

ACTIVE VOLTAGE CONDITIONER 150 KVA - 3600 KVA

# Designed for sag correction

## PCS100 AVC-40



- Continuous protection from the most common utility voltage problems
- Reliable worry-free operation
- Faster return on investment due to low operation costs

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**As a significant player in power conditioning, ABB developed the PCS100 AVC-40 range for the IEC and UL markets, with power ranges of up to 3600 KVA.**

**It is fully adaptable, highly efficient, and simple to install and maintain. ABB takes power protection to a whole new level without the need to compromise.**

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# Meet the PCS100 AVC-40

## Designed for sag correction

Did you know that even the most modern power networks are not perfect and voltage sags are the most common cause of equipment malfunction in today's automated industry? The PCS100 AVC-40, built on a proven and dependable converter platform, provides instant voltage sag and surge correction, ensuring maximum productivity.

The PCS100 AVC-40 is an active voltage conditioner designed specifically to solve voltage disturbance problems. It is a high-performance power electronic system designed for industrial and large commercial applications. It responds instantly to voltage disturbance events and provides continuous regulation of voltage.

It's industrial design and rugged overload capability means it can handle conditions that other products of similar designs cannot. Furthermore, it contains a robust internal bypass system that helps to ensure that the load continues to be supplied from the utility.

The PCS100 AVC-40 helps improve a facility's performance by regulating the voltage; removing voltage sags, swells, and imbalance to reduce waste and damage to the expensive equipment. It also removes voltage fluctuations, which can cause process variation, improving the quality of operation of the plant or the facility.

High efficiency exceeding

**98%**

Response time in 250  
microseconds and correction  
in less than

**10 milliseconds**

Design life of up to

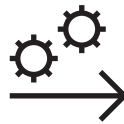
**15 years**

reduces total cost of ownership



#### Reduce costs, protect equipment

The PCS100 AVC-40 closes the electrical compatibility gap between the supply and plant by protecting the load from utility induced voltage sag events. The PCS100 AVC-40 helps to minimize the undue stress to the equipment within a facility, thus increasing the lifetime of the equipment and protecting it against sags, swells or voltage imbalances.



#### A range of connectivity options

- Ethernet
- Modbus TCP
- Integrated web server
- E-mail notifications



#### Improve plant operation

The PCS100 AVC-40 regulates the voltage, removing sags, swells and voltage imbalance to reduce waste and damage to the expensive equipment. It also removes voltage fluctuations, which can cause process variation, improving the quality of operation of the plant or the facility.



#### Faster return on investment

With industry leading efficiency exceeding 98 percent the PCS100 AVC-40 requires minimal costs for electricity and cooling. With no energy storage the ongoing maintenance cost is reduced, resulting in lower total cost of ownership.



#### Small footprint

Industry leading power density.



#### Internal bypass

Increasing availability of supply to the load in case of overload and internal fault.

## 01

# Providing continuous power for a variety of industries

As the most efficient technology of its kind, the PCS100 AVC-40 is suitable for a range of different applications and industries. From food and beverage, right through to semiconductor and automotive.

## 01



## Food & Beverage, Water

- High speed bottling
- Packaging lines
- Dairy processing
- Filtering

## 02



## Semiconductor, Electronics

- Sensitive machinery
- Clean room control

## 03



## Automotive

- Welding process
- Coating process
- Painting process

## 04



## Pharmaceutical, Medical

- Batch process
- Climate control
- Sensitive medical
- Imaging equipment

## 05



## Waste water

- Sensitive Machinery
- Waste water treatment filtering

## 06



## Mining

- Sensitive Machinery
- Mineral handling
- Mineral processing

## 07



## Metal Processing

- Sensitive machinery
- Welding

## 08



## Battery Manufacturing

- Sensitive Machinery
- Welding
- Clean room control

02

## Flexible and highly cost effective

As your facility grows and your requirements for quality power increase – you may need a power conditioner that grows with your business. ABB's PCS100 AVC-40 offers a flexible, reliable system that can adapt to your current system and future expansion.

