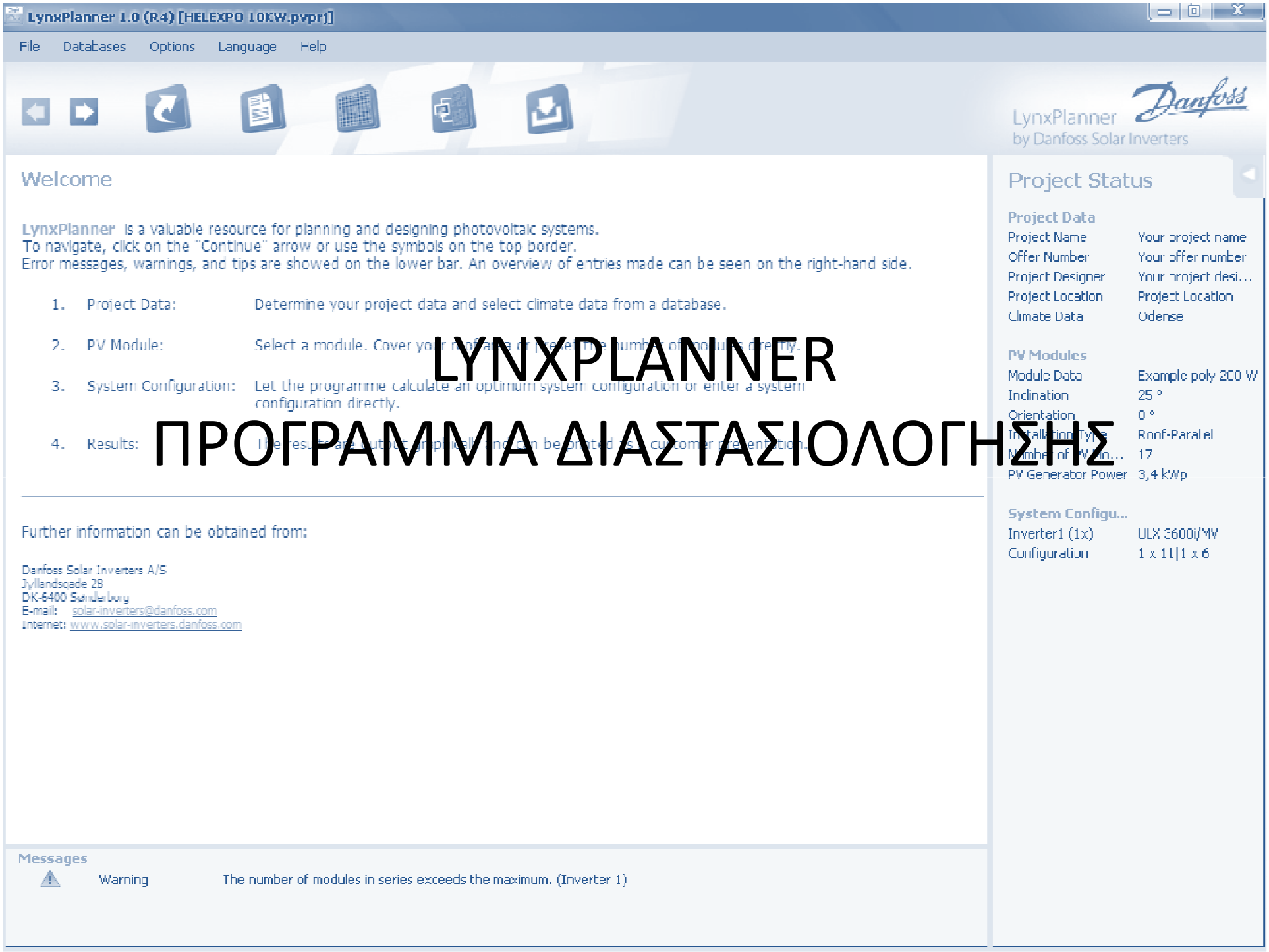
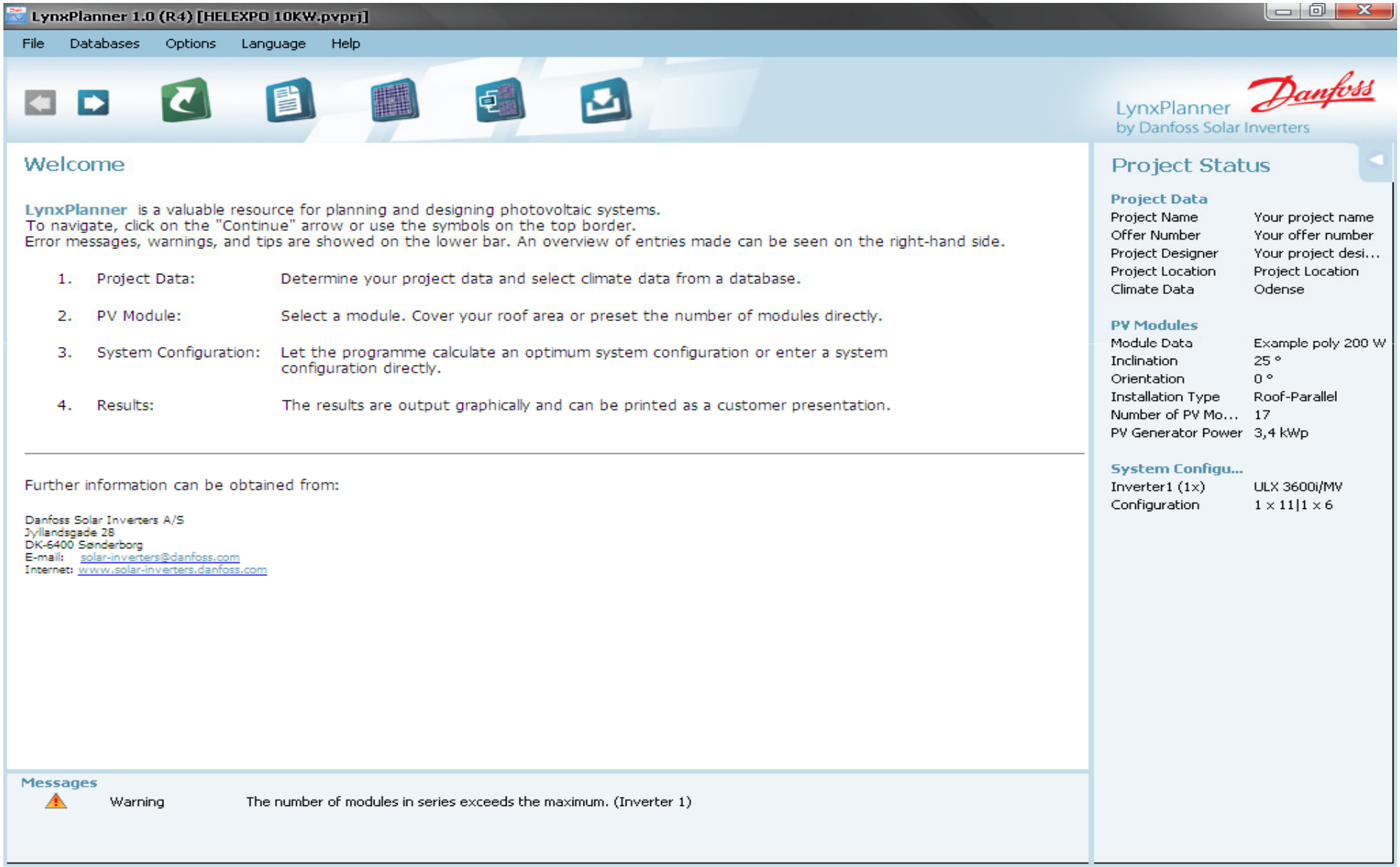
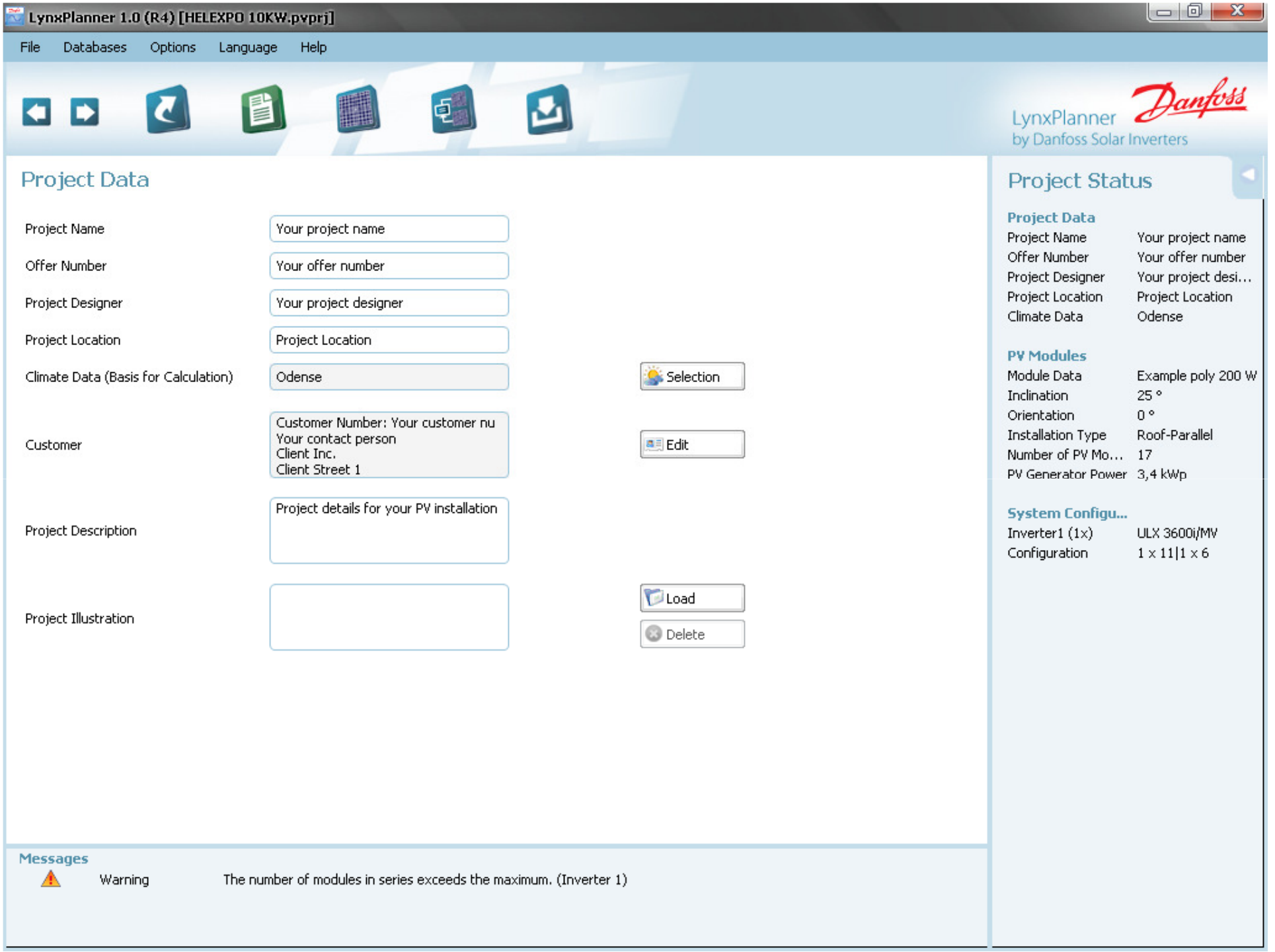
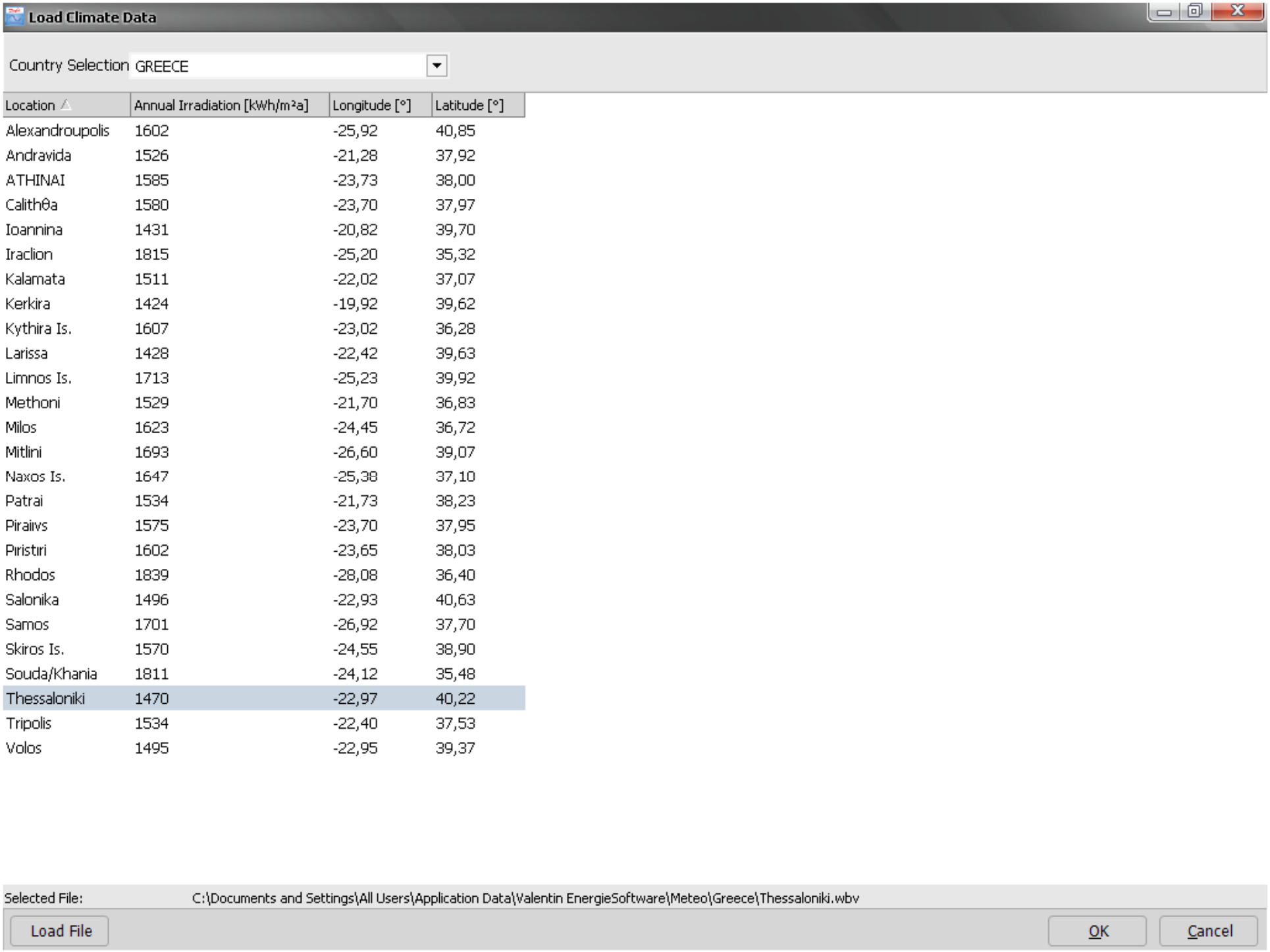

