PLATINUM
INVERTERS

SERIES
2100 S
3100 S
4600 S

PHOTOVOLTAIC

SOLAR ENERGY

THE SAFE WAY
INTO THE FUTURE

OPTION: WARRANTY 20 YEARS

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2100 S
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RELIABLE UNITS – SECURING YOUR INVESTMENTS

The Platinum line of inverters is the result of the combined intensified effort of dedicated teams of experienced technical engineers and renowned industrial designers. Considering all electrical, mechanical and thermodynamic design aspects, we created a line of rugged, extremely durable inverters, for a thermally stable and uninterrupted, fail-safe operation even under severe operating conditions. This is why all our inverters come with a 5 year guarantee – we even offer an optional extended guarantee period of 20 years.

Through the principle of galvanic isolation, the natural geomagnetic field within the solar array is not affected by the inverters. Galvanic isolation also complies with the highest possible electrical security standards and legal requirements regarding personal safety and fire prevention.

The Platinum inverter series – securing investments by setting new quality standards for private use as well as at an industrial level.

THE SAFE WAY INTO THE FUTURE

ADVANTAGES

MECHANICAL ADVANTAGES

- Heavy-duty industrial-grade design, capable of withstanding extreme ambient temperatures as well as moist or dusty operating conditions (Protection class IP 54)
- Special airflow design provides sufficient natural convection cooling for standard operation (safety ventilator for peak loads included)
- Sophisticated heat management for a long and failure-free service life, even in hot surroundings
- Flexible connection options through the use of standard plug connectors by market leaders
- Easy wall-mount design with grips in the casing and drilling jig

ELECTRICAL ADVANTAGES

- Optimized overall-efficiency transformer unit with a wide range of input voltage and fast MPP-tracking
- Wide range of input voltage allows polycristalline, mono-cristalline and thin-film solar modules to be used
- Large, backlit graphic display for comfortable control with concise navigation menu
- Clear visualization of the multiple analytic functions
- Integrated data logger with daily, weekly and yearly summary
- Prepared for network-integration and internet connection via RS485 interface
- DC-input surge protection via voltage limiter
- Potential-free relay contact to activate external indicator units (e.g. warning light)
- Automatic on-board disconnector switch (three-phase ENS in accordance with VDE 0126-1-1)

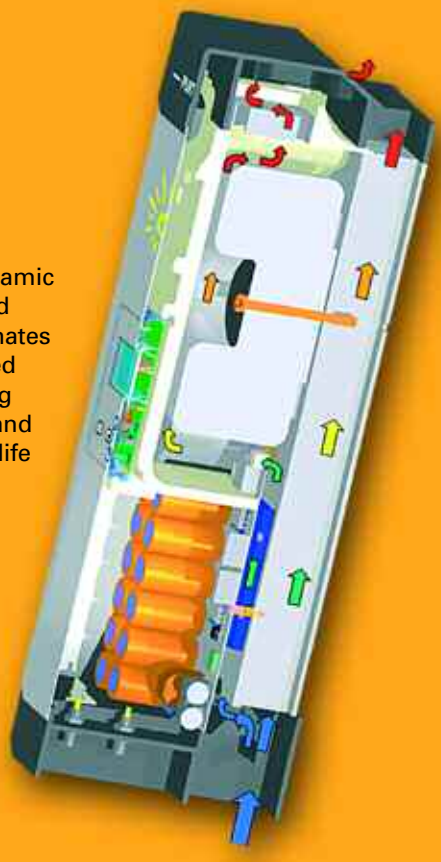
START-UP

- Master-Slave programming allows the parameters of the master inverter to be copied and transferred to all other inverters of the PV installation
- All network connection cables to the RS458 interface can be custom-fit on-site
- Mounting and setup can be carried out without having to remove the casing

4600 S

Concise data representation
Clear visualization of the multiple analytic functions with daily, weekly and yearly summary over large graphic display. Additional software permits the system to be checked comfortably via the Internet.

Advanced heat management
The special thermodynamic design and sophisticated heat management eliminates partial or total heat-related system failures, optimizing the conversion efficiency and also extending the service life of the unit.



Free choice of connection
Flexible connection options through the use of standard plug connectors by market leaders – our customers may choose.

