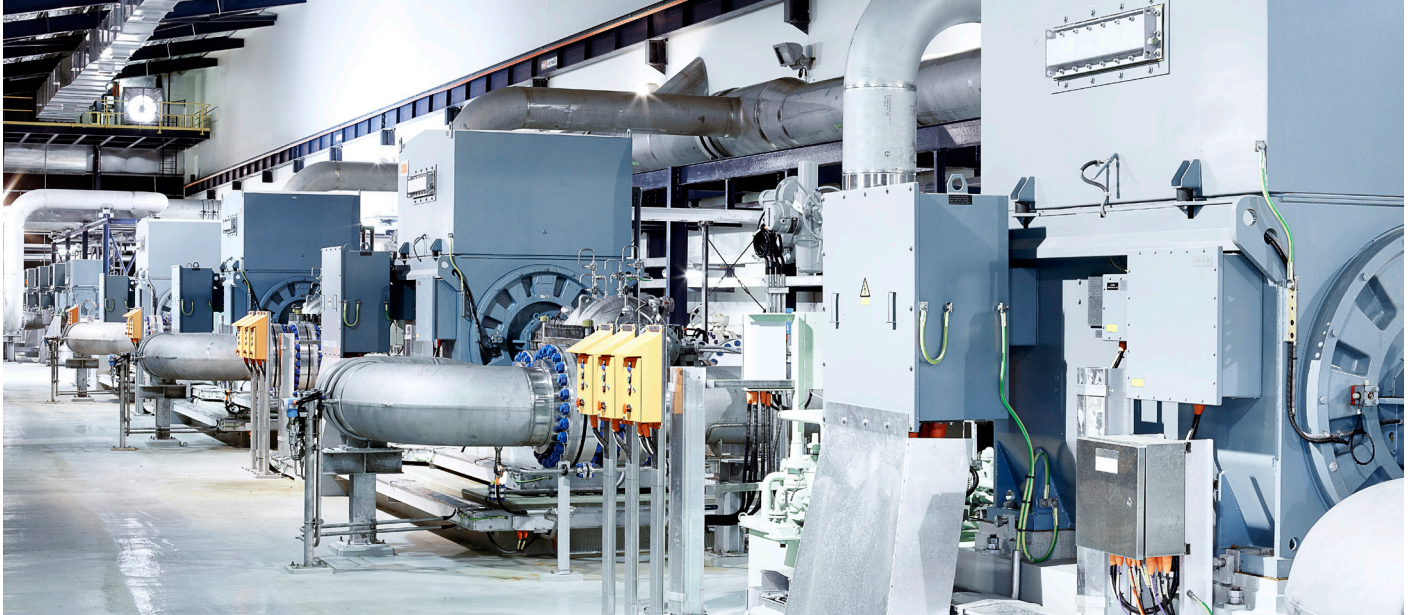


# RPM

The integrated unit control panel for all rotating machines



Best in class integration.

Reduce energy consumption.

Open architecture.

RPM is a Unit Control Panel (UCP) designed to satisfy the most demanding Customers. It focuses on providing a complete set of functionalities, which follow all the stages of rotating machine lifecycle, from commissioning to maintenance.

RPM is suitable to all industries, included oil and gas, chemical, water and power.

## Main Features

The UCP with highest degree of integration in the market, one system that embed:

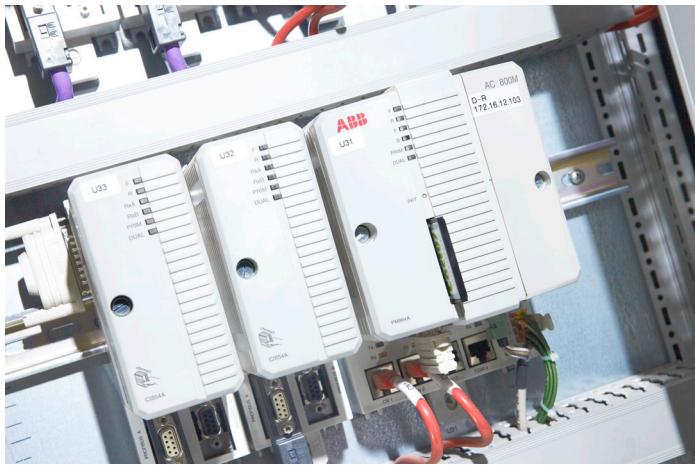
- Performance control based on flow rate, pressures and temperatures
- Advanced anti-surge and load sharing control
- Pump minimum flow control
- Speed control and over-speed protection
- Safeguarding machine protections
- Condition monitoring
- Ancillary systems control
- Human-machine interface
- Machine performance monitoring & predictive maintenance (SmartMachine™ technology).
- High flexibility to adapt the experience of ABB to your plant needs.
- Ability to share engineering tools and spare parts with other ABB automation systems.

RPM is suitable for integration into any automation system and can exchange data via all the main industrial communication protocols.

# The integrated control solution

RPM is a fully programmable control system that is well suited for the control of all families of rotating machines, providing a high availability and protection while granting an extreme level of customization and integration. Different versions are available featuring control solutions for the main kind of machines, such as, compressors, pumps, turbines and expanders.