LynxPlanner 1.0 (R4) [HELEXPO 10KW.pvprj]
File
Databases
Options
Language
Help
LynxPlanner
by Danfoss Solar Inverters
Welcome
LynxPlanner is a valuable resource for planning and designing photovoltaic systems.
To navigate, click on the "Continue" arrow or use the symbols on the top border.
Error messages, warnings, and tips are showed on the lower bar. An overview of entries made can be seen on the right-hand side.
1. Project Data: Determine your project data and select climate data from a database.
2. PV Module: Select a module. Cover your roof area or select the number of modules directly.
3. System Configuration: Let the programme calculate an optimum system configuration or enter a system configuration directly.
4. Results:
LYNXPLANNER
ΠΡΟΓΡΑΜΜΑ ΔΙΑΣΤΑΣΙΟΛΟΓΗΣΗΣ
Further information can be obtained from:
Danfoss Solar Inverters A/S
Jyllandsgade 28
DK-6400 Sønderborg
E-mail: solar-inverters@danfoss.com
Internet: www.solar-inverters.danfoss.com
Project Status
Project Data
Project Name Your project name
Offer Number Your offer number
Project Designer Your project desi...
Project Location Project Location
Climate Data Odense
PV Modules
Module Data Example poly 200 W
Inclination 25 °
Orientation 0 °
Installation Type Roof-Parallel
Number of PV Mo... 17
PV Generator Power 3,4 kWp
System Configu...
Inverter1 (1x) ULX 3600i/MV
Configuration 1 x 11|1 x 6
Messages
Warning
The number of modules in series exceeds the maximum. (Inverter 1)

Παράδειγμα διαστασιολόγησης 10kWp




LynxPlanner 1.0 (R4) [HELEXPO 10KW.pvprj]
File
Databases
Options
Language
Help
LynxPlanner
by Danfoss Solar Inverters
Project Data
Project Name
Your project name
Offer Number
Your offer number
Project Designer
Your project designer
Project Location
Project Location
Climate Data (Basis for Calculation)
Odense
Selection
Customer
Customer Number: Your customer nu
Your contact person
Client Inc.
Client Street 1
Edit
Project Description
Project details for your PV installation
Project Illustration
Load
Delete
Messages
Warning
The number of modules in series exceeds the maximum. (Inverter 1)
Project Status
Project Data
Project Name
Your project name
Offer Number
Your offer number
Project Designer
Your project desi...
Project Location
Project Location
Climate Data
Odense
PV Modules
Module Data
Example poly 200 W
Inclination
25 °
Orientation
0 °
Installation Type
Roof-Parallel
Number of PV Mo...
17
PV Generator Power
3,4 kWp
System Configu...
Inverter1 (1x)
ULX 3600i/MV
Configuration
1 x 11|1 x 6


Load Climate Data
Country Selection GREECE
Location
Annual Irradiation [kWh/m²a]
Longitude [°]
Latitude [°]
Alexandroupolis 1602 -25,92 40,85
Andravida 1526 -21,28 37,92
ATHINAI 1585 -23,73 38,00
Calithθa 1580 -23,70 37,97
Ioannina 1431 -20,82 39,70
Iraclion 1815 -25,20 35,32
Kalamata 1511 -22,02 37,07
Kerkira 1424 -19,92 39,62
Kythira Is. 1607 -23,02 36,28
Larissa 1428 -22,42 39,63
Limnos Is. 1713 -25,23 39,92
Methoni 1529 -21,70 36,83
Milos 1623 -24,45 36,72
Mitlini 1693 -26,60 39,07
Naxos Is. 1647 -25,38 37,10
Patrai 1534 -21,73 38,23
Piraiivs 1575 -23,70 37,95
Piristiri 1602 -23,65 38,03
Rhodos 1839 -28,08 36,40
Salonika 1496 -22,93 40,63
Samos 1701 -26,92 37,70
Skiros Is. 1570 -24,55 38,90
Souda/Khania 1811 -24,12 35,48
Thessaloniki 1470 -22,97 40,22
Tripolis 1534 -22,40 37,53
Volos 1495 -22,95 39,37
Selected File: C:\Documents and Settings\All Users\Application Data\Valentin EnergieSoftware\Meteo\Greece\Thessaloniki.wbv
Load File
OK
Cancel

