

- Zone 1, 2, 21, 22
- Excellent module efficiency up to 20.17%
- Only 0.45% annual degradation
- High performance in extreme weather conditions
- Batteries VRLA AGM



SOLAREx Series Stand Alone photovoltaic system for Zone 1

SolarEx is a solar energy storage and management system capable of powering an electrical load even in high-risk environments. The operating principle follows that of a conventional photovoltaic system: the solar modules capture solar energy, convert it and store it in a suitably sized battery pack. The stored energy is then used to safely power a light source certified for use in Zone 1. In its standard configuration, SolarEx can power a 25W STREETEX-M..025 or a 50W STREETEX-M..050 lighting fixture, ensuring at least 8 hours of autonomy. This is made possible by a 70 Wp PFV-Ex photovoltaic panel and a 48Ah 12V battery pack for the 25W version, or by a 200 Wp PFV-Ex photovoltaic panel and a 48Ah 24V battery pack for the 50W version, housed in a certified casing. An Ex-d EJB-4 series casing, on the other hand, contains the main electronics: inverter and MPPT solar charger, which are essential for optimal energy management.

Sectors of application:



Petroleum refineries



Chemical and petro-chemical facilities



Onshore facilities



Offshore facilities



Petroleum loading/unloading pontoons



Fuel storage facilities



Tanker loading/unloading areas



Perimeter zone lighting

CERTIFICATE DATA

Classification:

Group II

Installation: EN 60079-14

zone 1 - zone 2
(Gas)

Certificate:

ATEX CML 25 ATEX 3067X

IEC Ex IECEX CML 25.0020X

PFV-Ex photovoltaic panel

ATEX CML 23 ATEX 3195X

IEC Ex CML 23.0069X

STREETEX LED street lighting fixtures

ATEX CESI 01 ATEX 027X

IEC Ex CES 16.0012X

Aluminium 'Ex db' casing

Standards:

CENELEC EN 60079-0: 2018-2012, EN 60079-7: 2015/A1: 2018, EN 60079-18: 2015/A1: 2017/2019, EN 60079-0: 2017, EN 60079-1: 2014, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/EU
IEC 60079-0: 2018-2017, IEC 60079-7: 2015/A1: 2018-2017, IEC 60079-18: 2015/A1: 2017
European Directive 2004/108 Electromagnetic compatibility
European Directive 2012/19/UE, 2002/96/CE, 2003/108/CE RAEE
European Directive 2011/65/UE RoHS

Temperature class:



135°C (T4)

Ambient temperature:



-20°C +50°C



Degree of protection:

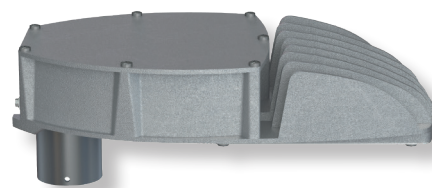
IP66

SOLAREx Series Stand Alone photovoltaic system for Zone 1



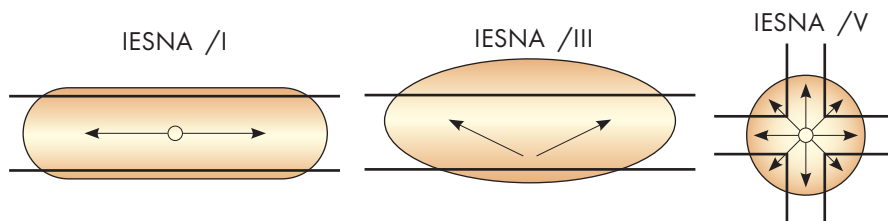
STREETEX LED street lighting fixtures

STREETEX series LED lighting fixtures are suitable for outdoor and perimeter street lighting of industrial areas, especially for the chemical and petrochemical, on-shore and off-shore sectors. Optics is a crucial part of street lighting as it determines the direction of light on the road surface according to different requirements: light concentrated in a specific direction or evenly diffused light.



