



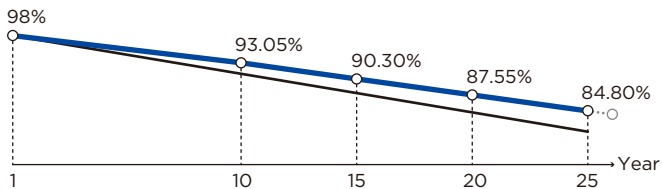
DHM-60X10/FS(BW)
450~460W

Full Screen

No Dust and Dirt on the Surface Increase Power Generation

Quality Guarantee

- 12-year → Material & technology warranty
- 25-year → Linear power output warranty



- DAH Solar Linear power output guarantee
- Standard Linear power output guarantee

Comprehensive Products & System Certificates



IEC 61215 / IEC 61730 / CE / FIDE / INMETRO
ISO 45001: 2018/International standards for occupational health & safety
ISO 14001: 2015/Standards for environmental management system
ISO 9001: 2015/Quality management system



Increase power generation by 6.15%+
Panel is capable to decrease power generation loss caused by Dust, reduce the hot spot risk.



Curved Surface 128° R Angle
Reduce holding pressure by 75%+
Curved Frame with ergonomic Design, optimized Delivery and Installation Experience.



Revolutionary Assembling Technology
Using excellent frame assembling technology, Strong Adhesion, Durable in Use.



Excellent mechanical load capacity
Certified by Dust-Sand, Salt-Mist, Ammonia etc. weather resistance tests and enhanced mechanical load: wind load (2400 Pa) and snow load (5400 Pa).

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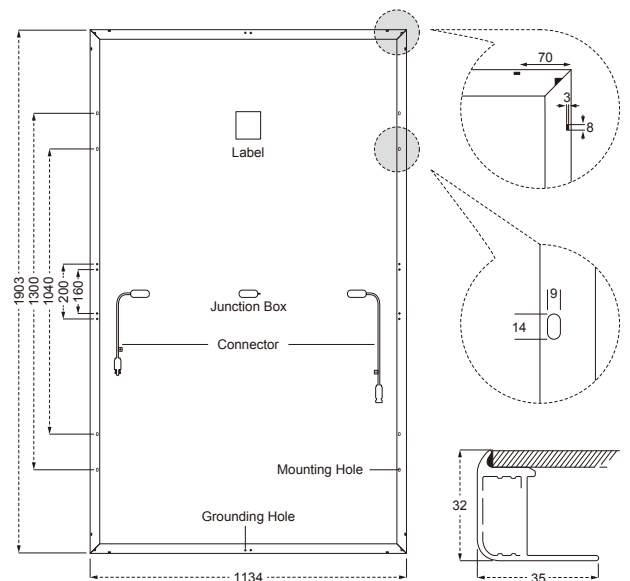
Mechanical Specification

Cable	4.0mm ² , 300/400mm in length,
(Including connector)	length can be customized
No.of Cells	120 (6×20)
Glass	3.2mm High Transmission, Antireflection Coating
Junction box	IP68, 3 Bypass Diodes
Connector	MC4 Compatible
Weight	23.8kg
Cells Type	Mono 182×91mm
Dimension (L×W×T)	1903×1134×32mm
Packing	34pcs/pallet, 816pcs/40HQ

Operating Parameters

Maximum system voltage	1500V DC
Operating Temperature	-40 ~ +85°C
Maximum series fuse rating	25A
Snow load, frontside/Wind load, backside	5400Pa/2400Pa
Nominal operating cell temperature	45°C±2°C
Application level	Class A

Design



STC — Electrical Characteristics

Module Type	DHM-60X10/FS(BW)		
Maximum Power (P _{max} /W)	450	455	460
Open-circuit Voltage (V _{oc} /V)	41.6	41.8	42.0
Maximum Power Voltage (V _{mp} /V)	35.2	35.4	35.6
Short-circuit Current (I _{sc} /A)	13.66	13.72	13.78
Maximum Power Current (I _{mp} /A)	12.78	12.85	12.92
Module Efficiency (%)	20.85	21.08	21.32

Power Tolerance: 0~+5W, Temperature Coefficient of I_{sc}: 0.05%/°C, Temperature Coefficient of V_{oc}: -0.31%/°C, Temperature Coefficient of P_{max}: -0.35%/°C