LynxPlanner 1.0 (R4) [helexpo test.pvprj]

File Databases Options Language Help

LynxPlanner
by Danfoss Solar Inverters

PV Modules

Module Area1

Module Data — Type: Example poly 200 W
Output: 200 W — Selection

Module Parameters

Tilt Angle of PV Modules: 25 °

Orientation of PV Modules: 0 °

-90° = Ost
0° = Süd
90° = West
180° = Nord

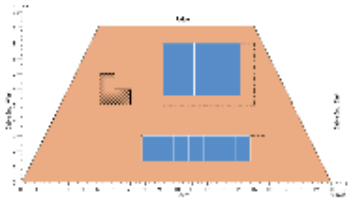
Installation Type: Roof-Parallel

Generator Output

Roof Area with PV Modules — Input

Number of PV Modules: 17

PV Generator Power: 3,4 kWp



PV Generator Power 3,4 kWp

Project Status

Project Data

Project Name	10KW
Offer Number	Your offer number
Project Designer	Your project desi...
Project Location	Project Location
Climate Data	Thessaloniki

PV Modules

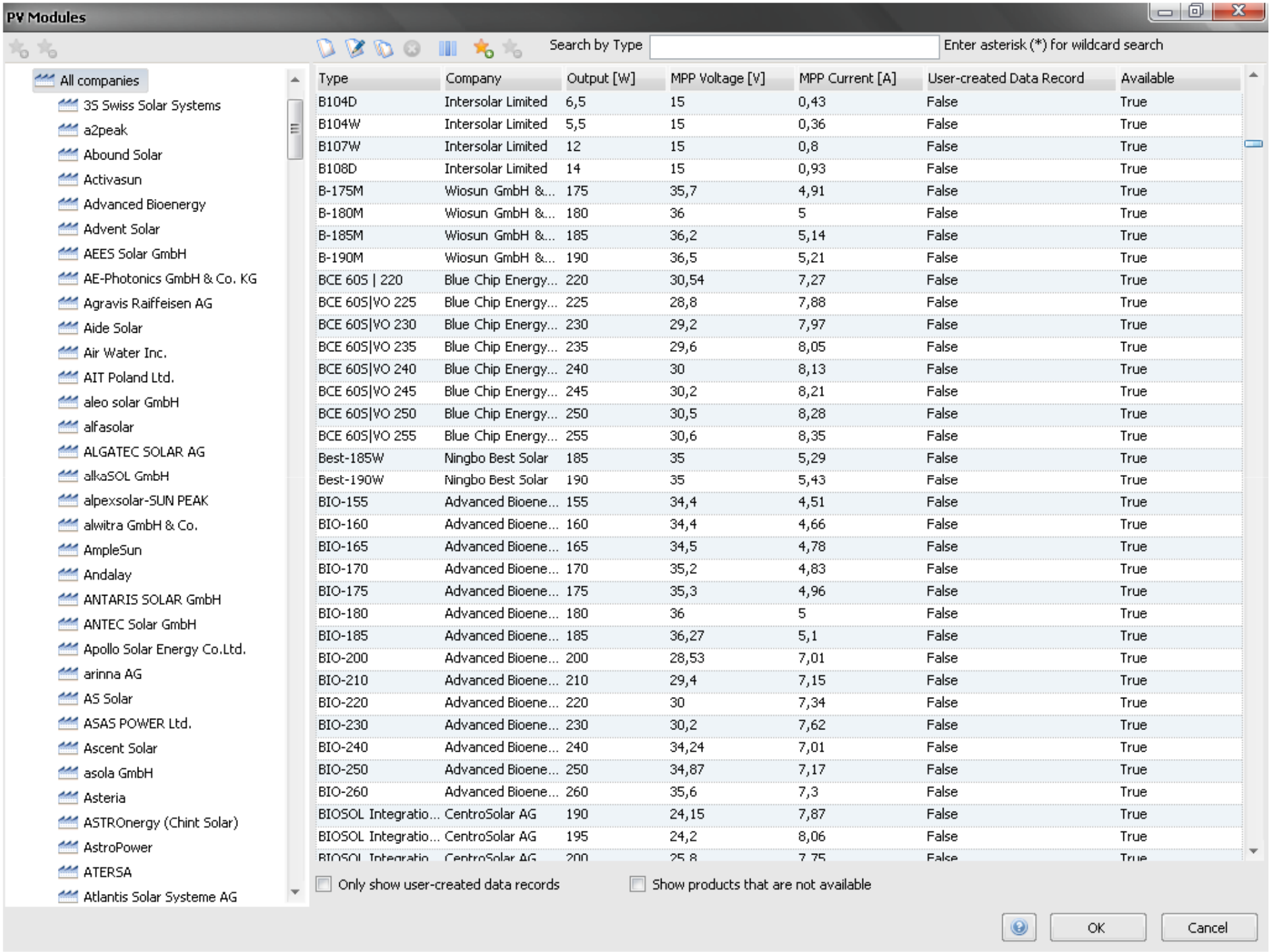
Module Data	Example poly 200 W
Inclination	25 °
Orientation	0 °
Installation Type	Roof-Parallel
Number of PV Mo...	17
PV Generator Power	3,4 kWp

System Configu...

Inverter1 (1x)	ULX 3600i/MV
Configuration	1 x 11|1 x 6

Messages

Warning — The number of modules in series exceeds the maximum. (Inverter 1)



Type	Company	Output [W]	MPP Voltage [V]	MPP Current [A]	User-created Data Record	Available
B104D	Intersolar Limited	6,5	15	0,43	False	True
B104W	Intersolar Limited	5,5	15	0,36	False	True
B107W	Intersolar Limited	12	15	0,8	False	True
B108D	Intersolar Limited	14	15	0,93	False	True
B-175M	Wiosun GmbH &...	175	35,7	4,91	False	True
B-180M	Wiosun GmbH &...	180	36	5	False	True
B-185M	Wiosun GmbH &...	185	36,2	5,14	False	True
B-190M	Wiosun GmbH &...	190	36,5	5,21	False	True
BCE 60S | 220	Blue Chip Energy...	220	30,54	7,27	False	True
BCE 60S|VO 225	Blue Chip Energy...	225	28,8	7,88	False	True
BCE 60S|VO 230	Blue Chip Energy...	230	29,2	7,97	False	True
BCE 60S|VO 235	Blue Chip Energy...	235	29,6	8,05	False	True
BCE 60S|VO 240	Blue Chip Energy...	240	30	8,13	False	True
BCE 60S|VO 245	Blue Chip Energy...	245	30,2	8,21	False	True
BCE 60S|VO 250	Blue Chip Energy...	250	30,5	8,28	False	True
BCE 60S|VO 255	Blue Chip Energy...	255	30,6	8,35	False	True
Best-185W	Ningbo Best Solar	185	35	5,29	False	True
Best-190W	Ningbo Best Solar	190	35	5,43	False	True
BIO-155	Advanced Bioene...	155	34,4	4,51	False	True
BIO-160	Advanced Bioene...	160	34,4	4,66	False	True
BIO-165	Advanced Bioene...	165	34,5	4,78	False	True
BIO-170	Advanced Bioene...	170	35,2	4,83	False	True
BIO-175	Advanced Bioene...	175	35,3	4,96	False	True
BIO-180	Advanced Bioene...	180	36	5	False	True
BIO-185	Advanced Bioene...	185	36,27	5,1	False	True
BIO-200	Advanced Bioene...	200	28,53	7,01	False	True
BIO-210	Advanced Bioene...	210	29,4	7,15	False	True
BIO-220	Advanced Bioene...	220	30	7,34	False	True
BIO-230	Advanced Bioene...	230	30,2	7,62	False	True
BIO-240	Advanced Bioene...	240	34,24	7,01	False	True
BIO-250	Advanced Bioene...	250	34,87	7,17	False	True
BIO-260	Advanced Bioene...	260	35,6	7,3	False	True
BIOSOL Integratio...	CentroSolar AG	190	24,15	7,87	False	True
BIOSOL Integratio...	CentroSolar AG	195	24,2	8,06	False	True
BIOSOL Integratio...	CentroSolar AG	200	25,8	7,75	False	True

LynxPlanner 1.0 (R4) [HELEXPO 10KW.pvprj]

File Databases Options Language Help

LynxPlanner by Danfoss Solar Inverters

PV Modules

Module Area1

Module Data — Type: BP 3230N, Output: 230 W — Selection

Module Parameters

Tilt Angle of PV Modules: 30 °

Orientation of PV Modules: 0 °

-90° = Ost
0° = Süd
90° = West
180° = Nord

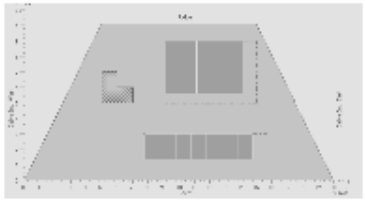
Installation Type: Roof-Parallel

Generator Output

Roof Area with PV Modules — Input

Number of PV Modules: 43

PV Generator Power: 9,89 kWp



PV Generator Power 9,89 kWp

Project Status

Project Data

Project Name	10KW
Offer Number	Your offer number
Project Designer	Your project desi...
Project Location	Project Location
Climate Data	Thessaloniki

