



SOLAR PV & BATTERY STORAGE TECHNOLOGY





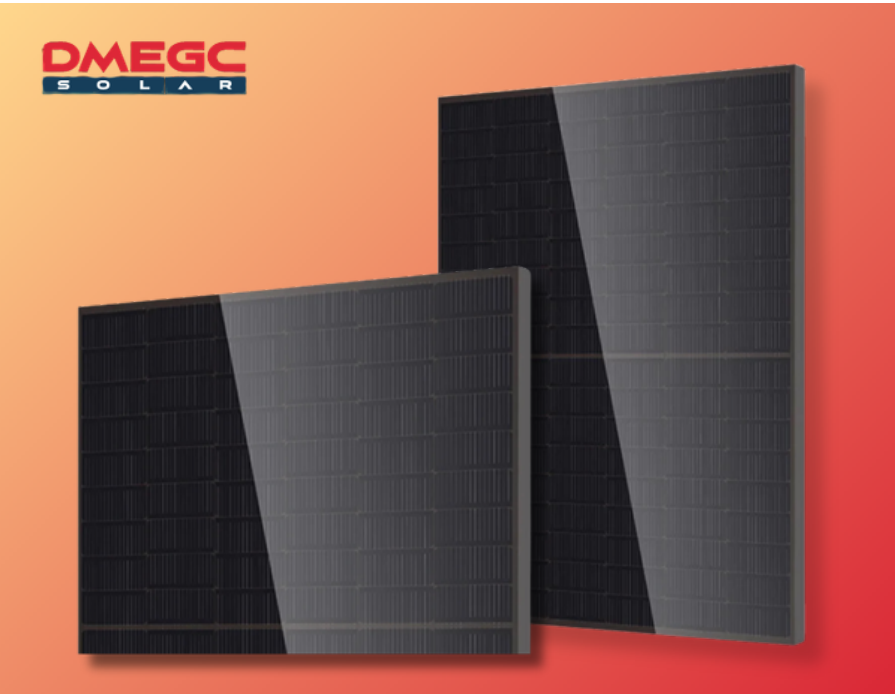
TURN SUNLIGHT INTO SAVINGS

We provide a range of solar and battery packages to help you lower your energy costs and reduce your carbon footprint. We also offer bespoke systems to accommodate all homes, requirements, & lifestyles.

PRODUCT INFORMATION

- 3** DMEGC 465W Solar Panels
- 5** Solis IntelliHome 5 kWh Battery
- 7** Solis 3-10K Inverter
- 9** Dura5 Solar 5.12kWh Battery
- 11** Dura-i Hybrid Inverter
- 13** Tigo Power Optimiser
- 16** eddi Power Diverter

DMEGC 465W All Black Solar Panels



Infinity RT | DMxxxG12RT-G48HBB 455~475W

- Outstanding advanced black aesthetics
- Extended Stress Tests Protection against harsh environmental conditions Certified by TÜV Rheinland
- High-quality N-type monofacial module with Double Glass
- Low carbon footprint, PFAS-free and recyclable components.



25-year Product Warranty



30-year Linear Power Warranty

23.8%

MAX MODULE
EFFICIENCY

0~3%

POWER
TOLERANCE

1%

FIRST YEAR POWER
DEGRADATION

0.40%

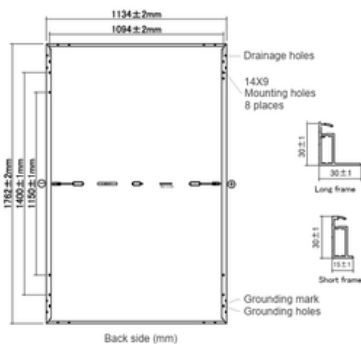
YEAR 2-30 POWER
DEGRADATION

DMEGC 465W All Black Solar Panels



Module Specification

Cell Type	N type Mono-crystalline, 96 (6*16)
Dimensions (mm)	1762*1134*30
Weight (kg)	24.0
Front Cover	2 mm heat strengthened glass, Anti-reflective coating
Rear Cover	2 mm heat strengthened glass
Junction Box	3 Diodes, IP68 according to IEC 62790
Output Cables (Including Connector)	4 mm ² /Portrait: 300 mm (+)/200 mm (-) Landscape: 1100 mm (+)/1100 mm (-) Length can be customized
Connector Type	PV-ZH202B or MC4-EVO 2A (1500V)



