

PCS100 RPC

Reactive Power Conditioner

Technical Catalogue



Introduction

Power Factor, current imbalance, inrush generated sags and harmonics are common power quality problems that can result in financial penalties and costly electrical equipment malfunctions if left uncorrected.

The PCS100 RPC is a Reactive Power Conditioner designed to solve these problems. It is a high performance power electronic system that responds instantly to power quality events while providing continuous reactive power correction. Due to its state of the art inverter technology the compensation is step-less which minimizes disturbances and ensures seamless ideal power quality.

For a comprehensive overview of publications available for the PCS100 RPC, refer to the inside cover of this publication. Web links are also included.

The Company

We are an established world force in the design and manufacture of power electronics and power protection equipment.

As a part of ABB, a world leader in electrical technology, we offer customers application expertise, service and support worldwide.

We are committed to teamwork, high quality manufacturing, advanced technology and unrivalled service and support.

The quality, accuracy and performance of the company's products result from over 100 years experience, combined with a continuous program of innovative design and development to incorporate the latest technology.

Quality Control

The products listed in this catalogue are manufactured in an ISO 9001 accredited facility.



Registration No. 2469

[For more information...](#)

Further publications for the PCS100 RPC are available for free download from www.abb.com/pcs100-power-converters

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1 Overview

1.1 Applications and Industries

ABB's PCS100 RPC is the ideal solution for improving power quality in commercial and industrial electrical installations across a wide range of industries including:

- IT
- Commerce
- Light Industry
- Automotive
- Food and Beverage
- Chemical
- Textile

For example, the PCS 100 RPC is used to condition power in:

- Data centers (HVAC and servers)
- Semiconductor manufacturing plants
- Hoists and cranes applications
- Printing machines
- Dairy processing plants
- High-speed packaging lines
- Plastic film manufacturing
- Water and waste pumping stations

1.2 User Benefits

- Prevents costly penalties due to poor power factor or harmonics
- Ensures correct operation of rectifier loads, extending their lifetime, by correcting for voltage imbalance
- Lowers plant maintenance costs by not exposing equipment to poor quality power
- Low maintenance inverter technology, no risk of power factor capacitor overheating or resonance problems

1.3 Features

- Modular design providing high reliability and short repair times
- Integrated solution for Power Factor correction, harmonics and inrush generated sags
- Small footprint
- Ratings from 100 kVA to 2000 kVA and voltages 380 Vac to 480 Vac
- High overload capability

2 PCS100 Power Protection Portfolio

The PCS100 RPC is part of the PCS100 Power Protection portfolio, as shown below. Each product is tailored to address specific power quality problems:

PCS100 AVC Active Voltage Conditioner	PCS100 UPS-I Industrial UPS	PCS100 RPC Reactive Power Conditioner
Utility sag and surge correction Load voltage regulation	Utility deep sag and surge correction Utility outage protection	Load created sag correction Power Factor correction Harmonic cancellation Imbalance correction

3 Applications and Industries

The PCS100 can be applied to a variety of industries, with common applications outlined below

3.1 Semiconductor, Electronics & LCD Manufacturing

Many automated processes in the semiconductor and electronics industries incorporate complex machinery that are referred to as 'tools'. These tools are used for many processes such as cutting silicon, etching and testing.

Example plasma generator	Poor power factor that varies during operation	Harmonic current draw
RPC capabilities	Dynamic correction of the power factor back to a setpoint	Reduction of the 5 th and 7 th current harmonics.

Note. Harmonic current correction possible for 400Vac and lower voltages

Tools may also be connected line to line in some cases. This causes current imbalance. The RPC can correct for current imbalance up to a maximum of 25% of its current rating.

3.2 Chemical / Food and Beverage Manufacturing

In this industry there are many motors and variable speed drives controlling pumps, centrifuges & separators as well as packaging lines. Many variable speed drives use 6 pulse rectifiers which draw considerable low frequency harmonics. Direct online motors present poor displacement power factor and cause voltage dips when started due to the inrush current.

Example VSD and direct online pumping plant	Poor power factor that varies due to DOL motor load	Harmonic current draw from 6 pulse rectifiers, predominantly 5 th and 7 th harmonics	Voltage dips to do direct online motor starts
RPC capabilities	Dynamic correction of the displacement power factor back to a set point	Reduction of the 5 th and 7 th current harmonics.	Voltage or PF control, whereby reactive current is injected to support the voltage during motor starts.

Note. Harmonic current correction possible for 400Vac and lower voltages

3.3 Dynamic Processes (cranes, hoists, robotics)

With dynamic processes controlling the power factor with passive components and contactors is not feasible due to the discrete steps and mechanical switching limitations. Regeneration from overhauling loads on cranes and hoists can also present overvoltage problems.

Example Hoisting application	Power factor that is very dynamic due to the operation nature of the process.	Harmonic current draw from 6 pulse rectifiers, predominantly 5 th and 7 th harmonics	Voltage surges to do regeneration
RPC capabilities	Dynamic correction of the displacement power factor back to a set point	Reduction of the 5 th and 7 th current harmonics.	Voltage or PF control, whereby reactive current is injected to help hold the voltage during regeneration.

3.4 Datacenters and Plant Operating on Generators

One of the main challenges with operating modern equipment on generators is controlling the power factor to within a suitable range for the generator to keep control of the voltage. If the power factor deviates outside the generators range of control the voltage can collapse, or more importantly overshoot to damaging levels.