PV Modules

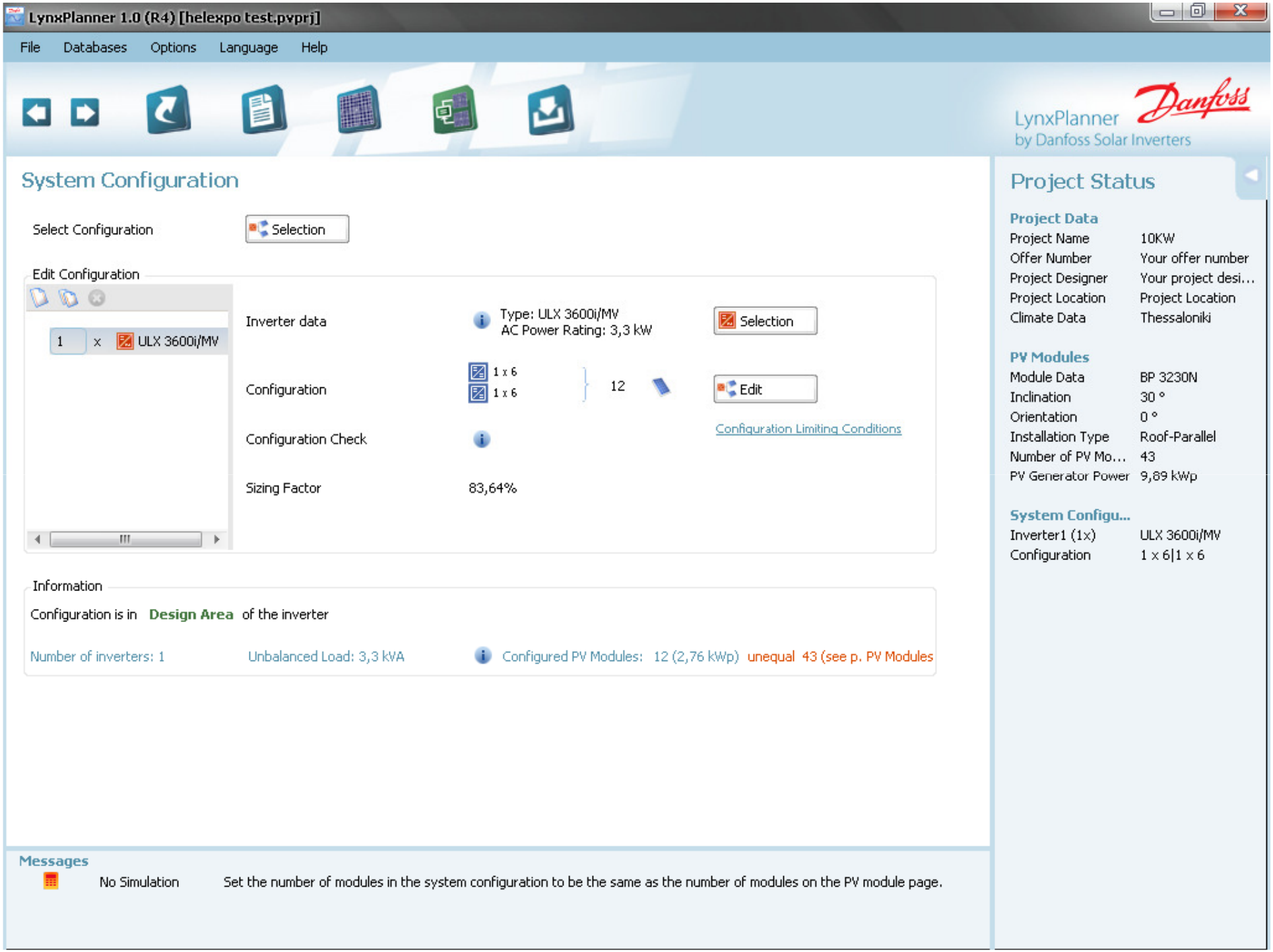
Module Data	BP 3230N
Inclination	30 °
Orientation	0 °
Installation Type	Roof-Parallel
Number of PV Mo...	43
PV Generator Power	9,89 kWp

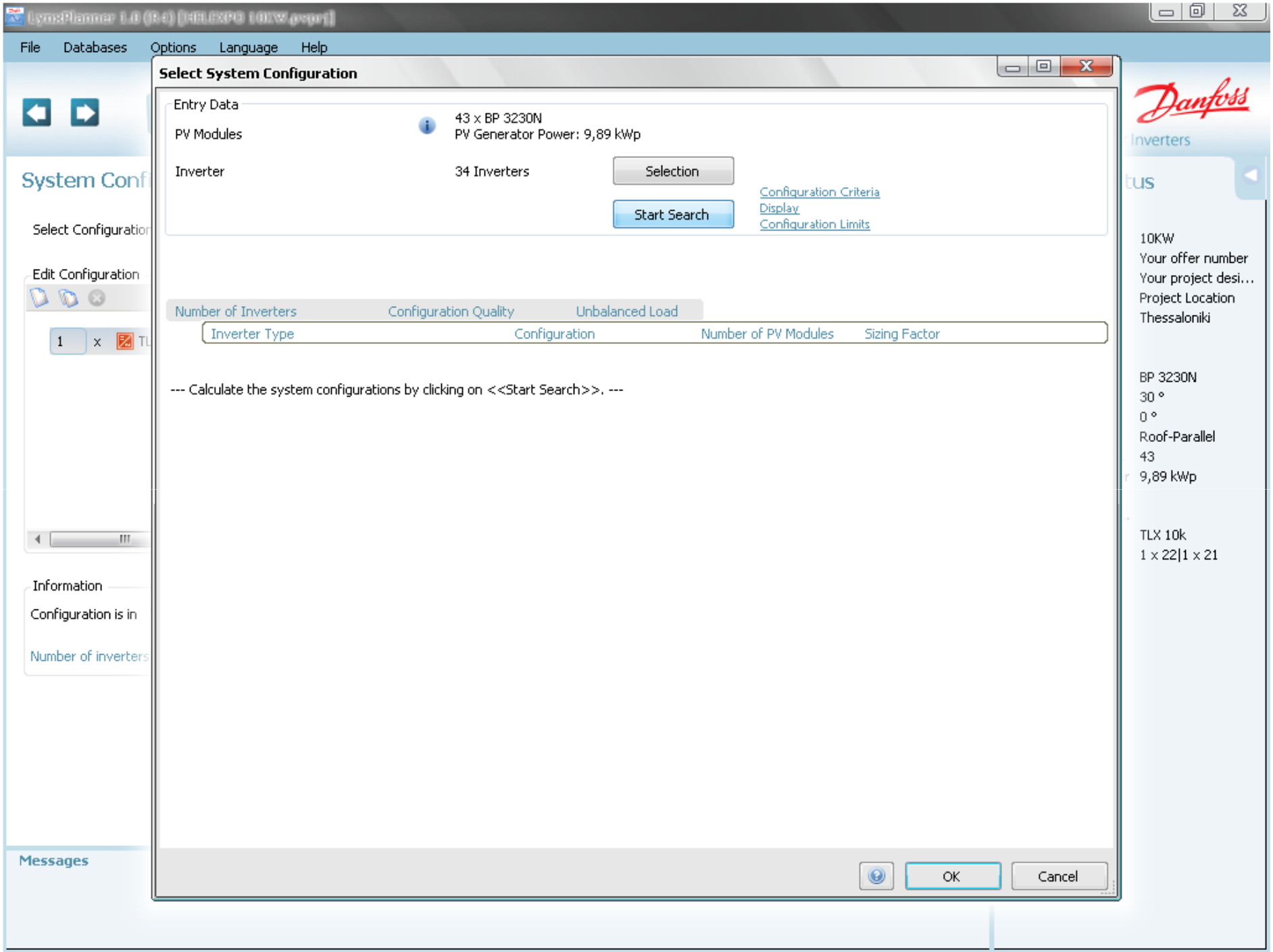
System Configu...

