

SWAV

PROFESSIONAL INVERTER DC/AC-230VAC

TECHNICAL SPECIFICATION



Images may include some options

PROFESSIONAL INVERTER DC-230VAC SINE WAVE OUTPUT

also for applications in photovoltaic systems (not connected to network)

- Input 24Vdc / output 230Vac 50Hz
 - Sine wave
 - High starting power for 5 seconds
 - Wide input voltage range
 - Output toroidal transformer with 4000V galvanic isolation
 - DC input controlled by pre-charge circuit
 - Static by-pass on emergency entrance *
 - 4000V isolation transformer for by-pass input *
 - Anti-vibration and tropicalization treatments *
 - MTBF (years 2005-2009) > 800,000 hours
 - Optical and acoustic signals: DC presence, low DC, critical temperature, temperature block, overload/short circuit block, by-pass operation
 - Remote contacts: DC presence, low DC
 - "Replication" to remote contacts: on/off, DC presence, low DC, critical temperature, temperature lock, overload/short circuit block, by-pass operation*
 - Mechanical versions: tower, 19" rack, wall mural
 - Different voltages and frequencies *
 - Customized products *
- * on request

INVERTER TYPE	Supply voltage range	DC level pre-alarm
24V	19V to 43V	21.5V
48V	38V to 60V (80V for some models)	42.5V
110V	from 89V to 145V	99V

Output features	Inverter feature
Waveform	Sinusoidal
Output distortion	< 5% resistive load / < 8% non-resistive load
Output voltage variation from 0 to 100% of the load	±10%
Output voltage variation at fixed load	±0.5V
Yield	For all models about 84%
Operating temperature	0 to + 45°C
Storage temperature	-10 to + 60°C



Wall mounted version available on request

Dati tecnici e immagini sono solo indicativi e possono essere variati in qualsiasi momento senza alcun preavviso

MODEL SPECIFICATIONS		SWAV24003	SWAV24020	SWAV24025	SWAV24035	SWAV24040	SWAV24045
POWER	Inrush power for 5"	1000W	1600W	2000W	2500W	2800W	3000W
	output current (linear load)	2.3A	4Th	5Th	6Th	7A	8Th
	Rated active power	529W	920W	1150W	1380W	1610W	1840W
INPUT	Voltage range	19-43Vdc					
	Protections	Aut. 32A	Aut. 63A		Fus 2x125A		4 fus.80AFF
	Link	Terminal block under automatic or fuse					
OUTPUT	Voltage (V)	230Vac single-phase					
	Frequency	50Hz +/- 0.01%					
	Load separation	4000V galvanic isolation with toroidal transformer					
	Waveform	Sinusoidal generated by microprocessor					
	Link	Terminal block					
	Electronic protection	Overload – short circuit					
	Linear load distortion	<5%					
	Non linear load distortion	<8%					
	Static voltage variation	<1%					
	dynamic voltage range	+/- 3%					
BY-PASS	Automatic static	Optional emergency					
TECHNOLOGY	Inverter	Microprocessor PWM					
	Inverter efficiency	Ca. 84%					
SIGNALS	Optics and acoustics	PRESENCE DC, low DC, critical temperature, temperature block, overload/short circuit block, by-pass operation					
	Remote Contacts	DC presence, low DC – Remote contact replication: on/off, DC presence, low DC, critical temperature, temperature lock, overload/short circuit block, by-pass operation					
ENVIRONMENTAL CONDITIONS	Storage temperature	-10°C to +60°C					
	Operation temperature	0°C to +45°C					
	Noise level	<30db			<42db		
FORM FACTOR	Tower mm. LxPxH mm	152x380x315h	245x560x480h				
	Rack HxP mm	3U x 450+60	4U x 450+60			5U x 450+60	
	Wall mounted LxPxH mm	420x220x450+60h					
	Weight Kg.	19	32	35	40	45	52

OPTIONAL

Card with DB9 + ON/OFF remote connector
 Card with remote contacts on terminals
 Static By-pass + Automatic Switch for 230Vac emergency input
 LDC display (AC output voltage display/output)

ON REQUEST

Inverter Input: 36Vdc - 60Vdc - 96Vdc - 125Vdc

Technical data and images are only indicative and can be changed at any time without notice

