01	Progetto Definitivo					13/07/2023	PRR
	Voltalia Italia S.r.I. Viale Montenero, 32 Milano (MI) - 20135 - Italia		Tel. +39 02 89095 info.italia@voltalia. www.voltalia.it		V	lta	lia
	disegnato: PRR	CONTROLLATO: VCC	APPRO V(	OVATO: CC		ıta	11a
SCALA:		DATA: 13/07/2023	FOGLIO: 001/010	<b>гогмато</b> Д4	NOSTRA PRO	E DOCUMENTO PRIETA' E NON RODOTTO O INV	I PUO'
PROGE"	COMUNE DI NARO (AG)  Progetto definitivo di un impianto per la produzione di energia elettrica da fonte				SENZA	A LA NOSTRA RIZZAZIONE.	01
PROGE	solare con potenza installata di 39,72 MW ed immessa in rete di 38 MW, da realizzarsi nel Comune di Naro (AG), località Serra La Guardia spo				_	Ocumento N	•
TITOLO	TITOLO: SCHEDE TECNICHE					0 <b>25</b> -01-IT-S	-GNG01-IT





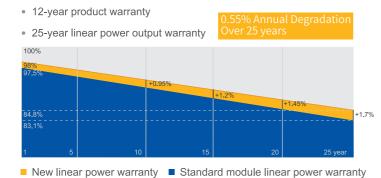


Less shading and lower resistive loss



Better mechanical loading tolerance

### **Superior Warranty**



#### **Comprehensive Certificates**

- IEC 61215, IEC 61730,UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules Quality system for PV module manufacturing



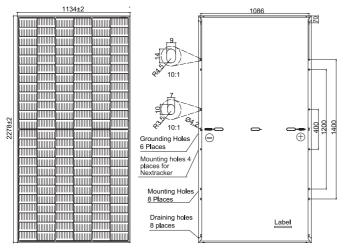








#### **MECHANICAL DIAGRAMS**



### **SPECIFICATIONS**

Cell	Mono
Weight	28.1kg
Dimensions	2278±2mm×1134±2mm×35±1mm
Cable Cross Section Size	4mm² (IEC) , 12 AWG(UL)
No. of cells	144(6×24)
Junction Box	IP68, 3 diodes
Connector	MC4-EVO2/ QC 4.10-35
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1300mm(+)/1300mm(-)
Packaging Configuration	31pcs/Pallet

Remark: customized frame color and cable length available upon request

ELECTRICAL PARAMETERS AT STC						
TYPE	JAM72S30 -530/MR	JAM72S30 -535/MR	JAM72S30 -540/MR	JAM72S30 -545/MR	JAM72S30 -550/MR	JAM72S30 -555/MR
Rated Maximum Power(Pmax) [W]	530	535	540	545	550	555
Open Circuit Voltage(Voc) [V]	49.30	49.45	49.60	49.75	49.90	50.02
Maximum Power Voltage(Vmp) [V]	41.31	41.47	41.64	41.80	41.96	42.11
Short Circuit Current(Isc) [A]	13.72	13.79	13.86	13.93	14.00	14.07
Maximum Power Current(Imp) [A]	12.83	12.90	12.97	13.04	13.11	13.18
Module Efficiency [%]	20.5	20.7	20.9	21.1	21.3	21.5
Power Tolerance			0~+5W			
Temperature Coefficient of $Isc(\alpha\_Isc)$			+0.045%/°C			
Temperature Coefficient of Voc(β_Voc)			-0.275%/°C			
Temperature Coefficient of Pmax(γ_Pmp)			-0.350%/°C			

10:1

Short frame

Long frame

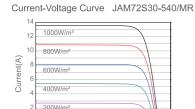
Irradiance 1000W/m², cell temperature 25°C, AM1.5G

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

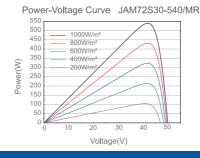
ELECTRICAL PARAMETERS AT NOCT OPERATING CONDITIONS						TIONS		
TYPE	JAM72S30 -530/MR	JAM72S30 -535/MR	JAM72S30 -540/MR	JAM72S30 -545/MR	JAM72S30 -550/MR	JAM72S30 -555/MR	Maximum System Voltage	1000V/1500V DC
Rated Max Power(Pmax) [W]	401	405	408	412	416	420	Operating Temperature	-40°C~+85°C
Open Circuit Voltage(Voc) [V]	46.18	46.31	46.43	46.55	46.68	46.85	Maximum Series Fuse Rating	25A
Max Power Voltage(Vmp) [V]	38.57	38.78	38.99	39.20	39.43	39.66	Maximum Static Load,Front* Maximum Static Load,Back*	5400Pa(112lb/ft²) 2400Pa(50lb/ft²)
Short Circuit Current(Isc) [A]	11.01	11.05	11.09	11.13	11.17	11.21	NOCT	45±2℃
Max Power Current(Imp) [A]	10.39	10.43	10.47	10.51	10.55	10.59	Safety Class	Class II
NOCT	Irradiance	800W/m², am	nbient temper	ature 20°C,w	vind speed 1n	n/s, AM1.5G	Fire Performance	UL Type 1
*For NeyTracker installations Mayin	num Static Loa	d Front is 1800	Pa while Mavi	mum Static Los	ad Back is 1800	)Pa		