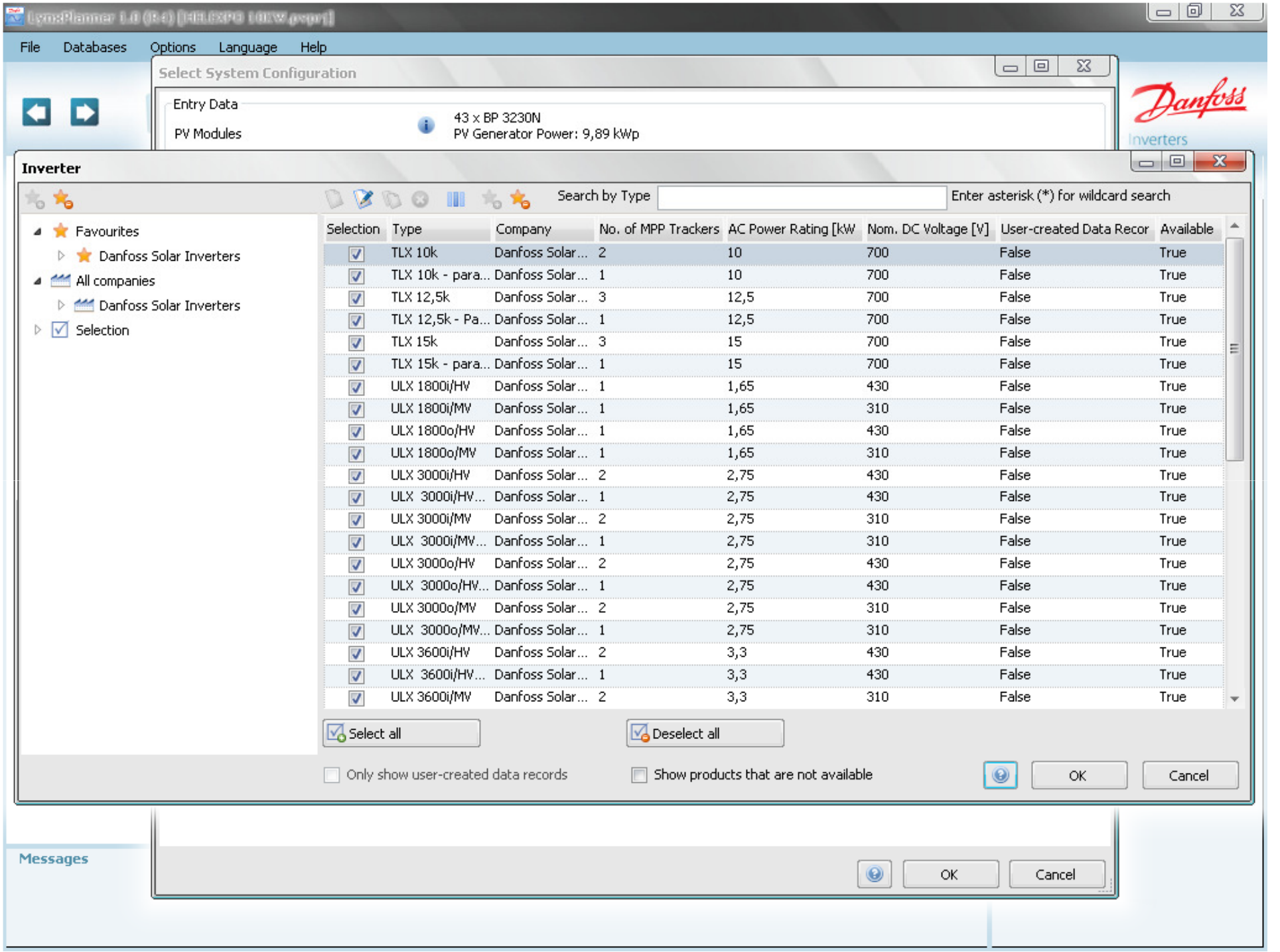
Inverter1 (1x)	TLX 10k
Configuration	1 x 19|1 x 19

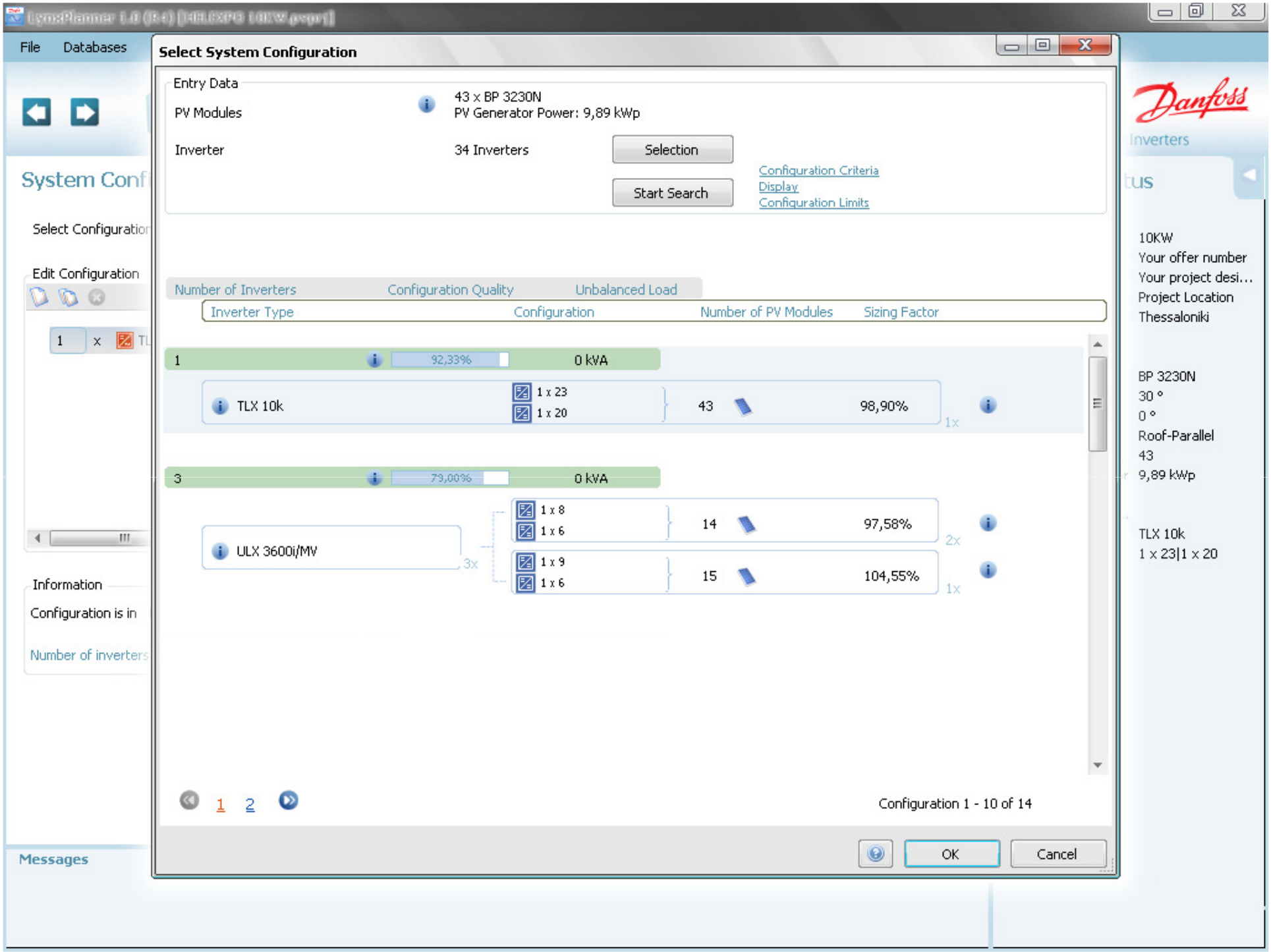
Messages

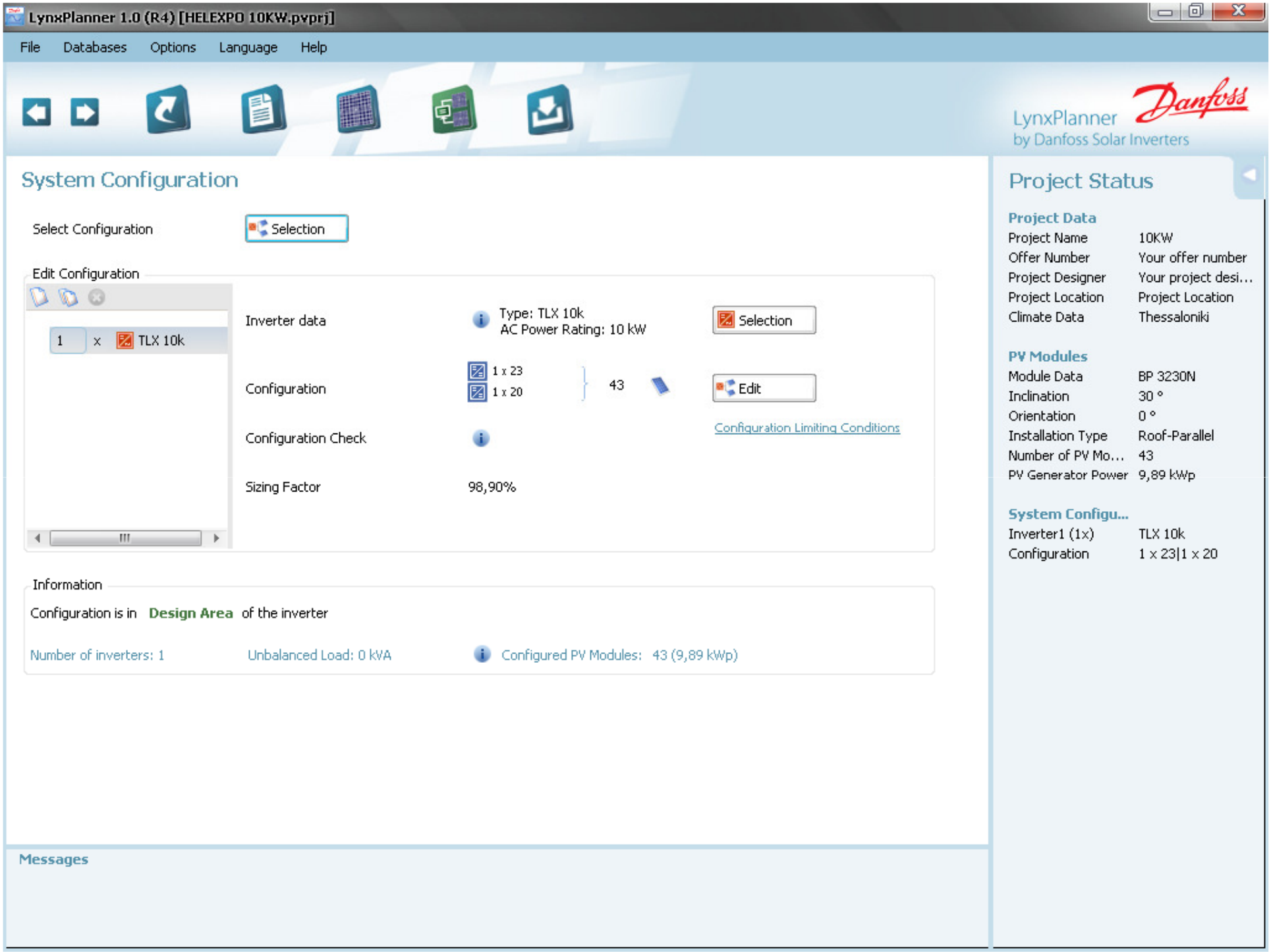
No Simulation — Set the number of modules in the system configuration to be the same as the number of modules on the PV module page.


