

Product Brochure

# ABB LV Power Converter Solutions

100 kVAr to 10 MVar  
PCS100 STATCOM

Power and productivity  
for a better world™



# Service and support

## PCS100 team provide global service and support of installation and commissioning of PCS100 products

### Comprehensive global services portfolio

ABB services span the entire product ownership life cycle:

- Pre-purchase engineering
- Installation and commissioning
- Technical support
- Training
- Preventive and corrective maintenance and maintenance spare parts kits
- Retrofit and refurbishment
- Globally available, supported by regional service hubs and operating in more than 100 countries
- Spare part availability and stocking
- On-site repairs
- 24 x 365 local support line

### Custom tailored service contracts

- ABB services can be packaged into a custom service contract
- Tailored to the specific needs of each customer
- Contracts can be made at any stage of ABB product ownership
- Service contracts provide customers with improved cost controls, increased operational efficiency, lower capital expenditures, and extend ABB product life time

### Life cycle management

ABB's life cycle management model maximizes the value of the equipment and maintenance investment by maintaining high availability, eliminating unplanned repair costs and extending the lifetime of the drive. Life cycle management includes:

- Spare parts and expertise throughout the life cycle
- Efficient product support and maintenance for improved reliability
- Functionality upgrades to the initial product

### Training

- Product training includes installation, commissioning, and maintenance
- Training either at ABB Universities or at a customer site
- Training can be included in an ABB services contract

### Engineering and technical support

ABB's engineering team provides the necessary electrical, protective and monitoring equipment, delivering a high level of energy continuity and superior power quality in a safe and cost effective system. The PCS100 is available in several capacities, depending on the scope of application.

- Pre-purchase engineering to help select and integrate ABB PCS100 products
- Customer assistance in sizing and modeling of systems
- Other life cycle engineering and technical support is available by phone, email, or on-site visits, or as agreed in an ABB services contract
- Redundant inverter design increases reliability and availability and is part of a proven family of global ABB products
- Scalable building block design



# PCS100 STATCOM, 100 kVAr to 10 MVAR

## Dynamic reactive power compensation

### Product overview

The PCS100 STATCOM range is part of a family of STATCOM products available from ABB. Based around a low voltage converter platform, the PCS100 STATCOM provides wide bandwidth performance with a flexible and highly reliable, modular and redundant power electronic configuration.

New renewable generation such as wind and solar are becoming an increasingly important part of our electricity grid, but to meet grid connection requirements STATCOM products must often be fitted. By injecting reactive current during a fault condition the STATCOM will help the system ride through fault events. During normal generation it can correct for voltage flicker and power factor. The PCS100 STATCOM utilizes advanced control allowing it to damp voltage disturbances in the electricity network. This is very important when recovering from a fault event or in maintaining power system stability.

The PCS 100 STATCOM is also suited for traditional industrial applications. Industrial loads like arc furnaces, welders or big motors cause voltage disturbances and current distortion. A PCS100 STATCOM provides the ideal solution for voltage regulation, flicker mitigation, negative sequence compensation and harmonic cancellation.

### PCS100 STATCOM



### User benefits

- Improves power quality and plant reliability
- Increases network stability and transmission capacity
- Delivers grid compliance when necessary for renewable energy