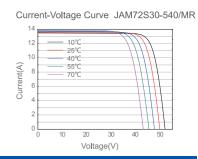
#### **CHARACTERISTICS**

STC



Voltage(V)





# MV POWER STATION 4000-S2 / 4200-S2 / 4400-S2 / 4600-S2





#### Robust

- Station and all individual components type-tested
- Optimally suited to extreme ambient conditions

#### Easy to Use

- Plug and play concept
- Completely pre-assembled for easy set-up and commissioning

#### **Cost-Effective**

- Easy planning and installation
- Low transport costs due to 20-foot skid

#### Flexible

- One design for the whole world
- DC-Coupling Ready
- Numerous options

# MV POWER STATION 4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

Turnkey Solution for PV Power Plants and large-scale storage systems

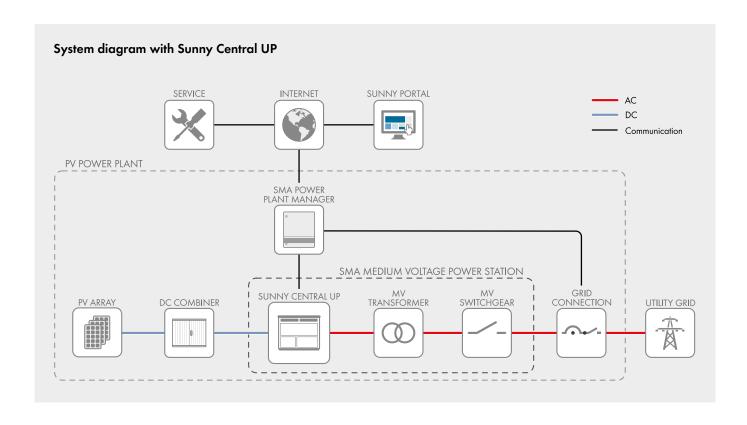
With the power of the new robust central inverters, the Sunny Central UP or Sunny Central Storage UP, and with perfectly adapted medium-voltage components, the new MV Power Station offers even more power density and is a turnkey solution available worldwide. Being the ideal choice for the new generation of PV power plants operating at 1500 VDC, the integrated system solution is easy to transport and quick to assemble and commission. The MVPS and all components are type-tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk. The MV Power Station is prepared for DC coupling.

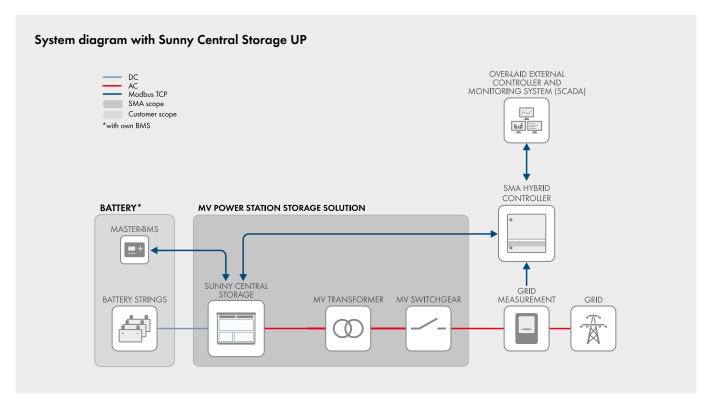
# MV POWER STATION 4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

