

Technical Datasheet

Solar pump driving system with hybrid power supply from photovoltaic panels (PV Plant) and three-phase AC Grid (Mains and/or Diesel Gen-Set)
 “Solar Power Control System - Booster / Hybrid – SPCS-B/H”



SPCS-B/H x.xx-230 COMBINER BOX Technical Data

System Type	SPCS-B/H 0.55-230 Combiner	SPCS-B/H 0.75-230 Combiner
Output Power Ratings Data		
Frequency Converter Type	SPCS-B 0.55-230	SPCS-B 0.75-230
Applicable Pump Motor AC Induction Motor Power	0.55 kW / 0.75 HP	0.75 kW / 1.00 HP
Frequency Converter Output Power Capacity	1.15 kVA	1.5 kVA
Rated Output Voltage Rated Motor Voltage	3~ 230 V _{rms} (from 0 to U _{SUPPLY})	
Output Frequency	0÷60 Hz (up to 512 Hz upon request) variable frequency; minimal and reference frequency parameters are software adjustable	
Rated Output Current	3.3 A _{rms}	4.0 A _{rms}
Overload Current	120% for up to 1 minute, once per 10 minutes	
PV Input Power Ratings Data		
Max Input Voltage PV Open-circuit Voltage (V _{oc})	320 V _{DC}	
MPPT Range	100 ÷ 200 V _{DC}	120 ÷ 250 V _{DC}
Number of PV String Inputs	1	
PV Plant String Panels Installation Recommendation	4÷6 PV Modules x 255÷300Wp	6÷8 PV Modules x 255÷300Wp
DC Switch Disconnecter	16A / 1000V / DC21B / Direct Handle (inside enclosure)	
PV Inputs Protection	PV Fuses 15A / gPV / 1000V _{DC} / 10 x 38mm; Surge Arrester 350 V _{DC} / Class II / 2+0 / I _{max} =40kA	
AC Input Power Ratings Data (Hybrid Power Source Input implemented by HPSI-A-230)		
Input AC Grid / Mains Voltage	1~ 230 V _{rms} ±15% / 50(60) Hz	
Input AC Grid Current (max)	5.1 A _{rms}	6.8 A _{rms}
AC Grid Input Overvoltage Protection	Surge Arrester U _n =230V _{ac} / U _c =300V _{ac} / Type 2 / 2+0 / I _{max} =50kA	
AC Switch Disconnecter / Cam Switch	2p / I _{th} =16A / 10kA / AC4 / Direct Handle (inside enclosure)	
Additional Power Features & Options – converter matched output chokes and output sine filters (depending on the output line cable length, i.e. depending on the distance, between the converter output and the pump motor input); converter matched input line chokes and filters		
Application and Environmental Data		
Rated Operating Temperature Range	-20°C to +55°C	
Protection Degree	≥ IP54	
UV Proof	Yes	
Altitude	≤ 2000m (above 2000m – derating)	
Conformity with Norms	EN 61439-2:2011; EN 62109-1:2010; EN 62109-2:2011; EN 61800-5-1:2007; EN 61800-3 C3	
Indication & Control Features		
LED Indication	Ready / Run / Alarm	
Operation Modes	Manual / Automatic (front panel control switch “Manual / OFF / Auto”)	
Communication Interface	RS 232/485 / MODBUS RTU	
AC Induction Motor Control Methods	MPPT based V/f constant control	
Carrier (PWM) Frequency	4kHz to 12kHz (software adjustable); Booster stage up to 30 kHz	
Built-in Electronic Protections	Over Voltage, Under Voltage, Over Current, Short Circuit, Over Load, Earth Fault, Output Phase Loss / Interruption, Overheating, PV Reversal, Dry Run	

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SPCS-B/H x.xx-230 COMBINER BOX Additional Control Features & Options

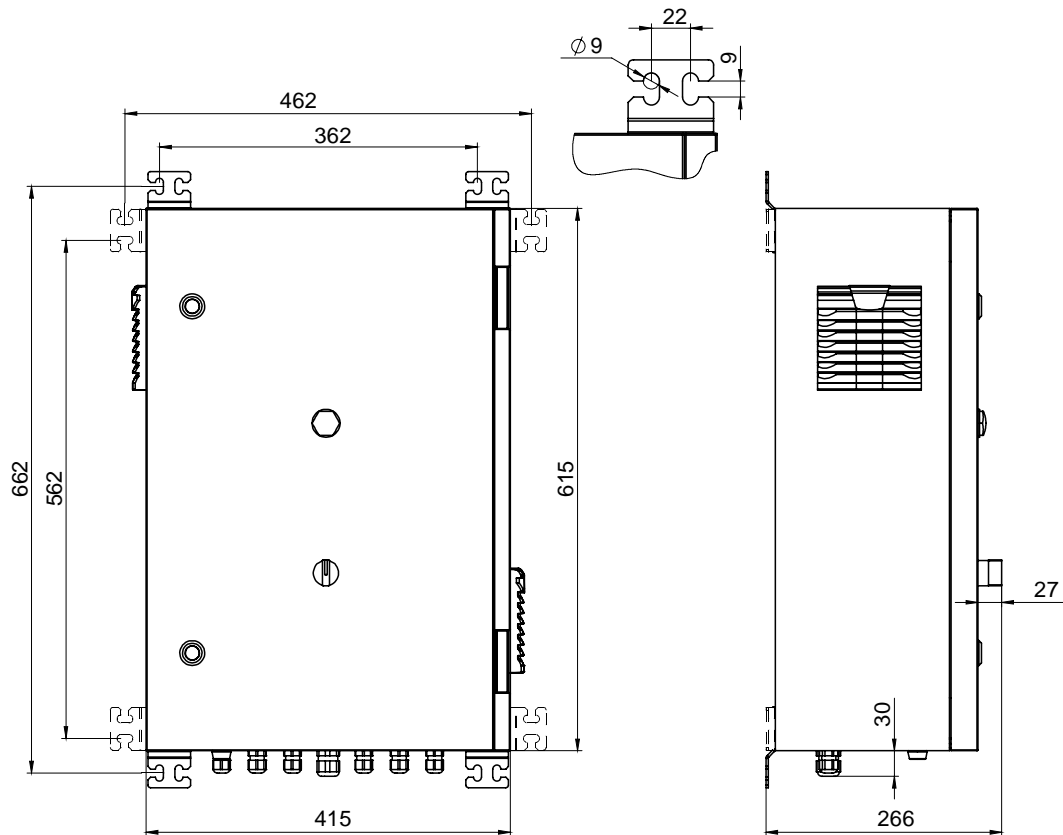
Water Level Control Module implementing two sets of sensors for utilization in draw-well and water tank applications. High and low liquid level control. LED indication. Applicable for conductive liquids.

Drive Remote Control Panel providing the possibility for system parameter adjustment, diagnostics and visualization of logged data via communication port. Installation, commissioning and maintenance support. The module is “pocket” sized and plug & play applicable. In most cases, the drive remote control panel skips the need for using a “notebook” for system adjustment and maintenance activities.

PLC & HMI integration for ensuring of additional system requirements, for instance a SCADA implementation for the pump system (pump station) procurator or operator.

GSM Communication Modules – system monitoring applications

Dimensions



SPCS-B/H x.xx-230 COMBINER BOX Overall Dimensions, [mm]

NOTE:

Depending on the installation requirements and options, the COMBINER BOX dimensions and configuration may differ from these, presented at the diagram above!

Contacts


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