Electrical Specifications¹

Module Type	DM455G12RT-G48HBB		DM460G12RT-G48HBB		DM465G12RT-G48HBB		DM470G12RT-G48HBB		DM475G12RT-G48HBB	
Testing Condition	STC ²	NMOT ³	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	455	347	460	351	465	354	470	358	475	362
Maximum Power Current (I _{mp} /A)	14.83	12.05	14.87	12.08	14.91	12.11	14.95	12.15	14.99	12.18
Maximum Power Voltage (V _{mp} /V)	30.69	28.80	30.95	29.04	31.21	29.28	31.47	29.53	31.68	29.73
Short-circuit Current (I _{sc} /A)	15.78	12.72	15.83	12.76	15.88	12.80	15.93	12.84	15.98	12.88
Open-circuit Voltage (V _{oc} /V)	36.18	34.82	36.32	34.96	36.46	35.09	36.60	35.22	36.74	35.36
Module Efficiency STC (%)	22.8		23.0		23.3		23.5		23.8	

¹ Measurements according to IEC 60904-3. Measurement tolerance: I_{sc}: ±4%, V_{oc}: ±3%, Test uncertainty for P_{max}: ±3%, Bifaciality: 80%±5%

² STC (Standard Test Condition): Radiation 1000 W/m², Module temperature 25°C, AM = 1.5

³ NMOT: Radiation 800 W/m², Ambient temperature 20°C, AM = 1.5, Wind Speed 1 m/s



Operating Conditions

Operating Temperature (°C)	-40 to +85
Maximum System Voltage (V)	1500 DC(IEC)
Overcurrent Protection Rating (A)	25
Power Output Tolerance (%)	0~3
Protection Class	Class II
Max. Test Load, Push/Pull (Pa)	Front 5400 / Back 2400
Max. Design Load, Push/Pull (Pa)	Front 3600 / Back 1600



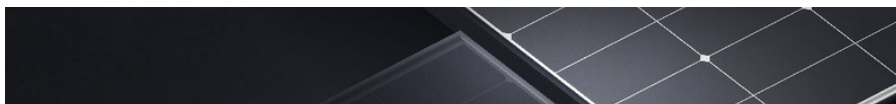
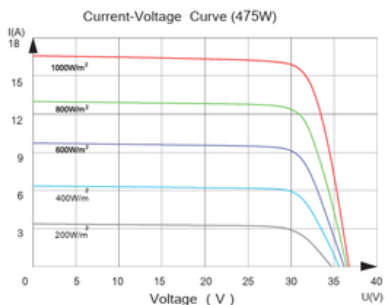
Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42±2°C
Temperature Coefficient of P _{max} (%/°C)	-0.29
Temperature Coefficient of V _{oc} (%/°C)	-0.25
Temperature Coefficient of I _{sc} (%/°C)	+0.048



Packaging

Container	40HQ
Pallet Dimensions (mm)	1800X140X1250
Pieces per Pallet	36
Pieces per Container	936



SOLIS INTELLIHOME 5 KWH BATTERY



IntelliHome- 5 kWh-OD

General Specification

Dimension (WxDxH mm)	470 × 650 × 150 mm
Weight	50 kg
Installation	Floor-mounted / Wall-mounted
Operating/Working Temperature	-10°C~ 45°C
Environment	Indoor/Outdoor
Cooling	Natural cooling
Operating / Storage / Humidity	5%~95%RH
Operating Altitude	≤ 4000 m (> 2000 m, derating)
IP Rating	IP66
Cell Technology	LiFePO4
Cycle life	> 6000 Cycles / 10 Years
Scalability	Up to 8 units in parallel
Warranty	10 Years