Injust (PC)  Available inverters  1 x SC 4000 UP or 1 x SC 3450 U		MVPS 4000-S2	MVPS 4200-S2
Available inverters	Input (DC)	1 00 1000 110	1 00 1000 110
Max. input voltage Number of DC input Insport			
Note: Input veloge   1500 V   Notes of DC   Inputs	Available inverters		
Appendix on the selected inverters   Appendix on the selected inverters   Appendix on the selected inverters   Applications		1 x SCS 3450 UP-XT	1 x SCS 3600 UP-XT
integrated 2 one monitoring workloble DC fives sizes [per input)  Output (AC) on the medium-voltage side  Nation power at SCS UPI (at 2.5° C bit 4.3° C / 4.0° C optional 50° C  <sup>11</sup> Aloo (NA / 3200 NA ) 350 A, 400 A, 450 A, 500 A  A 400 NA / 3200 NA ) 375 NA  A 320 NA / 3375 NA  Both changing power at SCS UPX (at 2.5° C bit 4.25° C / 4.0° C optional 50° C  <sup>11</sup> 3450 NA / 2930 NA 3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  3770 NA 3770 NA  4000 NA / 3400 NA  3770 NA 3770 NA  10 N is 35 N  10 N	Max. input voltage	1500 V	1500 V
Available DC fuse sizes (per input)   200. A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	Number of DC inputs	dependent on the	selected inverters
Output IACL on the medium-voltage side Read power of SCS UPF (at 25°C to ± 35°C / A0°C optional 50°C) <sup>10</sup> Read power of SCS UPF (at 25°C to ± 35°C / A0°C optional 50°C) <sup>11</sup> 3450 NA / 2930 NA 3700 N	Integrated zone monitoring		
Output IACL on the medium-voltage side Read power of SCS UPF (at 25°C to ± 35°C / A0°C optional 50°C) <sup>10</sup> Read power of SCS UPF (at 25°C to ± 35°C / A0°C optional 50°C) <sup>11</sup> 3450 NA / 2930 NA 3700 N	Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350	0 A, 400 A, 450 A, 500 A
Rind power at SCL IV (at 25°C to + 35°C / A°C optional 50°C) <sup>10</sup> Rind power at SCS UV (at 25°C to + 25°C / A°C optional 50°C) <sup>10</sup> Charging power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power foreat at the SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power foreat at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power foreat at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power foreat at SCS UVX1 (at 25°C bis +25°C / A°C optional 50°C) <sup>10</sup> Sized power foreat at SCS UVX1 (at 25°C bis +25°C bis +2	Output (AC) on the medium-voltage side		
Raded power at SCS UP (nz 25°C bis +25°C / 40°C optional 50°C   1		4000 kVA / 3600 kVA	4200 kVA / 3780 kVA
Charging power at SCS URAT (ar 25°C bis +25°C / 40°C optional 50°C) <sup>11</sup> Sibribarying power of SCS URAT (ar 25°C bis +25°C / 40°C optional 50°C) <sup>12</sup> Nipical rominial AC voltages  AC power frequency  AC power frequency  Sibribarying power at SCS URAT (ar 25°C bis +25°C / 40°C optional 50°C) <sup>13</sup> Nipical rominial AC voltages  AC power frequency  AC power frequency  Sibribarying power at SCS URAT (ar 25°C bis +25°C / 40°C optional 50°C) <sup>13</sup> NANP <sup>11</sup> NANAP <sup>11</sup>	. , , , ,	·	'
Discharging power at SCS UPXT (at .25°C bis +25°C / 40°C optional 50°C)!  AC power frequency  AC power fre		'	
Vipcical nominal AC valoges  AC power françulery  Françulery  AC power françulery  Françulery  AC power françulery  Françuler		·	•
AC power fraquency    AC power fraquency   AC power fraquency   AC power fraguency   AC powe		•	·
Transformer vector group Dy1   YNHd 11   YNHy0	Typical nominal AC voltages	10 kV to 35 kV	10 kV to 35 kV
Transformer colling methods Transformer no-load losses Standard / Eco Design 1 / Eco Design 2	AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer no local closes Standard / Eco Design 1 / Eco Design 2   •/o/o   •/o/o   •/o/o	Transformer vector group Dy 1 1 / YNd 1 1 / YNy0	•/0/0	•/0/0
Transformer no local closes Standard / Eco Design 1 / Eco Design 2   •/o/o   •/o/o   •/o/o			
Transformer short-circuit losses Standard / Eco Design 1 / Eco Design 2  Max. stol harmonic distortion  Reactive power feed-in (up to 60% of nominal power)  Overer factor at roted power / displacement power factor adjustable  I / 0.8 overexcited to 0.8 underexcited  I / 0.8 overexcited to 0.8 underexcited inverted ficiency of the f			
Max, total harmonic distortion  **Reactive power feedin (up to 60% of nominal power)  **Prover factor of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power / displacement power factor adjustable  **Invarient of rated power factor adjustable power factor adjustable power factor adjustable  **Invarient of rated power factor adjustable power f			
Reactive power feed-in (up to 60% of nominal power)  Power factor at trated power / displacement power factor adjustable  1 / 0.8 overexcited to 0.8 underexcited  1 / 0.8 overexcited to 0.8 underexcited  Nax. efficiency**  1 / 0.8 overexcited to 0.8 underexcited  Potective devices  Inputside disconnection point  Outputside disconnection quality outputs of the point of the p	· · · · · · · · · · · · · · · · · · ·	i i	' '
Pewer factor at rated power / displacement power factor adjustable Inverter efficiency		<;	376
Inverter efficiency			)