Body:	Aluminium alloy with low copper content. With cooling fins for efficient heat dissipation
Front glass:	Tempered glass, resistant to high temperatures and shocks
Gaskets:	Silicone resistant to acids, hydrocarbons and high temperatures
Screws:	Stainless steel
Entry points:	1 entry point Ø1 1/2" for version with direct pole mount
Coating:	Polyester RAL 7035 (Light grey)

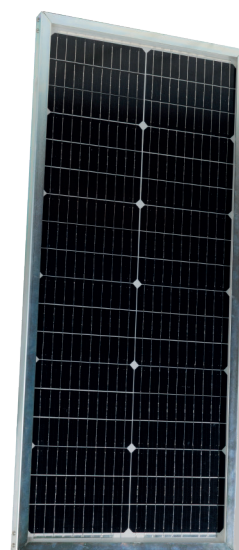
Available optical features



Code	Real power Watt	Rated power Watt	Lumen lm	Light intensity cd	Overall efficiency Lm/W
STREETEX-ME-080025...	26	25	3432	1079	132
STREETEX-ME-080050...	52	50	6865	2159	132

PFV-Ex monocrystalline photovoltaic module

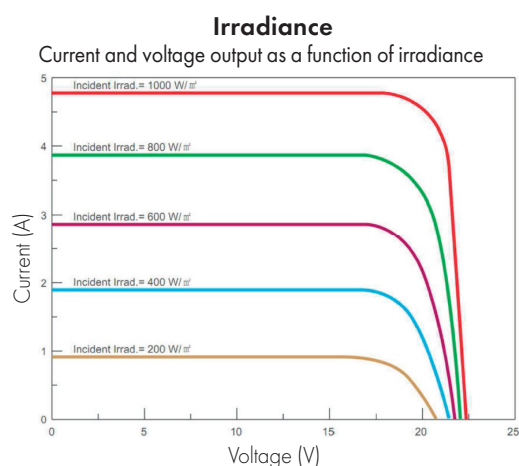
The PFV-Ex series is a range of photovoltaic panels that can be used in hazardous areas 1, 2, 21 and 22. The types of protection used to ensure solar panel safety combine Ex "m" and Ex "e" protection, which together make the solar panels safe. The high purity of the silicon crystal allows monocrystalline panels to generate a considerable amount of electricity even in low light conditions. This ensures the photovoltaic panel can keep generating electricity even on cloudy days, allowing the battery to charge more efficiently.



Solar cell:	Monocrystalline
Glass:	Tempered
Outer frame:	Impact-resistant AISI 304 stainless steel
Cable length:	1 metre
Cable cross-section:	4 mm ²

SOLAREx Series Stand Alone photovoltaic system for Zone 1

Code	Number of cells	Dimensions	
		A	B
PFV-Ex-70-12	36	935	405
PFV-Ex-200-24	54	1335	785



Code	Peak power	Open-circuit voltage	Short-circuit current	Maximum power voltage	Maximum power current	Efficiency
PFV-Ex-70-12	70 Wp	23.8 V	3.77 A	19.4 V	3.61 A	18.17%
PFV-Ex-200-24	200 Wp	41.6 V	6.09 A	34.2 V	5.85 A	20.17%

Control system

Aluminium 'Ex db' casing

Body and lid:	Low copper content aluminium alloy
Hinges:	in stainless steel
Gasket:	Acid, hydrocarbon and high temperature resistant silicone positioned between the body and the lid
Certificate label:	Riveted aluminium on lid
Screws, bolts and nuts:	Stainless steel
Earth screws:	M6 stainless steel. Inside and outside the body and on the lid, complete with anti-rotation brackets
Coating:	Polyester RAL 7035 (Light grey)



- Excellent overload performance
- Optimum battery protection
- High efficiency mppt* solar charge controller
- Deep discharge protection
- Battery surge lockout
- Overheat and overload protection
- Short-circuit protection
- Main switch
- Ambient light detection

* **MPPT (Maximum Power Point Tracking):** Maximum power point tracking technology.

A conventional charge controller (such as PWM-type controllers) simply cuts off the excess voltage from the solar panel, wasting energy. The MPPT, on the other hand, constantly monitors the voltage and current produced by the panel and converts them intelligently, always delivering the maximum available power to the battery.

Note: The entire assembly can be supplied on request with IIC Marking, using the aluminium 'Ex db IIC' casing (code EJBC-4).