SOLIS INTELLIHOMES

5 KWH BATTERY



Performance

Nominal Voltage	51.2Vdc
Battery module energy	5.12kWh
Useable energy	4.5kWh
Maximum sustainable discharge current	100A
Maximum sustainable charging current	50 A
Operating voltage range (single phase)	44.8 – 57.6 V

Communication

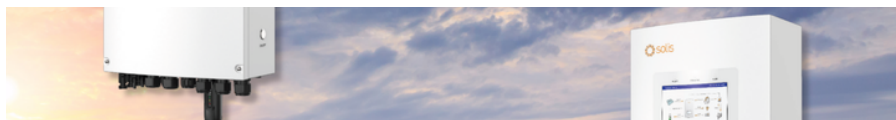
Display	LED indicator
Communication	CAN / RS485

Standard Compliance

Certification	5kWh/10kWh: IEC 62619, IEC 63056, ISO13849, VDE 2510-50, UN 38.3, EN/IEC61000-6-1/2/3/4, IEC 60730-1, IEC 60529 (IP); 16kWh: IEC 62619, IEC 63056, ISO13849, VDE 2510-50, UN 38.3, EN/IEC61000-6-1/2/3/4, IEC 60730-1, IEC 60529 (IP), CEC list
---------------	---



SOLIS 3-10K SINGLE PHASE INVERTER



Solis 3-10K Inverter | Solarator Series

Also Available in Model Nos. S6-EH1P(3-8)K-L-PLUS, S6-EH1P(9-10)K-L-PLUS(21A)

The Solis S6-EH1P series is comprised of single-phase, low-voltage hybrid and energy storage inverters designed for residential setups, offering 3kW to 10kW capacities, fast UPS backup switching (<4ms), and high-power PV panel support.

Specifications	
AC Rated Power	3.6 kW
Dimensions	335 × 560 × 253 mm
Weight	23 kg
Mounting	Wall bracket
Grid Connection	Single phase
IP Rating	IP66
Maximum AC Output Current	16.4 A / 15.7 A
MPP Voltage Range	90 - 435 V
No. MPP Trackers	2
Max. short current (input A/input B)	20 A / 20 A
Max. PV voltage	500 V
Max. usable PV input power	5.76 kW
Max. efficiency (PV to AC)	95.3% / 93.9%
Max. operation altitude	3000 m
Operating temperature range	-25°~60°
Relative humidity	0~100%
Cooling concept	Natural Cooling

SOLIS 3-10K SINGLE PHASE INVERTER



Specifications	
DC/AC overvoltage protection	DC Type II, AC Type III
Battery connection	Terminal Block
AC connection	Terminal Block
Display	7.0" LCD display & Bluetooth + APP
Smart controls	APP (OS/Android)
Communication Interface	Standard: WIFI+LAN+Bluetooth, CAN-BMS, CAN-Parallel×2, RS485-Meter, RS485, DRM, DI, DO×2; Optional: 4G
Grid safety	IEC/EN 62109-1/-2, EN 61000-6-2/-3
Warranty	10 years



DURA5 SOLAR 5.12KWH BATTERY

DURACELL®
ENERGY



51.2V PD-5KWH-50V-2G

General Specification

Dimension (WxDxH mm)	490 x 110 x 688mm
Weight	51.5±1kg
Installation	Stackable or Wall-mount
Operating/Working Temperature	-10°C~55°C
Environment	Indoor/Outdoor
Cooling	Natural Convection
Operating / Storage / Humidity	5%~95%RH
Operating Altitude	0-3000m (Derating above 2000m)
IP Rating	IP65
Cell Technology	LiFePO4
Cycles	8000
Scalability	Max 32 Systems In Parallel Operation (stacks of 16)
Warranty	10 Years

DURA5 SOLAR 5.12KWH BATTERY

DURACELL®
ENERGY

Performance

Nominal Voltage	51.2Vdc
Battery module energy	5.12kWh
Useable energy	4.6kWh
Max output power	100A
Peak output power	110A
Operating voltage range (single phase)	43.2V-56.8V