LynxPlanner 1.0 (R4) [helexpo test.pvprj]
File
Databases
Options
Language
Help
LynxPlanner
by Danfoss Solar Inverters
System Configuration
Select Configuration
Selection
Edit Configuration
1
x
ULX 3600i/MV
Inverter data
Type: ULX 3600i/MV
AC Power Rating: 3,3 kW
Selection
Configuration
1 x 6
1 x 6
12
Edit
Configuration Limiting Conditions
Configuration Check
Sizing Factor
83,64%
Information
Configuration is in Design Area of the inverter
Number of inverters: 1
Unbalanced Load: 3,3 kVA
Configured PV Modules: 12 (2,76 kWp) unequal 43 (see p. PV Modules
Messages
No Simulation
Set the number of modules in the system configuration to be the same as the number of modules on the PV module page.
Project Status
Project Data
Project Name 10KW
Offer Number Your offer number
Project Designer Your project desi...
Project Location Project Location
Climate Data Thessaloniki
PV Modules
Module Data BP 3230N
Inclination 30 °
Orientation 0 °
Installation Type Roof-Parallel
Number of PV Mo... 43
PV Generator Power 9,89 kWp
System Configu...
Inverter1 (1x) ULX 3600i/MV
Configuration 1 x 6|1 x 6


File
Databases
Options
Language
Help
Select System Configuration
Entry Data
PV Modules
43 x BP 3230N
PV Generator Power: 9,89 kWp
Inverter
34 Inverters
Selection
Start Search
Configuration Criteria
Display
Configuration Limits
Number of Inverters
Configuration Quality
Unbalanced Load
Inverter Type
Configuration
Number of PV Modules
Sizing Factor
--- Calculate the system configurations by clicking on <<Start Search>>. ---
OK
Cancel
Danfoss
Inverters
System Conf
Select Configuratio
Edit Configuration
Information
Configuration is in
Number of inverters
Messages
10KW
Your offer number
Your project desi...
Project Location
Thessaloniki
BP 3230N
30 °
0 °
Roof-Parallel
43
9,89 kWp
TLX 10k
1 x 22|1 x 21


File
Databases
Options
Language
Help
Select System Configuration
Entry Data
PV Modules
43 x BP 3230N
PV Generator Power: 9,89 kWp
Inverters
Inverter
Search by Type
Enter asterisk (*) for wildcard search
Favourites
Danfoss Solar Inverters
All companies
Danfoss Solar Inverters
Selection
Selection
Type
Company
No. of MPP Trackers
AC Power Rating [kW
Nom. DC Voltage [V]
User-created Data Recor
Available
TLX 10k Danfoss Solar... 2 10 700 False True
TLX 10k - para... Danfoss Solar... 1 10 700 False True
TLX 12,5k Danfoss Solar... 3 12,5 700 False True
TLX 12,5k - Pa... Danfoss Solar... 1 12,5 700 False True
TLX 15k Danfoss Solar... 3 15 700 False True
TLX 15k - para... Danfoss Solar... 1 15 700 False True
ULX 1800i/HV Danfoss Solar... 1 1,65 430 False True
ULX 1800i/MV Danfoss Solar... 1 1,65 310 False True
ULX 1800o/HV Danfoss Solar... 1 1,65 430 False True
ULX 1800o/MV Danfoss Solar... 1 1,65 310 False True
ULX 3000i/HV Danfoss Solar... 2 2,75 430 False True
ULX 3000i/HV... Danfoss Solar... 1 2,75 430 False True
ULX 3000i/MV Danfoss Solar... 2 2,75 310 False True
ULX 3000i/MV... Danfoss Solar... 1 2,75 310 False True
ULX 3000o/HV Danfoss Solar... 2 2,75 430 False True
ULX 3000o/HV... Danfoss Solar... 1 2,75 430 False True
ULX 3000o/MV Danfoss Solar... 2 2,75 310 False True
ULX 3000o/MV... Danfoss Solar... 1 2,75 310 False True
ULX 3600i/HV Danfoss Solar... 2 3,3 430 False True
ULX 3600i/HV... Danfoss Solar... 1 3,3 430 False True
ULX 3600i/MV Danfoss Solar... 2 3,3 310 False True
Select all
Deselect all
Only show user-created data records
Show products that are not available
OK
Cancel
Messages
OK
Cancel


File
Databases
Select System Configuration
Entry Data
PV Modules
43 x BP 3230N
PV Generator Power: 9,89 kWp
Inverter
34 Inverters
Selection
Start Search
Configuration Criteria
Display
Configuration Limits
Number of Inverters
Configuration Quality
Unbalanced Load
Inverter Type
Configuration
Number of PV Modules
Sizing Factor
1
92,33%
0 kVA
TLX 10k
1 x 23
1 x 20
43
98,90%
1x
3
73,00%
0 kVA
ULX 3600i/MV
3x
1 x 8
1 x 6
14
97,58%
2x
1 x 9
1 x 6
15
104,55%
1x
1
2
Configuration 1 - 10 of 14
OK
Cancel
System Conf
Select Configuratio
Edit Configuration
Information
Configuration is in
Number of inverters
Messages
Inverters
tus
10KW
Your offer number
Your project desi...
Project Location
Thessaloniki
BP 3230N
30 °
0 °
Roof-Parallel
43
9,89 kWp
TLX 10k
1 x 23|1 x 20


LynxPlanner 1.0 (R4) [HELEXPO 10KW.pvprj]
File
Databases
Options
Language
Help
LynxPlanner
by Danfoss Solar Inverters
System Configuration
Select Configuration
Selection
Edit Configuration
1
x
TLX 10k
Inverter data
Type: TLX 10k
AC Power Rating: 10 kW
Selection
Configuration
1 x 23
1 x 20
43
Edit
Configuration Limiting Conditions
Configuration Check
Sizing Factor
98,90%
Information
Configuration is in Design Area of the inverter
Number of inverters: 1
Unbalanced Load: 0 kVA
Configured PV Modules: 43 (9,89 kWp)
Messages
Project Status
Project Data
Project Name 10KW
Offer Number Your offer number
Project Designer Your project desi...
Project Location Project Location
Climate Data Thessaloniki
PV Modules
Module Data BP 3230N
Inclination 30 °
Orientation 0 °
Installation Type Roof-Parallel
Number of PV Mo... 43
PV Generator Power 9,89 kWp
System Configu...
Inverter1 (1x) TLX 10k
Configuration 1 x 23|1 x 20

LynxPlanner 1.0 (R4) [HELEXPO 10KW.pvprj]

File Databases Options Language Help

LynxPlanner by Danfoss Solar Inverters

Results

Annual Grid Feed-in	12346,3 kWh
Spec. Annual Yield	1247 kWh/kWp * year
Performance Ratio	77,5 %

View Presentation Show Configuration

Project Status

Project Data

Project Name	10KW
Offer Number	Your offer number
Project Designer	Your project desi...
Project Location	Project Location
Climate Data	Thessaloniki

PV Modules

Module Data	BP 3230N
Inclination	30 °
Orientation	0 °
Installation Type	Roof-Parallel
Number of PV Mo...	43
PV Generator Power	9,89 kWp

System Configu...

Inverter1 (1x)	TLX 10k
Configuration	1 x 23|1 x 20

Messages

Preview of Document

File View Help

2 of 4 130% 1:1

Project Designer: Your project designer
Company:

13/2/2011
Offer Number: Your offer number
Customer Number: Your customer number

10KW

PV system

Project Location	Project Location
Climate Data (Basis for Calculation)	Thessaloniki
Solar Generator	
Solar Modules*	43 x BP 3230N
Manufacturer	BP Solar
Inclination	30 °
Orientation	South (0 °)
Installation Type	Roof-Parallel
Generator Surface	71,7 m²
Generator Output	9,89 kWp
Inverter	
Inverter 1*	1 x TLX 10k
Manufacturer	Danfoss Solar Inverters

* The guarantee provisions of the respective manufacturer apply

The output

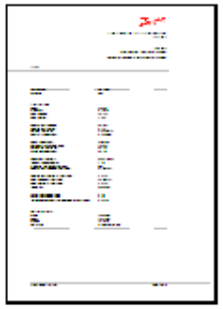
Annual grid feed-in	12346,3 kWh	☑
Spec. Annual Yield	1247 kWh/kWp * year	☑
System level of utilization	77,5 %	☑
CO2 emissions avoided	10923 kg/a	☑

The results have been calculated with a mathematical model calculation from Dr. Valentin EnergieSoftware GmbH (PVSOL algorithms). The actual yields from the solar power system may differ as a result of weather variations, the efficiency of the modules and inverter, and other factors.