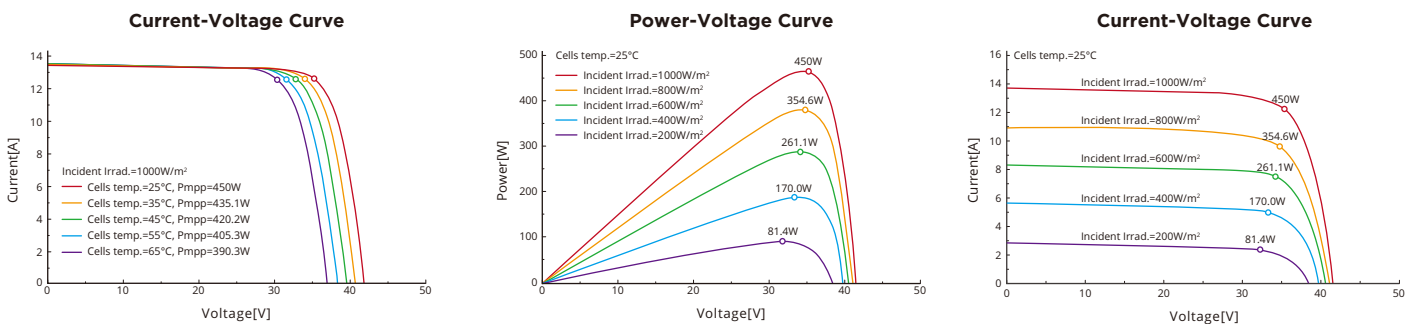
Standard Test Environment : Irradiance 1000W/m², Cell temperature 25°C, Spectrum AM1.5

NOCT — Electrical Characteristics

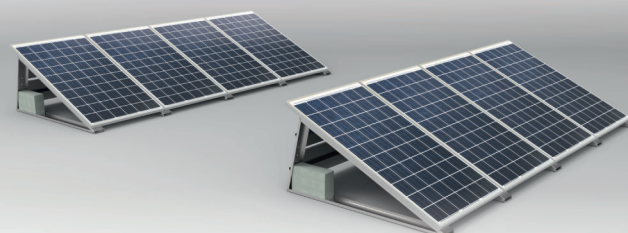
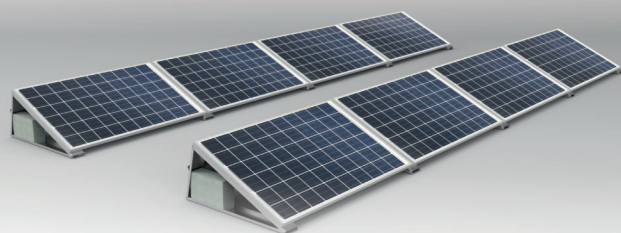
Maximum Power (P _{max} /W)	450	455	460
Open-circuit Voltage (V _{oc} /V)	39.4	39.6	39.7
Maximum Power Voltage (V _{mp} /V)	33.3	33.5	33.7
Short-circuit Current (I _{sc} /A)	11.02	11.07	11.12
Maximum Power Current (I _{mp} /A)	10.15	10.21	10.26

Standard Test Environment : Irradiance 800W/m², Ambient temperature 20°C, Spectrum AM1.5, Wind speed 1m/s

I-V Curve DHM-60X10/FS(BW)-450W



SYSTEM CORAB PB-092, PB-093 CLICK-IN

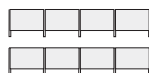


Materiał / Material: Magnelis / Magnelis

Magnelis®

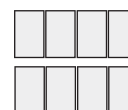
ArcelorMittal

**Układ modułów poziomy /
Modules layout landscape:**



Kąt / Angle:	Indeks / Index:	Powierzchnia dla 8 modułów/ Mounting surface for 8 modules:	Masa systemu (na 8 moduły) / Weight per 8 modules:
25°	XFS_PB092	23 m ²	56,4 kg

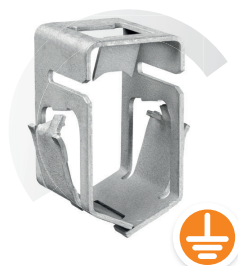
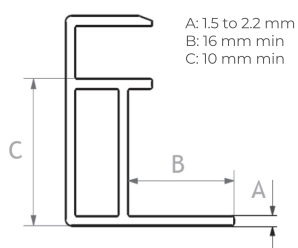
**Układ modułów pionowy /
Modules layout landscape:**



Kąt / Angle:	Indeks / Index:	Powierzchnia dla 8 modułów/ Mounting surface for 8 modules:	Masa systemu (na 8 moduły) / Weight per 8 modules:
20°	XFS_PB093	23 m ²	59,3 kg

- **Błyskawiczny montaż**
- **Łatwość rozbudowy**
- **System bezklemowy**
- **Łatwy transport**
- **Bardzo mało elementów**
- **Możliwość montażu inwazyjnego bądź obciążonego balastem**
- **Mocowanie i uziemienie w jednej czynności**
- **Montaż modułu w mniej niż 30 sekund**
- **Niższe koszty konserwacji: brak śrub, nie wymaga okresowej kontroli momentu obrotowego**
- **Redukcja ryzyka gorących punktów dla modułów PV dzięki elastycznemu mocowaniu**
- **Konstrukcja zapobiegająca kradzieży**
- **Testowany przez akredytowane laboratoria i certyfikowany przez największych producentów modułów**