Communication

Display	LED indicator
Communication	CAN / RS485

Standard Compliance

Certification	PACK:UN38.3, IEC62619, IEC61000, CELL:UN38.3, IEC62619, UL 1642, JET (more available upon request)
---------------	--



DURA-I G3 HYBRID INVERTER

DURACELL®
ENERGY



Dura-i G3 Inverter - PD-DH1P-3.6K-G3

Also Available in Model Nos. PD-DH1P-4.6K-G3, PD-DH1P-5K-G3, PD-DH1P-6K-G3

The Dura-i charges and discharges your solar battery 20% faster than other hybrid inverters on the market and captures more solar throughout the day to give you more for your money. The Dura-i can handle a massive 10kWp of solar energy and has an uninterrupted power supply capable of backing up 26.1A (AC)

Specifications	
AC Rated Power	3.6 kW
Dimensions	377 x 452 x 206mm
Weight	20kg
Mounting	Wall bracket
Grid Connection	Single phase
IP Rating	IP65
Maximum AC Output Current	18A
MPP Voltage Range	70-540 V
No. MPP Trackers	2
Max. short current (input A/input B)	25A/25A
Max. PV voltage	550V
Max. PV power	10000W
Max. efficiency (PV to AC)	97.3%
Max. operation altitude	4000m
Operating temperature range	-25°~60°
Relative humidity	0~100%
Cooling concept	Natural Cooling

DURA-I G3 HYBRID INVERTER

DURACELL®
ENERGY

Specifications	
DC/AC overvoltage protection	DC Type II, AC Type III
Battery connection type	Dedicated DC connector
AC connection type	Dedicated AC connector
Display	LED + APP
Monitoring	APP (OS/Android)
Communication Interface	RS485/CAN (for BMS), RS485, USB, Ethernet, DRM/RS485 for meter, Optional: WiFi/LAN
Grid safety	IEC 61727/62116/61683/60068, NRS 097-2-1, G98, G99, VDE4105, EN50549-1/-10, AS4777.2
Warranty	10 years



TIGO POWER OPTIMISER



TS4-A-O

Optimization is a Flex MLPE function available as an integrated modular junction box base (TS4-O) or as an add-on unit (TS4-A-O). Design using unequal string lengths, mixed orientations, or areas of mismatch. Install in shaded areas with a reduced setback ratio. In addition to optimization, the TS4-A-O enables module level monitoring, and rapid shutdown in compliance with NEC 2014, 2017, 2020.

Features	
Simple, fast installation - snaps to a standard PV module frame or mounts to racking	Works with any system - fully compatible with thousands of different inverter models from more than 50 inverter brands
Intelligent optimisation - delivers the maximum energy from an array	25-years warranty
Module-level monitoring - full visibility into module and system-level production	Monitoring, rapid shutdown, and remote troubleshooting with Tigo Access Point (TAP) and Cloud Connect Advanced (CCA)
Rapid shutdown - a UL standards-certified component for photovoltaic rapid shutdown systems (PVRSS) worldwide	

TIGO POWER OPTIMISER



Electrical Specifications

Maximum current	15 A/20 A
Input voltage range	16 – 80 V
Maximum input voltage	80 V
Maximum system voltage	1000 V/1500 V
Maximum output current	15 A
Maximum output power	700 W
Maximum fuse rating	25 A
Maximum efficiency	99.6%

AS 5033 Operational Output

Maximum output current	I DCU MAX
Maximum output voltage	V DCU MAX
Maximum output power	P DCU MAX

Rapid Shutdown

TS4 Conductor AWG	12
Rapid shutdown time limit	<30 sec
PVRSE-controlled conductor limits	<240 VA, <8 A, <30 V
UL 1741-compliant PVRSE	Yes
Communications	Wireless

Connections

Input (from module) cable lengths	0.12/0.62 m
Output (to string) cable lengths	1.2/2 m
Connectors	MC4/EVO2

TIGO POWER OPTIMISER



Environmental Specifications

Operating temperature range	-40 -70°C (-40 - 158°F)
Storage temperature range	-40 - 85°C (-40 - 185°F)
Maximum elevation	2000 m (6560 ft.)
Outdoor IP rating	IP68/NEMA 3R

Mechanical Specifications

Dimensions (H/W/D)	139.7 x 138.4 x 22.9 mm (5.4 x 5.5 x 0.9 in.)
Weight	520 g (1.15 lb.)