**150 kVA**  
↓  
**3,600 kVA**



150 kVA to **300 kVA** (UL and IEC)



450 kVA to **900 kVA** (IEC)



1,200 kVA to **1,800 kVA** (IEC)



2,400 kVA to **3,600 kVA** (IEC)

## 03

# Technical specifications

## IEC Rated

The below offerings are rated for the IEC markets

### Data Summary



Power Range	150 kVA - 3,600 kVA*
Voltage Range	208 - 480 V 600 V (model specific)** 690 V (model specific)**
Efficiency	>98% (under normal conditions)
Sag correction response	250 $\mu$ s
Sag correction	10 ms
Continuous regulation range	$\pm$ 10%

## UL Rated

The below offerings are rated for the UL markets

### Data Summary

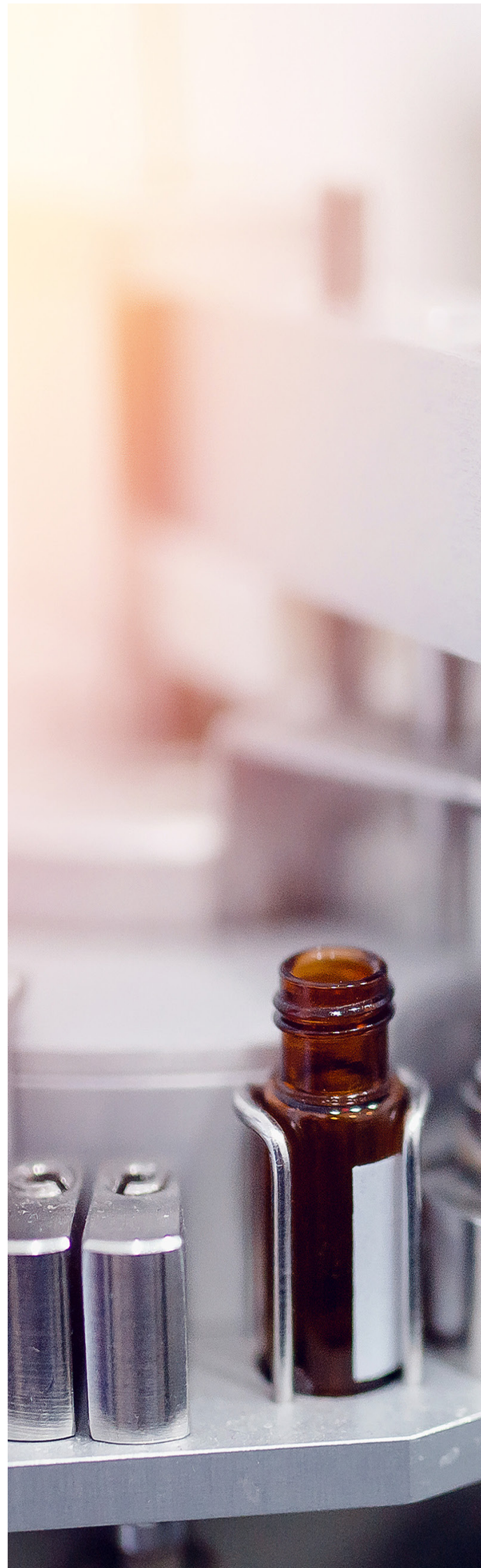


Power Range	150 kVA - 300 kVA
Voltage Range	208 - 480 V
Efficiency	>98% (under normal conditions)
Sag correction response	250 $\mu$ s
Sag correction	10 ms
Continuous regulation range	$\pm$ 10%

For further technical information, please refer to:  
[2UCD074000E002 - PCS100 AVC-40 Technical Catalogue.](#)

\*UL site certification available on request.

\*\*The 600/690 V AVC-40 is available only in a power rating of 3.6 MVA



# 04

## Reliable, easy operations

Critical, high-speed industries demand a combination of guaranteed uptime and the highest safety standards to ensure both assets and people are protected.