RPM processing unit: AC800M



RPM-850



RPM-1000



Model	Control Unit	IO Modules Slots*	Smart Machine	Communication	Human Machine Interface	Dimensions (W x D x H)
RPM-800	Simplex	12	Embedded	Modbus Serial, Modbus TCP/IP, OPC, ABB MMS	10,4" touchscreen	600 x 400 x 2100 mm
RPM-850	Redundant	12			10,4" touchscreen	800 x 800 x 2100 mm
RPM-900	Simplex Safety	14	Option	Other protocols available, such as: Profibus, Profinet, IEC61850, DriveBus, Custom Serial Protocols.	10,4" touchscreen	800 x 800 x 2100 mm
RPM-950	Redundant Safety	14			10,4" touchscreen	800 x 800 x 2100 mm
RPM-1000	Quad: Redundant Process and Redundant Safety	20			15" touchscreen	1600 x 800 x 2100 mm
				Remote Monitoring via 3G-GPS/GPRS/WiFi		

All the versions can be supplied with special enclosure for hazardous zones as an upgrade.

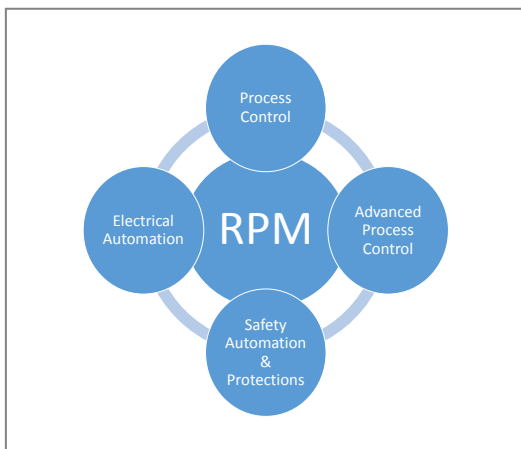
Redundancy on power supplies, communication channels and IO modules available on request.

\* Each IO slot can host one module (AI 8 channels, RTD/PT100 4 channels, AO 8 channels, DI 32 channels, DO 32 channels)

# Technology and Innovation

## Integrated Control System

Why using a not intuitive and cumbersome architecture composed by several PLCs, each dedicated to one or few functions, when an integrated control system can provide an intuitive and efficient architecture? RPM is the UCP with the highest degree of integration in the market, one system able to perform all the critical functionalities for a rotating machine. The programming and management of all components, is performed via one simple and powerful engineering tool, ABB Control Builder.



RPM integrated architecture

## Electrical Systems Integration

Electrification is a growing trend in industry driven by more stringent regulation on emissions and high costs of energy. RPM is the first UCP in the market specifically designed for integration to electrical systems:

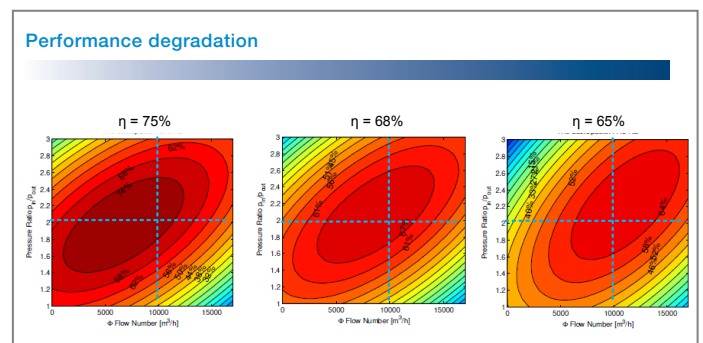
- LV and MV Variable Frequency Drives (VFD) and specific functions for multiple and redundant VFD configurations
- Integration with substation automation and IEC61850 for monitoring and integration in plant Power Management System (PMS)
- Monitoring and integration with intelligent MCC

## Protection from compressor surge and pump cavitation - SPEED™ Technology

The protection of the rotating machine is the key for granting a long lifetime to the apparatus. RPM provides a new way to protect the machines driven by VFD: the SPEED technology (Surge Protection Enhanced by Electrical Driver). This function allows a coordinated control of the recycle/blow-off valves and the VFD, allowing a smoother control when the machine is moving to surge/cavitation condition and allowing a reduction in the overall amount of throttled fluid. This equals to a significant reduction in the energy consumption of the

## Performance Monitoring (SmartMachine™)

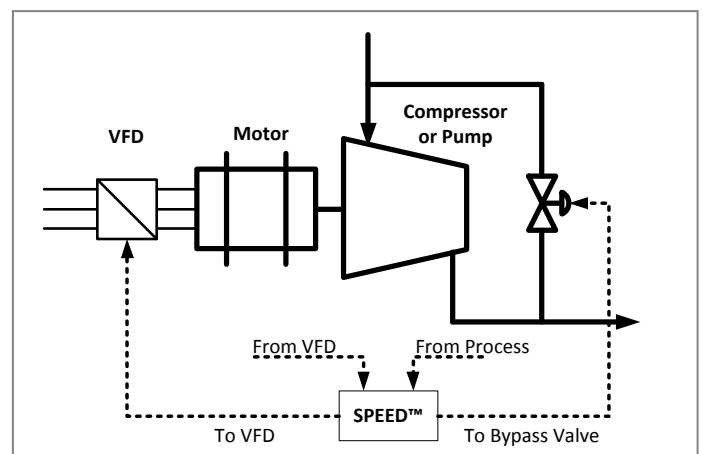
Rotating machines are critical equipment and great consumers of energy: for this reason their operation shall be always monitored. The SmartMachine™ technology monitors the machine's status and warns when a dangerous change in performance is detected, anticipating a potential threat to the machine. The technology is applicable to any rotating machine and monitors both the driver and driven apparatus.



Tracking of compressor efficiency degradation

machine, without influencing its safety.

The SPEED technology takes advantage of the integrated architecture of RPM. The process, electrical and vibration measurements are all used to provide early detection of machine hazardous operation and used to deliver the best protection without affecting the machine performance.



SPEED™ Technology

# Contacts

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**Process Automation Division**  
Oil, Gas and Chemicals

[www.abb.com/oilandgas](http://www.abb.com/oilandgas)



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