

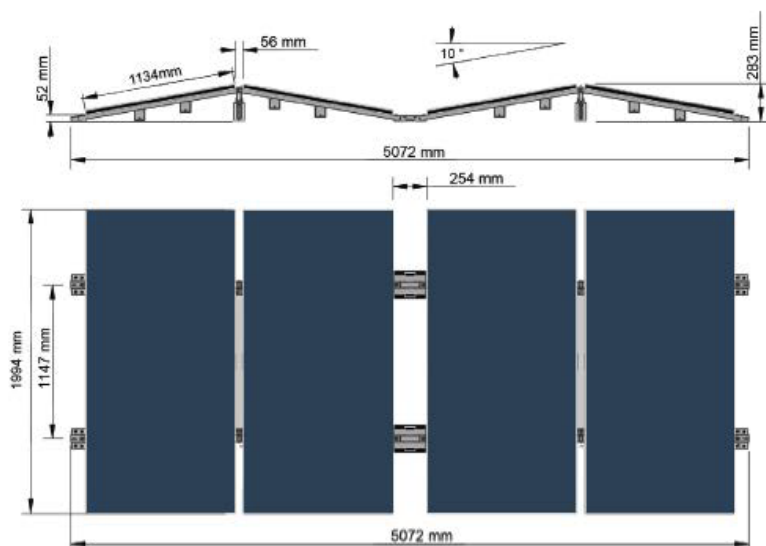
DATABLAD SMARTSOLARBOX



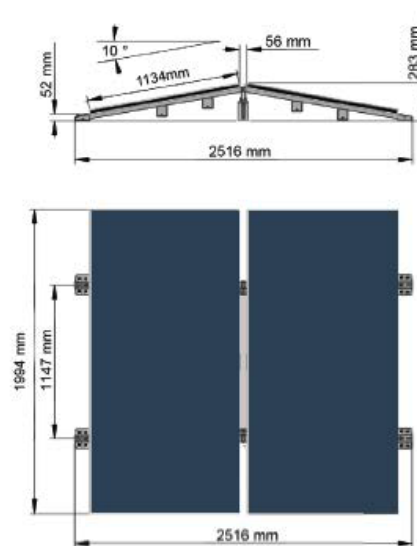
**RUNERGY
HY-DH120N9
505W**

VERSJON 5.0

SSB4:



SSB2:

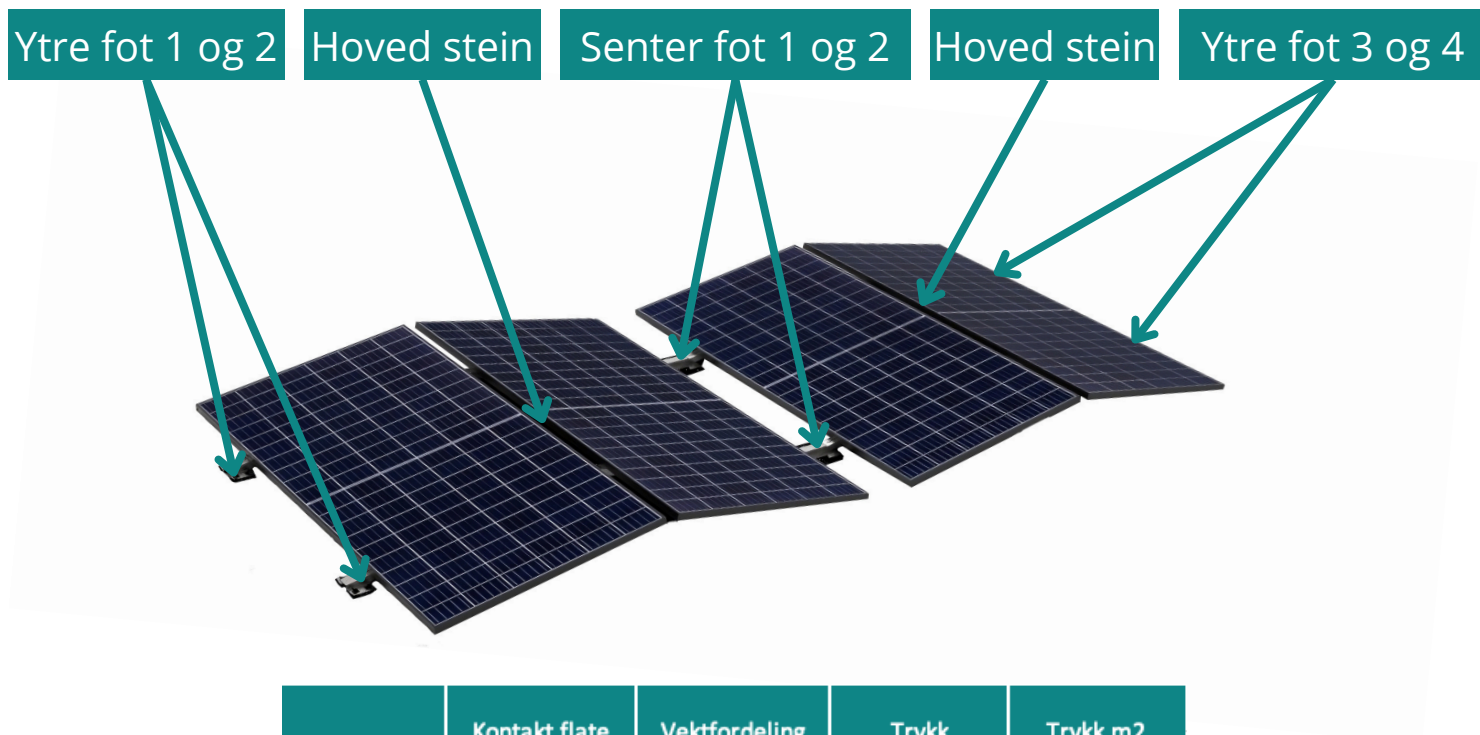


Teknisk Data

Anvendelsesområde	Flate tak med en helning på $\leq 5^\circ$ med folie eller asfalttak, på betong, grus eller grønne tak; også egnet for tak med trapesformet blikk.
Ballast	Innebygde betongballastelementer - ingen gjennomtrengning av taket
Vinkel	10°
Retning	Øst-Vest
Materiale konstruksjon	Magnelis® ZM310
Berøring på takmembranen	RegupolSolarAlu 10mm (PUR-bond gummi granulat)
DC-Kabel	Integrert MC4-Evo2 plugg, 4mm ² - 10 års garanti
Optimizer/Microinverter	Valgfri Optimaizer eller microinverter kan integreres i SmartSolarBox-systemet under produksjonen.
Godkjenninger:	Vind test IFI. LoadtestsREECH