Example plasma generator	leading power factor that causes generators to lose control of the voltage and overvoltage equipment	Harmonic current draw from balance of plant equipment
RPC capabilities	Dynamic correction of the power factor, both leading and lagging back to a set point i.e. 1.0	Reduction of the 5 th and 7 th current harmonics.

4 Functional Description

4.1 How it works

The PCS100 RPC uses high speed IGBT inverter technology to control reactive power flow into an AC network.

4.2 Control Mode Details

There are two main control modes possible for the PCS100 RPC, these are:

- Power Factor Control
- Voltage Control

This defines the main operation of the RPC, to control the power factor to within a programmable range or to control the voltage to a set-point value. Additional functions can then be enabled in addition to the main control mode, such as:

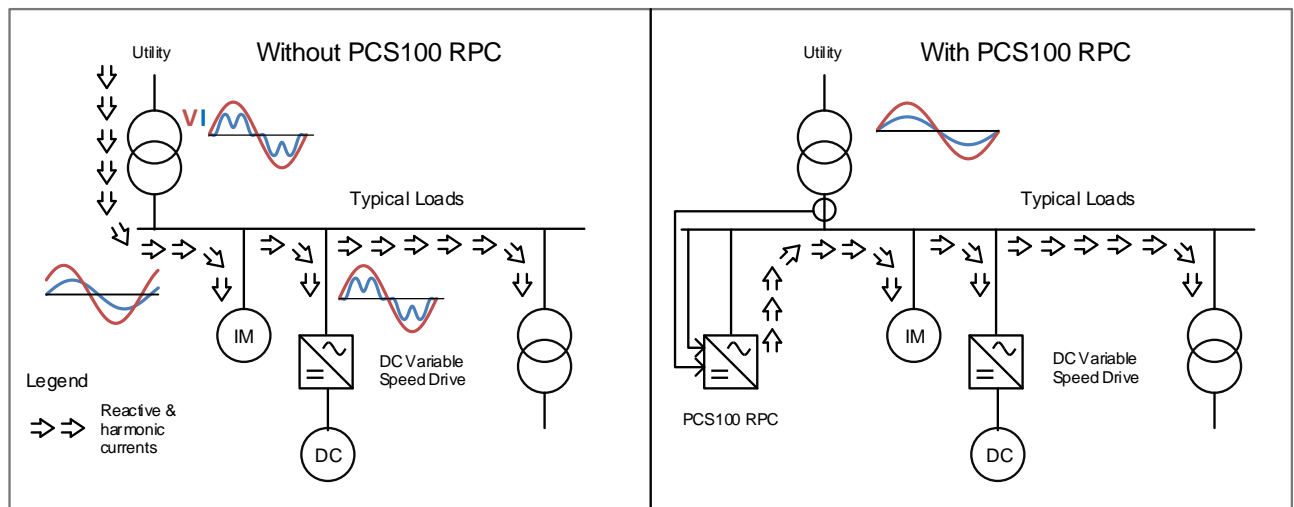
- Harmonic filtering
- Imbalance (negative sequence) correction
- Voltage clamping

The following diagrams show how the PCS100 RPC can be configured for typical applications.

4.2.1 Displacement Power Factor Correction

This is the typical RPC configuration to correct for the most common power quality problems. Without the RPC reactive and harmonic currents must be sourced from the utility. This leads to additional load on transformers and switchboards, increasing losses and reducing lifetime. In many cases utility penalties will apply for excessive reactive power draw or harmonic pollution.

With the PCS100 RPC installed these currents are supplied via the ultra-fast power electronic inverter. Voltage and current feedback from the point of connection allows the Power Factor to be controlled according to the set-point.



Hybrid solutions combining the PCS100 RPC and fixed capacitors can also be employed. With this configuration the PCS100 RPC can be used to even out the steps with fixed capacitors and provide extended operating range.

4.2.2 Distortion Power Factor Correction

The PCS100 RPC is able to provide harmonic filtering of two defined frequencies up to a maximum harmonic of 7th. Typically this would involve filtering of the dominant 5th and 7th harmonics present in industrial loads. Combining harmonic filtering and displacement power factor correction with VAR injection gives a complete power factor solution, considering both displacement and distortion power factor.

An example is shown below, where a 2 MVA transformer (of 6% impedance) is feeding a 400 Vac bus with mixed reactive and harmonic industrial loads of 1.5 MVA:

	No Compensation	VAR only (caps)	Harmonics only	PCS100 RPC
Displacement PF	0.85	0.99	0.85	1.00
5 th Harmonic current	30%	30%	0%	0%
7 th Harmonic current	12%	12%	0%	0%
11 th Harmonic current	5%	5%	0%	5%
13 th Harmonic current	2%	2%	0%	2%
THDi	33%	33%	0%	5%
Distortion PF	0.950	0.950	1.000	0.999
Total PF	0.808	0.941	0.850	0.999
Load Voltage	389 V	397 V	389 V	400 V
Transformer Loading	93%	80%	88%	75%

