beside this emergency module has:
  - a) Stability control system – it ensures that battery is not overcharged or discharged too much, which may shorten its life or even destroy the battery.
  - b) Automatic switch system – switches light fitting between emergency and standard work.
  - c) Signaling system – LED which shows current work state.
- Battery should be connected to emergency module with mains supply switched off. After that mains must be switched on. During maintenance, transport or storage battery must be disconnected from emergency module. It is unacceptable to continuously switch on and off the mains when battery is connected to emergency module.
- To ensure reliable work of emergency module batteries must be changed each 4 years or when the capacity falls below 50% or emergency work time is lower than 3h. Temperature while battery charging must be  $\geq 0^{\circ}\text{C}$
- Discharged battery obtains full capacity after 24h of charging. To ensure appropriate forming of battery first charging must last for 48h. It is unacceptable to make any test or switch light fitting into emergency mode during this time. After 48 hours light fitting must be switched into emergency mode to complete discharge of battery. Then the battery must be charged for 36h. This ends the process of forming.

LED indication	Status	Comment
Permanent green	System OK	AC mode
Fast flashing green (0,1 sec on – 0,1 sec off)	Function test underway	
Slow flashing green (1 sec on – 1 sec off)	Duration test underway	
Red LED on	Load failure	Open circuit / Short circuit / LED failure
Slow flashing red ( 1 sec on – 1 sec off)	Battery failure	Battery failed the duration test or function test / Battery is defect or deep discharged / incorrect battery voltage
Fast flashing red (0,1 sec on – 0,1 sec off)	Chargin failurre	Incorrect charging current
Double pulsing green	Inhibit mode	Switching into inhibit mode via controller
Green and red off	DC mode	Battery operation (emergency mode)

### 8.1 Testing

#### Commissioning test

A full commissioning test is carried out automatically after permanent connection of the supply for 5 days. The easy commissioning feature will set the initial test day and time to ensure random testing of units.

#### Functional test

Functional tests are carried out for 5 seconds on a weekly basis under the control of the Micro controller. Initiation and timing of these tests is set during the commissioning of the luminaire.

### Duration test

A full duration test is carried out yearly to check the capacity of the batteries. For a full description of commissioning and test features please refer to application notes.

## 9. CONDITIONS OF SAFETY USE:

- Every light fitting has to have rating plates with rating data on it. Each light fitting must have this „Installation and maintenance manual” , which must be kept by user until the end of exploitation.
- Light fittings are designed for fixed installations only.
- Using light fitting outside the designated operating temperature range is unacceptable and will decrease a lifetime of light fitting and/or damage it. It will also cause a loss of warranty.
- Each light fitting must have a warning sign: „do not open under voltage” on it.
- Admission cables must have 4-wires (with PE wire) and diameter 8-13mm.
- Use power wires with cross section 0,5-1,8mm<sup>2</sup>.
- Maximum cross current I=16A.
- The diffuser, depending on the version, is made of tempered glass, PMMA or PC. Versions equipped with a PC or PMMA cover should not be exposed to chemicals that may damage them, in particular: oil, acetone, chlorine, ethyl, ether, and solvents. If there is any uncertainty about the substances present in the luminaire's workplace, which may lead to damage to any of the components, the action of fixing should be taken.



- Do not stare at the working light source



- Risk of electric shock hazard

## 10. LIGHT FITTING MAINTENANCE AND SERVICING

**REMARK:** during the servicing and maintenance touching of LED are prohibited, because it will decrease the lifetime of light fitting and cause the loss of manufacturer's warranty.

**INSPECTION:** at least once a month. Inspection is made without opening the light fitting. User must check admission cables condition (insulation damage, cracks, burns etc.). Cables must not have any acute bends. Outside parts of the light fitting must be checked. No cracks or corrosion signs may occur. Bolts used to mount light fitting should be properly tightened, washers mustn't be cracked. Cleanliness of outer surfaces and light fittings surroundings must be checked. Light fittings may not be soiled by paint or grease. Do not allow for dust (dirt) deposition on the light fitting. The readability of rating and warning plates must be checked. Abnormalities found must be fixed.

**SERVICE AND MAINTENANCE:** at least once a year. Service and maintenance must be made with power supply turned off. User must make inspection steps first. After opening: metal parts painting, condition of inner wiring and its mounting, insulating materials, cable glands gaskets, terminals.

Abnormalities found must be fixed. Rating and warning plates must be cleaned. Surfaces of insulating materials and covers must be clean.

**VERIFICATION OF TECHNICAL CONDITION:** at least once for 2 years. Power supply must be switched off. Light fitting must be uninstalled. Besides all the examination from inspection, service and maintenance paragraphs electrical examination from the inspection, service and maintenance paragraphs electrical examination must be also made: light fitting current consumption, insulation examination, protective earthing condition. Special attention must be paid to insulating parts condition. No crack or burns may occur.

**CLEANING:** do not allow for dust (dirt) deposition on the light fitting. Cleaning must be proceeded without use of chemical. Cleaning must be proceeded with use of compressed air and soft cleaning cloth or soft brush. If necessary use water and/or neutral detergent, however without any chemicals, which can damage any part of the light fitting.

## 11. PARTS EXCHANGE

All of parts considered as a spare parts must be ordered at manufacturer of light fitting.

## 12. REPAIRING

All repairs (excluding lamps exchange) may be made only by manufacturer or authorized repair workshops.

## 13. LAMPS EXCHANGE

Can be performed only by personnel appropriately trained and authorized to the service of the light fitting.

## 14. TRANSPORT AND CONDITIONS OF STORAGE

During transportation light fittings shouldn't be exposed to precipitation or mechanical shock.

Light fittings may be storage only in sheltered warehouses, within +5°C to +35°C temperature range, and relative humidity lower than 75%. No corrosion causing vapors or gases should be present.

## 15. DISPOSAL OF WASTE EQUIPMENT

User must obey relevant rules and regulations about disposal of wasted equipment valid in their country.

## 16. WARRANTY

- It is forbidden to use damaged or malfunctioned light fitting.
- It is required to disconnect power supply from the light fitting before any maintenance work.
- All specific information can be found in document „General terms and conditions warranty ATM



- It is not allowed to make changes to the luminaire structure on your own. Any unauthorized interventions may reduce the functionality or damage the device, and in special cases may pose a threat to life or health. At the same time, it releases the manufacturer from any warranty liability.
- Lighting sp. z o.o.” available at the website [www.atmlighting.pl/en/](http://www.atmlighting.pl/en/)





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