

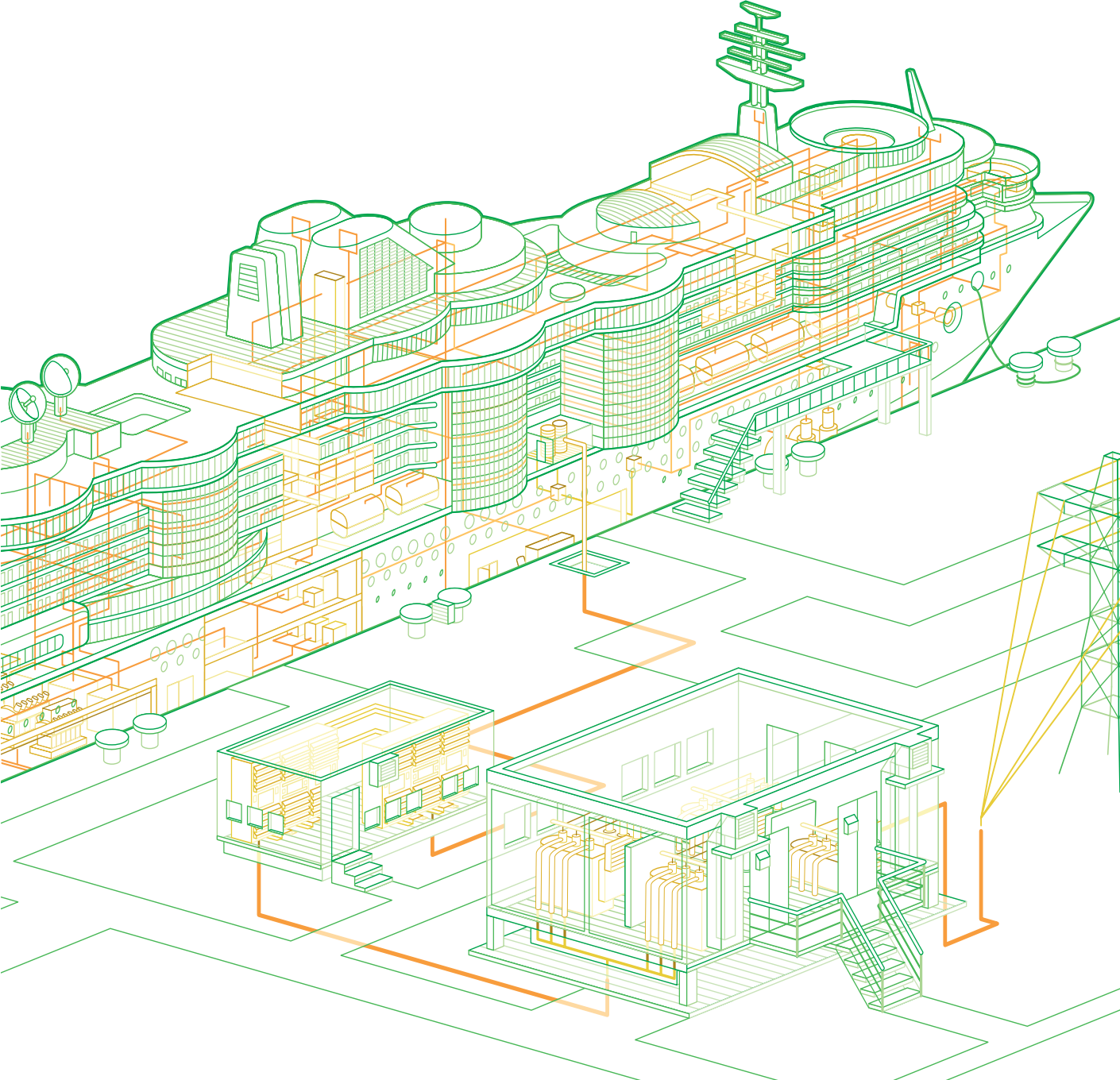
Product Brochure

ABB Power Converter Solutions PCS100 SFC, 125kVA to 10MVA Static Frequency Converter

