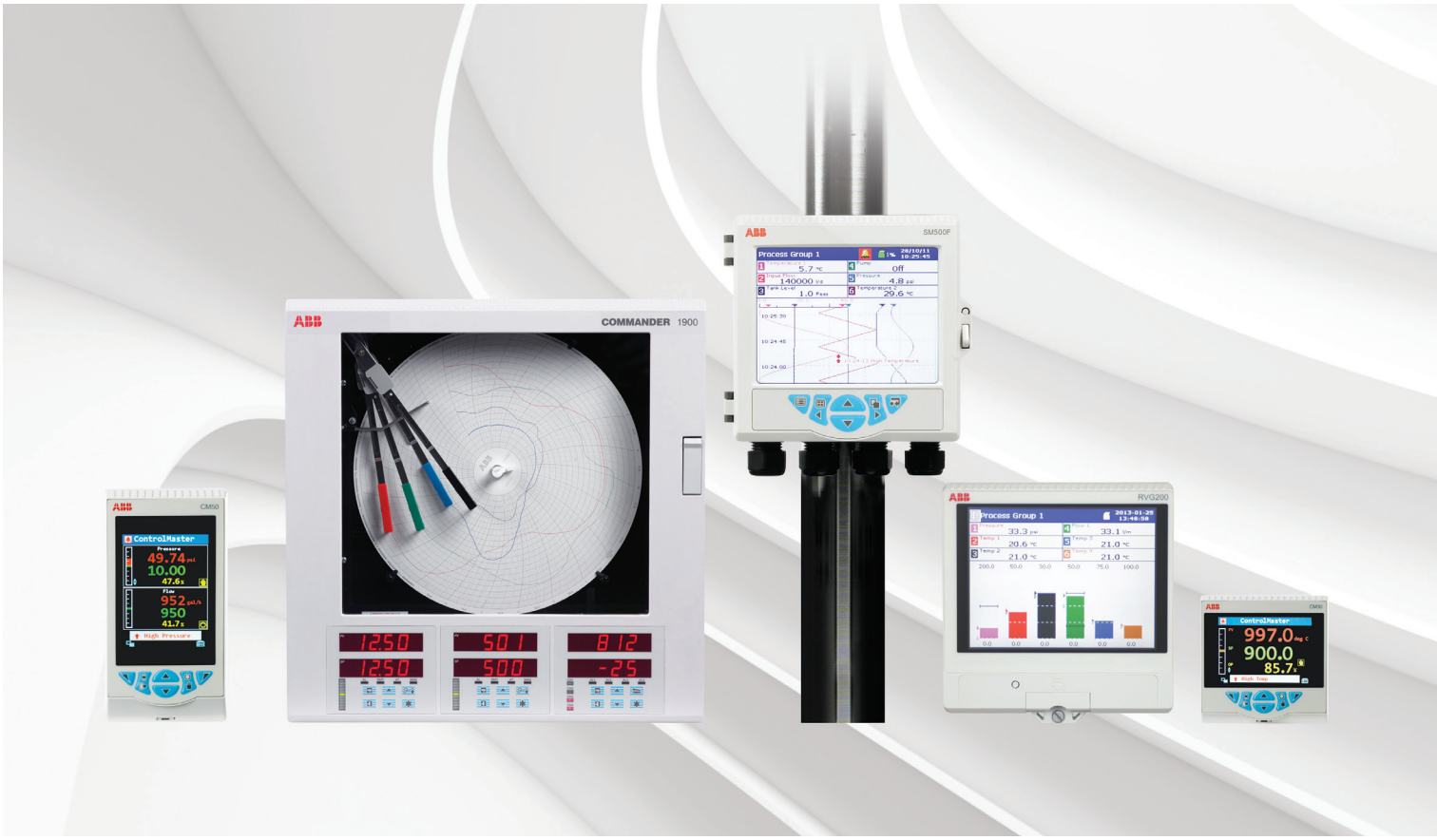
ABB MEASUREMENT & ANALYTICS

Recording and control

The most complete picture of your process



Measurement made easy

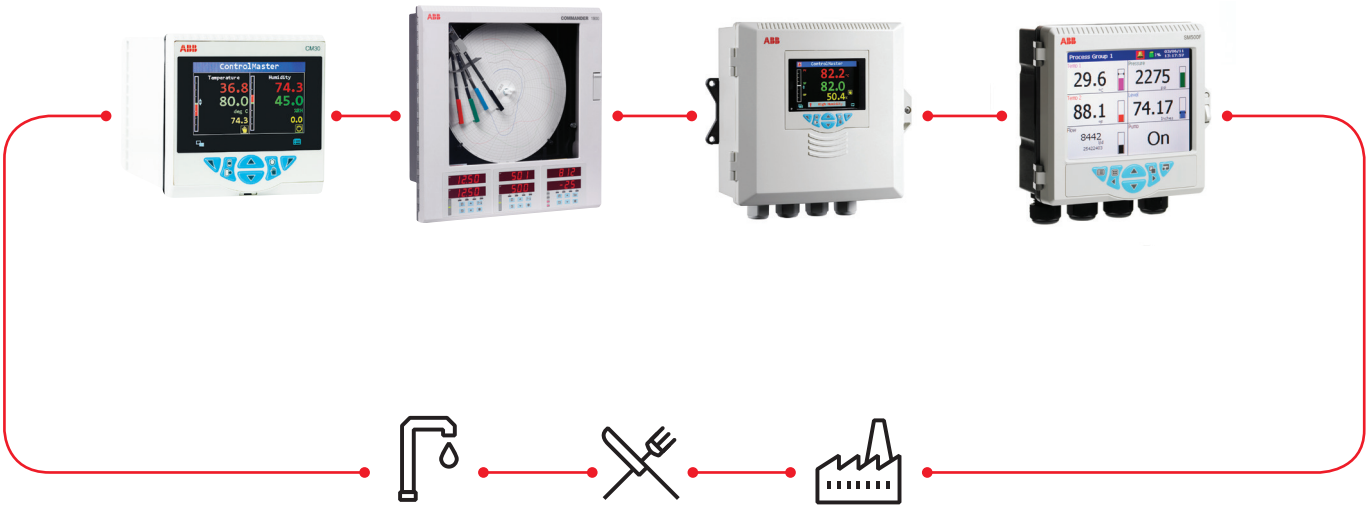
Your data, how, where and when you want it.

ScreenMaster, ControlMaster and Commander are the names behind a comprehensive range of recording and control instrumentation from ABB that meet the demanding requirements of a broad range of applications in food and beverage, water and manufacturing.

The range includes process controllers, digital indicators, chart recorders and paperless recorders. All sharing the same high standards of reliability and flexibility and capable of withstanding the harshest of process environments, they can be used in virtually any location.

With a range of communications possibilities, including remote access, our controllers and recorders give you more power over your process than ever before.

An option for every application



With industry increasingly turning towards digital technology, our range of recorders and controllers give you all the functionality you need, whether it's greater control of your process or the storage, retrieval and sharing of recorded data.

By utilizing experience and expertise gained through hundreds of applications across a multitude of industries, we have steadily expanded the capabilities of our devices to meet the growing demands of today's industrial applications. Our SM500F and RVG200 paperless data recorders, for example, couple extensive security with remote web server and mobile technology that offer system-size performance from a localized device. By enabling safe anytime, anyplace access to process data, these features can cut the time and cost of deploying engineers to visit individual devices, ideal where skilled staff are at a premium.

We've also worked to use technology to take as much complexity as possible out of the operation of all our recording and control devices. With their full color, clear text displays and easy to use interface, our ControlMaster process controllers and indicators make installing, commissioning and operating a control system quicker and easier than ever.

The same applies to our touchscreen RVG200 paperless data recorder, where an extensive array of data recording and control possibilities can be achieved at the touch of a fingertip.