Max. efficiency <sup>31</sup> / European efficiency <sup>31</sup> / CEC weighted efficiency <sup>41</sup> Protective devices  Protective devices  Input-side disconnection point  Output-side disconnection point  Output-side disconnection point  Octive voltage protection  Governollage protection  Governollage protection  Octive voltage	Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited	to 0.8 underexcited
Protective devices Input-side disconnection point DC load-break switch Output-side disconnection point DC overvoltage protection Galvanic isolation Internal are classification medium-voltage control room (according to IEC 62271-202) General Data  General Data Dimensions (W   H   D)  Goss mm / 2896 mm / 2438 mm  Assilication medium-voltage control room (according to IEC 62271-202) General Data Dimensions (W   H   D)  Goss mm / 2896 mm / 2438 mm  Assilication (max. / partial load / average) <sup>1)</sup> Self-consumption (max. / partial load / average) <sup>1)</sup> Assilication (max. / average / av	Inverter efficiency		
Imputside disconnection point  Outputside disconnection point  Outputside disconnection point  Covervoltage protection  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Federal Dimensions [W / H / D]  Galvanic Mark (A 20 kA 1 s  Ganeral Data  Federal Data  Federal Data  Federal Dimensions [W / H / D]  Galvanic Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Case Mark (A 20 kA 1 s  Federal Case Case Case Case Mark (A 20 kA 1 s)  Federal Case Case Case Case Case Case Case Case	Max. efficiency <sup>3</sup> / European efficiency <sup>3</sup> / CEC weighted efficiency <sup>4</sup>	98.8% / 98.6% / 98.5%	98.8% / 98.7% / 98.5%
Imputside disconnection point  Outputside disconnection point  Outputside disconnection point  Covervoltage protection  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Dimensions [W / H / D]  Galvanic isolation  Federal Data  Federal Dimensions [W / H / D]  Galvanic Mark (A 20 kA 1 s  Ganeral Data  Federal Data  Federal Data  Federal Dimensions [W / H / D]  Galvanic Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Ganeral Data  Federal Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Mark (A 20 kA 1 s  Federal Case Case Case Mark (A 20 kA 1 s  Federal Case Case Case Case Mark (A 20 kA 1 s)  Federal Case Case Case Case Case Case Case Case	Protective devices	·	
Output-side disconnection point  DC overvollage protection  Golvanic isolation  Internal arc classification medium-voltage control room (according to IEC 62271-202)  General Data  Dimensions (W / H / D)  Weight  Self-consumption (max. / partial load / average) 11  Self-consumption (max. / partial load / average) 11  Self-consumption (max. / partial load / average) 11  Self-consumption (stand-byy) 1  Ambient temperature -2.5°C to +4.5°C / -2.5°C to +5.5°C / -4.0°C to +4.5°C  Degree of protection according to IEC 60529  Control rooms IP23D, inverter electronics IP5.4  Environment: standard / harsh  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3.4 (AC1, 4S2 / 4C2, 4S4)  Degree of protection a		DC load by	roak switch
DC overvoltage protection Golvanic isolation Internal arc classification medium-voltage control room (according to IEC 62271-202) GReneral Data Dimensions (W / H / D)  Self-consumption (max. / partial load / average) (1) Self-consumption (max. / partial load / average) (1) Self-consumption (stand-by) (1) Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C Degree of protection according to IEC 60529 Control rooms IP23D, inverter electronics IP54 Environment: standard / harsh Degree of protection according to IEC 60721-34 (AC1, 452 / 4C2, 4S4)  Max. operating altitude above mean sea level 1000 m / 2000 m Presh air consumption of inverter Features DC terminal AC connection Tap changer for MV-Transformer: without / with AC connection Tap changer for MV-Transformer: without / with AC connection for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder ewith circuit breaker, internal arc classification IAC A R1 20 kA 1 s according to IEC 62271-200 Short circuit rating medium voltages switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring medium voltages witchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring integrated ail containment: without / with  A connection  A co	·		
Internal arc classification medium-voltage control room (according to IEC 62271-202)  General Data  Dimensions (W / H / D)  Goss mm / 2896 mm / 2438 mm  < 181  Self-consumption (max. / partial load / average) 11  Self-consumption (stand-by) 11  Ambient temperature -25°C to +45°C /-25°C to +55°C /-40°C to +45°C  Degree of protection according to IEC 60529  Environment: standard / harsh  Degree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh arc ossumption of inverter  Features  DC terminal  AC connection  AC connection  AC connection  AC connection  Dimensions (W / H / D)  Monitoring package  RAL 7004  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 coble feeders with load-breek switch, 1 transformer feeder with circuit breaker, internal arc classification lack of the control of transformer of control of transformer feeder with circuit breaker, internal arc classification lack of the control of transformer feeder with circuit breaker, internal arc classification lack of A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium-voltage switchgear: without / avith and control of transformer feeder with circuit breaker, internal arc classification lack of A FL 20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / avith and control of transformer feeder with circuit breaker, internal arc classification lack of A FL 20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / avith and control of transformer feeder with circuit breaker, internal arc classification lack of the control of transformer feeder with circuit breaker, internal arc classification lack of the control of transformer feeder with circuit breaker, internal arc classification lack of the control of the control of transformer feeder with circuit breaker, inter		•	