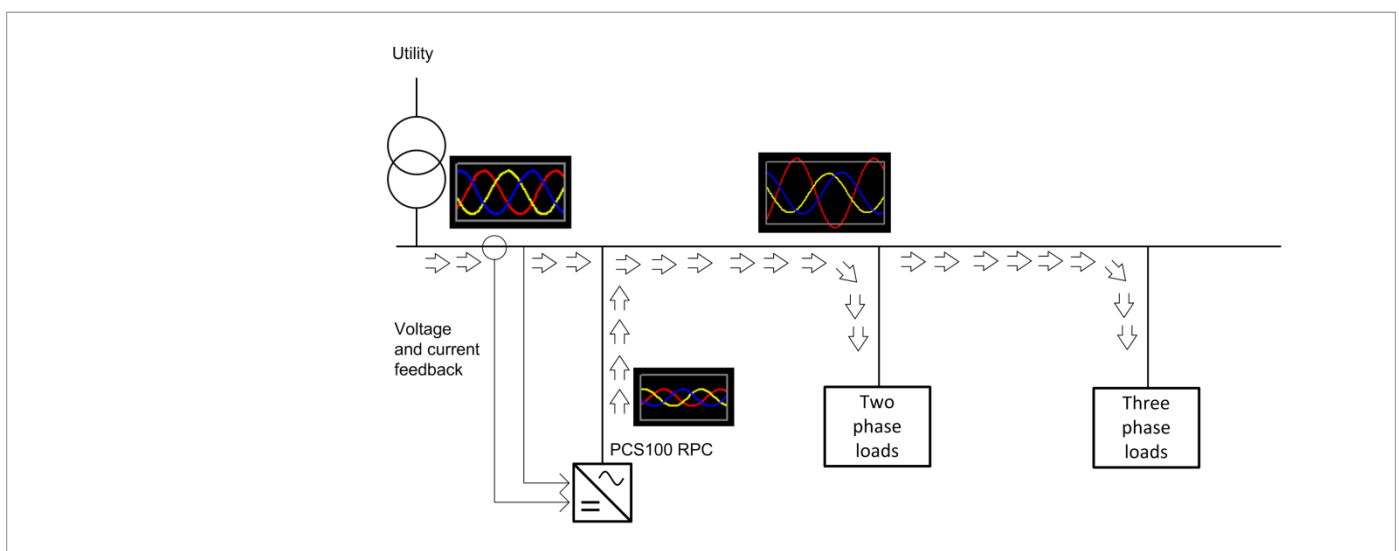
As shown in the above table by addressing the dominant harmonics and reactive power requirements together the best compensation is achieved, with benefits of:

- Lower energy consumption, increased efficiency
- Lower operating temperatures, increasing lifetime
- Higher loadings are possible

Limiting the filtering bandwidth of the PCS100 also ensures inverter losses are kept to a minimum.

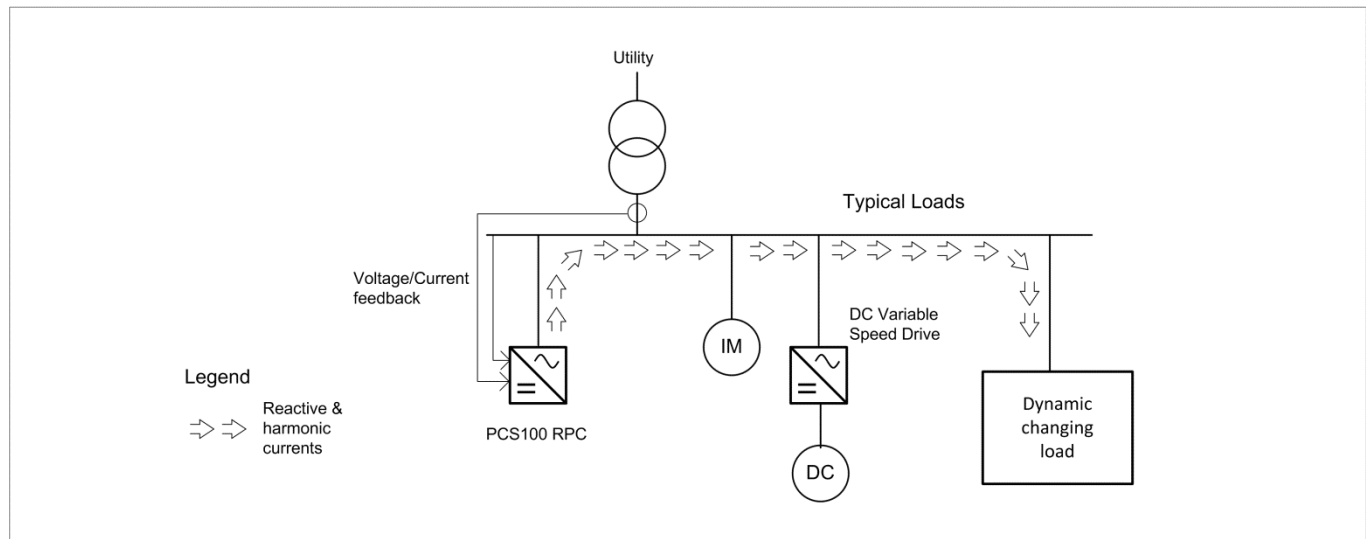
4.2.3 Imbalance Current Correction

The PCS100 RPC is capable of correcting current imbalance in a three phase network by injecting negative sequence currents. This feature can be used to balance loads across all phases. Voltage imbalance together with rectifier loads is particularly harmful, as it causes overloading of phases inside the rectifier itself and in extreme cases premature failure. Voltage imbalance also increases heating inside direct online motors, reducing lifetime and lowering efficiency. Causes of imbalance can be due to single / two phase loads or distributed generation such as single phase solar inverters.