Vektfordeling SmartSolarBox Light

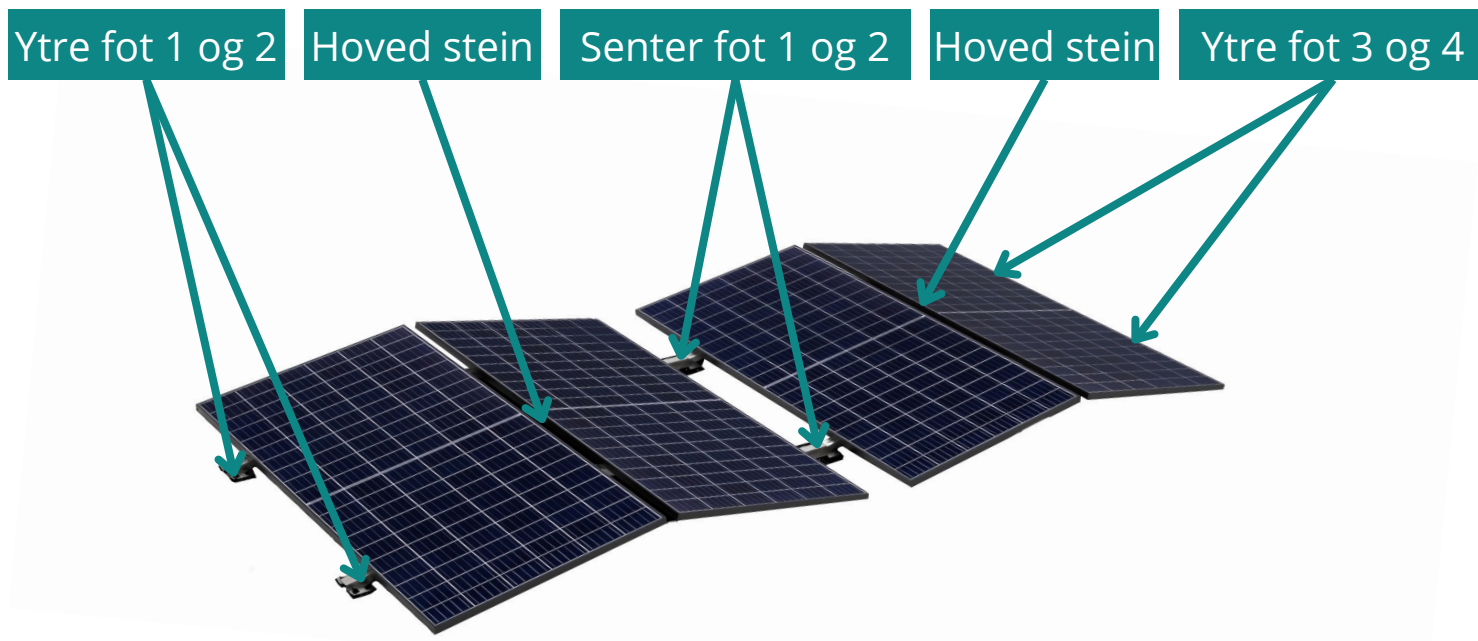


	Kontakt flate [cm ²]	Vektfordeling [%]	Trykk [N]	Trykk m ² [N/m ²] == [PA]
Ytre fot 1	94	4,28 %	75,3	8009
Ytre fot 2	94	4,28 %	75,3	8009
Hoved stein	470	33,25 %	585,6	12459
Senterfot 1	284	8,20 %	144,4	5085
Senterfot 2	284	8,20 %	144,4	5085
Hoved stein	470	33,25 %	585,6	12459
Ytre fot 3	94	4,28 %	75,3	8009
Ytre fot 4	94	4,28 %	75,3	8009
Total	1884	100,00 %	1761,1	

Modul bredde	1134	mm
Modul lengde	1994	mm
Modul vekt	28,4	kg
System lengde SSB4 V 5.0	5112	mm
Dekningsområde for SSB4 V5.0	10,19	m ²
Modul areal	2,26	m ²
Fot areal per modul	0,05	m ²

Type SSB	Vekt	Fordelt last
SSB4 Corner	325kg	31,88kg/m ²
SSB4 Heavy	252kg	24,72kg/m ²
SSB4 Light	178kg	17,46kg/m ²

