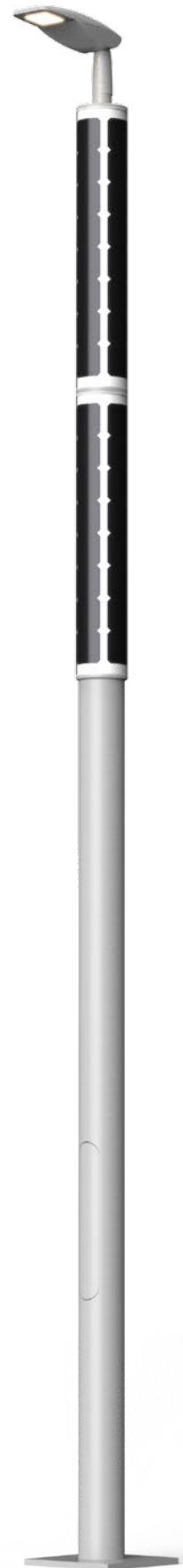# Soluxio P220 I A6

The smart solar light pole

Soluxio is the most advanced and sophisticated solar light pole available on the market. The solar light pole is completely off-grid and works autonomously, using sustainable solar power. This means there is no need for expensive cabling and invasive trenching, which results in fast installation, easy operation and a low total cost of ownership (TCO).

FlexSol believes in collaboration and teamwork. Making the world a greener and a more sustainable place is not done single-handedly. That's why FlexSol is partnered with world-leading companies, such as Valmont Structures, Nedal (Purso Group Oy), Schott AG and Innolumis. Together we have built Soluxio to withstand the toughest conditions. Soluxio has proven its outstanding quality at numerous locations worldwide, from the U.S.A. to the Middle East and from Mauritius to the Netherlands. Smart machine-learning algorithms continually optimize the performance of the carbon neutral light pole. The curved vertically integrated solar panels are wind-resistant and self-cleaning, as dirt and dust cannot stick on the design. Solar energy generated during the day is stored in high-quality lithium batteries, which are long-lasting and require minimum maintenance. The highly-efficient LED-luminaire provides powerful lighting at night. All Soluxio light posts can be connected to an online platform which enables remote monitoring and management. This reduces maintenance costs and makes the light pole extremely reliable.

$ **Cheaper than conventional street lighting**
The revolutionary Soluxio is not only greener but also cheaper than conventional grid-connected street lighting.

Light-years ahead in solar technology
Years of development and innovation have led to the most advanced solar product in the market.

Year-round lighting
Powerful lighting, proven to be reliable during the whole year at any location.

Fast and easy installation
Fully installed in 45 minutes by plug-and-play design.

Over-the-air updates & connectivity
Convenient access to latest updates and innovations. Smart city applications can easily be connected.

Eco-friendly and carbon neutral
100% solar powered, no cabling, no invasive trenching. Animal-friendly editions available.

Quick return on investment
No cabling + no electricity bill + fast installation + low maintenance costs = quick return on investment.

Low total cost of ownership
High-quality components and remote monitoring result in low maintenance.

Product specifications	
Product name	Soluxio P220 | A6
Light pole height	6 meter / 20 feet
Foundation type	Base plate (Underground part optional)
Operating temperature	-20 to 60 oC
Column	
Column type	A-Line
Column material	Blank Aluminum (Other colors available on request)
Finish	Natural (Powder coating or anodizing on request)
Maintenance hatch	600 x 100 mm
FlexSol Solar Module	
Solar technology	Monocrystalline silicon solar cells
Amount of solar modules	2 pcs
Cell efficiency	> 23%
Total power	> 220 Wp
Number of cells per module	32 pcs
Number of strings per module	4 strings
MPPT topology	Every string individually optimized for every individual module
Number of MPPT channels	4 per solar module
Front sheet material	Borosilicate glass
Solar module backsheet colour	White (optional black backsheet)
Dimensions per module	Ø 200 x 1110 mm
Weight per module	~ 7kg
FlexSol Battery	
Battery technology	Lithium (NMC)
Battery capacity	800 Wh
Battery voltage	14,88 Vdc (4S1P)
Battery SoC window	15 ~ 95%
Turn around charge efficiency	99.5%
Service life	~10 years
Operating temperature	-20 to 60 oC
Enclosure	Integrated in FlexSol Control Unit enclosure
FlexSol Control Electronics	
Battery Management System (BMS)	Integrated 4-cell monitoring and balancing
Control Electronics temperature and humidity monitoring	Integrated temperature sensor on-board lithium pack
	Integrated temperature sensor on-board electronics
	Integrated humidity sensor on-board electronics
LED driver type	Integrated high-efficiency DC LED driver
max. drive voltage	~ 60 Vdc
max. drive current	~ 1500 mA
nominal power	~ 60 W