### Reliable performance

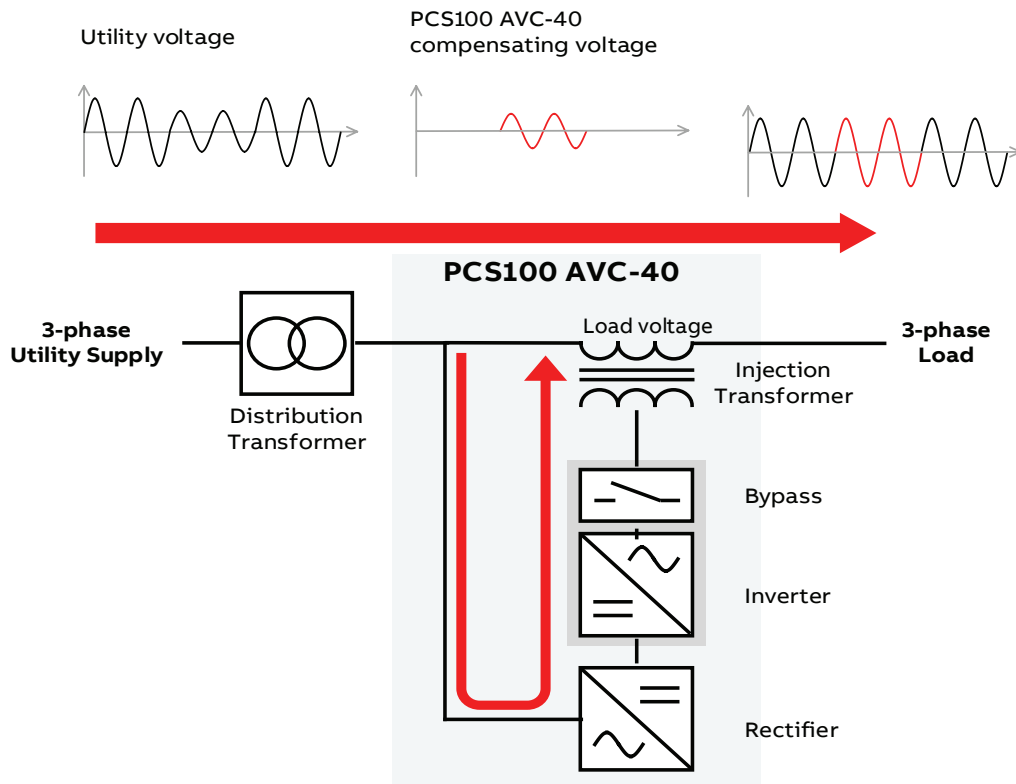
- Internal bypass ensures maximum uptime for the load, even in the case of overload or internal fault
- Full lifetime service from ABB-trained specialists
- Preventative and condition based maintenance for consistent product reliability and maximized economic life\*

### Maintenance made easy

Serviceability has never been easier than with the PCS100 AVC-40 modular design. Each component has been expertly engineered to optimize accessibility and to reduce the possibility of human error.

Designed for ease of use from the first moment of installation, the module cabinets are easily transported to the cabinet and slide into place.

\*Digital maintenance program required



# Control and monitoring

ABB's PCS100 AVC-40's visual interface (GDM) allows the operator to observe measurements, events and alarms onscreen for a comprehensive overview of operations. The visual interface also provides remote access for monitoring.

## Graphic Display Module

The primary interface for the PCS100 AVC-40 is through a 10.1" touchscreen with a user-friendly, intuitive interface. It provides easy accessibility to any information on the PCS100 AVC-40, shows the system status and provides access to the operating parameters and event history.