MODEL SPECIFICATIONS		SWAV48003	SWAV48015	SWAV48020	SWAV48025	SWAV8035	SWAV48040	SWAV48045	SWAV48060	SWAV48070	SWAV48080	SWAV48090	
POWER	Inrush power 5"	1200W	1500W	2000W	2500W	3500W	4000W	4500W	6000W	7000W	8000W	9000W	
	Output corr. (linear load)	3Rd	4Th	5Th	6Th	7.5A	9A	11A	15A	18A	22A	27A	
	Active power	690W	920W	1150W	1380W	1725W	2070W	2530W	3450W	4140W	5060W	6210W	
	Apparent power (cosφ 0.7)	980VA	1300VA	1640VA	1970VA	2460VA	2300VA	2950VA	4900VA	5900VA	7200VA	8850VA	
INPUT	Input voltage range	39-60Vdc	39-80Vdc										
	Protections	Aut.16A	Aut.25A	Aut.32A	Aut.40A	Aut.63A	Aut.63A	Aut.80A	Cast 125A	Cast 125A	Cast 2x80A	Cast 2x125A	
OUTPUT	Connections	Terminal block on switch or fuse holder											
	Voltage (V)	230Vac single-phase											
	Frequency	50Hz +/- 0.01%											
	Separation	Toroidal transformer 4000V galvanic isolation											
	Waveform	Sine waveform generated by microprocessor											
	Connections	Terminal block											
	Electronic protections	Overload, short circuit											
	harmonic dist linear load	<5%											
	Nonlinear load harmonic dist.	<8%											
	Static voltage variation	<1%											
	Dynamic voltage variation	+/- 3%							+/- 4%				
	BY-PASS	Static automatic	Emergency, optional										
TECHNOLOGY	Inverter	PWM microprocessor											
	Inverter efficiency	84%											
SIGNALS	Acoustic and visual	Network presence, DC presence, low DC, critical temperature, temperature block, overload/short circuit block, by-pass operation											
	Remote reports	Standard: DC presence, low DC (on DB)–Optional Remote contact replication: on/off, DC presence, low DC, critical temperature, inverter failure, overload/short circuit block, by-pass operation											
ENVIRONMENTAL CONDITIONS	Storage temperature	-10°C : +60°C											
	Operation temperature	0°C : +45°C											
	Press. Acoustics at 1m.	< 28dba				< 30dba			<42dba			<30dba min. vel. <47dba max vel.	
FORM FACTOR	Tower mm. LxPxH mm	152x380x315h					245x560x480h				357x780x430h		
	Rack HxP mm	3U x 450+60				4U x 450+60			5U x 450+60			5U x 650+60	
	Wall mounted LxPxH mm	On request											
	Weight Kg	19	30	32	35	40	45	52	60	66	72	78	

OPTIONAL

Card with DB9 + ON/OFF remote connector
 Card with remote contacts on terminals
 Static By-pass + Automatic Switch for 230Vac emergency input
 LDC display (AC output voltage display/output)

ON REQUEST

Inverter Input: 36Vdc - 60Vdc - 96Vdc - 125Vdc

Technical data and images are only indicative and can be changed at any time without notice

MODEL SPECIFICATIONS		SWAV 110003	SWAV 110015	SWAV 110020	SWAV 110025	SWAV 110035	SWAV 110040	SWAV 110045	SWAV 110050	SWAV 110060	SWAV 110070	SWAV 110080	SWAV 110090		
POWER	Starting power for 5"	1200W	1500W	2000W	2500W	3500W	4000W	4500W	5000W	6000W	7000W	8000W	9000W		
	Current output (linear car.)	3Rd	4Th	5Th	6Th	7.5A	9A	11A	12.5A	15A	18A	22A	27A		
	Rated active power	690W	920W	1150W	1380W	1725W	2070W	2530W	2875W	3450W	4140W	5060W	6210W		
INPUT	Voltage tolerance	88-145Vdc													
	Protections	Aut. 16A		Aut. 20A		Aut. 25A		Aut. 32A		Aut. 40A		Aut. 63A		Aut. 80A	
	Link	Terminal block under automatic or fuse holder													
OUTPUT	Voltage (V)	230Vac single-phase													
	Frequency	50Hz +/- 0.01%													
	Load separation	4000V galvanic isolation with toroidal transformer													
	Waveform	Sinusoidal generated by microprocessor													
	Link	Terminal block													
	Electronic Protection	Overload – short circuit													
	Linear load distortion	<5%													
	Nonlinear load distortion	<8%													
	Static voltage variation	<1%													
	Dynamic voltage variation	+/-3%							+/-4%						
BY-PASS	Automatic static	Optional emergency													
TECHNOLOGY	Inverter	Microprocessor PWM													
	Inverter efficiency	Ca. 84%													
SIGNALS	Optics and acoustics	Network presence, DC presence, low DC, critical temperature, temperature block, overload/short circuit block, by-pass operation													
	Remote Contacts	Standard: DC presence, low DC (on DB)–Optional Remote contact replication: on/off, DC presence, low DC, critical temperature, inverter failure, overload/short circuit block, by-pass operation													
ENVIRONMENTAL CONDITIONS	Storage temperature	-10°C to +60°C													
	Operation temperature	0°C to +45°C													
FORM FACTOR	Sound pressure at 1m.	< 28dba				<30dba			< 42dba			<30db max speed <47db min speed			
	Tower mm. LxPxH mm	152x380x315					245x560x480h					357x780x430h			
	Rack HxP mm	4U x 350+60				4U x 450+60				5U x 450+60			5U x 650+60		
	Wall mounted LxPxH mm	480x221x443+53h													
	Weight Kg	19	30	32	35	40	45	50	55	60	66	72	78		