Preview of Document

File View Help

4 of 4 120% 1:1



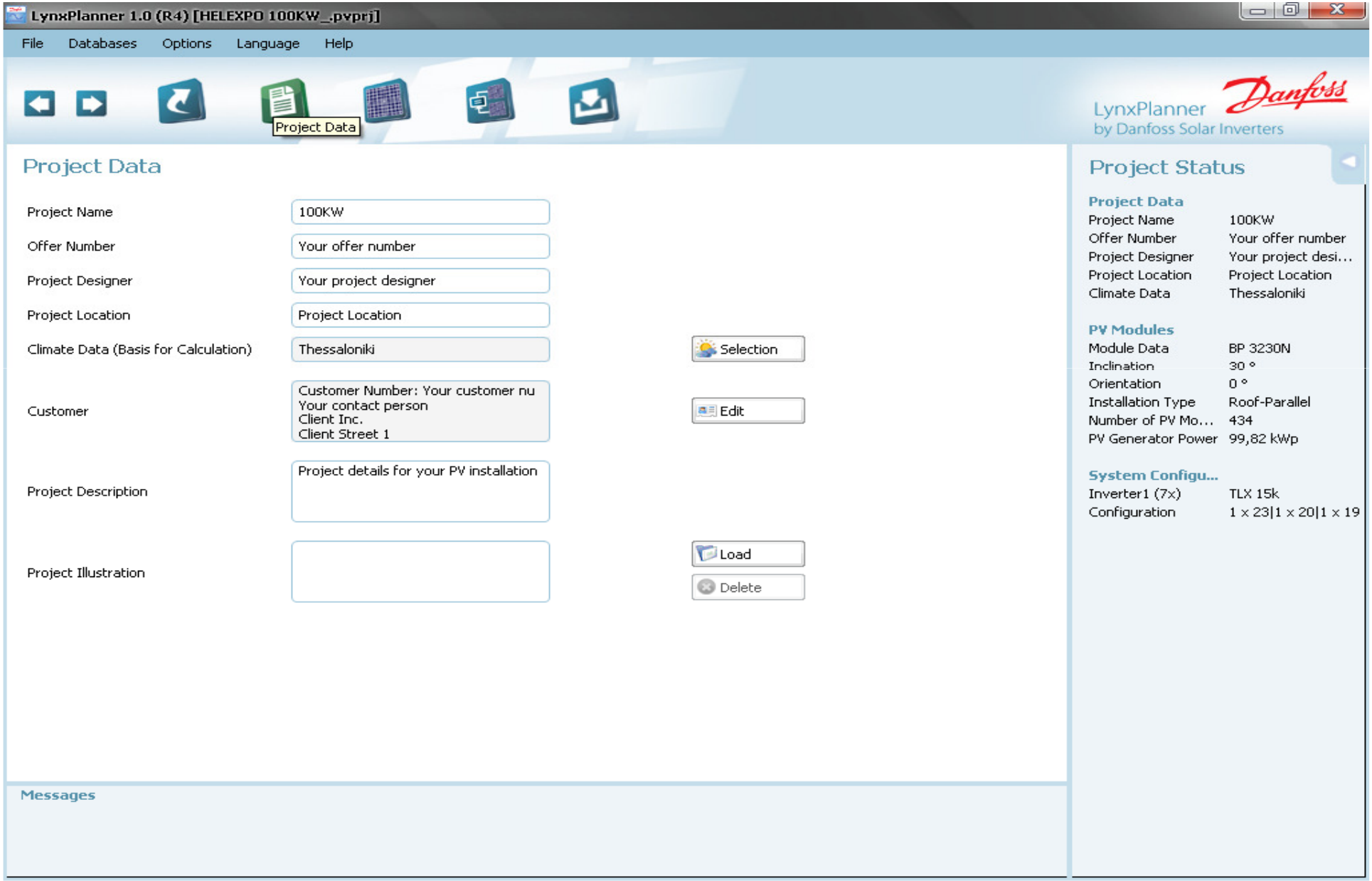
Customer Number: Your customer number

10KW

Inverter: TLX 10k

Manufacturer	Danfoss Solar Inverters
Available	Yes
Electrical data	
AC Power Rating	10 kW
Nom. AC Voltage	10,3 kW
Max. AC Voltage	10 kW
Max. DC Voltage	10,3 kW
Feed-in from	20 W
Stand-by Consumption	10 W
Night Consumption	1 W
Output Range < 20 % of Power Rating	99 %
Output Range > 20 % of Power Rating	99,9 %
Nom. DC Voltage	700 V
Max. Input Voltage	1000 V
Change in efficiency when input voltage deviates from rated voltage	0,3 %/100V
Nom. DC Current	10 A
Max. input current	24 A
Number of DC Inlets	2
Without Transformer	Yes
MPP Tracker	
No. of MPP Trackers	2
Max. Recommended Input Power per MPP Tracker	5 kW
Min. MPP Voltage	430 V
Max. MPP Voltage	800 V
Max. Input Current per MPP Tracker	12 A
Characteristic Curve	
Efficiency	
Efficiency for P(DC)/P(DC nom) = 0	0 %
Efficiency for P(DC)/P(DC nom) = 5	92,8 %
Efficiency for P(DC)/P(DC nom) = 10	95,2 %
Efficiency for P(DC)/P(DC nom) = 20	96,5 %
Efficiency for P(DC)/P(DC nom) = 30	97 %
Efficiency for P(DC)/P(DC nom) = 50	97,4 %
Efficiency for P(DC)/P(DC nom) = 100	97,4 %

Παράδειγμα διαστασιολόγησης 100kWp



LynxPlanner 1.0 (R4) [HELEXPO 100KW_.pvprj]

File Databases Options Language Help

LynxPlanner
by Danfoss Solar Inverters

PV Modules

Module Area1

Module Data — Type: BP 3230N
Output: 230 W — Selection

Module Parameters

Tilt Angle of PV Modules: 30 °

Orientation of PV Modules: 0 °

-90° = Ost
0° = Süd
90° = West
180° = Nord

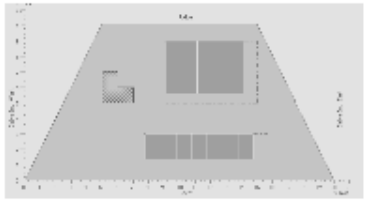
Installation Type: Mounted

Generator Output

Roof Area with PV Modules — Input

Number of PV Modules: 434

PV Generator Power: 99,82 kWp



PV Generator Power 99,82 kWp

Messages

Project Status

Project Data

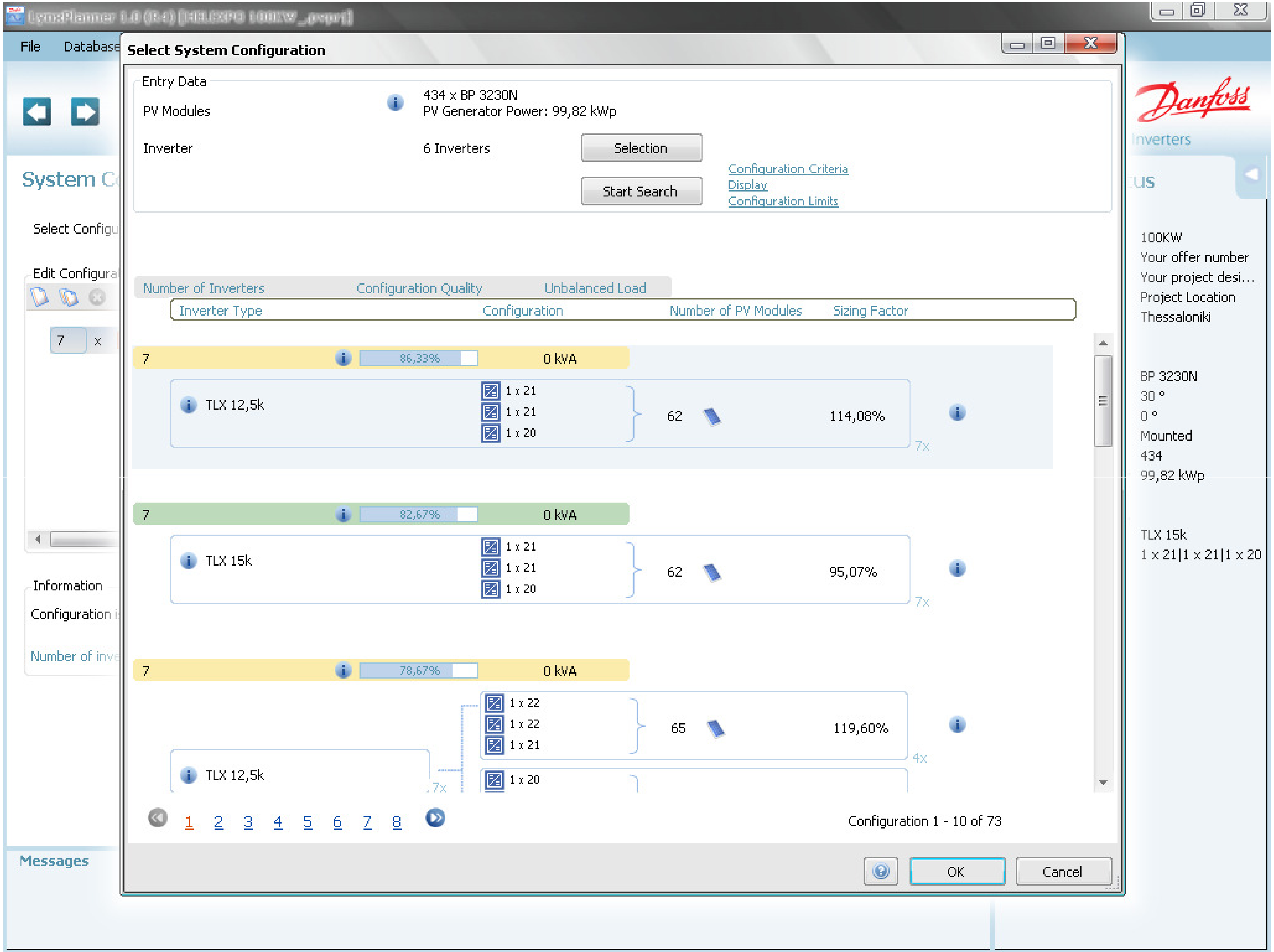
Project Name	100KW
Offer Number	Your offer number
Project Designer	Your project desi...
Project Location	Project Location
Climate Data	Thessaloniki