PLATINUM
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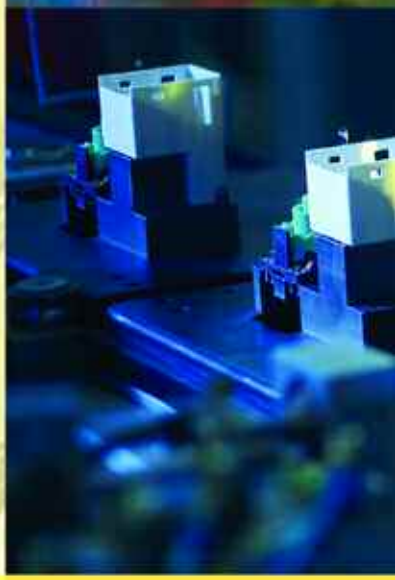
DIEHL Controls



DIEHL Controls – Research, Development and Production of the line of PLATINUM Inverters.

DIEHL Controls is a well-known international electronic company, specialized in the development and production of high quality control systems.

INNOVATION & QUALITY

DIEHL Controls is among the leading experts in the development of trendsetting concepts in electronic control systems, with extensive and consolidated system know-how and cutting-edge technology and equipment in production and test engineering. Our electronic devices are manufactured under conditions which comply to the International quality standard ISO 9001-2000 and the environmental management standard ISO 14001. All photovoltaic Inverters are "Made in Germany", CE certified and comply with the relevant quality standards.

ENVIRONMENTAL PROTECTION

At DIEHL Controls, environmental protection is greatly valued. DIEHL Controls is continually improving the production processes to save energy and valuable material resources. For these reasons the Diehl Controls Inverters are produced in compliance with the RoHS-guideline and the environmental management standard DIN EN ISO 14001.

SALES DEPARTMENT

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PLATINUM
INVERTERS

TECHNICAL DATA

Inverter-Type		2100 S	3100 S	4600 S
max. admissible ambient temperature T_{max}		50 °C	50 °C	50 °C
min. admissible ambient temperature T_{max}		-20 °C	-20 °C	-20 °C
max. admissible ambient temperature during operation at nominal load		35 °C	35 °C	35 °C
Input charateristics				
max. PV-Power	P_{PV_max}	c. 2.300 W_p	c. 3.450 W_p	c. 5.100 W_p
max. DC-Power	P_{DC_max}	2.100 W	3.100 W	4.600 W
max. DC-Voltage (open circuit)	U_{DC_max}	500 V	780 V	780 V
PV-voltage range MPPT	U_{PV}	200 V – 500 V	300 V – 750 V	300 V – 750 V
max. input current	I_{PV_max}	9 A	9 A	13 A
number of strings		1	1	1 resp. 2
DC section switch device		Plug connector	Plug connector	Plug connector
Reverse battery protection		Yes	Yes	Yes
Output characteristics				
Max. AC-Power output	P_{AC_max}	1.900 W	2.800 W	4.200 W
Nominal AC Power Rating	P_{AC_nom}	1.750 W	2.550 W	3.800 W
Nominal Output Voltage	U_{AC}	230 V	230 V	230 V
		-20%/+15%	-20%/+15%	-20%/+15%
Frequency	f_{AC}	from 47,5 Hz	from 47,5 Hz	from 47,5 Hz
		to 50,2 Hz	to 50,2 Hz	to 50,2 Hz
Short-circuit proof		Yes	Yes	Yes
Conversion efficiency				
Maximum conversion efficiency	η_{max}	95,1%	95,3%	95,6%
European efficiency	η_{EU}	94,1%	94,4%	94,7%
Interfaces				
EIA232		Yes	Yes	Yes
EIA485		Yes	Yes	Yes
Potential-free relay contact		max. $24V_{AC}$/2 A	max. $24V_{AC}$/2 A	max. $24V_{AC}$/2 A
Plug connectors				
DC input		Multi Contact or TYCO		
AC output		Wieland RST		
EIA232		9-pole SubD socket		
EIA485		2 x RJ45 western modular and plug connector with terminal screws		
Potential-free relay contact		connector plug with terminal screws		
Degree of protection (DIN EN 60529)		IP54	IP54	IP54
Weight		28 kg	35 kg	43 kg
Outline dimensions (L x W x H)		714 mm x 320 mm x 255 mm		

Revision date 10/2006 (Technical data is subject to change without notice due to advances in R&D)