Internal arc classification medium-voltage control room (according to IEC 62271-202)  General Data  Dimensions (W / H / D)  Weight  Self-consumption (max. / partial load / average) <sup>11</sup> Self-consumption (stand-by) <sup>11</sup> Annibent temperature -25° C to +45° C / -25° C to +55° C / -40° C to +45° C  Degree of protection according to IEC 60529  Control rooms IP23D, inverter electronics IP54  Environment: standard / harsh  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-3-4 (4C1, 452 / 4C2, 454)  Pogree of protection according to IEC 60721-	• .	Surge arre	ester type I
Dimensions (W   H   D)  (eight   Case   Cas	Galvanic isolation		
Dimensions (W / H / D)  Weight  Self-consumption (max. / partial load / average) <sup>1)</sup> Self-consumption (stand-by) <sup>1)</sup> Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C  Degree of protection according to IEC 60529  Control rooms IP23D, inverter electronics IP54  Environment: Standard / harsh  Degree of protection according to IEC 60721-3-4 (4C1, 4\$2 / 4C2, 4\$4))  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-threak witch, alt not for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with	Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 2	0 kA 1 s
Veright   Self-consumption   (max. / partial load / average)   Self-consumption   (max. / partial load / average)   Self-consumption   (stand-by)   Self-consumption   (stand-by)   Self-consumption   (stand-by)   Self-consumption   Stand-by)   Self-consumption   Stand-by   Self-consumption   Self-consum	General Data		
Veright	Dimensions (W / H / D)	6058 mm / 2896	6 mm / 2438 mm
Self-consumption (max. / partial load / average) <sup>11</sup> Self-consumption (stand-by) <sup>12</sup> Ambient temperature -2.5° C to +45° C / -25° C to +55° C / -40° C to +45° C Degree of protection according to IEC 60529 Environment: standard / harsh Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4) Max. operating altitude above mean sea level 1000 m / 2000 m Fresh air consumption of inverter Features DC terminal AC connection Tap changer for MV-transformer: without / with Shield winding for MV-transformer: without / with  Monitoring package Station enclosure color Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA Medium-voltage switchgear: without / 1 transformer feeder with circuit breaker, internal arc classification IAC A FI L 20 kA 1 s according to IEC 62271-200 Industry standards (for other standards see the inverter datasheet)    Self-consumption (stand-by)    Control rooms IP23D, inverter electronics IP54   Ontrol rooms IP23D, inverter elec			
Self-consumption (stand-by) <sup>11</sup> Ambient temperature -25 °C to +45 °C / -25 °C to +55 °C / -40 °C to +45 °C  Degree of protection according to IEC 60529  Environment: standard / harsh  Degree of protection according to IEC 60721-3-4 (AC1, 4S2 / 4C2, 4S4)  Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  6500 m³/h  Fresh air consumption of inverter  6500 m³/h  Fresh air consumption of inverter  Fresh air co	•		
Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C  Degree of protection according to IEC 60529  Environment: standard / harsh  Opegree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Pegree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Anothering package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring littlegrated oil containment: without / with  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certil littled in the containment: without / with  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with according to IEC 62271-202, EN50588-1, CSC Certil little with ac		'	·
Degree of protection according to IEC 60529  Environment: standard / harsh Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection Top changer for MV-transformer: without / with  AC connection Top changer for MV-transformer: without / with  Shield winding for MV-Transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring litelagrated oil containment: without / with  Integrated oil containment: without / with  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical control / monitoring linearized oil containment: without / with  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical control / monitoring linearized oil containment: without / with			