OPTIONAL

Card with DB9 + ON/OFF remote connector
 Card with remote contacts on terminals
 Static By-pass + Automatic Switch for 230Vac emergency input
 LDC display (AC output voltage display/output)

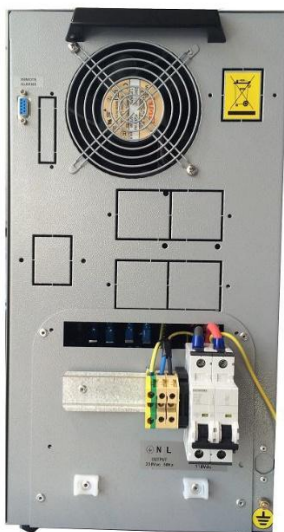
ON REQUEST

Inverter Input: 36Vdc - 60Vdc - 96Vdc - 125Vdc

Technical data and images are only indicative and can be changed at any time without notice

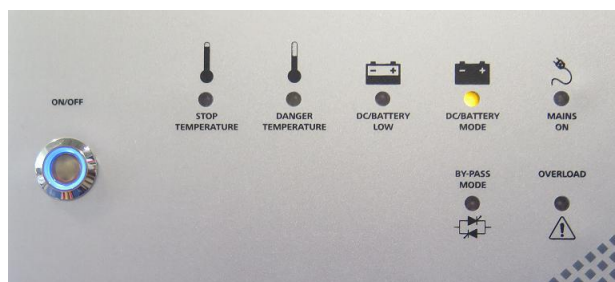
PROFESSIONAL INVERTER DC-230VAC SINE WAVE OUTPUT

REAR VIEW

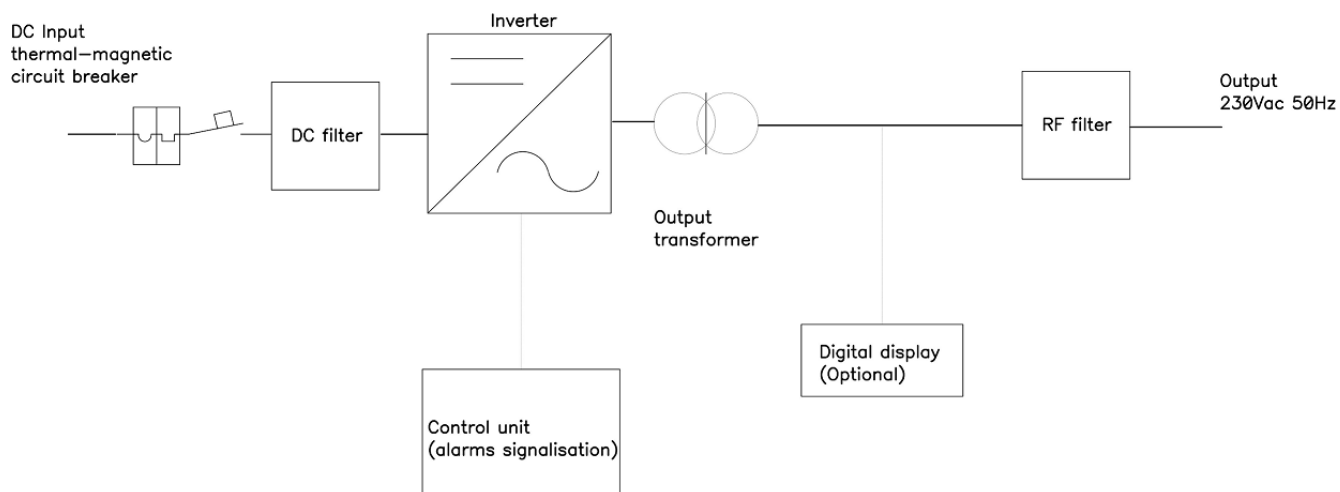


19" rack to be integrated into rack cabinets. Available in 3U, 4U or 5U heights in relation to power

FRONT PANEL



BLOCK DIAGRAM



Technical data and images are only indicative and can be changed at any time without notice

PROFESSIONAL INVERTER DC-230VAC SINE WAVE OUTPUT

PRINCIPLE OF OPERATION

The inverter is essentially composed of the following sections:

DC SOURCE (external) - Provides the energy needed for inverter operation

INPUT SWITCH – Input protection device in case of short circuit on the power source. Depending on the model, this is an external circuit breaker or fuses inside the equipment.