On-board mobile communication	GSM (EGPRS 850/900/1800/1900MHz) LTE-M (B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28) LTE-NB1 (B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28/B39)
Encryption	TLS 1.2
SIM card slot	Standard SIM, 2FF, 25 x 15 x 0.76 mm
Included SIM card	Global M2M
Global Navigation Satellite System (GNSS)	GPS, BeiDou, Galileo, GLONASS, QZSS
MPPT communication	RS-485
Over-the-Cable updateable	Yes (USB-programming device optional)
Over-the-Air updateable	Yes [1]
Remote monitoring and configuring	Yes [1]
Time and date	Astronomical clock
Lighting scheme	Automatic adaption to sunset and sunrise
Dimming scheme	Seasonal Dynamic Dimming
Smart city ready	Yes
Enclosure	Integrated in FlexSol Control Unit enclosure
Service plan [2]	2 years included

FlexSol Control Unit enclosure

Enclosure content	FlexSol Control Electronics FlexSol Battery
Location	In pole
Material	Aluminum
Finishing	Black anodised
Ingress protection	IP66
Enclosure mounting	Lock secured (2 keys included)
Weight	~ 6 kg

Lighting

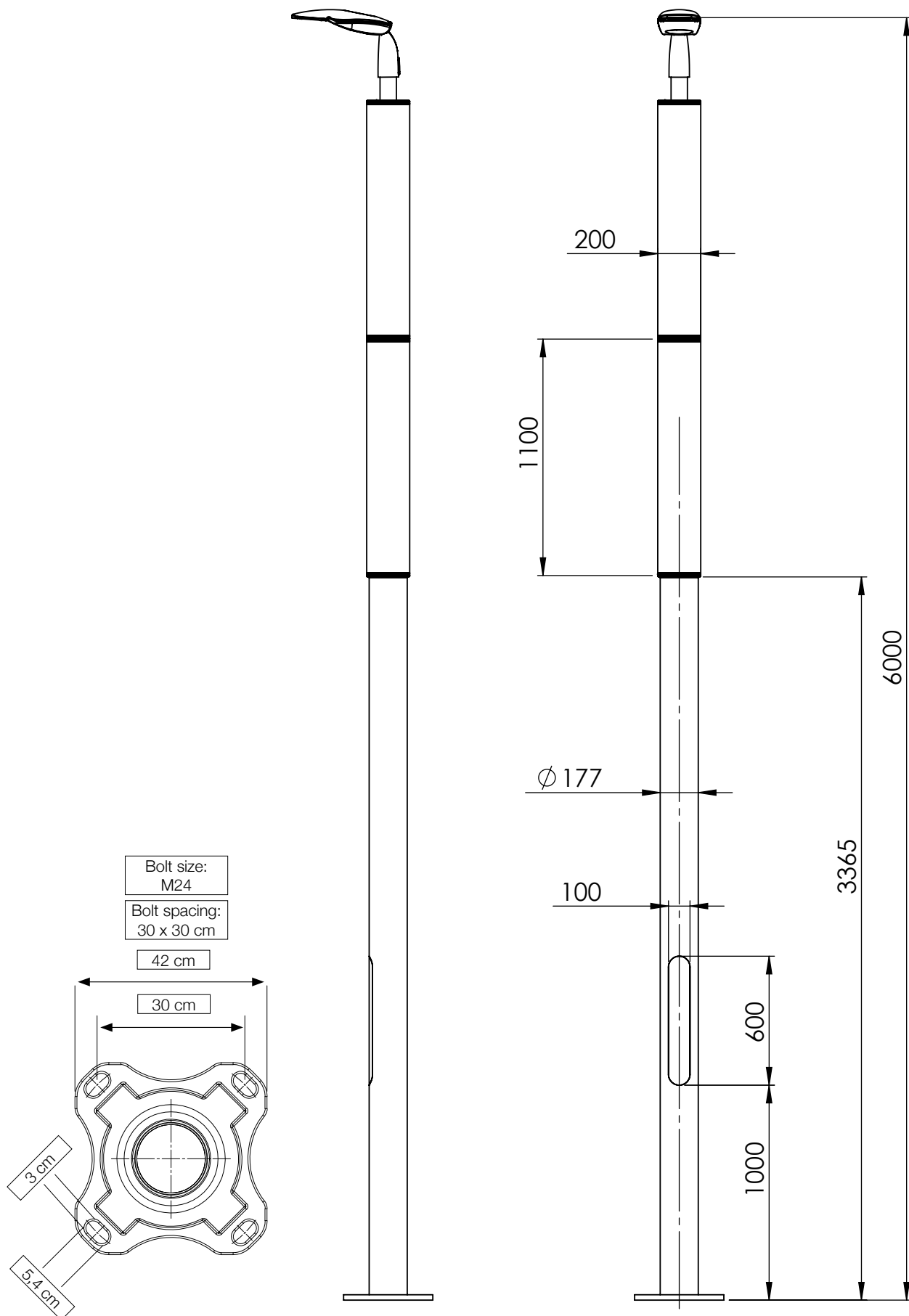|	
LED luminaire	Innolumis Mini Victoria
Lighting scheme	Automatic adaption to sunset and sunrise
Dimming scheme	Seasonal Dynamic Dimming
Luminaire max. power	from 6 W to max. 40 W
Color temperature	3000K, 4000K, 5000K, Golden Orange, BAT light

Cabling

Cable types	Solar extension cable	2 pcs (3 meter & 4 meter)
	Luminaire cable	1 pcs
	Luminaire extension cable	1pcs (5 meter)
	1x FlexSol Control Unit Breakout cable (35-pin)	
Material	Thermoplastic polyurethane (TPU)	
Cores	4 Cores, 16 AWG	
Connectors	Stainless steel M12 connectors	

Coding / Labelling	All cables coded and labelled
Packaging	
Packages	2 pcs
Dimensions	Package 1: 585 x 50 x 50 cm
	Package 2: 120 x 80 x 100 cm
Weight	Package 1: ~ 60 kg (gross)
	Package 2: ~ 60 kg (gross)
Security	Package 1: N/A
	Package 2: Security seals; void if broken

[1] Included in service plan

[2] The service plan includes: dataplan, updates, updates and over-the-air-features (e.g. remote monitoring and remote management)