4.2.4 Voltage Control

This configuration can be used where load related voltage problems are experienced (i.e. dynamic loads or high impedance utility power supplies). Under this application the voltage is controlled by injecting or absorbing reactive power. In this mode the power factor will not be controlled, therefore the use of voltage control is typically for specialty cases.



5 PCS100 RPC Compared to other Solutions

The table below compares the PCS100 RPC to other similar reactive power quality solutions. For applications requiring high frequency harmonic filtering an Active Harmonic Filter should be used. For general industry and dynamic loads however the PCS100 RPC presents many combined benefits in one product, as shown below.

	PCS100 RPC	Active Harmonic Filter	Passive Filter
Small Footprint	++	+	++
Efficiency	+++	+	+++
Harmonics	5 th + 7 th	3 rd ..50 th	-
Imbalance	+++	+++	-
Voltage Clamping	+++	-	-
Overload	200%	-	-
Speed	fast	fast	slow

6 Sub-Assemblies

A PCS100 RPC consists of the following subassemblies:

- Master controller
- Inverters that provide reactive power
- IP20 Enclosure
- GDM

6.1 Inverters

The power electronics inverters in the PCS100 RPC are IGBT based modules that can deliver 150A continuously. Due to the technology used the PCS100 RPC can respond within milliseconds to power events with exact control over the reactive power delivered.



Depending on requirements, between one and eighteen ABB PCS100 inverters are used. The inverters are highly integrated and can operate independently. That is, if one inverter fails, it will automatically be withdrawn from service while the remaining inverters continue to run. This provides redundancy (at reduced capacity). For example, a six-inverter system offers 750 kVAr for normal load protection. If one inverter fails, the system capacity will be reduced to 625 kVA, and the PCS100 RPC touch screen will indicate system availability of 83%.

6.2 Master Controller

The ABB PCS100 system includes a master controller that is located in one of the inverter enclosures. The master controls all inverters and co-ordinates the actions of the inverters.

6.3 Enclosure

An inverter enclosure can hold up to six inverters. Where the PCS100 RPC requires more than six inverters, two or more enclosures will be required. All enclosures are power coated electro-galvanized steel color RAL 7035 suitable for indoor installation.



7 Technical Specifications

Utility Connection

Voltage ^{Note 1}	380 - 480 V \pm 10% (Other voltages via transformer)
Power System	3-Phase, 3 wire
Frequency	50 or 60 Hz
Frequency Range	\pm 5 Hz
Overvoltage Category	III
Supply Fault Capacity	Must be supplied from MCCB
Losses	2.7% at full load
Overload and Short Circuit Protection	Current limited output (200%), user adjustable.

Ratings

Capacity Rating	100 kVA to 2000 kVA _r (other ratings by request)
Harmonic correction	5 th and 7 th Harmonic
Imbalance current capability	25% of nominal current

User Interface

Type	8.4" LCD Touchscreen
Communications type	Ethernet
Functions	HTML server (monitoring only) Modbus-TCP (monitoring only)

Environmental

IEC Pollution degree rating	2
Operating Temperature	0°C to 50°C (de-rate -2% current per 1°C above 40°C)
Capacity de-rating with altitude	1.0% / 100 m for application above 1000 m, 2000 m maximum
Humidity	< 95% non-condensing
Noise	< 75 dBA typical at 1 m

Electromagnetic Compatibility

EMC Category	CISPR 11
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Enclosures

Enclosure IP rating	IP20 / NEMA 1
HMI (GDM) panel IP rating	IP54 (from front)
Material	Electro-galvanized steel
Color	RAL 7035
Panel Thickness Side & Rear	1.5 mm
Panel Thickness - Door	2 mm
Enclosure Access	Left hand hinged doors with key lock

Standards

IEC62103 Electrical Equipment for use in Power Installations



 for modules

Note1: Full harmonic capability is not possible at 480Vac. Consult the sizing tool for exact product capability.

8 Selection and Sizing

To select the correct size RPC for the application the following information should be known:

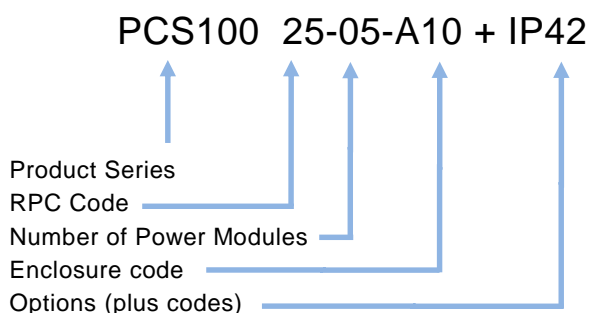
- Utility Voltage and Frequency.
- Existing Power Factor and desired Power Factor (or required kVAR).
- Harmonic current levels requiring compensation.
- Imbalance current levels requiring compensation.

For Power Factor (kVAR) applications the product tables in the following section can be used to look up the required model. Each model has a specific type code. For advanced applications requiring harmonic or imbalance compensation the sizing tool must be used to ensure correct product dimensioning.

8.1 Type Code

The RPC type code is given in the product tables. The type code is a unique code for the specific model and specifies all the components that are used to construct the model. From the base code given in the product tables options can be added to the type code. These options are called plus (+) codes.

The following diagram outlines the structure of the type code:



8.2 Type Code Parameters

Rated Voltage – This is the rated nominal voltage of the utility connection. Options are 380 V, 400 V, 415 V, 440 V and 480 V. Other operating voltages (i.e. 220 V) are achieved by using a transformer.

