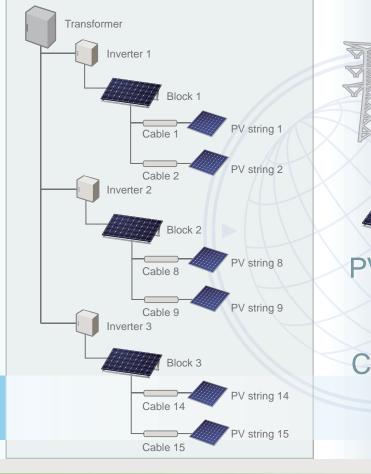
HelioBase₀			Software A	Software B	
Meteorological Expression					
Required Data					
Horizontal Global Irradiance		hourly	hourly or monthly	monthly	
Diffuse Irradiance		hourly	hourly or monthly	monthly	
Air Temperature	hourly		hourly or monthly	monthly	
Supported Database			je e j	, see g	
Number of stations	m	ore than 3000	330	2385	
Database Type	EnergyPlus	2126 stations			
	TMY3	1020 stations			
	METPV-11	837 stations			
	METPV-3	836 stations			
	Meteonorm	importable			
Geometrical Expression	Meteonom	importable			
Angle Free Operation	Pa	n / Tilt / Zoom	Pan / Tilt / Zoom	Pan / Tilt / Zoom	
PV Module Placement	Tu Tu				
PV Array Generation / Placement			\triangle		
Automatic PV Array Placement			×	×	
PV Strings Configuration			×	^ •	
3D Model Positioning	Movo	/ Copy / Rotation	^ •	•	
3D Model Data Importing	INIOVE	STL format	Helios 3D format	×	
		BMP / PNG / TIFF format	X		
Background Texture Image	GIF / JPEG /	Bive / Ping / HEF Ionnat		×	
Shading Effects		•	\triangle	U V	
Reflected Light Effects			×	×	
3D View Still Images Output		BMP / PNG / TIFF format	•	×	
3D View Movie Output	AVI IOI	mat / Animation GIF	×	×	
Electrical Expression					
Supported Database		_			
Grid Connected Systems		•	•	•	
Stand-alone Systems		•		•	
Supported Database	Transformer Or	kla lavastan Osaskinan Dava			
Supported Devices	Transformer, Cable, Inverter, Combiner Box, Step-up Converter, PV Module(PV Strings), and User defined Load Devices		Inverter, PV Module	Inverter, PV Module	
Results Expression					
On Screen					
Summary		•	•	×	
Detail Data Tables and Charts		•	•	×	
Reports					
Excel-based Reports		•	×	×	
Printed Reports		•	•	•	
System Requirement					
PC Specs					
OS	Windows XP SP3 (32bits) Windows Vista SP2 (32bits) Windows 7 (32bits, 64bits)				
Microsoft .net Framework	.net Frar	nework 3.5 or higher			
Microsoft Office	Exce	l® 2003 or higher			
Memory	1.	.0GB or higher			
Disk	2.5GB				
Graphics	OpenGL 3.0	compatible graphics card			

Simulation Software for PV Systems







Field Logic has been developing and selling simulation and monitoring applications for PV systems in Kyoto, Japan.

Beans®

Measurement Software Beans® is a simple and flexible standard software suite for monitor-

ing and analyzing measurement data.

Contact Field Logic Inc. in Europe

ConWeb GmbH Geschaftsfuhrer/Managing Partner Fax.: +49-(0)89-9043650 Herzog-Albrecht-Weg 10 85551 Kirchheim b. Munchen Germany

Tel.: +49-(0)89-9037044 Mobile: +49-(0)172-8303886 wolfgang.geist@conweb.de www.f-logic.jp/global

+ Festa2®

Light Digital Signage Software Festa2® is a Flash®-based digital signage software. Ideal for broadcasting your message coupled with visualized measurement data.

3F Augusta Bldg. 34-9

Uji-city Kyoto, 611-0002

Uchihata Kohata

Japan



Owle enables users to monitor all measurement sites on a single display.

Contact Field Logic Inc.

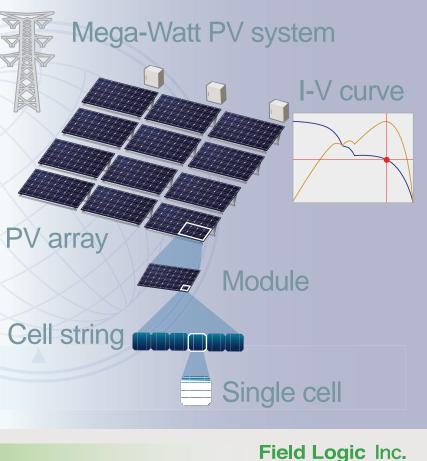
Tel.: +81-774-31-4186 Tel.: +81-774-39-3890 info@heliobase.com www.f-logic.jp/global