General Specifications

Standards Compliance	FCC 15b, ETSI EN 301 489, CISPR 31, CSA 22.2, IEC 62109, NEC 690.12 UL 1741 PVRSE/PVRSS
Warranty	25 years



eddi SOLAR POWER DIVERTER



eddi ECO-SMART ENERGY DIVERTER

The eddi is an eco-smart energy management system. It diverts surplus power from solar PV or wind generation to a designated heating appliance such as an immersion heater. This excess energy will go directly to the appliance (or two sequentially). eddi allows you to stop exporting surplus energy back to the grid and saves you money on your energy bill; eddi utilises myenergi’s proprietary VariSine™ compliance with worldwide power grid standards.

-  Internet connected & remote controllable
-  Works with heat pumps
-  3-Year Warranty

Features

3.68kW / 16A max heater load	Support two heaters (sequentially)
Expansion module option - 2 extra outputs with temperature control	Wall mounting bracket for ease of installation
Integral bypass switch	Overload and short-circuit protection
Graphical back-lit LCD screen for ease of use	Ethernet port and built-in WiFi for connecting to the internet
Fan-less cooling	Complies with CE and UKCA Requirements
Built-in programmable boost timers	Works alongside battery storage systems
VariSine PWM technology	Energy monitoring on the go via the myenergi app

eddi SOLAR POWER DIVERTER



Performance

Power Control Technology	WariSine pur sine wave (pulse Width Modulation)
Outputs	2 (Sequential operation with selectable priority)
Bypass Switch	Integral On/Off/Bypass Switch
Cooling	Rear mounted passive cooled heatsink
Indicators	LED indication: Supply On. Heater 1 and Heater 2 active
Display	Graphical LCD with LED backlight (Shows heating status and savings data)
PWM Resolution	0.1%
Measurement Accuracy	+/- 1%
Power Conversion Efficiency	97.5% typ
Compliance	LVD 2014/35/EU, EMC 2014/30/EU, EN 60335-1 :2012, EN 550141 :2006, EN 55014-2 :1997, +A1 :2001+A2 :2008, EN 61000-32 :2006, +A1 :2009+A2 :2009, EN61000-3-3 :2008

Mechanical Specs

Dimensions	220 x 205 x 87mm (excluding wall bracket)
Weight	4.3kg (excluding wall bracket)
Protection Degree	IP20
Enclosure Material	Painted Zintec Steel
Operating Temperature	-20°C to +40°C
Mounting Method	Wall mounting bracket

eddi SOLAR POWER DIVERTER



Electrical Specs

Rated Input Power	3.68kW
Rated Supply Voltage	230V AC Single Phase (+/- 10%)
Supply Frequency	50Hz
Rated Current	16A
Standby Power Consumption	3W Typical
Generator Size Supported	No limit (Subject to 100A per phase grid supply)
Heater Load Size	100W min. 3.68kW max.
Wireless Interface	868 / 915MHz (proprietary protocol) for wireless sensor and remote monitoring options
Grid Current Sensor	100A max. primary current, 16mm max. cable diameter
Supply Cable Entry	Bottom entry

Relay & Sensor Board (Optional)

Economy Tariff Sense Input (eSense)	230V AC sensing (2.5kV isolated)
Multifunction Relay	2x 16 Amp
Temperature Sensor Inputs	2x PT1000





REQUEST A FREE SOLAR PROPOSAL

Contact Us

solar@refreshni.com

028 9099 3485

www.refreshni.com

Suite 1, Elizabeth
House, 116-118
Holywood Rd, Belfast
BT4 1NY



 Refresh