

Project Name : RedNord 535 -572
Project No. : 01/23

Location : Europe/Moldova/Balti
Grid Voltage : 380V(220V/380V)

System Overview

143 × Trina solar TSM-DEG19C.20 535(PV roof 1)
Azimuth : 55°, Tilt : 10°, Peak Power : 76.5kWp

143 × Trina solar TSM-DEG19C.20 535(PV roof 2)
Azimuth : -125°, Tilt : 10°, Peak Power : 76.5kWp

143 × Trina solar TSM-DEG19C.20 535(PV roof slim 1)
Azimuth : 55°, Tilt : 3°, Peak Power : 76.5kWp

143 × Trina solar TSM-DEG19C.20 535(PV roof slim 2)
Azimuth : -125°, Tilt : 2°, Peak Power : 76.5kWp

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

1 × SUN2000-50KTL-M0

Technical Specifications			
Total Number of PV Modules:	572	Annual Energy Yield (Approx.):	353.43MWh
Peak Power:	306.02kWp	Number of Inverters:	6
Performance Ratio (Approx.):	87.38%	Rated AC Power:	300.0kW
Specific Energy(Approx.):	1154.93kWh/kWp/year	DC/AC:	0.77

Design evaluation

Roof 1,1

1XSUN2000-50KTL-M0		
Peak Power:	51.36kWp	
Total Number of PV Modules:	96	
Number of Inverters:	1	
Max. AC active power(cosφ=1):	55.0kW	
Grid Voltage:	380V(220V/380V)	
DC/AC:	0.78	
		SUN2000-50KTL-M0
Input MPPT A : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		
Input MPPT B : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		
Input MPPT C : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		
Input MPPT D : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		
Input MPPT E : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		
Input MPPT F : PV roof 1		
16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°		

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	16	16	16	16
PV String Peak Power (input):	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp
Normal PV String Voltage:	499.2V	499.2V	499.2V	499.2V	499.2V	499.2V
PV String Startup Voltage:	✔ 200.0V	✔ 200.0V	✔ 200.0V	✔ 200.0V	✔ 200.0V	✔ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✔ 672.0V	✔ 672.0V	✔ 672.0V	✔ 672.0V	✔ 672.0V	✔ 672.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✔ 17.16A	✔ 17.16A	✔ 17.16A	✔ 17.16A	✔ 17.16A	✔ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

roof1,2

1XSUN2000-50KTL-M0

Peak Power:	50.83kWp
Total Number of PV Modules:	95
Number of Inverters:	1
Max. AC active power(cosφ=1):	55.0kW
Grid Voltage:	380V(220V/380V)
DC/AC:	0.77



SUN2000-50KTL-M0

Input MPPT A : PV roof 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°

Input MPPT B : PV roof 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°

Input MPPT C : PV roof 1

15 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 10°

Input MPPT D : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT E : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT F : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	15	16	16	16
PV String Peak Power (input):	8.56kWp	8.56kWp	8.03kWp	8.56kWp	8.56kWp	8.56kWp
Normal PV String Voltage:	499.2V	499.2V	468.0V	499.2V	499.2V	499.2V
PV String Startup Voltage:	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✓ 672.0V	✓ 672.0V	✓ 630.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

Roof 1,3

1XSUN2000-50KTL-M0

Peak Power:	50.83kWp
Total Number of PV Modules:	95
Number of Inverters:	1
Max. AC active power(cosφ=1):	55.0kW
Grid Voltage:	380V(220V/380V)
DC/AC:	0.77



SUN2000-50KTL-M0

Input MPPT A : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT B : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT C : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT D : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT E : PV roof 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

Input MPPT F : PV roof 2

15 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 10°

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	16	16	16	15
PV String Peak Power (input):	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.03kWp
Normal PV String Voltage:	499.2V	499.2V	499.2V	499.2V	499.2V	468.0V
PV String Startup Voltage:	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 630.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

Roof 2,1

1XSUN2000-50KTL-M0

Peak Power:	51.36kWp
Total Number of PV Modules:	96
Number of Inverters:	1
Max. AC active power(cosφ=1):	55.0kW
Grid Voltage:	380V(220V/380V)
DC/AC:	0.78



SUN2000-50KTL-M0

Input MPPT A : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT B : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT C : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT D : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT E : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT F : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	16	16	16	16
PV String Peak Power (input):	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp
Normal PV String Voltage:	499.2V	499.2V	499.2V	499.2V	499.2V	499.2V
PV String Startup Voltage:	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

Roof 2,2

1XSUN2000-50KTL-M0

Peak Power:	50.83kWp
Total Number of PV Modules:	95
Number of Inverters:	1
Max. AC active power($\cos\phi=1$):	55.0kW
Grid Voltage:	380V(220V/380V)
DC/AC:	0.77



SUN2000-50KTL-M0

Input MPPT A : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT B : PV roof slim 1

16 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT C : PV roof slim 1

15 × Trina solar TSM-DEG19C.20 535, Azimuth : 55°, Tilt : 3°

Input MPPT D : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT E : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT F : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	15	16	16	16
PV String Peak Power (input):	8.56kWp	8.56kWp	8.03kWp	8.56kWp	8.56kWp	8.56kWp
Normal PV String Voltage:	499.2V	499.2V	468.0V	499.2V	499.2V	499.2V
PV String Startup Voltage:	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✓ 672.0V	✓ 672.0V	✓ 630.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

Roof 2,3

1XSUN2000-50KTL-M0

Peak Power:	50.83kWp
Total Number of PV Modules:	95
Number of Inverters:	1
Max. AC active power(cosφ=1):	55.0kW
Grid Voltage:	380V(220V/380V)
DC/AC:	0.77