Rated Frequency – Options are 50 Hz and 60 Hz.

Number of Power Modules – The number of modules needed depends on the necessary kVAR. Each power module inverter can deliver 150 A (125 kVAR @ 480 V).

Note: Operation at lower voltage results in less kVA per module. Consult the rating tables for more information.

Enclosure Code – 400 mm wide enclosures have the code A05, 800 mm wide enclosures have the code A10. Code A15 is one 800 mm and one 400 mm enclosure.

Options – Options as described in this catalogue are then added as plus codes to the main type code.

8.3 Sizing Tool Application

In addition ABB provides a Windows PC application sizing tool that can be used to determine the model required for the application. The sizing tool can calculate the required model for more advanced applications requiring harmonic or imbalance compensation.

ABB PCS100 RPC Sizing Tool V1.0.1.1

File Print Screenshot Help

Project Data

Customer Name: Project Notes: Project Reference: Date: Wednesday, January 08, 2014

Utility and Load Data

Utility Voltage (V): 400 Select Utility Voltage
Utility Frequency (Hz): 50 Select Utility Frequency

RPC Specification Data

Enter either PF or kVAR
Reactive Power Input: Select Input Option
Load Capacity (kVA): 253
Existing Power Factor: 0.76
Target Power Factor: 0.98

Overvoltage Tolerance (%): 10 Select Overvoltage Tolerance
RPC Connection Type: Capacitive Select VAR Type

Transformer Data
Transformer Impedance (%): 3.0 Select Coupling Impedance to RPC
Transformer Ratio: 1.00 Enter Transformer Ratio

Click to Enable
Click to Enable

Harmonics and Negative Sequence Data
Imbalance Current (A): Enter Negative Sequence Current
5th Harmonic Current (A): Enter Harmonic Freq 1 Current
7th Harmonic Current (A): Enter Harmonic Freq 2 Current

Environmental Data

Max. Ambient Temperature (°C): 40 Select max. ambient Temp.
Max. Ambient Altitude (m asl): 1000 Enter max. operating Altitude

Product Options

Increased P Rating: IP20 IP42 required?
Current Transf. Input: 5A 1A Current Transf. required?

Order Options

Factory Acceptance Test: Not Required Testing required?
Packaging: FCL (Cardboard) Terms FCA Napier Factory NZ
Warranty Period: One Year Extended Warranty required?

800 mm
400 mm
200 mm min Clearance is REQUIRED above and at the rear
1500 mm min Clearance is RECOMMENDED in front
Height: 2154mm Weight: 52kg

PCS100-25-03-A10 Calculation Results

Number Of Modules: 3
Inverter Current Rating A: 450
Available kVAR: 312
Losses @ 100% Inverter Current W: 5.3
Airflow m³/min: 30
System Capacity %: 81
Inverter Utilisation %: 81

Calculation Mode

For further information and tool availability please contact your local ABB sales office.

9 Model Range

The following tables give the models available and ratings at various voltages. For harmonic and imbalance correction additional current is needed to support these functions. Refer to the sizing tool to select the correct model if these features are needed. For straight power factor correction the kVAr values in the table below are the continuous ratings at up to 40 degrees C.

Inverter Current Rating A	kVAr @ 400 V	kVAr @ 440V	kVAr @ 480V	Inverters Quantity	Full load losses kW	Airflow m ³ /min	Frame Size	Weight kg	Type Code
150	104	114	125	1	3.1	10	0.5A	320	PCS100-25-01-A05
300	208	228	250	2	6.2	20	0.5A	400	PCS100-25-02-A05
450	312	343	375	3	9.3	30	A	521	PCS100-25-03-A10
600	416	457	500	4	12.4	40	A	601	PCS100-25-04-A10
750	520	571	625	5	15.5	50	A	681	PCS100-25-05-A10
900	624	685	750	6	18.6	60	A	761	PCS100-25-06-A10
1050	728	800	875	7	21.7	70	A + 0.5A	1122	PCS100-25-07-A15
1200	832	914	1000	8	24.8	80	A + 0.5A	1202	PCS100-25-08-A15
1350	936	1028	1125	9	27.9	90	2xA	1282	PCS100-25-09-A20
1500	1040	1143	1250	10	31.0	100	2xA	1362	PCS100-25-10-A20
1650	1144	1257	1375	11	34.1	110	2xA	1442	PCS100-25-11-A20
1800	1248	1371	1500	12	37.2	120	2xA	1522	PCS100-25-12-A20
1950	1352	1486	1625	13	40.3	130	2xA + 0.5A	1882	PCS100-25-13-A25
2100	1456	1600	1750	14	43.4	140	2xA + 0.5A	1962	PCS100-25-14-A25
2250	1560	1714	1875	15	46.5	150	3xA	2042	PCS100-25-15-A30
2400	1664	1829	2000	16	49.6	160	3xA	2122	PCS100-25-16-A30
2550	1768	1943	2125	17	52.7	170	3xA	2202	PCS100-25-17-A30
2700	1872	2057	2250	18	55.8	180	3xA	2282	PCS100-25-18-A30

Note: The nominal voltage that the RPC will be connected to must be specified at the time of ordering to allow correct configuration at the factory.