Environment: standard / harsh  Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  AC connection  To handle for MV-transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Accessories for medium-voltage switchgear: without / with  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical containment: without / with IEC 62271-202, EN50588-1, CSC Certical cascade control / monitoring Integrated oil containment: without / with		· ·	
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)  Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Shield winding for MV-Transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  P / O / O / O / O / O / O / O / O / O /		·	
Maximum permissible value for relative humidity  Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Top changer for MV-transformer: without / with  Shield winding for MV-Transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  P 5% (for 2 months/year)  P ( )  O ( )  O ( )  O ( )  O ( )  Outer-cone angle plug  Outer-co	Environment: standard / harsh	• ,	/ 0
Max. operating altitude above mean sea level 1000 m / 2000 m  Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Tap changer for MV-transformer: without / with  To consumption of inverter  Terminal lug  Outer-cone angle plug  Outer-cone angle plug  AC connection  Tap changer for MV-transformer: without / with  Outer-cone angle plug  AC connection  A plug changer for MV-transformer: without / with  Accessorier for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical constants of the standards see the inverter datasheet)	Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	• ,	/ 0
Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Top changer for MV-transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  Terminal lug  Outer-cone angle plug  Outer-cone an	Maximum permissible value for relative humidity	95% (for 2 n	nonths/year)
Fresh air consumption of inverter  Features  DC terminal  AC connection  Tap changer for MV-transformer: without / with  Top changer for MV-transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  Terminal lug  Outer-cone angle plug  Outer-cone an	Max, operating altitude above mean sea level 1000 m / 2000 m	•	/0
Terminal lug  AC connection  To puter-cone angle plug  To puter-cone angle puter-cone angle plug  To puter-cone angle put		•	
DC terminal DC terminal Lug AC connection Tap changer for MV-transformer: without / with  Shield winding for MV-transformer: without / with  Monitoring package Station enclosure color Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200 Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with Industry standards (for other standards see the inverter datasheet)  Terminal lug Outer-cone angle plug		0300	111-711
AC connection  Tap changer for MV-transformer: without / with  Shield winding for MV-Transformer: without / with  Monitoring package  Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  Outer-cone angle plug		<u> </u>	
Tap changer for MV-transformer: without / with  Shield winding for MV-Transformer: without / with  Monitoring package Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)    V   O			•
Shield winding for MV-Transformer: without / with  Monitoring package Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)    V   O			0 1 0
Monitoring package Station enclosure color Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)	Tap changer for MV-transformer: without / with	• ,	/ 0
Monitoring package Station enclosure color Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)	Shield winding for MV-Transformer: without / with	• ,	/ 0
Station enclosure color  Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  RAL 7004	Monitoring package		
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA  Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)    Volve	01	RALZ	7004
Medium-voltage switchgear: without / 1 feeder / 3 feeders 2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certi			
2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical Control of the standards (for other standards see the inverter datasheet)		•/ 0/ 0/ 0	3/3/3/3
Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)  Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certical Control of the standards (for other standards see the inverter datasheet)	2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc	•/0	0/0
Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transformer feeder / cascade control / monitoring  Integrated oil containment: without / with  Industry standards (for other standards see the inverter datasheet)    Containment: without / with	·	• 10	2/0
Industry standards (for other standards see the inverter datasheet)  Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certicology  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certicology  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certicology  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certicology	Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transfor-		
Industry standards (for other standards see the inverter datasheet)  IEC 60076, IEC 62271-200, IEC 62271-202, EN50588-1, CSC Certi	-		
	•		
● Standard features ○ Optional features — Not available	Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 622	27 1-202, EN50588-1, CSC Certif