- **Quick assembly**
- **Simplicity of extension**
- **No clamp system**
- **Easy to transport**
- **Only few elements**
- **Penetrating or ballasted option**
- **Fastening and grounding in a single operation**
- **Module installed in less than 30 seconds**
- **Installer- friendly: no need to climb on structure, panels can be fixed from underneath the array**
- **Hot spot risk reduction thanks to elastic mechanical clamping**
- **Anti-theft design**
- **Tested by accredited laboratories & approved by major modules manufacturers**





SOFAR 3.3K~12KTLX-G3

3300/4400/5000/5500/6600/8800/10000/11000/12000

Three-Phase Dual-MPPT



Remote firmware upgrade

98.6%

Maximum efficiency 98.6%



Smart string level monitoring

SPD

Type II SPD for both DC and AC

1100v

Maximum DC input voltage 1100V



Natural cooling, no fans, low noise



Low start-up voltage, wide MPPT voltage



Datasheet

SOFAR 3.3KTLX-G3 SOFAR 4.4KTLX-G3 SOFAR 5KTLX-G3-A SOFAR 5.5KTLX-G3 SOFAR 6.6KTLX-G3 SOFAR 8.8KTLX-G3-A SOFAR 8.8KTLX-G3 SOFAR 10KTLX-G3-A SOFAR 11KTLX-G3-A SOFAR 11KTLX-G3 SOFAR 12KTLX-G3

Input (DC)

Recommended Max. PV input power	4500Wp	6000Wp	7500Wp	7500Wp	9000Wp	12000Wp	12000Wp	15000Wp	15000Wp	15000Wp	18000Wp
Number of MPP trackers	2										
Number of DC inputs	1/1	1/1	1/1	1/1	1/1	1/2	1/1	1/2	1/2	1/1	1/2
Max. input voltage	1100V										
Start-up voltage	160V										
Rated input voltage	650V										
MPPT operating voltage range	140V-1000V										
Full power MPPT voltage range	160V-850V	190V-850V	240V-850V	240V-850V	290V-850V	380V-850V	380V-850V	420V-850V	420V-850V	420V-850V	460V-850V
Max. input MPPT current	15A/15A	15A/15A	15A/15A	15A/15A	15A/15A	15A/30A	15A/15A	15A/30A	15A/30A	15A/15A	15A/30A
Max. input short circuit current per MPPT	22.5A/22.5A	22.5A/22.5A	22.5A/22.5A	22.5A/22.5A	22.5A/22.5A	22.5A/45A	22.5A/22.5A	22.5A/45A	22.5A/45A	22.5A/22.5A	22.5A/45A

Output (AC)

Rated power	3000W	4000W	5000W	5000W	6000W	8000W	8000W	10000W	10000W	10000W	12000W
Rated apparent power	3000VA	4000VA	5000VA	5000VA	6000VA	8000VA	8000VA	10000VA	10000VA	10000VA	12000VA
Max. AC power	3300VA	4400VA	5000VA	5500VA	6600VA	8800VA	8800VA	10000VA	11000VA	11000VA	13200VA
Max. Output current	5A	6.7A	7.6A	8.3A	10A	13.3A	13.3A	15.2A	16.7A	16.7A	20A
Nominal grid voltage	3/N/PE, 220V/380Vac, 230V/400Vac										
Grid voltage range	310Vac-480Vac (According to local standard)										
Nominal frequency	50 / 60Hz										
Grid frequency range	45Hz-55Hz/54Hz-66Hz (According to local standard)										
Active power adjustable range	0~100%										
THDi	<3%										
Power factor	1 default (adjustable +/-0.8)										

Performance

Max efficiency	98.40%	98.40%	98.40%	98.40%	98.40%	98.50%	98.50%	98.50%	98.50%	98.50%	98.50%
European efficiency	97.50%	97.50%	97.50%	97.50%	97.50%	98.00%	98.00%	98.00%	98.00%	98.00%	98.00%

Protection

DC reverse polarity protection	Yes
Anti-islanding protection	Yes
Leakage current protection	Yes
Ground fault monitoring	Yes
PV-array string fault monitoring	Yes
Anti reverse power function	Yes
DC switch	Yes
AFCI protection	Optional
Input / output SPD	PV: type II standard, AC: type II standard

Communication

Standard communication mode	RS485/ USB/ Bluetooth, Optional: WiFi / GPRS /4G
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General Data

Ambient temperature range	-30°C~ +60°C										
Self-consumption at night	< 1W										
Topology	Transformerless										
Degree of protection	IP65										
Allowable relative humidity range	0~100%										
Max. Operating altitude	4000m										
Noise	≤40dB										
Weight	17kg	17kg	17kg	17kg	17kg	17kg	17kg	18kg	18kg	18kg	18kg
Cooling	Natural										
Dimension	430*385*182mm										
Display	LCD&Bluetooth +APP										
Standard warranty	10 years										

Standard

EMC	EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12, EN61000-6-1, EN61000-6-3										
Safety standards	IEC62109-1/2, IEC62116, IEC61727, IEC61683, IEC60068(1,2,14,30)										
Grid standards	AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21/CEI 0-16, UNE 206 007-1, EN50549, G98/G99, EN50530, NB/T32004										