

OFF-GRID MODULE

Off-Grid 210 mm · 200–380 W

Large 210 mm off-grid modules, 200–380 W — 12 V/24 V/48 V systems, pumps & hybrid plants

380 W | UP TO
POWER

22.0 % | UP TO
MODULE EFF.

Matched to off-grid batteries

- Voltage matched to charge 12 V / 24 V / 48 V banks directly via PWM or MPPT
- Ideal for RV, caravan, boat, cabin, solar pump & off-grid lighting
- Every wattage self-consistent — no over-rated specs

High-efficiency half-cut mono

- Monocrystalline half-cut cells — up to 22.0% module efficiency
- Low $-0.29\%/^{\circ}\text{C}$ temperature loss; strong morning / evening yield
- Better long-term reliability (low LID / LeTID)

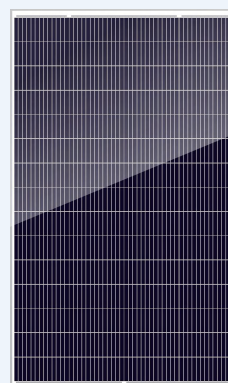
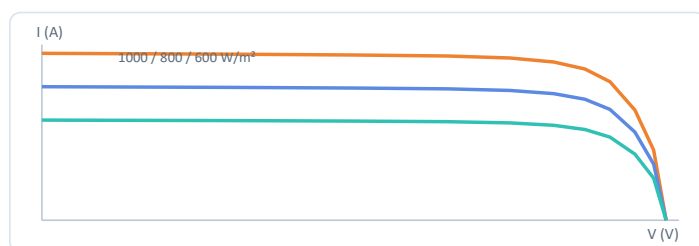
Rugged & weatherproof

- Anodised aluminium frame, anti-reflective tempered glass
- IP67 junction box, 5400 Pa front load, $-40 \sim +85\text{ }^{\circ}\text{C}$
- EL & flash-tested, power-binned, 25-year linear power warranty

Key specifications

Power range	200 – 380 W
Cell	Half-cut mono
Voc class	$\approx 21 - 51\text{ V}$
Module efficiency	up to 22.0%
Max system voltage	700 / 1000 V
Operating temp	$-40 \sim +85\text{ }^{\circ}\text{C}$
Connector	MC4-compatible
Warranty	12 yr / 25 yr

MODULE I-V CURVE



210 mm half-cut
up to 22% eff.

12/24/48 V
32–72-cell options

High yield
low $-0.29\%/^{\circ}\text{C}$

1000 V · IP67
system-ready

WHY COTECH



EL & flash tested

100% inspected, power-binned & traceable

IDEAL FOR

Off-grid home

Solar pump

Hybrid plant

Telecom

Agriculture

C & I backup

APPLICATIONS



Off-grid home



Pump

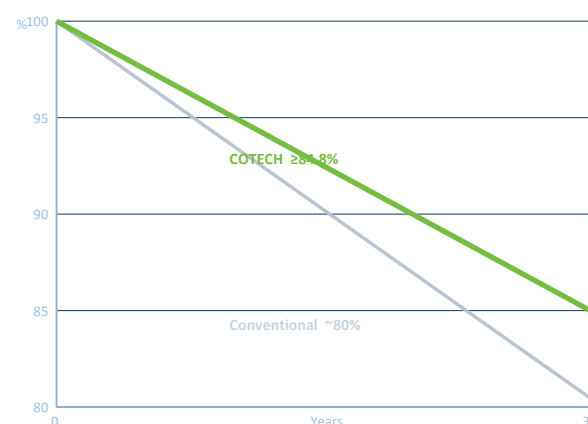


C & I



Hybrid

PERFORMANCE WARRANTY



12-yr product

25-yr power

CERTIFICATION & QUALIFICATION

IEC 61215

IEC 61730

CE

RoHS

ISO 9001

STC: 1000 W/m², 25 °C, AM1.5. Electricals per COTECH source datasheets; every bin self-consistent. Specs subject to change.

Off-Grid 210 mm · 200–380 W — specifications

Rating	200–220 W	230–250 W	280–300 W	310–330 W	340–380 W
Electrical characteristics (STC)					
Module code	CS-200~220M12	CS-230~250M12	CS-280~300M12	CS-310~330M12	CS-340~380M12
Maximum power P _{max} (W)	200–220	230–250	280–300	310–330	340–380
Open-circuit voltage V _{oc} (V)	21.2–22.5	23.9–25.3	39.8–40.6	21.3–22.5	47.9–51.0
Short-circuit current I _{sc} (A)	11.77–12.09	11.88–12.13	8.79–9.10	17.92–18.19	8.79–9.10
Voltage at P _{max} V _{mp} (V)	18.2–19.2	20.5–21.7	34.1–34.7	18.3–19.2	41.0–44.0
Current at P _{max} I _{mp} (A)	11.00–11.45	11.23–11.55	8.22–8.65	16.94–17.33	8.30–8.67
Module efficiency η _m (%)	19.2–21.1	19.8–21.5	19.3–20.7	20.1–21.4	19.7–22.0
Power tolerance	0 / +5 W				
Max. system voltage (V)	1000	1000	1000	1000	1000
Max. series fuse (A)	15	20	15	30	15
Temperature characteristics					
Temp. coefficient of P _{max}	−0.29 %/°C				
Temp. coefficient of V _{oc}	−0.25 %/°C				
Temp. coefficient of I _{sc}	+0.045 %/°C				
NOCT	45 ± 2 °C				
Operating temperature	−40 ~ +85 °C				
Mechanical characteristics					
Cell type	Monocrystalline half-cut				
Cell size	210mm · 32 cells	210mm · 36 cells	210mm · 60 cells	210mm · 64 cells	210mm · 72 cells
Dimensions (mm)	1190×875×30mm	1330×875×30mm	1655×875×30mm	1760×875×30mm	1975×875×30mm
Weight (kg)	9.9	10.6	13.0	13.5	14.6
Front glass	2.0–3.2 mm tempered, anti-reflective				
Frame	Anodised aluminium alloy				
Junction box	IP67, bypass diodes				
Cable / connector	50–90 cm (cust.) · MC4-compatible				
Mechanical load	5400 Pa front / 2400 Pa rear				

MECHANICAL & SYSTEM

Mechanical	Data
Cell	Monocrystalline, half-cut
Front glass	2.0–3.2 mm tempered · anti-reflective
Frame	Anodised aluminium alloy
Junction box / diodes	IP67 · bypass diodes
Connector	MC4-compatible · 50–90 cm cable
Product / power warranty	12 years / 25 years (linear)



COTECH SOLAR — vertically-integrated cell-to-module manufacturing

20 GW

shipped

120+

countries

IEC · CE

certified

IDEAL FOR

Off-grid home

Solar pump

Hybrid plant

Telecom

Agriculture

C & I backup

Power your off-grid life — at any size.

26 half-cut mono off-grid modules, 40–380 W, EL & flash-tested, from a Top-50 vertically-integrated maker.

Get a quote — info@cotechsolar.com
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