Nominal ratings	
Current	Continuous current capability
kVAr	Continuous kVAr capability

10 User Interface

10.1 Graphic Display Module (GDM)

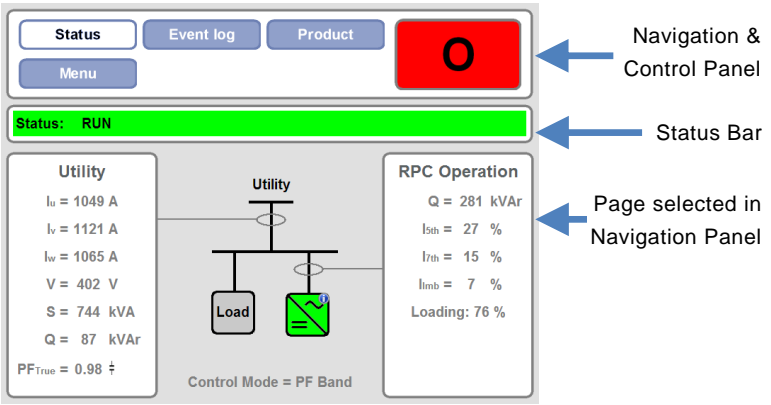
The primary user interface for configuration of the PCS100 RPC is via the Graphical Display Module (GDM) which is mounted in the door of the inverter enclosure. It allows local control of the RPC and provides access to the status, operating parameters and event history.

The GDM interface consists of several pages, each page has a navigation & control panel and the status bar at the top. The Navigation & Control Panel and the Status Bar are displayed at all times.

The navigation panel consists of buttons allowing page selection and the control panel consists of a Start (I) / Stop (O) / Reset button allowing local control of the product.

The status bar displays the current product status and any warning or fault condition that may be present.

Feature	GDM
Display resolution	800 x 600 pixels
Display size	8.4"
Colour Graphic display	yes
Touch Sensitive display	yes
Full descriptions of status and faults	yes
Local Start/Stop Reset Control	yes
Status Display	yes
Parameter adjustment	yes
Number of Event Log records stored	10,000
Event log can be downloaded to a PC	yes
Remote WebPages	yes
Modbus TCP connection	yes



10.1.1 Remote Monitoring

The GDM provides remote access for monitoring purposes. Following monitoring connections are available:

Communication Type	Description	Connection
Remote Web Pages	HTML server - Ethernet connection	Standard RJ45
Monitoring system	Modbus TCP	Standard RJ45

Remote Web Pages

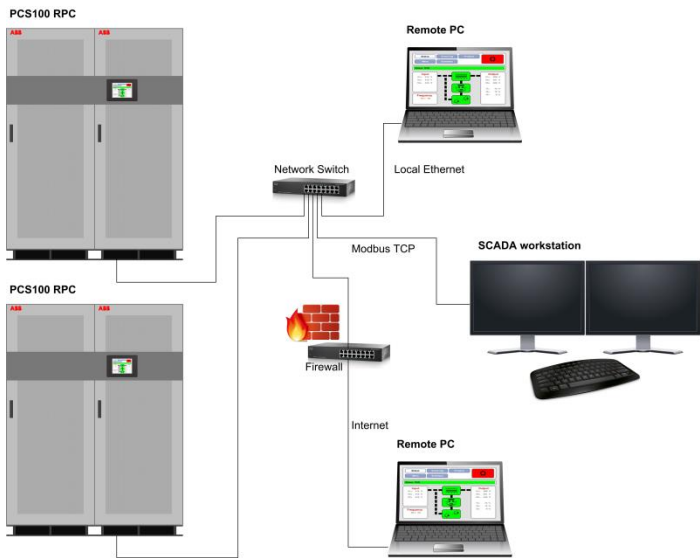
Remote Web Pages are a set of web pages that are similar in format to the standard GDM and accessed through the integrated web server via the GDM Ethernet connection. Through this interface the users can remotely access the status and operating parameters. Viewing and downloading of event history and service logs is also available.

Access is via the Ethernet port of the GDM and web pages can be viewed with any standard web browser of a device connected to the same network.

Modbus TCP

Modbus TCP connection is also provided via the Ethernet port of the GDM user interface.

Read only access is available to operating parameters such as voltages, currents and power levels.



10.2 Control Wiring

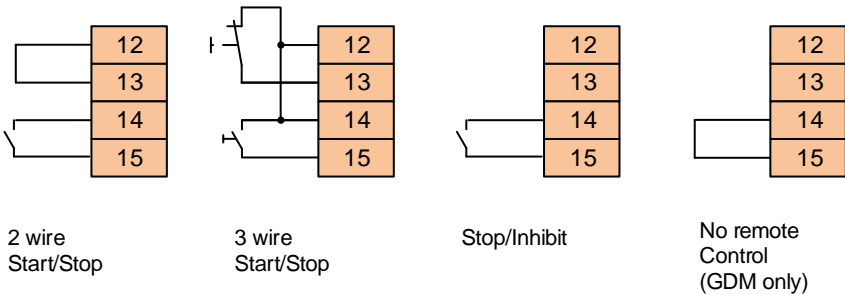
PCS100 RPC includes control connections for remote control or monitoring of the system.