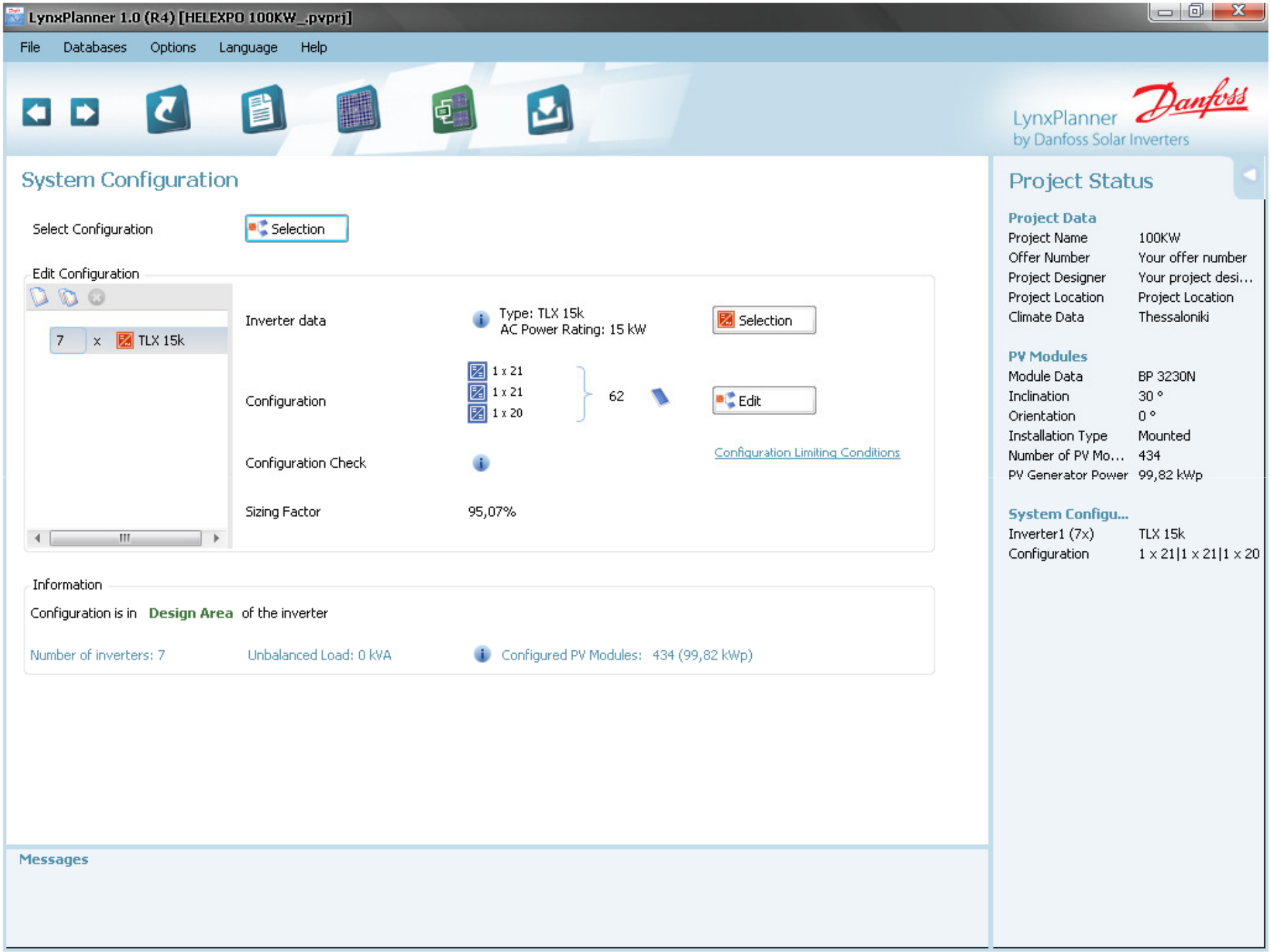
PV Modules

Module Data	BP 3230N
Inclination	30 °
Orientation	0 °
Installation Type	Mounted
Number of PV Mo...	434
PV Generator Power	99,82 kWp

System Configu...

Inverter1 (7x)	TLX 15k
Configuration	1 x 23|1 x 20|1 x 19


File
Database
Select System Configuration
Entry Data
PV Modules
434 x BP 3230N
PV Generator Power: 99,82 kWp
Inverter
6 Inverters
Selection
Start Search
Configuration Criteria
Display
Configuration Limits
System C
Select Configu
Edit Configura
Number of Inverters
Configuration Quality
Unbalanced Load
Inverter Type
Configuration
Number of PV Modules
Sizing Factor
7
86,33%
0 kVA
TLX 12,5k
1 x 21
1 x 21
1 x 20
62
114,08%
7x
7
82,67%
0 kVA
TLX 15k
1 x 21
1 x 21
1 x 20
62
95,07%
7x
7
78,67%
0 kVA
1 x 22
1 x 22
1 x 21
65
119,60%
4x
TLX 12,5k
7x
1 x 20
1 2 3 4 5 6 7 8
Configuration 1 - 10 of 73
OK
Cancel
Information
Configuration i
Number of inve
Messages
Danfoss
Inverters
us
100KW
Your offer number
Your project desi...
Project Location
Thessaloniki
BP 3230N
30 °
0 °
Mounted
434
99,82 kWp
TLX 15k
1 x 21|1 x 21|1 x 20


LynxPlanner 1.0 (R4) [HELEXPO 100KW_.pvprj]
File
Databases
Options
Language
Help
LynxPlanner
by Danfoss Solar Inverters
System Configuration
Select Configuration
Selection
Edit Configuration
7
x
TLX 15k
Inverter data
Type: TLX 15k
AC Power Rating: 15 kW
Selection
Configuration
1 x 21
1 x 21
1 x 20
62
Edit
Configuration Check
Configuration Limiting Conditions
Sizing Factor
95,07%
Information
Configuration is in Design Area of the inverter
Number of inverters: 7
Unbalanced Load: 0 kVA
Configured PV Modules: 434 (99,82 kWp)
Messages
Project Status
Project Data
Project Name 100KW
Offer Number Your offer number
Project Designer Your project desi...
Project Location Project Location
Climate Data Thessaloniki
PV Modules
Module Data BP 3230N
Inclination 30 °
Orientation 0 °
Installation Type Mounted
Number of PV Mo... 434
PV Generator Power 99,82 kWp
System Configu...
Inverter1 (7x) TLX 15k
Configuration 1 x 21|1 x 21|1 x 20

LynxPlanner 1.0 (R4) [HELEXPO 100KW_.pvprj]

File Databases Options Language Help

LynxPlanner by Danfoss Solar Inverters

Results

Annual Grid Feed-in	129283 kWh
Spec. Annual Yield	1294,2 kWh/kWp * year
Performance Ratio	80,4 %

Yield Prognosis

View Presentation Show Configuration

Project Status

Project Data

Project Name	100KW
Offer Number	Your offer number
Project Designer	Your project desi...
Project Location	Project Location
Climate Data	Thessaloniki

PV Modules

Module Data	BP 3230N
Inclination	30 °
Orientation	0 °
Installation Type	Mounted
Number of PV Mo...	434
PV Generator Power	99,82 kWp

System Configu...

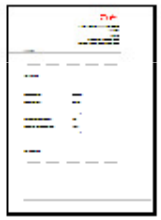
Inverter1 (7x)	TLX 15k
Configuration	1 x 21|1 x 21|1 x 20

Messages

Preview of Document

File View Help

4 of 4 130% 1:1



100KW

Inverter: TLX 15k

Manufacturer	Danfoss Solar Inverters
Available	Yes
Electrical data	
AC Power Rating	15 kW
Nom. AC Voltage	15,5 kW
Max. AC Voltage	15 kW
Max. DC Voltage	15,5 kW
Feed-in from	20 W
Stand-by Consumption	10 W
Night Consumption	1 W
Output Range < 20% of Power Rating	99 %
Output Range > 20% of Power Rating	99,9 %
Nom. DC Voltage	700 V
Max. Input Voltage	1000 V
Change in efficiency when input voltage deviates from rated voltage	0,3 %/100V
Nom. DC Current	10 A
Max. input current	36 A
Number of DC Inlets	3
Without Transformer	Yes
MPP Tracker	
No. of MPP Trackers	3
Max. Recommended Input Power per MPP Tracker	5 kW
Min. MPP Voltage	430 V
Max. MPP Voltage	800 V
Max. Input Current per MPP Tracker	12 A
Characteristic Curve	
Efficiency	
Efficiency for P(DC)/P(DC nom) = 0	0 %
Efficiency for P(DC)/P(DC nom) = 5	92,8 %
Efficiency for P(DC)/P(DC nom) = 10	95,2 %
Efficiency for P(DC)/P(DC nom) = 20	96,5 %
Efficiency for P(DC)/P(DC nom) = 30	97 %
Efficiency for P(DC)/P(DC nom) = 50	97,4 %
Efficiency for P(DC)/P(DC nom) = 100	97,4 %

ΕΡΩΤΗΣΕΙΣ