Power and productivity
for a better world™



Providing highly reliable clean and efficient frequency conversion



PCS100 SFC, 125kVA to 2000kVA

Product overview

A state of the art static frequency converter the PCS100 SFC utilises ABB's latest modular converter design providing highly reliable, clean and efficient power conversion. The system is internally configured as a parallel arrangement of modular rectifiers and inverters all controlled by a central master controller. Each rectifier draws a clean sinewave current at unity power factor from the utility supply. Each inverter produces a clean sinewave voltage to supply the output load.

The modules utilise the latest high performance Insulated Gate Bipolar Transistor (IGBT) power switching devices controlled by a micro-controller. Each module has an LED display indicating the module number or status. A serial communication backplane links each module back to a master controller. The modular design makes the system compact and highly serviceable. In the unlikely event of a failure, individual converter modules can be removed and replaced with minimal downtime. This only requires simple disconnection of power cables and unplugging of the control cables.

Each PCS100 SFC requires a transformer for correct operation, which can be connected to the input or the output. This provides isolation of common mode voltages generated by the PCS100 SFC's power electronic converters and allows matching of the converters operating voltage (300 V to 480 V) to customer requirements (LV and MV).

PCS100 Static Frequency Converter (SFC)



User benefits

- Minimise operating and maintenance costs
- High reliability provides maximum power availability
- Keeps equipment running through utility voltage sags and frequency variation
- Protects sensitive and expensive loads
- Compact design requires minimal space

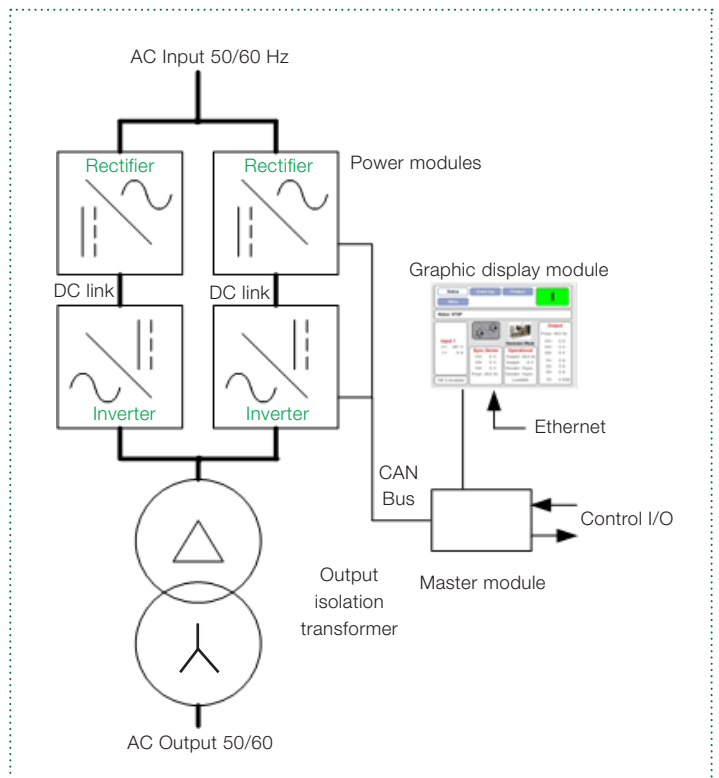
Features

- High efficiency power conversion
- Clean sinewave output voltage
- Unity power factor, sinewave, active rectifier design
- Modular design giving high reliability and short repair times
- Fully isolated AC connection using an output transformer
- Wide range of voltages available; 50Hz and 60Hz
- Small footprint design
- Touch screen colour graphic display (GDM)
- Internal web server and Modbus TCP allows remote monitoring
- Output cable voltage drop compensation
- Seamless generator change over option (synchronization)
- Generator emulation and load sharing

