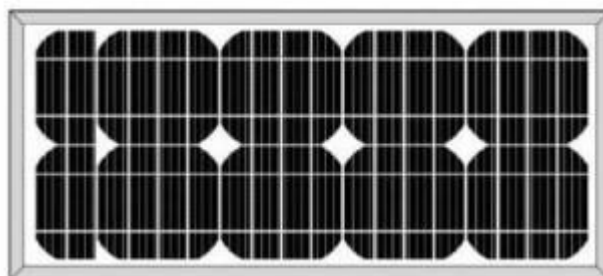


Photovoltaic panel Singfo OSFM 20



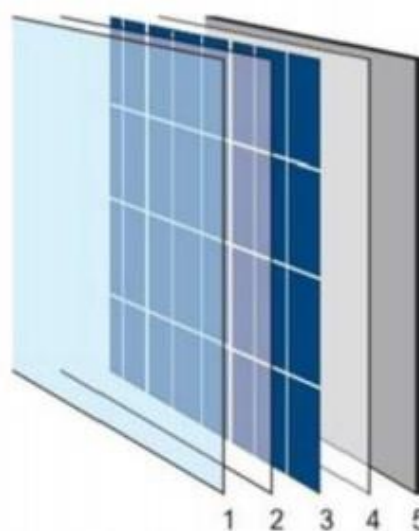
Specifications:

Nominal output power	20W
Power tolerance	-0/+3%
Maximum voltage (V)	18
Maximum constant current (A)	1,11
No-load maximum voltage (V)	21,6
Max. short-circuit current (A)	1,22
Cell Efficiency	15,00%
Temperature coefficient Pm	-0,45%/C
Temperature coefficient Vos	-0,35%/C
Temperature coefficient Isc	0,05%/C
NOCT	48°C+/-2°C
Max. voltage on PV panel	1000Vdc

IP65 adaptable box	TÜV certification
Frame	Anodised aluminium
Dimensions	540 x 285 x 20 mm
Weight	2,1 kg

Structure of the panel:

1	Tempered glass
2	EVA foil
3	Solar Collectors
4	EVA foil
5	Three-layer back-sheet



Lithium Yttrium Batteries– LiFePO4 12V/12Ah

Product description:

Powerful battery 12V lithium-iron-phosphate (LiFePO4).

State-of-the-art technology for power storage:

- * monolithic 12V lithium battery
- * operating voltage range 10V to 14.6V
- * lithium-iron-phosphate technology (LiFePO4)
- * contains no toxic substances, poisons, corrosives or acids
- * completely safe: does not burn, does not explode, does not contain liquid electrolyte
- * wide range of operating temperature (-30°C to +70°C)
- * low self-discharge (< 3% per month)
- * lifetime of at least 10 years
- * number of operating cycles: 1000+
- * built-in balance and protection system (PCM)
- * quick charging option (up to 1C)

Important information: These are special power cells for industrial use. Incorrect use may cause irreversible damage to the power cell. For this reason, it is necessary to use only the specified chargers for charging. When discharging it is necessary to prevent the cell from being completely discharged. The warranty applies only to manufacturing defects, not to damage caused by improper use.

Warning: The cells need a control charger and a monitoring unit for operation. Without these additional devices, the cell may be damaged.

No-load nominal voltage (V)	12
Capacity (Ah)	12
Operating voltage (V)	max. 14.0 min. 10.5
Minimum voltage (V)	> 8; < 10, protected by PCM unit
Maximum voltage (V)	14.6, protected by PCM unit
Recommended discharging current (A)	< 6
Max. discharging current (A)	< 12
Peak discharging current (A)	< 24, for max. 5 seconds
Recommended discharging current (A)	< 6
Max. charging current (A)	< 12, with thermal control of the battery
Max. operating temperature (C°)	50
Lifespan (number of cycles)	more than 1000
Length (mm)	151
Height (mm)	101
Width (mm)	98