RF FILTER INPUT (PRE-CHARGE CIRCUIT).

During installation: this board provides an automatic preload system in case of first installation by charging the capacitors inside the equipment and limiting the ignition current required at the time of connection. The system is then automatically excluded by directly connecting the power source to the inverter.

During operation: this board provides automatic control of the inverter's supply voltage. When the supply voltage is about 15% lower than the inverter shutdown level, the DC source is automatically disconnected. When the supply voltage reaches the acceptable level, the pre-charge board automatically reconnects the inverter.

INPUT COIL – DC input filter. It is directly mounted on the pre-charge board and serves to reduce the noise produced on the DC power source (as required in the telecommunications sector)

POLARITY DIODE – Anti-inversion diode. Mounted directly on the pre-charge board provides polarity reversal protection on the DC power source (dropping the input automatic)

POWER UNIT (SINUSOIDAL INVERTER) - The electronic circuit of the inverter has been designed with the pulse amplitude modulation system (PWM); it converts the direct voltage given by the accumulator bacteria and generates a new low-voltage sinusoid. The output transformer will then raise the voltage adapting it to the needs of the user (220V-110V.etc.). A state-of-the-art microprocessor electronics accurately manages the MOS-FET endings obtaining, with maximum reliability, starting powers and high usage currents. The microprocessor also has the task of managing the inverter synchronized to the grid and managing the feedback that guarantees a very high dynamic stability of the output voltage.

SW FILTER - Transforms the square wave generated by the switching circuit into sinusoidal

TRANSFORMER OUTPUT - Transforms the low ALTERNATING voltage from the coil into the desired output voltage

RFI OUTPUT FILTER – EMI output filter

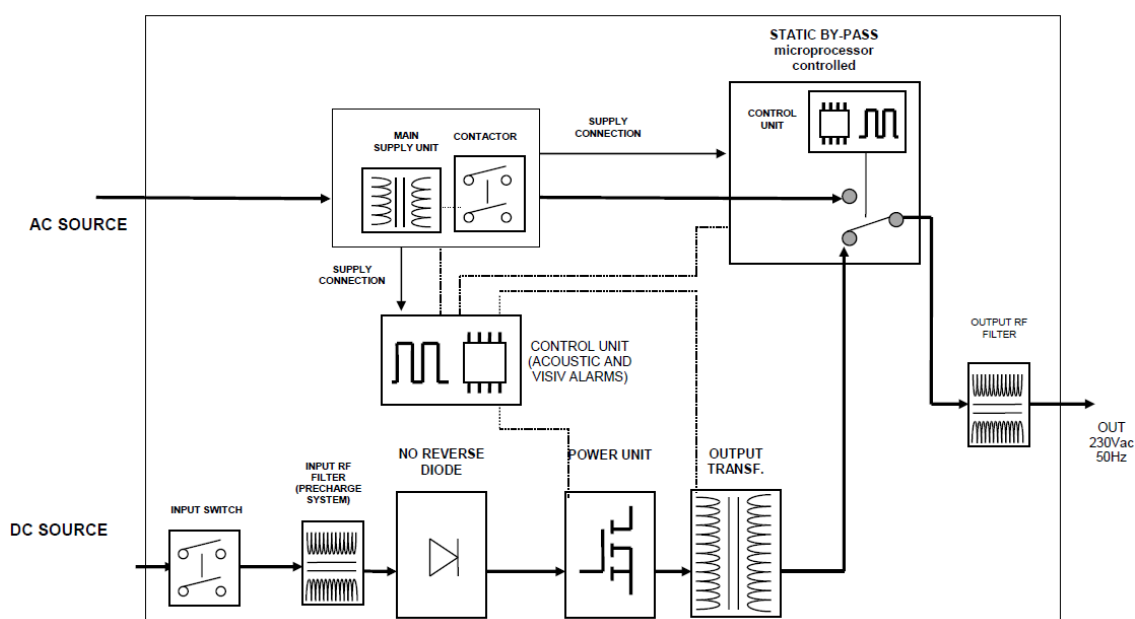
STATIC BY-PASS – This microprocessor-managed board provides the ability to transfer load power over an emergency network line (if any). The transfer (without interruption time) is carried out by SCR.