SOLAREx Series Stand Alone photovoltaic system for Zone 1

Storage system

Stainless steel casing

Body, lid and hinges:

Gaskets:

Certificate label:

Screws, bolts and nuts:

Earth screws:

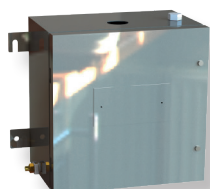
In stainless steel AISI 316L

Acid, hydrocarbon and high temperature resistant positioned between the body and the lid.

Stainless steel riveted to the lid

Stainless steel, captive

Brass. Inside and outside the body, complete with anti-rotation brackets



- Excellent performance: 800 cycles at 60% charge C10 (at 20 °C)

- Dryfit gel: VRLA technology

- Low energy consumption: cost saving

- Fully recyclable

- Long shelf life of up to 2 years at 20 °C without recharging due to very low self-discharge rate

Lamp power	..x25	..x50
Rated voltage	12 V	24 V
Rated capacity C100 1.80Vpc 20°C	48 Ah	48 Ah

SOLAREX series selection table

MODELS

Technical specifications

Lamp power

25 W

50 W

Hours of operation

8 h

8 h

Total load

200 Wh/day

400 Wh/day

Solar panel peak power

70 Wp

200 Wp

Battery capacity

48 Ah

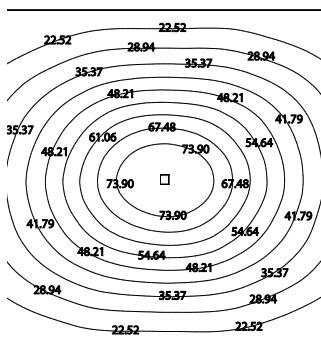
48 Ah

Batteries rated voltage

12 Vdc

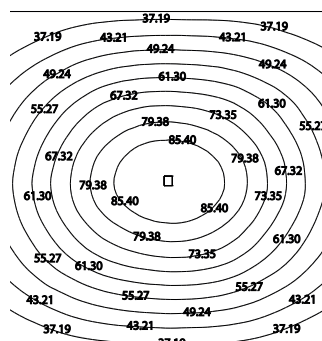
24 Vdc

SOLAREx25

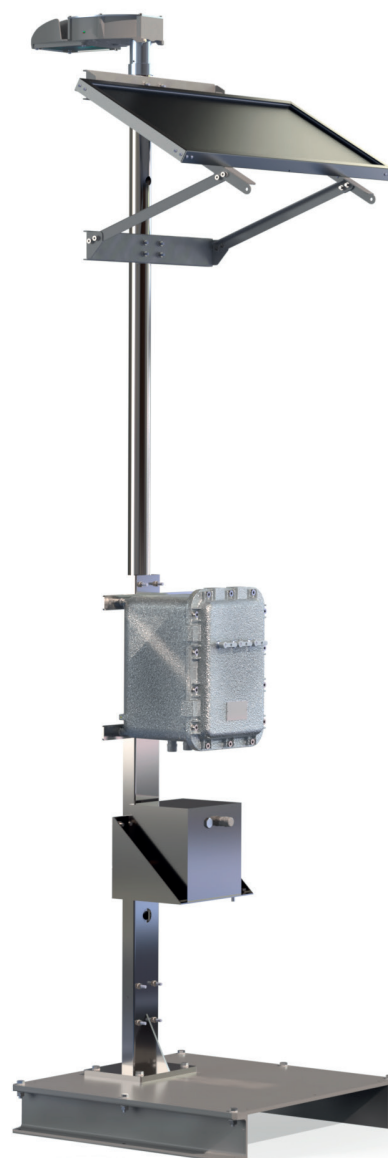


Floor lighting relating to SOLAREx25 system
expressed in lux with fixture
at a height of **3 m**.