Vektfordeling SmartSolarBox Heavy

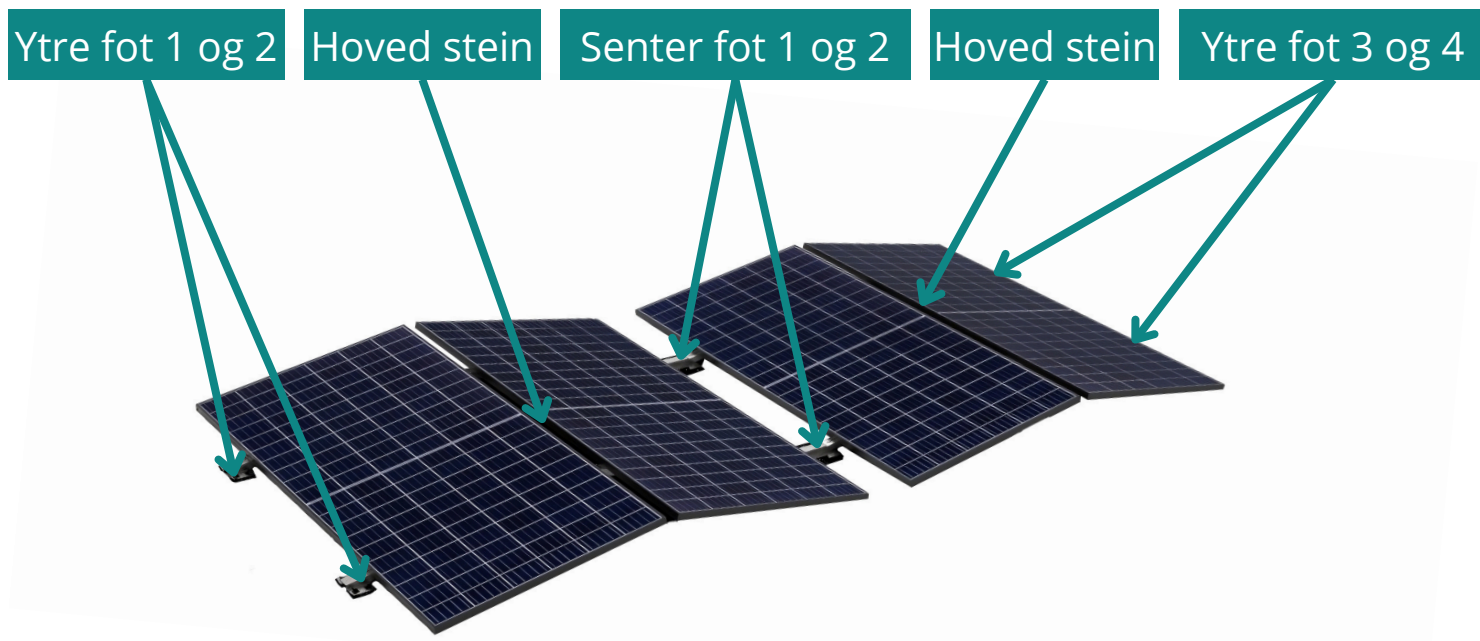


	Kontakt flate [cm ²]	Vektfordeling [%]	Trykk [N]	Trykk m ² [N/m ²] == [PA]
Ytre fot 1	94	4,33 %	107,6	11442
Ytre fot 2	94	4,33 %	107,6	11442
Hoved stein	470	34,10 %	848,0	18042
Senterfot 1	284	7,25 %	180,3	6348
Senterfot 2	284	7,25 %	180,3	6348
Hoved stein	470	34,10 %	848,0	18042
Ytre fot 3	94	4,33 %	107,6	11442
Ytre fot 4	94	4,33 %	107,6	11442
Total	1884	100,00 %	2486,8	

Modul bredde	1134	mm
Modul lengde	1994	mm
Modul vekt	28,4	kg
System lengde SSB4 V 5.0	5112	mm
Dekningsområde for SSB4 V5.0	10,19	m ²
Modul areal	2,26	m ²
Fot areal per modul	0,05	m ²

Type SSB	Vekt	Fordelt last
SSB4 Corner	325kg	31,88kg/m ²
SSB4 Heavy	252kg	24,72kg/m ²
SSB4 Light	178kg	17,46kg/m ²

Vektfordeling SmartSolarBox Corner



	Kontakt flate [cm ²]	Vektfordeling [%]	Trykk [N]	Trykk m ² [N/m ²] == [PA]
Ytre fot 1	94	5,20 %	166,5	17717
Ytre fot 2	94	5,20 %	166,5	17717
Hoved stein	470	30,75 %	984,8	20954
Senterfot 1	284	8,85 %	283,4	9980
Senterfot 2	284	8,85 %	283,4	9980
Hoved stein	470	30,75 %	984,8	20954
Ytre fot 3	94	5,20 %	166,5	17717
Ytre fot 4	94	5,20 %	166,5	17717
Total	1884	100,00 %	3202,7	

Modul bredde	1134	mm
Modul lengde	1994	mm
Modul vekt	28,4	kg
System lengde SSB4 V 5.0	5112	mm
Dekningsområde for SSB4 V5.0	10,19	m ²
Modul areal	2,26	m ²
Fot areal per modul	0,05	m ²

Type SSB	Vekt	Fordelt last
SSB4 Corner	325kg	31,88kg/m ²
SSB4 Heavy	252kg	24,72kg/m ²
SSB4 Light	178kg	17,46kg/m ²

RUNERGY

TIER 1 HY-DH120N9 **500-520W**

23.0%

Max. Efficiency

N-Type

Bifacial & Dual Glass

120 Pieces

Half-Cell



High Conversion Efficiency

Module efficiency up to 23.0% based on N-Type wafer and advanced N-Type cell technology



Excellent Energy Yield

More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality



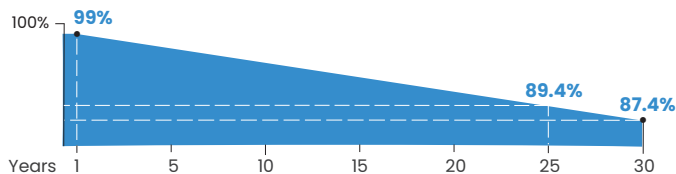
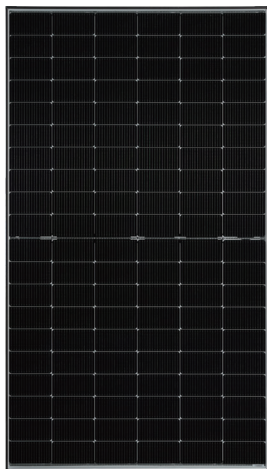
Outstanding Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special characteristics of N-Type



Quality Guarantee

High module quality ensures long-term reliability



Runergy N-Type Dual Glass Product Performance Warranty

- **25 Years** warranty for materials and workmanship
- **30 Years** warranty for extra linear power output
- 1st year < **1%**, annual degradation < **0.4%**