Typical applications

- 50 to 60Hz or 60 to 50Hz industrial applications
- Dockside converter allows generators to be turned off while at port to save fuel and eliminate pollution
- Replacement of motor generator sets
- As a clean power supply to isolate an unstable grid from a

Single line diagram



Technical specifications

Input	
Connection voltage	- 200 to 480 VAC (any LV and MV with transformer)
Connection frequency	- 25 to 65 Hz
Line power factor	- Unity (adjustable)
AC current distortion	- < 3.0 % at rated power
Output	
Voltage harmonics	- THD < 3.0 %
Efficiency of system	- 95% typical (at full power)
Converter capacity	- 100% model rating
Max overload capacity	- 30 seconds 150%
Short circuit limit	- 0.5 seconds 200%
Standards	
Safety, EMC	- Designed to CE mark req IEC62103

Environmental	
Enclosure rating	- IP21 or IP23
Pollution degree rating	- 2
Min operating temp	- 0°C, 32°F
Max operating temp	- 50°C, 122°F (derated >40°C, 104°F)
Cooling	- Forced ventilation
Humidity	- < 95% non-condensing
Noise	- 75-85 dBA @ 2m
Standard Colour	- RAL7035
Interface	
User interface	- Graphic display module touch panel
Access protocol	- Ethernet, Modbus-TCP, dry contacts
	- Optional Modbus RS485, Analog I/O

Model ratings and dimensions

Model	Current Rating (A) @ 40°C	Load kVA @ 480V ⚡	Converter/Connection Cabinet		Transformer Cabinet		Number of module pairs
			Dimensions	Weight	Dimensions	Weight	
			HWD mm* ^{xxx}	(Kg)	HWD mm*	(Kg)**	
SFC-0125	150	125	2154 x 809 x 804	860	Included in converter cabinet		1
SFC-0250	300	250	2154 x 809 x 804	601	2154 x 809 x 804	908	2
SFC-0375	450	375	2154 x 809 x 804	761	2154 x 1209 x 804	1510	3
SFC-0500	600	500	2304 x 1609 x 804	1503	2304 x 1209 x 804	1910	4
SFC-0625	750	625	2304 x 2009 x 804	1772	2304 x 1209 x 804	2310	5
SFC-0750	900	750	2304 x 2409 x 804	1932	2200 x 2250 x 1600	2800	6
SFC-0875	1050	875	2304 x 2809 x 804	2308	2200 x 2250 x 1600	3000	7
SFC-1000	1200	1000	2304 x 3209 x 804	2586	2200 x 2250 x 1600	3200	8
SFC-1125	1350	1125	2304 x 3209 x 804	2746	2200 x 2250 x 1600	3400	9
SFC-1250	1500	1250	2304 x 4409 x 804	3407	2350 x 2300 x 1600	3700	10
SFC-1375	1650	1375	2304 x 4809 x 804	3700	2350 x 2300 x 1600	3850	11
SFC-1500	1800	1500	2304 x 4809 x 804	3860	2350 x 2300 x 1600	4000	12
SFC-1625	1950	1625	2304 x 5209 x 804	4248	2350 x 2300 x 1600	4100	13
SFC-1750	2100	1750	2304 x 5609 x 804	4550	2350 x 2300 x 1600	4250	14
SFC-1875	2250	1875	2304 x 5609 x 804	4710	2350 x 2300 x 1600	4400	15
SFC-2000	2400	2000	2304 x 6009 x 804	5102	2350 x 2300 x 1600	4600	16

All specs are subject to change without prior notice.

⚡ Parallel load sharing allows operation of multiple PCS100 SFC's up to 10MVA

* Dimensions are for side-by-side configuration. Back to back configuration dimensions will vary

** Weights are for LV transformers. For MV, transformers add 25% approx

^{xxx} IP23 + 100mm depth

Contact us

ABB Limited

LV Power converter products

Discrete Automation and Motion

www.abb.com/powerelectronics (grid interconnection)

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