- 1) Data based on inverter. Further details can be found in the data sheet of the inverter.
- 2) KNAN = Ester with natural air cooling
  3) Efficiency measured at inverter without internal power supply
  4) Efficiency measured at inverter with internal power supply

Technical Data	MVPS 4400-S2	MVPS 4600-S2
Input (DC)		
Available inverters	1 x SC 4400 UP or 1 x SCS 3800 UP or 1 x SCS 3800 UP-XT	1 x SC 4600 UP or 1 x SCS 3950 UP or 1 x SCS 3950 UP-XT
Max. input voltage	1500 V	1500 V
Number of DC inputs		
Integrated zone monitoring	dependent on the	selected inverters
Available DC fuse sizes (per input)	200 A 250 A 315 A 35	0 A, 400 A, 450 A, 500 A
Output (AC) on the medium-voltage side	200 A, 200 A, 010 A, 00	0 A, 400 A, 400 A, 500 A
Rated power at SC UP (at -25°C to + 35°C / 40°C optional 50°C) <sup>1)</sup>	4400 kVA / 3960 kVA	4600 kVA / 4140 kVA
Rated power at SCS UP (at -25°C bis +25°C / 40°C optional 50°C) <sup>1)</sup>	3800 kVA / 3230 kVA	3960 kVA / 3365kVA
Charging power at SCS UP-XT (at -25°C bis +25°C / 40°C optional 50°C) <sup>1)</sup>	3950 kVA / 3300 kVA	4130 kVA / 3455 kVA
Discharging power at SCS UP-XT (at -25 °C bis +25 °C / 40 °C optional 50 °C) <sup>1)</sup>	4400 kVA / 3740 kVA	4600 kVA / 3910 kVA
Typical nominal AC voltages	10 kV to 35 kV	10 kV to 35 kV
	50 Hz / 60 Hz	50 Hz / 60 Hz
AC power frequency	·	·
Transformer vector group Dy11 / YNd11 / YNy0	• / O / O	• / o / o
Transformer cooling methods	KNAN <sup>2)</sup>	KNAN <sup>2)</sup>
Transformer no-load losses Standard / Eco Design 1 / Eco Design 2	•/0/0	•/0/0
Transformer short-circuit losses Standard / Eco Design 1 / Eco Design 2	•/0/0	•/0/0
Max. total harmonic distortion		3%
Reactive power feed-in (up to 60% of nominal power)		
Power factor at rated power / displacement power factor adjustable	I / 0.8 overexcited	to 0.8 underexcited
Inverter efficiency	00.00/ / 00.70/ / 00.50/	00.00/ / 00.70/ / 00.50/
Max. efficiency <sup>3</sup> / European efficiency <sup>3</sup> / CEC weighted efficiency <sup>4</sup>	98.8% / 98.7% / 98.5%	98.8% / 98.7% / 98.5%
Protective devices		
Input-side disconnection point		reak switch
Output-side disconnection point	Medium-voltage va	cuum circuit breaker
DC overvoltage protection	Surge arre	ester type I
Galvanic isolation	•	
Internal arc classification medium-voltage control room (according to IEC 62271-202)	IAC A 2	0 kA 1 s
General Data		
Dimensions (W / H / D)	6058 mm / 2896	6 mm / 2438 mm
Weight	< 1	18 t
Self-consumption (max. / partial load / average) <sup>1)</sup>	< 8.1 kW / < 1.8	8 kW / < 2.0 kW
Self-consumption (stand-by) <sup>1)</sup>		70 W
Ambient temperature -25°C to +45°C / -25°C to +55°C / -40°C to +45°C	·	0/0
Degree of protection according to IEC 60529	Control rooms IP23D, i	nverter electronics IP54
Environment: standard / harsh		/ 0
Degree of protection according to IEC 60721-3-4 (4C1, 4S2 / 4C2, 4S4)	•,	/ 0
Maximum permissible value for relative humidity	95% (for 2 r	months/year)
Max. operating altitude above mean sea level 1000 m / 2000 m	• ,	/ 0
Fresh air consumption of inverter	6500	0 m³/h
Features		
DC terminal	Termin	nal lug
AC connection		angle plug
Tap changer for MV-transformer: without / with		/ 0
Shield winding for MV-Transformer: without / with	• ,	/ 0
Monitoring package		0
Station enclosure color	RAL 2	7004
Transformer for external loads: without / 10 / 20 / 30 / 40 / 50 / 60 kVA	•/0/0/0	0/0/0/0
Medium-voltage switchgear: without / 1 feeder / 3 feeders  2 cable feeders with load-break switch, 1 transformer feeder with circuit breaker, internal arc	•/0	0/0
classification IAC A FL 20 kA 1 s according to IEC 62271-200  Short circuit rating medium voltage switchgear (20 kA 1 s / 20 kA 3 s / 25 kA 1s)	- /	2.40
Accessories for medium-voltage switchgear: without / auxiliary contacts / motor for transfor-		0/0
mer feeder / cascade control / monitoring	•/0/0	0/0/0
Integrated oil containment: without / with	•	/ 0
Industry standards (for other standards see the inverter datasheet)	IEC 60076, IEC 62271-200, IEC 622	
		,
● Standard features ○ Optional features — Not available		
Type designation	MVPS-4400-S2	MVPS-4600-S2