SOLAREx50

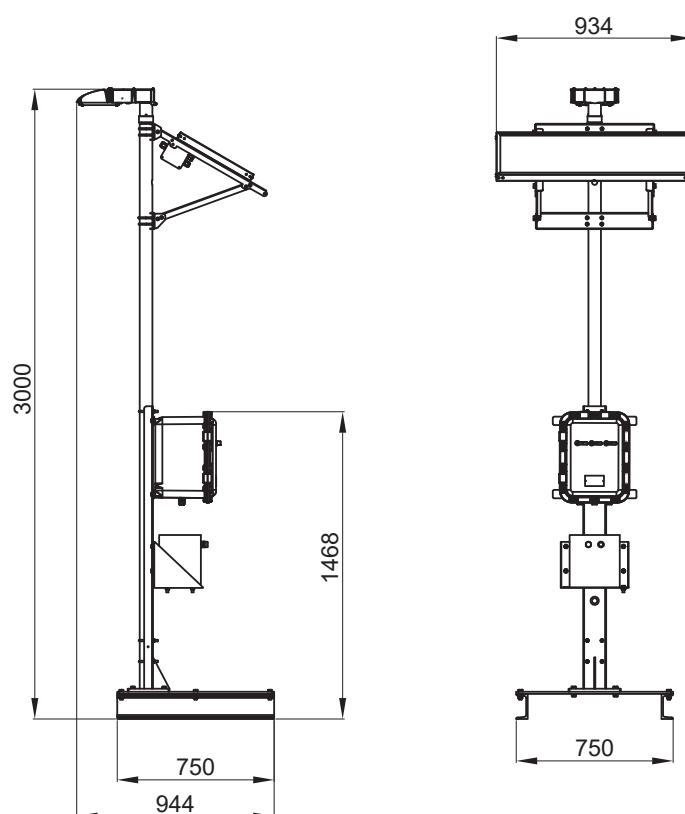


Floor lighting relating to SOLAREx50 system
expressed in lux with fixture
at a height of **4 m**.



SOLAREx Series Stand Alone photovoltaic system for Zone 1

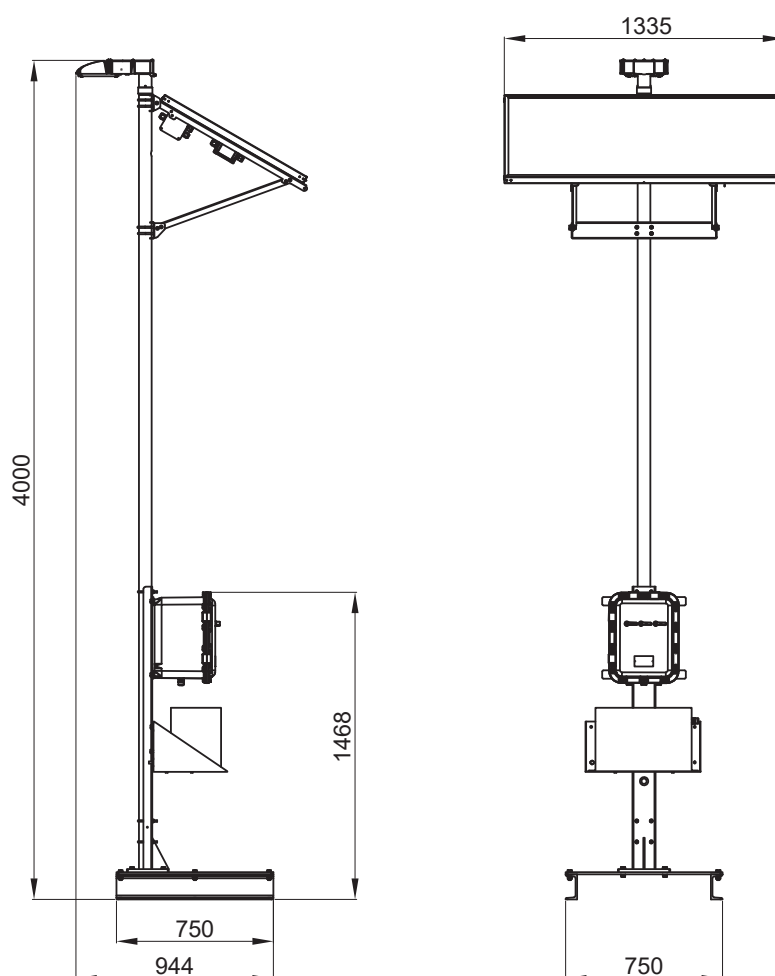
Dimensional drawings



SOLAREx25

Weight: 175 Kg

Packaging: 209x148x70
+ 3 meters of pole



SOLAREx50

Weight: 240 Kg

Packaging: 209x148x70
+ 4 meters of pole

Dimensions in mm