## Remote monitoring

The GDM provides remote access for monitoring purpose. The following communication types are available:

### Remote Web Pages

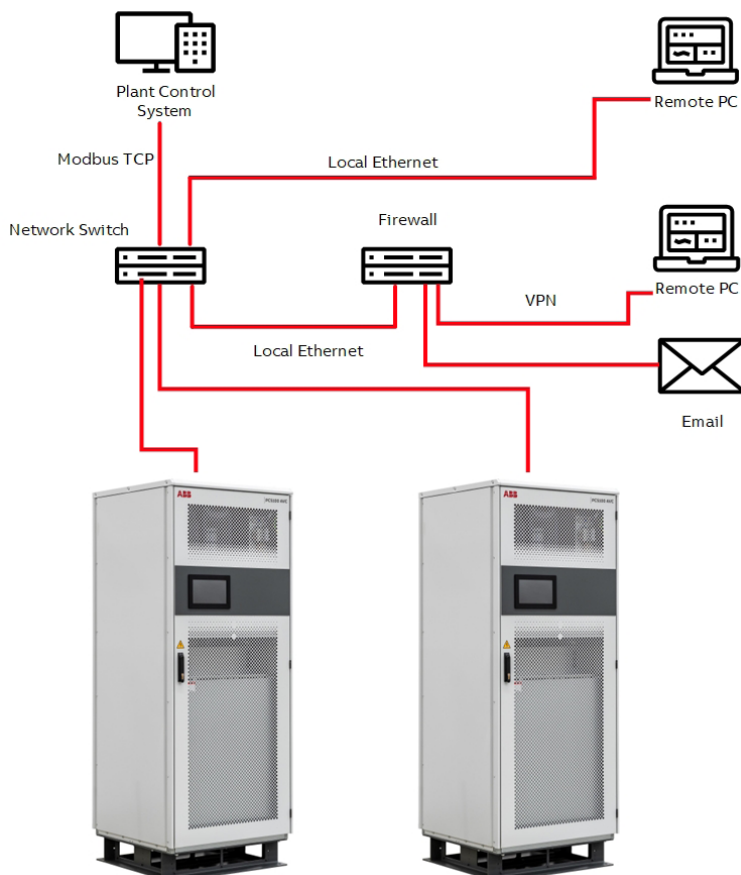
The Remote Web Pages are a set of web pages that are similar in format to the standard GDM and can viewed with any standard web browser on a device connected to the same network. Through this interface the users can remotely access the status and operating parameters. Viewing and downloading of the event history and service logs is also available. The Remote Web Pages enable users to select different languages for each remote client.

### Monitoring via Modbus TCP

A 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.

### Remote notifications

The PCS100 AVC-40 is configurable for sending e-mail notifications in case of power quality events or systems internal events such as faults and warnings. Automatic sending of the service logs via e-mail to ABB Service can also be enabled.



## Tested and trusted

Comprehensive testing is crucial, which is why companies routinely test individual products before they leave the factory.

ABB's Power Conditioning factory is equipped with sophisticated manufacturing systems and test equipment for delivering high quality and product reliability.

Within the Power Conditioning factory in New Zealand product assemblers are guided by comprehensive work instructions coupled with fully connected smart tools. This provides a high level of assembly accuracy. Once completed, the product is extensively tested in the onsite high power test facility, catering for voltages from 220V to 24kV and current up to 4000A.

- ISO certification: ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018.
- Routine testing of all products
- Factory acceptance testing available on request, both onsite and remote via video link



## Services

With a global presence in over 100 countries, ABB's service engineers are committed to supporting you wherever you are in the world.



Our PCS (Power Conditioning) service portfolio is designed to maximize your return on investment, keeping equipment operating at its highest efficiency and availability throughout its lifetime.

We work closely with our team of R&D experts to develop the most advanced service technologies that ensure proactive product life-cycle management.

### Our services include:

- Installation and commissioning
- Repairs
- Spares and consumables
- Extensions, upgrades and retrofits
- Replacement
- Training
- Service agreements
- Advanced services including predictive maintenance
- Factory evaluations



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**ABB Power Protection**

111 Main North Road  
Napier, 4110  
New Zealand

**[abb.com/ups](http://abb.com/ups)**