# TRACKER Agile™-1P

**Dual-Row** 



### **About TrinaTracker**

#### **Excellent Bankability**

Trina Solar was ranked top in the list of "Top Bankable Module Supplier" released by Bloomberg New Energy Finance (BNF) for five consecutive years

#### Multiple Product Lines For All Applications

Multiple product lines developed by experienced International R&D team for meeting market demands in all application scenarios

#### Superb Reliability and High Quality

Leading quality management system and over 20 years product quality control experience in the industry

#### Efficient Engineering Design Expert

Systematic and high efficient workflow for presales service to quarantee prompt engineering design

#### **Unified Products Delivery Management**

Global supply chain management of core equipments in solar farm (modules and trackers) with unified delivery channel



## Two Rows per Tracker

 $\label{eq:Agiletimate} Agile^{TM}-1P is a dual-row tracker with one primary slewing drive in one row and one sectionary slewing drive in another row. Two slewing drives share one motor and one TCU.$ 



## Innovative SuperTrack Technology

According to real-time weather and actual terrain conditions, smart algorithm dynamically optimizes tracking angle, increases receiving radiation and reduces shading loss.

Up to 8% yield gain



# More Modules per Tracker

By adopting one in portrait (1P) design, Agile can install up to 60 modules per row.

Compatible with modules up to 670W+



## **Designed for Challenging Conditions**

The Agile  $^{\text{TM}}$ -1P has been designed for sites that have both challenging terrain and high wind conditions

Up to 20% N-S slope.



# **Higher Reliability**

The two slewing drives in Agile<sup>TM</sup>-1P are connected by a transmission bar with a cardan design that improves the transmission efficiency, also has an optimized stow position and alarm strategy for a safer and more robust structure.

#### **TRINA CLAMP**

Trina Clamp is a proprietary product that is quick and easy to use with the 1P configuration, reducing the installation time and costs.



#### WIND TUNNEL TESTED BY CPP

Detailed wind tunnel test methodology to reproduce the most realistic tracker behavior and analyze the aerrolastic effects that impact tracker structures.



Full aeroelastic model test.











# **TECHNICAL SPECIFICATIONS**

### **GENERAL FEATURES**

Solar tracker type	Horizontal Single-Axis with two rows
Tracking range	±60° (120°)
Driver	Cardan joined slewing drive
Configuration	One module in portrait (1P) up to 2 strings per row (1500 V string)
Solar module supported	Framed
Foundation options	Direct ramming, Pre-drilling + ramming, Micropile and PHC piles
Pile section	W, compatible with IPE, IPEA, HEA and HEB <sup>(1)</sup>
Modules attachment	Bolts, Rivets, Clamps (frameless)
Piles per MW (550Wp module)	~273 piles/MW <sup>(2)</sup> (60 modules per row)
(670 Wp module)	~248 piles/MW <sup>2)</sup> (54 modules per row)
Terrain adaptability	20% N-S, 10% E-W <sup>(3)</sup>
Wind and snow loads tolerance	Tailored to site requirement
Rear shading factor	1.27%
Critical wind speed	47m/s

### **STRUCTURE**

Material	High Yield Strength Steel
Coating	HDG, Pregalvanized & ZM(4)

### **ELECTRONIC CONTROLLER SPECIFICATIONS**

Controller	Electronic board with microprocessor
Ingress protection marking	IP65
Tracking method	Astronomical algorithms + SuperTrack technology (5)
Advanced wind control	Customizable
Anemometer	Cup / Ultrasonic
Night-time stow	Configurable
Communication with the tracker	Wired option: RS 485
	Wireless option: LoRa/Zigbee
Operating conditions	Altitude < 4000 m <sup>(6)</sup>
	Temperature: -30°C to 60°C
Sensors	Digital inclinometer
Power (motor drive)	DC motor: 0.15kW <sup>(7)</sup>
Power supply	Grid connection / String powered / Self-powered

### **WARRANTY**

Structure	10 years
Driver and control components	5 years

- (1) C shape piles under request
- (2) Depending on layout
- (3) N-S: max 20%, for slopes higher than 10% consult with TrinaTracker E-W: max 10%, for slopes higher than 5% consult with TrinaTracker
- $(4) \, Standard \, configuration. \, Other \, coating \, under \, request, \, please \, consult$ TrinaTracker
- (5) Includes smart tracking algorithm and smart backtracking algorithm
- $(6)\ Different\ conditions\ under\ request,\ please\ consult\ Trina Tracker$
- (7) Depending on external conditions