Control Connection	Description
3 Relay Outputs	status Information 250 Vac / 30 Vdc, 1 A
2 Digital Inputs	Start Stop / Reset / Inhibit (Dry contacts only)

Customer Monitoring and Alarm Systems		
1	NC	RUN 250 Vac / 30 Vdc 1 A
2	C	
3	NO	
4	NC	WARNING 250 Vac / 30 Vdc 1 A
5	C	
6	NO	
7	NC	FAULT 250 Vac / 30 Vdc 1 A
8	C	
9	NO	
10	NC	
11	NC	
Remote Control		
12	0 V	
13	START	
14	0 V	
15	STOP / RESET / INHIBIT	
16	NC	

10.2.1 Control Connections

Following control connections are available for wired remote control of PCS100 RPC. Local control via the GDM is also possible together with remote control.



10.3 Feedback Signal Connection

The PCS100 requires feedback of voltage and current to perform compensation.

- Voltage input. 480 Vac max, three phase
- Current input. 5 A current transformer input, one CT per phase.

Note: Current transformers are not supplied with the PCS100 RPC as they are specific to each installation.

Note: A 1A Current transformer input option is available, see the options section.

10.3.1 Current Transformer Requirement

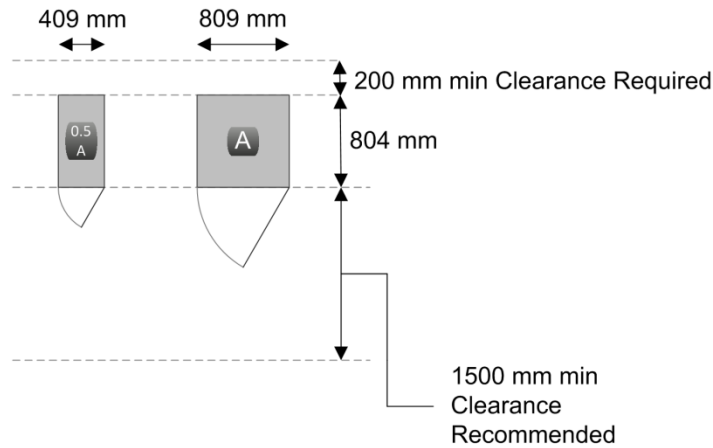
Current transformers for the feedback must be specified to meet the following requirements.

Primary rating	Selected according to the nominal load expected through the CT
Secondary rating	5 Amps (unless the 1 Amp option is ordered for the RPC)
Accuracy class	Class 1.0 or better
VA rating	30 VA or larger

11 Dimensions, Layouts and Clearances

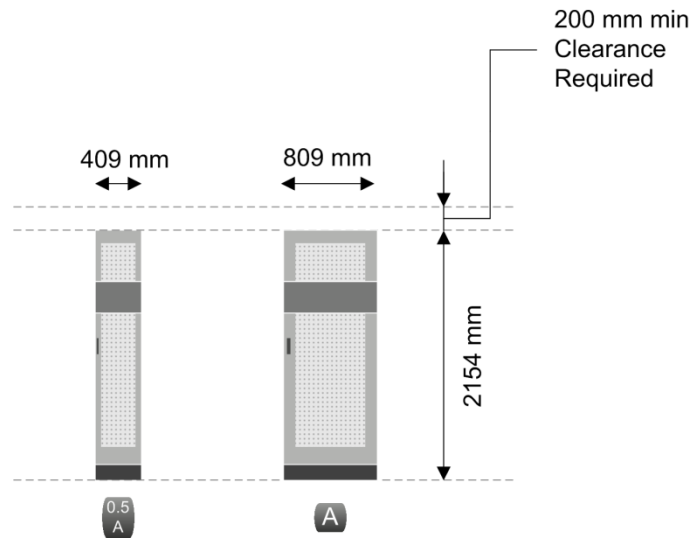
11.1 Individual Enclosures - Plan View

The following plans show the dimensions and required clearances of the enclosures.



11.2 Individual Enclosures - Elevations

The following front elevations show the height of the enclosures and clearance required above each enclosure.



Note: Depending on the subassembly, some enclosures differ in appearance from what is shown in the elevation drawings.