IEC61215 / IEC61730 / UL61730 / IEC61701 / IEC62716 / IFC60068 / ISO9001 / ISO14001 / ISO45001



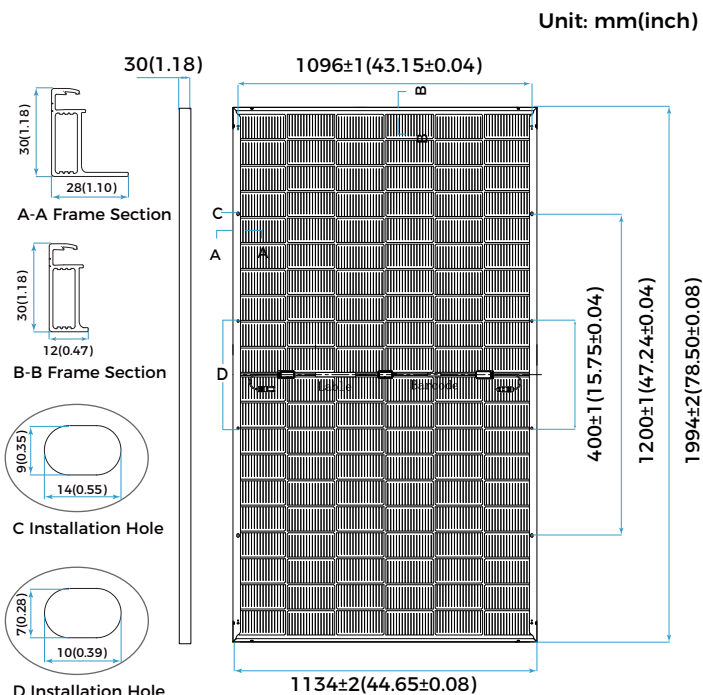
www.runergy.com
sales-inform@runergy.com

Mechanical Parameters

Solar Cell	Mono N-Type 182.2×191.6mm
No. of Cells	120 (6 × 20)
Dimensions	1994 × 1134 × 30mm(78.40× 44.65 × 1.18in.)
Weight	28.4 kg (62.6 lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm ² (IEC), 12 AWG(UL) +400/-200mm (+15.75/-7.87in.) or customized
Connector	MC4-EVO2
Front Cover	2.0mm AR coated tempered glass
Back Cover	2.0mm tempered glass
Frame	Aluminum, silver/black anodized
Container	36 pcs/Pallet, 792 pcs/40' HQ

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C (-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa(112lb/ft ²)
Backside Max. Loading	2400Pa(50lb/ft ²)
Bifaciality	80%±10%
Fire Resistance	IEC Class A/ UL Type 29



Electrical Characteristics - STC

Irradiance 1000 W/m², cell temperature 25 °C, AM1.5, Test uncertainty for Pmax: ±3%

Maximum Power at STC (Pmax/W)	520	515	510	505	500
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	37.15	37.06	36.96	36.87	36.77
Optimum Operating Current (Imp/A)	14.00	13.90	13.80	13.70	13.60
Open Circuit Voltage (Voc/V)	43.90	43.81	43.71	43.62	43.52
Short Circuit Current (Isc/A)	14.89	14.79	14.69	14.59	14.49
Module Efficiency	23.0%	22.8%	22.6%	22.3%	22.1%

Electrical Characteristics - NMOT

Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	398.3	394.5	390.6	386.9	383.0
Optimum Operating Voltage (Vmp/V)	35.57	35.48	35.39	35.30	35.21
Optimum Operating Current (Imp/A)	11.20	11.12	11.04	10.96	10.88
Open Circuit Voltage (Voc/V)	42.03	41.95	41.85	41.77	41.67
Short Circuit Current (Isc/A)	12.00	11.92	11.84	11.76	11.68

Rearside Power Gain (Reference to 515W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	541	592	644
Optimum Operating Voltage (Vmp/V)	37.06	37.16	37.16
Optimum Operating Current (Imp/A)	14.59	15.94	17.32
Open Circuit Voltage (Voc/V)	43.81	43.91	43.91
Short Circuit Current (Isc/A)	15.53	16.97	18.44
Module Efficiency	23.9%	26.2%	28.5%

Temperature Characteristics

Nominal Module Operating Temperature	42 ± 2 °C
Nominal Cell Operating Temperature	45 ± 2 °C
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.045%/°C