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www.heliobase.com

Hall B4, Booth B4.688



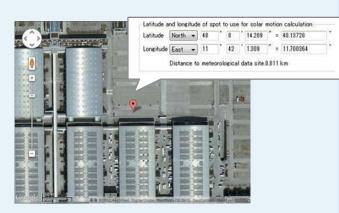
Step1

Location and Meteorological Data

View Help Language								
on PV module candidate 3D model Specific	ation tree Editing DB							
athude and longitude of spot to use for solar motion calculation.						neteorological dat	i	
Lathude North + 48 8 14.209 = 48.13728			Set Latitude and Longitude		Category Value			
Long/hude East + 11 42 1309 * = 11290364 *					Meter DE		EnergyPlus EnergyPlus Weather Data /	
Distance to meteorological data site ##111 km					Country	Germany		
Distance to meleorological para site salt	100				State	-		
loogle Maps Meteorological data graph			Site name MUNICH					
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							4	
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	Tel Later and f							
	and the second second second second			Select	t the select	ed meteorological	data	
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		100640	Name MUNICH Musichen A.		0.0 26.6	Latitude[dee] 48.1300 48.3670	Long/hude[deg] 11,7000 11,8000	
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	· .	100660 108700 111200 111500	Name MUNICH Maenchen A. INNSBRUCK SALZBURG		0.0 0.0 26.6 100.0 100.0	Latihude§dee] 48.1380 48.3570 47.2708 47.2008	Longihade[deg] 11,7000 11,8000 11,2000 12,8000	
	•	100640 108700 111200 111500 110100	Name MUNICH Muenchen A. INNSBRUCK SALZBURG UNZ		03.0) + 0.0 26.5 100.0 101.5 105.0	Latitudeűdee] 48.5300 48.5670 47.2708 47.0008 48.2300	Longihade[ding] 11,2000 11,3000 11,3500 12,0000 14,2000	
	•	100640 108700 111200 111500 110100 166200	Name MUNICH Muenchen A. INNSBRUCK SALZBURG UNIZ Bobano		00.00) + 0.0 26.6 100.0 102.9 105.0 105.0 105.0	Latitudeűdee) 48.5570 47.2700 47.0008 48.2500 48.2500 45.4700	Lore/Rude[dee] 11,2000 11,2000 11,2000 12,2000 14,2000 11,2300	
		100660 188700 111200 111500 110100 166200 107300	Name MUNICH Muenchen A. I INNSBRUCK SALZBURG UNZ Boltano STUTTGART		0.0 m) ~ 0.0 26.6 100.0 102.9 105.0 105.0 105.0 105.0	Latinude[dee] 48.1300 48.2670 47.2700 47.2700 48.2200 48.2200 46.4700 48.5000	Lore/hude[dee] 11,2000 11,2000 11,2000 13,2000 14,2000 11,3300 8,2200	
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Precise location of the PV system

Precise location of the target PV system simulates the position of the sun accurately. Because HelioBase® calculates power output on an hourly basis, precise simulation of the sun's position is necessary. With the location setting screen, specific longitude and latitude are easily input with an online world-wide map.



Hourly meteorological data

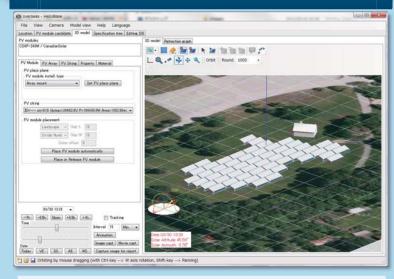
Thousands of weather stations are available to give data on meteorological conditions for calculating the system's power production. HelioBase® uses hourly data, usually from the nearest meteorological station, to re-create weather conditions precisely.

METEORLOGICAL DATABAS

Energy Plus	2126 stations				
TMY3	837 stations				
METPV-3/11	1020 stations				
METEONORM	(Importable)				

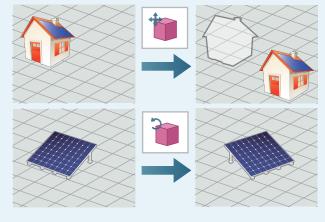
Step2

3D Geometrical Expression



Layout of PV arrays and 3D models

With HelioBase[®]'s layout function, PV arrays and other 3D models such as buildings can be placed in 3D space. Moving and rotating functions help users to create and adjust the layout and design a sophisticated configuration.



Importable 3D models

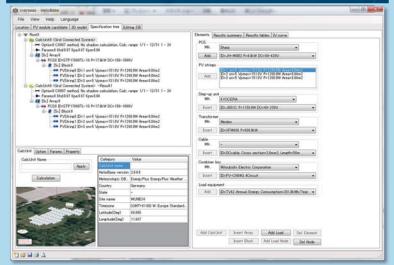
HelioBase® accepts files formatted with STL as valid data for 3D models. STL files are importable simply by dragging and dropping.



What is an STL file? STL is a common data format for 3D models. Data from many 3D CAD and modeling software programs such as Google SketchUp can be exported into this format.

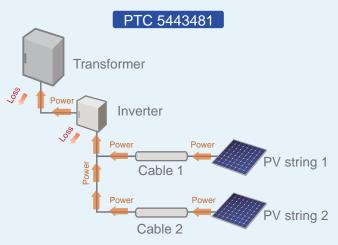
Flexible Representation of PV System Structure

Step3



Power calculation with System devices combination

HelioBase® finds the total system output power by calculating the power production and loss of each device. This patented calculation and expression method clarifies in detail the power generation and loss.



Cell Level I-V curve calculation

HelioBase® resolves the model level I-V curve at the cell level and takes into account shading effects at the cell string level. Because of this detailed analysis, HelioBase® can take into account PV array mismatches with the I-V curve and offer a true picture of the performance of the PV system.



PV arrays

PV modules

PV cells and Cell strings

Design Support Features



DXF file

Exportable Layout Data

Layout created in 3D space can be exported in a DXF file format so that the layout information can be used in other CAD software programs.

Shading Effects and Reflected Light

Once a layout is created in 3D space, shading and the reflected light of all objects are drawn for each date and time. Daily changes in shading and reflected light can be exported as a movie file or as still images for each time of day for any specific date.

Reports

HelioBase®

Simulation results can be saved in Microsoft Excel® format. Various conditions and data results can be shown in this format.

