

## COMPARISON of Photovoltaic Programmes

Version 08/2008

	PV*express 3.0	PV*SOL 3.0 R3	PV*SOL Expert 4.0 R2
<b>Languages</b>	German/English	English/French/German/Spanish/Italian	German (International version planned in Winter 2008/2009)
<b>Areas of Use</b>	Only for grid connected systems with 100% feed-in to the grid	<b>gridcon:</b> grid connected systems with both full feed-in and own energy supply (Net Metering) <b>standalone:</b> stand-alone systems	<b>gridcon:</b> grid connected <b>roof-parallel and roof-integrated</b> systems with both full feed-in and own energy supply (Net Metering) <b>standalone:</b> stand-alone <b>roof-parallel and roof-integrated systems</b>
<b>Target User Groups</b>	Trade technicians and sales staff	Engineers, planners, roofing technicians, and (electrical, building and solar) installers.	Engineers, planners, roofing technicians, and (electrical, building and solar) installers.
<b>Main Purpose</b>	Quick design to determine the module number, inverter selection and yield calculation	Optimisation of systems in respect of the yield and economic efficiency	Optimisation of systems in respect of the yield and economic efficiency, now with <b>complete new functionality: 3D-visualization tool and detailed shading analysis</b> of PV systems; <b>graphical display</b> of results; <b>detailed shading characteristics for each day and over a period of one year</b>
<b>Content</b>	Approximately 500 European climate data records, plus worldwide data	Approximately 500 European climate data records, plus worldwide data	Approximately 500 European climate data records, plus worldwide data
		Includes MeteoSyn, the climate data generator, which has a database with an additional 2000 locations worldwide	Includes MeteoSyn, the climate data generator, which has a database with an additional 2000 locations worldwide
	Module database	Module database	Module database
	Inverter database	Inverter database	Inverter database
		Includes databases of batteries, stand-alone inverters and charge controllers	Includes databases of batteries, stand-alone inverters and charge controllers

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	The databases can be updated and user-defined data can be added	The databases can be updated and user-defined data can be added	The databases can be updated and user-defined data can be added
	The number of modules on a roof can be determined with the use of a diagram of the roof area	The number of modules on a roof can be determined with the use of a diagram of the roof area	The number of modules on a roof can be determined with the use of a diagram of the roof area
			<b>Automated positioning of multiple roof forms with the max. feasible number auf modules, considering deadlock areas</b>
	1 PV array, 2 different types of inverter are possible	Up to 6 differently-oriented PV arrays, different modules and a system inverter are possible	Up to 6 differently-oriented PV arrays, different modules and a system inverter are possible
		Dialogue to control the parameters for the calculation model and losses	Dialogue to control the parameters for the calculation model and losses
	System check for sizing errors	System check for sizing errors	System check for sizing errors
	Predefined shade scenarios	simple shade analysis with entries for each sub-array	<b>detailed shade analysis</b> including <b>shading simulation on a single cell level with 3D-visualization</b>
		Tracking systems can be calculated	Tracking systems can be calculated
		For systems using some of the energy produced (surplus feed-in), the electricity consumption can be defined by load profiles or individual appliances	For systems using some of the energy produced (surplus feed-in), the electricity consumption can be defined by load profiles or individual appliances
		Different tariffs can be entered	Different tariffs can be entered
		Variant Comparison facility - different system variants can be compared in a table	Variant Comparison facility - different system variants can be compared in a table

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	<b>PV*express 3.0</b>	<b>PV*SOL 3.0 R3</b>	<b>PV*SOL Expert 4.0 R2</b>
	Yield calculation	Yield calculation + additional Quick Design facility	Yield calculation + additional Quick Design facility
<b>Results</b>	Three-page project report, which can be converted into PDF format and sent out as an e-mail attachment, roof view, simple economic efficiency calculation	Summary and detailed reports can be converted into PDF format and sent out as an e-mail attachment, roof view, detailed economic efficiency calculation	Summary and detailed reports can be converted into PDF format and sent out as an e-mail attachment, roof view, detailed economic efficiency calculation
<b>Economic Efficiency Calculation</b>	A total amount for a period of 20 years can be entered for degradation	Degradation can be defined annually	Degradation can be defined annually
	Total amounts for investments, subsidies and operating costs are entered in the balance of costs	A number of individual positions can be entered in the balance of costs and the period (in years) can be added	A number of individual positions can be entered in the balance of costs and the period (in years) can be added
		Tax can be taken into account in the calculation	Tax can be taken into account in the calculation
		A number of different loans can be accounted for	A number of different loans can be accounted for
	The results print-out includes a graph (accrued cash flow at year end)	The results print-out can include a number of different graphs and tables	The results print-out can include a number of different graphs and tables; Print-out of 3D-Screenshots (2 pictures per page)