The bypass board comes into action in the following cases:

Lack of DC, DC level too low, inverter failure, overload, over temperature.

When the emergency situation ends, the inverter automatically returns to normal operation mode.

CONTACTOR MAINS BOARD – This board is used only if the bypass is installed. It is intended to connect and disconnect the emergency electrical network. It also aims to supply the alitation voltage to the control board in case of lack of DC supply voltage.

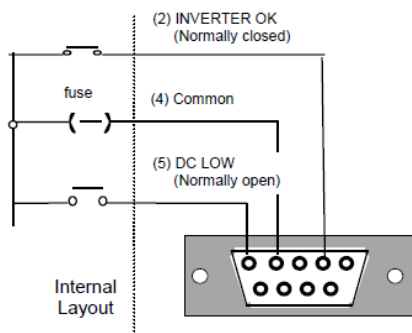


Optional source AC input

Technical data and images are only indicative and can be changed at any time without notice

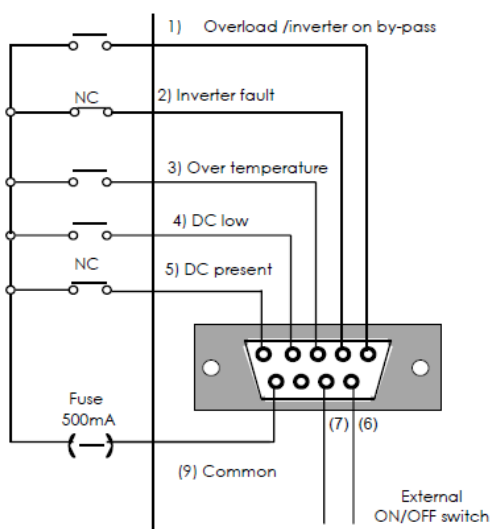
REMOTE ALARMS AVAILABLE

DB9 REMOTE CONTACTS - DETAILS (STANDARD ON BOARD)



MAX
CONTACT
30Vdc 1A

REMOTE CONTACTS – DB9 MULTICONTACT BOARD (OPTION)



MAX
CONTACT
30Vdc 1A

ATTENTION:
 External ON/OFF not available
 on 110V version

REMOTE CONTACTS ON TERMINALS (OPTION)

GENERAL ALARM includes over temperature, overload/short-circuit, by-pass functioning (if present)

Max contact : 24Vdc 2A / 24Vac 2A

CONTACTS	DESCRIPTION	STATE/TYPE
1	START	
2	START	
3	BATTERY LOW	NORMALLY CLOSED
4	BATTERY LOW	NORMALLY OPEN
5	BATTERY LOW	COMMON
6	DC/BATTERY IN USE	NORMALLY CLOSED
7	DC/BATTERY IN USE	NORMALLY OPEN
8	DC/BATTERY IN USE	COMMON
9	GENERAL ALARM	NORMALLY CLOSED
10	GENERAL ALARM	NORMALLY OPEN
11	GENERAL ALARM	COMMON



Technical data and images are only indicative and can be changed at any time without notice

SINE WAVE INDUSTRIAL INVERTER DC-230VAC

- Input 48/110Vdc / output 230Vac 50Hz
- Sine wave output
- Input 48Vdc (Range 39Vdc-70Vdc)
- Input 110Vdc (Range 89Vdc-145Vdc)
- Single-phase output 230Vac 50Hz
- Output current 0.4A and 1.3A
- Toroidal transformer in 4kV isolation output
- Optical and acoustic signals
- Multi-contact alarm card available upon request
- Mechanical versions: benchtop (optional front rack panel), wall-mounted
- Optional schuko socket (wall version only)



Benchtop version (19" rack on request)



Wall-mounted version

Rated power W	Voltage Vdc input	Model benchtop/rack	Dimensions mm LxPxH benchtop	Dimensions mm LxPxH rack	Weight kg	Model wall mounted version	Dimensions mm LxPxH	weight kg
100	48	SWMICRO4804	440x210x90	2U 480x210x90	6	SWMICRO4804M	174X150X375	7
300	48	SWMICRO4813	440x210x90	2U 480x210x90	8	SWMICRO4813M	174X150X375	9
100	110	SWMICRO11004	440x210x90	2U 480x210x90	6	SWMICRO11004M	174X150X375	7
300	110	SWMICRO11013	440x210x90	2U 480x210x90	8	SWMICRO11013M	174X150X375	9

Technical data and images are only indicative and can be changed at any time without notice