### Features

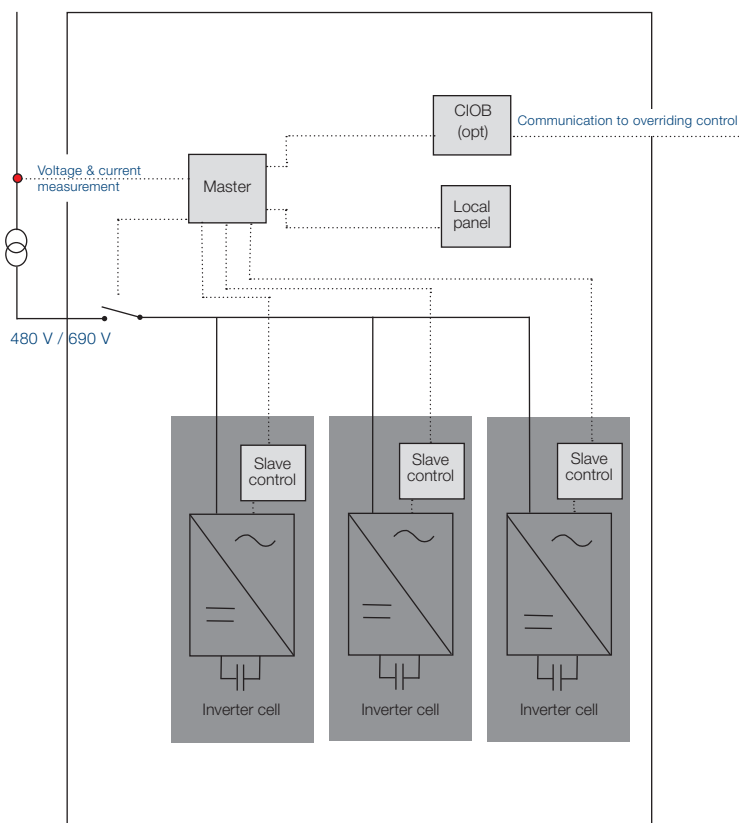
- Power factor control
- Voltage regulation
- Negative sequence/unbalance compensation of current or voltage
- Flicker compensation
- Active resonance damping
- Multiple system parallel control
- High and low voltage ride through
- Modular inverter blocks for simple long term maintenance
- Low order harmonic cancellation

### Options

- Compact, self contained systems – small footprint indoor or outdoor enclosure options

( For higher power levels, the medium voltage PCS 6000 system is recommended )

### STATCOM unit



## Technical specifications

Model Range	
Rating	90 to 4000 kVA note 1
Utility Input	
Voltage	400-480 V (or any LV or MV with standard transformer)
Voltage tolerance	+/- 10% note 2
Frequency	50-60 Hz
Frequency tolerance	+/- 5 Hz
Power system type	TN-S or transformer coupled
Over voltage category	III
Current harmonic distortion	< 3 % at rated power
Fault capacity	30-65 kA (model dependent) note 1
Performance	
Efficiency	> 97% at rated power
Overload capability	150% for 30 sec 175% for 2 sec 200% for 2 sec (75% pre-load)
Environmental	
Min operating temp	0°C, 32°F (indoor units)
Max operating temp	40°C, 104°F (with derating to 50°C, 122°F)
Cooling power electronics	Fan forced ventilation
Humidity	< 95% non-condensing
Pollution degree rating	2
Noise	75-85 dBA @ 2 m
Enclosure IP rating	IP20 / NEMA 1
Enclosures options	IP23 Outdoor containerised option to IP54 / NEMA 3R
Enclosure colour	RAL 7037
Altitude above sea level	< 1000 m without derating

Note 1: Multiple PCS100 systems can be paralleled

Note 2: Other tolerances by request

Interface	< 1000m without derating
User interface	8.4" color touchpanel
Communications	Modbus TCP Ethernet Remote web server Ethernet Modbus RTU RS-485
Control inputs	Start & stop / reset digital inputs 7 programmable digital inputs 2 programmable analog inputs
Control outputs	Runing, warning and fault relays 4 programmable relays 2 programmable analog outputs
Service	
MTRR	30 min typical by module exchange
Diagnostics	Non volatile event & service log
Remote monitoring	Optional secure connection to ABB
Standards	
Quality	ISO 9001
Marking	CE
Safety	IEC 62103 - Electronic equipment for use in power installations
EMC	CISPR 11 level A
Performance	IEEE 1031-2000 Guide for the Functional Specification of Static Var Compensators IEEE 519 Harmonics

\* All specifications are subject to change without prior notice.

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## Contact us

ABB Limited

LV Power converter products

Discrete Automation and Motion

[www.abb.com/powerquality](http://www.abb.com/powerquality) (VAr compensation)



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