SUN2000-50KTL-M0

Input MPPT A : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT B : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT C : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT D : PV roof slim 2

16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT E : PV roof slim 2

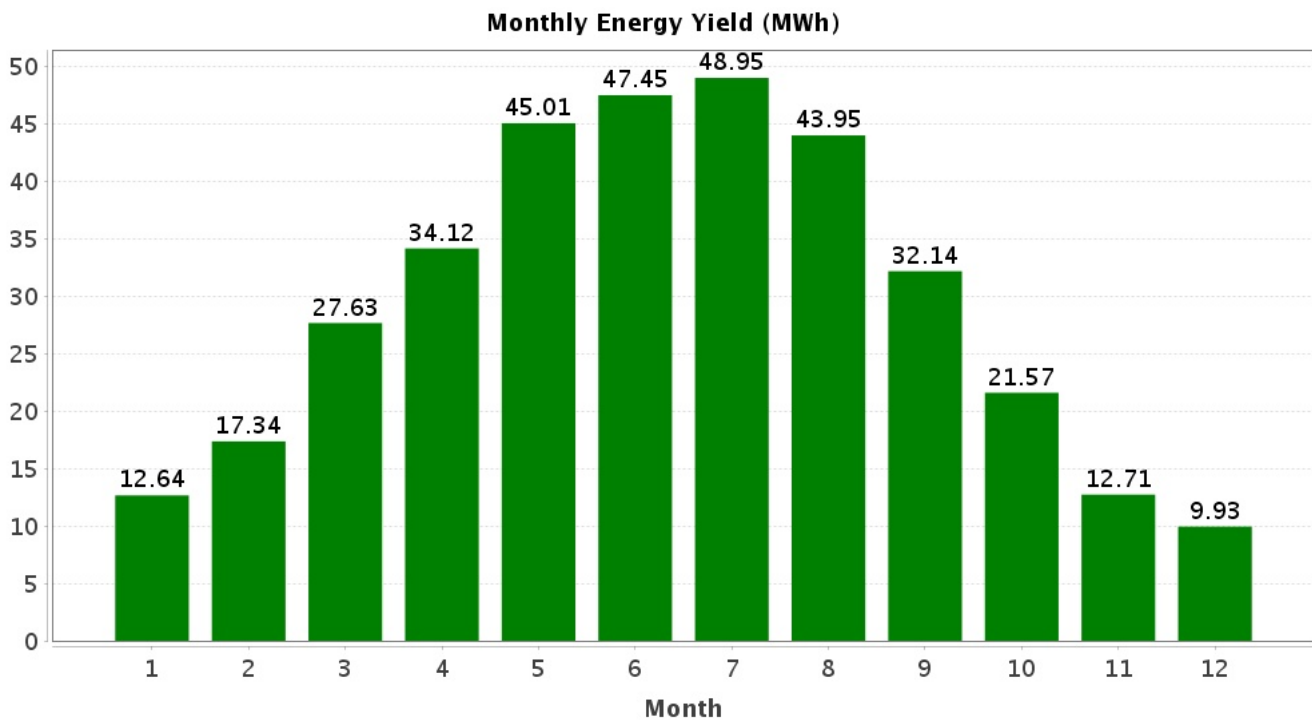
16 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

Input MPPT F : PV roof slim 2

15 × Trina solar TSM-DEG19C.20 535, Azimuth : -125°, Tilt : 2°

	MPPT A	MPPT B	MPPT C	MPPT D	MPPT E	MPPT F
Number of PV Strings:	1	1	1	1	1	1
PV Modules per String:	16	16	16	16	16	15
PV String Peak Power (input):	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.56kWp	8.03kWp
Normal PV String Voltage:	499.2V	499.2V	499.2V	499.2V	499.2V	468.0V
PV String Startup Voltage:	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V	✓ 200.0V
Inverter Startup Voltage:	200.0V	200.0V	200.0V	200.0V	200.0V	200.0V
Max. PV String Voltage:	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 672.0V	✓ 630.0V
Max. DC Voltage:	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V	1100.0V
Max. PV String Current:	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A	✓ 17.16A
Max. Inverter DC Current:	22.0A	22.0A	22.0A	22.0A	22.0A	22.0A

Details



	Number of PV Inverters	PV Inverter Rated AC Power	Total Number of PV Modules	Peak Power
RedNord 535 -572	6	300.0 kW	572	306.02 kWp
Power Generation Unit	6	300.0 kW	572	306.02 kWp
Roof 1,1	1	50.0 kW	96	51.36 kWp
roof1,2	1	50.0 kW	95	50.83 kWp
Roof 1,3	1	50.0 kW	95	50.83 kWp
Roof 2,1	1	50.0 kW	96	51.36 kWp
Roof 2,2	1	50.0 kW	95	50.83 kWp
Roof 2,3	1	50.0 kW	95	50.83 kWp

	✓ DC Power Cable	✓ AC Power Cable	Total
Power Loss under Rated Conditions	3401.08W	1128.93W	4530.01W
Relative Power Loss at Rated Voltage	1.11 %	0.31 %	1.42 %
Cable Cross-sectional Area/Length	6mm ² /1980.0 m	150mm ² /240.0 m	

Signature: _____

*Note: The displayed energy yield is an estimated value, and is calculated through a formula. SmartDesign is not liable for any difference between the actual energy yield and the displayed value. The difference depends on various conditions, such as the PV module stains or efficiency fluctuation.