



#### Electrical performance

	UNISUN 50.12 MS	UNISUN 100.12 MS	UNISUN 150.12 MS
Max. power (Pm)*	50 W	100 W	150 W
Power tolerance*	0/+3%	0/+3%	0/+3%
Operating voltage	12 V	12 V	12 V

#### Technology

	mono/slim	mono/slim	mono/slim
Voltage at max. power (Vmp)*	20 V	20 V	20 V
Intensity at max. power (Imp)*	2,5 A	5 A	7,5 A
Voltage in open circuit (Voc)*	23,6 V	23,6 V	23,6 V
Intensity in short circuit (Icc/ ISC)*	2,75 A	5,5 A	8,25 A
Cell efficiency	21%	21%	21%
Module efficiency*	13,23%	14,49%	14,02%

#### Maximum battery charging power\*\*\*

12V Battery	with PWM controller	with MPPT controller	UNISUN 50.12 MS	UNISUN 100.12 MS	UNISUN 150.12 MS
			2 A	4 A	6 A
			3,26 A	6,25 A	9,78 A

#### Temperature characteristics

		UNISUN 50.12 MS	UNISUN 100.12 MS	UNISUN 150.12 MS
Operating temperature		-40/+85 °C	-40/+85 °C	-40/+85 °C
NOCT / TUC**		45 ±2°C	45 ±2°C	45 ±2°C
Temperature coefficient	Pm	-0,48%/°C	-0,48%/°C	-0,48%/°C
	Voc	-0,34%/°C	-0,34%/°C	-0,34%/°C
	Icc	0,037%/°C	0,037%/°C	0,037%/°C

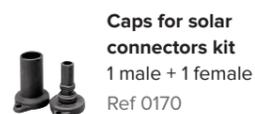
#### Mechanical characteristics

	UNISUN 50.12 MS	UNISUN 100.12 MS	UNISUN 150.12 MS
Front structure	ETFE	ETFE	ETFE
Black backsheet design	yes	yes	yes
Back structure	fiberglass	fiberglass	fiberglass
Possible bending	< 5°	< 5°	< 5°
Cable length (with connectors)	900 mm	900 mm	900 mm
Fixing eyelet (marine bronze)	×4	×4	×8
Module dimensions	712×560×20	1110×695×20	1580×695×20
Module weight	2,5 kg	5,2 kg	7,5 kg

#### Product warranty

Period	UNISUN 50.12 MS	UNISUN 100.12 MS	UNISUN 150.12 MS
	1 year	1 year	1 year

\*According to standard test conditions (STC): irradiance 1000 W/m<sup>2</sup>, AM= 1.5, cell temperature 25°C.  
 \*\* Nominal Operating Cell Temperature: Irradiance 800 W/m<sup>2</sup>, wind speed 1 m/s, ambient temperature 25°C.  
 \*\*\*According to NMOT standard- Nominal Module Operating Temperature (=test condition in real situation) : irradiance 800W/m<sup>2</sup>, ambiente temperature 20°C, wind speed 1 m/s



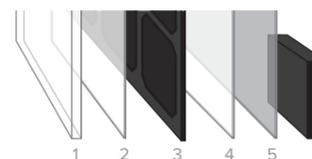
#### HIGH QUALITY COATING

Entry-level price range	UNISUN MS
Light transmission	
90-93%	<b>95%</b>
Antireflexion properties	
+	<b>+++</b>
Self-cleaning properties	
+	<b>+++</b>
Corrosion resistant	
+	<b>+++</b>
Resistant to a saline environment	
+	<b>+++</b>

#### HIGH QUALITY JUNCTION BOX

Entry-level price range	UNISUN MS
TÜV Certification	
rare	<b>✓</b>
Cell protection from surges (hot-spots)	
no	<b>✓</b>
Mechanical resistance	
+	<b>+++</b>
Waterproof	
+	<b>+++</b>
Shape	
not streamlined	<b>streamlined</b>

#### HIGH QUALITY STRUCTURE



1. High quality ETFE plastic
2. EVA Resin
3. Highly efficient cells
4. EVA resin
5. PET + fiberglass
6. TÜV certified junction box



- High efficiency cells
- High resistance plastic, anti-corrosion, high transmissibility of light
- TÜV certified waterproof junction box with hot-spot protection, reverse current
- Exceptional output even under weak light

#### UNISUN MS slim solar panels

## LIGHT AND MOBILE



#### QUICK CONNECTORS + PROTECTION

For a safe use, Unisun MS is equipped with a solar connector (waterproof + electrical transfer quality), and with an anti-reverse diode integrated in the junction box (protection for reverse current battery ->panel)



UNISUN MS is the high performance monocrystalline slim panel range (possible bending up to 5° max.) ideal for leisure (boating, campervan), off-grid or nomad activities.

Their highly efficient monocrystalline cells guarantee exceptional output even under weak light or extreme heat.

Their multi-layer structure with a high-quality coating on the front (ETFE), and fiberglass on the back, provides the best performance on the market regard to electrical performance (high transmissibility plastic with self-cleaning properties), mechanical resistance and corrosion resistance (ideal for boating).

With a TÜV certified junction box, UNISUN MS is protected against all cell overvoltage or hot spots (anti-spot protection) due to grey areas or cells getting masked, very common in boating (sailing ropes etc...). Its streamlined shape minimises wind resistance and avoids ropes from getting stuck making it ideal for boating use.

Light and space-saving UNISUN MS can be placed or fixed with rigging or bungee ropes thanks to their integrated eyelets (diam.10).