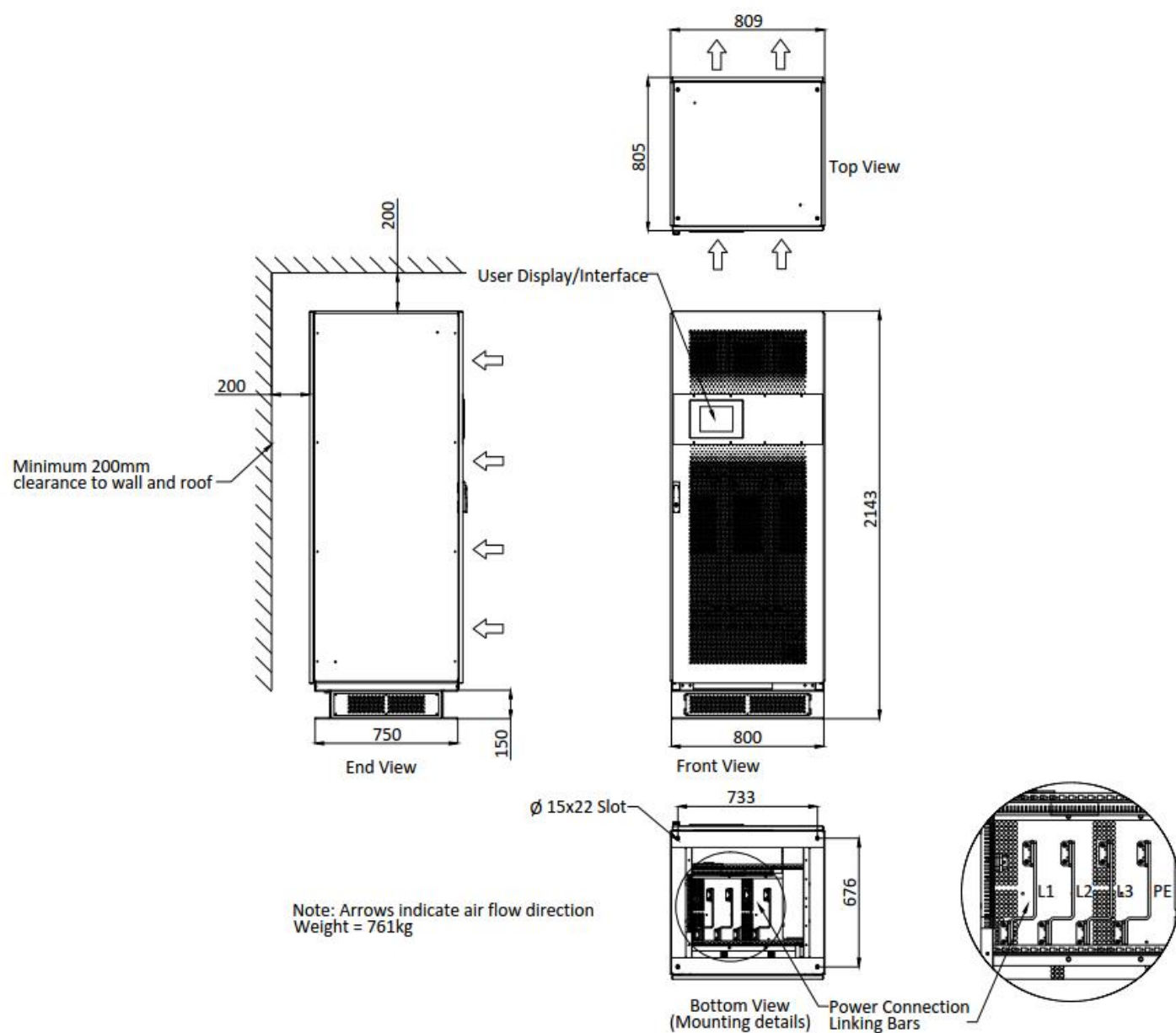
11.3 Clearances

The following clearances are required for all enclosures:

- Allow 200 mm (minimum) above
- Allow 1500 mm (recommended) clearance in front
- Allow 200 mm (minimum) clearance at the rear for air
- Enclosures can be placed side by side without any clearance

11.4 Installation & Cable Connection

The PCS100 RPC is connected by cables with crimped lugs. In all cases cable entry is via the bottom of the cabinet.



PCS100-25-06-A10 Model Drawings.

11.5 Power Connection

Connection details are given in the following table. Typically up to 240mm² or 300mm² cables with crimp lugs per phase are used to connect the PCS100 RPC. For RPC current ratings > 900A individual connections to each cabinet are required for the RPC, as per the table below.

Type Code	Current Rating A	Frame Size	Power Connection (per phase)
PCS100-25-01B-A05	150	0.5A	1 x M8
PCS100-25-02B-A05	300	0.5A	1 x M8
PCS100-25-03B-A10	450	A	1 x M12
PCS100-25-04B-A10	600	A	3 x M12
PCS100-25-05B-A10	750	A	3 x M12
PCS100-25-06B-A10	900	A	3 x M12
PCS100-25-07B-A20	1050	A + 0.5A	4 x M12
PCS100-25-08B-A20	1200	A + 0.5A	4 x M12
PCS100-25-09B-A20	1350	2xA	6 x M12
PCS100-25-10B-A20	1500	2xA	6 x M12
PCS100-25-11B-A20	1650	2xA	6 x M12
PCS100-25-12B-A20	1800	2xA	6 x M12
PCS100-25-13B-A20	1950	2A + 0.5A	7 x M12
PCS100-25-14B-A20	2100	2A + 0.5A	7 x M12
PCS100-25-15B-A20	2250	3xA	9 x M12
PCS100-25-16B-A20	2400	3xA	9 x M12
PCS100-25-17B-A20	2550	3xA	9 x M12
PCS100-25-18B-A20	2700	3xA	9 x M12

12 Options

The following options can be specified as part of the PCS100 RPC order:

12.1 Increased IP Rating (+IP42)

Standard PCS100 RPC enclosures are IP20 rated. IP42 can be specified as an option (+IP42).

12.2 1A CT input (+CT1)

Standard PCS100 RPC accepts 5 A current transformer inputs.

1 A current transformer inputs can be specified as an option (+CT1).

13 Installation Requirements

A circuit breaker that is set to clear a short circuit failure is required upstream of the RPC. Current limiting MCCBs provide very fast clearing of short circuit fault currents. ABB T Series MCCBs or equivalents are suitable.

13.1 Floor Requirements

All enclosures must be installed on a horizontal fireproof surface.

Do not exceed ± 5 mm in elevation between adjacent enclosures.

13.2 Electromagnetic Compatibility (EMC)

The PCS100 RPC is designed for commercial and industrial applications. It is not suitable for connection to a low-voltage utility that is supplying residential premises unless additional EMC measures are taken.

13.3 Location

The PCS100 RPC is designed for connection by fixed wiring.

14 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

Notes

Contact us

To find the contact person for your region please refer to our webpage:

www.abb.com/pcs100-power-converters

Note

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