Soluxio P220 | A6 Dimensions

Bolt size:
M24

Bolt spacing:
30 x 30 cm

42 cm

30 cm

3 cm

5.4 cm

200

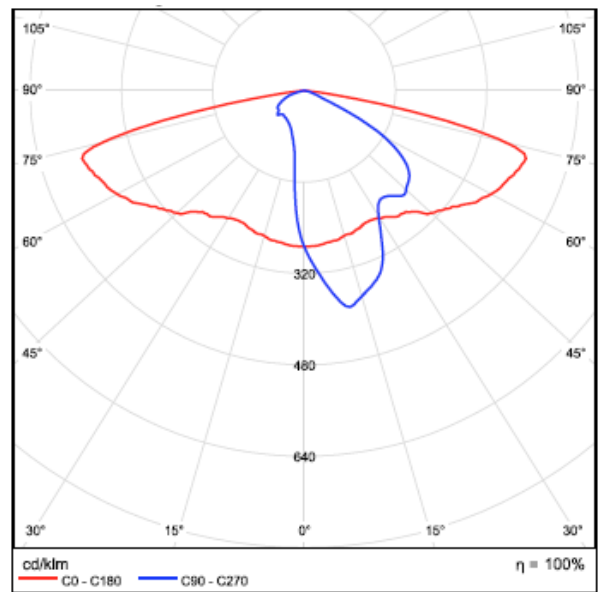1100

6000

Ø 177

3365

100

600

1000

Innolumis Mini Victoria Luminaire

FlexSol is partnered with renowned luminaire manufacturer Innolumis in order to provide you the latest and most innovative LED luminaires available. For more information, please visit www.innolumis.com. Other luminaires are available upon request.
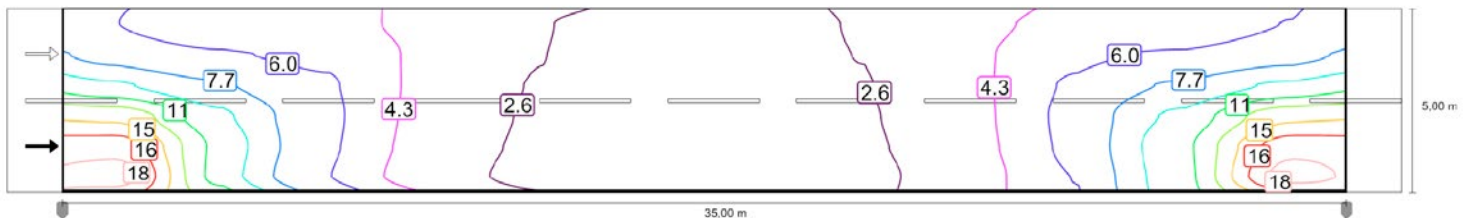
Specifications	
LED quantity	16 pcs
Rated power	from 6 W to max. 40 W
Lighting scheme	Automatic adaption to sunset and sunrise
Dimming scheme	Seasonal Dynamic Dimming
Material luminaire	Aluminum (powder coated)
Material light window	Thoughened high transmission glass
Color temperature	3000K, 4000K, 5000K, Golden Orange, BAT light
Light profiles	Medium, narrow, wide
Impact rating	IK07 (glass) / IK10 (luminaire)
Protection grade	IP66
LED life time	100.000 h
Installation pipe diameter	48-60 / 60-76 mm

Light distribution (at 20W)

Installation example

Horizontal illumination (lux)
Light pole distance: 35 m
Lumiaire power: 20W

Innolumis

Soluxio P220 | A6

Soluxio P220	A6 includes the following components:	Quantity
FlexSol Solar Module, 110Wp, >23%	2
FlexSol 4-channel Maximum Power Point Trackers	2
Aluminum pole with base plate, 5.8 meter / 19 feet.	1
Innolumis Mini Victoria luminaire	1
FlexSol Control Unit, consisting of: • FlexSol Control Electronics incl. communication and GNSS • FlexSol Battery (800 Wh) • FlexSol LED driver • FlexSol Control Unit Breakout cable (35-pin)	1
GPS antenna	1
GSM antenna	1
Cable grommet	2
Soluxio Control Unit security lock, including 2 keys	1
Solar cable	2
Luminaire cable	1
FlexSol Solar Module adapter kit (bottom, center and top adapter ring)	1

Options (on request)
Other luminaire type
Underground part for in-ground mounting (as replacement for base plate)
Black solar modules (as replacement for white backsheets) (per 2 pcs)

For customisation, a Minimum Order Quantity (MOQ) applies.

FlexSol Solutions
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