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SOLARDRIVE PLUS INVERTER

Complete solution for solar pumping applications

SOLARDRIVE+ 0034

30 kW / 40 HP

Inom	57 A
Imax	63 A
Ipeak	76 A

Sede Legale
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Cap. Soc. € 2.500.000 *i.v.*
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Cod. Ident. IVAIntracom.
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Elettronica Santerno S.p.A.
Societa soggetta all'attivita
di direzione e coordinamento
di Carraro S.p.A.

SOLARDRIVE PLUS is an inverter for pumping applications that exploits energy from a photovoltaic field. It is DC supplied directly by the PV field and drives a submersible or surface-mounted pump. The pumped water can be collected in a tank, or delivered directly to a hydraulic system.

SOLARDRIVE PLUS CABINET is a complete solution installed in a cabinet, including inverter and all the necessary equipments for PV connection, pump connection and system protection.

SOLARDRIVE PLUS inverters and systems are fully designed and manufactured in Italy by Elettronica Santerno S.p.A.

OPERATING MODE

The inverter starts and stops the connected pump automatically based on the solar radiation level.
Output frequency is automatically regulated to follow the Maximum Power Point of the PV array.
A level switch stops the pump when the tank is full. The pump is stopped also if the well is dry. The inverter is then automatically restarted after a programmable time.

MAIN FEATURES

Front display-keypad.

Overcurrent and overload protection, protecting motor from high current and overheating. Motor thermal protection.

Optional output inductance for dV/dt pump protection. Optional sinusoidal LC output filter.

Optional PV isolation loss detection.

Optional Surge Protection Device.

Optional 3G/GPRS remote monitoring (size 0018 excluded) with Hydrofast access.

MPPT Smart function. Take advantage of all available solar power to run pump at its best.

Dry run detection. Prevents pump damages caused by dry running.

Pipe fill control. Soft start of the pump avoiding water hammer.

Dual ramp. Smart management of starting and stopping ramps.

Runtime power derating depending on temperature. Keeping running even at high ambient temperature.

Trip Log.

Safe Torque Off function. By using this function, short-time operations and/or maintenance work on non-electrical parts of the machinery can be performed without switching off the power supply to the drive.

Thorough manufacture with first class materials, fully Made in Italy.

Main features	
Model	SOLARDRIVE+
Inverter size	SOLARDRIVE+ 0034
Degreeofprotection	IP20
Operatingtemperaturerange	-10÷50°C
Max.operatingaltitude(1)	2000ms.l.m
Input ratings (DC)	
MPPTRange	450÷780V
Maximum voltage	830 V
Maximum current	71.3 A
Input ratings (AC)	
Frequency	50/60 Hz (±20%)
Voltage range	380÷500±10%V
Rated current	57 A
# fused string input	0
# of required string boxes	Upon installation
Max # of strings	Upon installation
Output ratings (AC)	
Continuous rated current (2)	57 A
Maximum current (for 60 seconds every 10 mins)	63 A
Peak current	76 A
Voltage range	0 ÷ 415 V
Frequency range	0 ÷ 60 Hz
Applicable motor power at 400 V (3)	30kW/40HP
Dimensions and Weight	
Size	S12
Dimensions (W X H X D) mm	215 X 401 X 225
Weight	12.5 kg
Efficiency	
Max efficiency(4)	99.0%
Additional information	
Display	Removable alphanumerical display/keypad with saved operating parameters
Maximumvaluefor relative humidity	95%non-condensing
Cooling system	Forced air-cooling
Communication	RS485 with ModbusRTUprotocolupto38400Baud

NOTE:
(1) Up to 1000m without derating, apply derating of the rated current by 1% every 100m up to 2000m. Above 2000m up to 4000m only on request.
(2) Up to 55C with apply 2% de-rating for every degree over 40C
(3) Up to 55C with apply 2% de-rating for every degree over 40C
(4) Not including dissipation on output filter. Auxiliary loads externally supplied.
(5) With standard output inductance

OPTIONS SOLARDRIVE PLUS

The followings options are available for SOLARDRIVE PLUS products:

Single main changeover switch for DC (PV) or AC supply (diesel genset backup supply)
Front panel DC/AC changeover, to switch to AC power supply from grid or diesel genset backup supply.

PV isolation loss detection

On isolated field: board ES942 for isolation loss control. Warning/alarm in case of trip.
On earthed field: earthing fuse, with trip warning.

Surge Protection Device

Protection from overvoltage on PV field. Warning/alarm in case of trip.

Sinusoidal output filter

The sinusoidal filter can be installed between the inverter and the motor to enhance the equipment performance: reduces the voltage peak in the motor terminals, motor losses, motor noise, the probability of EMC disturbance.

Remote monitoring

Thanks to the remote monitoring web service Hydrofast.it, diagnostics and maintenance of the SOLARDRIVE PLUS are made easier even in distant regions covered by 3G signal.
The service collects and logs real-time measurements from the inverter-submerged pump unit. Data are easily available from website www.hydrofast.it through customer-reserved access.