ABB ScreenMaster paperless recorders
The digital era of data recording and analysis

Our family of ScreenMaster paperless data recorders harness the power of digital technology to enable you to do more with your process data. Whether you want a field-mountable device that can be installed anywhere or slick and easy operation using the latest touchscreen technology, ABB's ScreenMaster devices offer a versatile, secure and proven solution.



Use anywhere
Wall, panel or pipe mounted options enable use in almost any location.



Suitable for arduous environments
NEMA 4X and IP66 protection enables installation in even the wettest or dirtiest conditions.



Powerful yet simple
Simple menu interfaces make finding and viewing data easy, with multiple display formats offering a wide choice of viewing options.



Flow recording
Flow totalizers enable instantaneous flow rates to be totalized and recorded. An automatic reset capability enables daily, weekly and monthly flow volume reports to be generated and alarms to be raised if predefined flow limits are exceeded.



Powerful maths
Math and logic functions enable calculation of equations such as averages and deviations. Results can be displayed, recorded and used to drive alarms and totalizers.



Extensive security features
Measures include a comprehensive audit log that records configuration changes, calibration changes, system events and other items key to data security. All entries are detailed with operator identification. Operators can securely annotate the chart with comments and signatures. Both recorders can form part of a system fully compliant to 21 CFR Part 11.



Ethernet communications
Ethernet communications enable access to archived data and email facilities. Using the latest telecoms tech the Ethernet features can be used even when a recorder is in a remote location.



Remote process monitoring
Remote access to a ScreenMaster is possible via the use of any standard web browser. Detailed real-time information is available for current alarm and totalizer conditions, memory card status and many other key process details.



Email notification
Keep up to date with the latest process alarms or critical process events with email notifications which can be sent automatically to your PC or smartphone.



Real-time data communication
ScreenMaster recorders can communicate the process values being monitored to a DCS, SCADA, PLC or other similar system. Alternatively, data values can be communicated to a ScreenMaster for display to the operator and secure logging.



Batch recording
A batch recording option enables batch numbers and product type information to be recorded alongside process data. With ABB's DataManager Pro software, collected batch records can be accessed by searching for their batch number or batches with common attributes identified.

SM500F

Field-mountable paperless recorder

Featuring up to 7 process inputs, 12 recording channels and available with wall, panel and pipe mounting options, the SM500F field-mountable paperless recorder provides a truly simple recording solution that can be used anywhere, anyhow and by anyone.

Its fully sealed IP66 and NEMA 4X enclosure make it ideal for even the most hostile environments, including hosedown and dusty applications.

RVG200

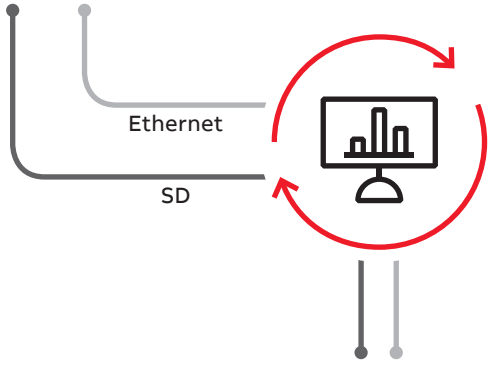
Touchscreen paperless recorder

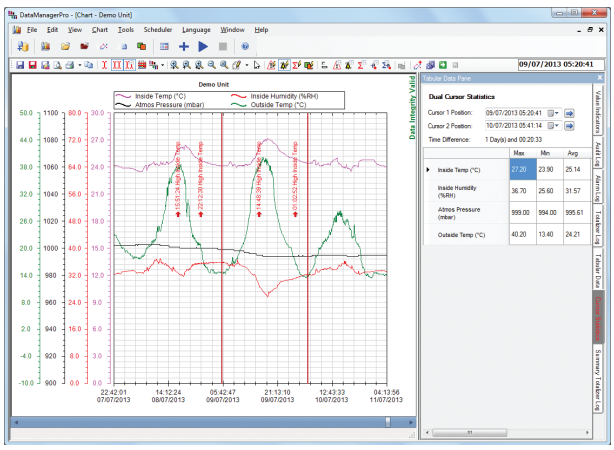
The RVG200 recorder takes the established operating and security benefits of the ScreenMaster range one step further. Up to 24 process signals can be connected to the RVG200's analog inputs or transferred to it via digital communications. Features include:

- Touchscreen 'swipe' operation
- Front and rear USB ports for connecting peripheral devices, including a barcode scanner and keyboard
- Customizable views
- Steam energy calculations
- Remote operation
- GPS interface









DataManagerPro

Powerful data analysis tool that helps you get more from your data

ABB's DataManager Pro advanced data review software opens new possibilities for collecting, interrogating and presenting recorded data. The software creates a database of recorded data providing secure long-term storage and enabling instant access to data.

ABB ControlMaster universal process controllers and indicators

Control made easy

Whether you're a plant or process manager, electrical engineer, process operator or maintenance engineer, the future of process control instrumentation starts here. ABB has used its experience in controllers and indicators to create the ControlMaster family of process control instruments, offering an intuitive, simple and powerful solution for a wide range of process control applications.

Scalable hardware and software functionality
I/O, functionality and control template availability is expanded easily with additional plug-and-play input modules and function keys, enabling a single ControlMaster unit to be adapted to handle anything, from basic to complex control applications.

Full environmental protection
With fully-sealed IP66 and NEMA 4X enclosures or front panels, all ControlMasters offer full protection against water and dust ingress, enabling them to be used in even the most arduous operating conditions.



CMF310 field-mount controller



CMF160 field-mount indicator



CM15 panel-mount indicator

Enjoy the flexibility of field-mount
Enjoy the benefits of devices that you can locate practically anywhere, with the field-mounted CMF310 controller and CMF160 indicator. Able to be wall or pipe-mounted out of the box, they can be installed and commissioned in a fraction of the time and cost needed for adapting panel-mounted units.

Panel-mount indicators
The CM15 is a feature-packed 1/8 DIN universal process indicator, with totalization, level, math, logic, counter and alarm functions.

Discover more

CMF310 field-mount controller

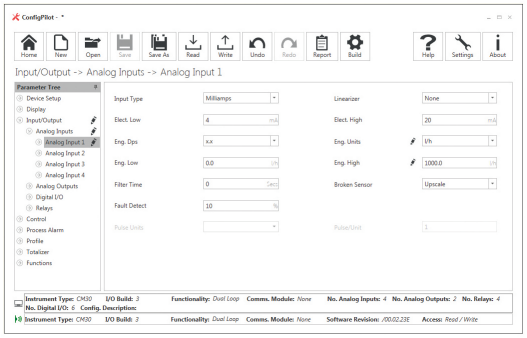
Panel-mount controllers

CM15 panel-mount indicator

CMF160 field-mount indicator

Get up and running quickly with ConfigPilot

ConfigPilot is the configuration platform for the entire range of ABB's ControlMaster controllers and indicators. With an identical menu structure to the ControlMaster, ConfigPilot is instantly familiar. Configurations can be created from scratch off-line or read from a ControlMaster device. Once complete a configuration can be written to a ControlMaster via its front panel IrDA port or saved for future use. In addition ConfigPilot's reporting capabilities hugely simplify creation of configuration documentation.



Historical trending
Short-term trending capability provides valuable information during commissioning as well as for drilling into the history of unattended processes.

Customizable full-color TFT display
Customisable displays enable you to see your data how you want it. The use of intuitive pop-up menus makes finding and accessing the information you want easy, while the use of clear text displays eliminates the need to learn complex error or alarm codes.

Flexible communications
Integration into a control system is easy thanks to Ethernet and RS485 communications.



CM10 1/8 DIN panel-mount controller



CM30 1/4 DIN panel-mount controller



CM50 3 x 6 DIN panel-mount controller

Panel-mount controllers
Available in 1/8, 1/4 and 1/2 DIN options, our ControlMaster panel-mount controllers offer a simple, ready to use control solution.

Suitable for basic to demanding applications, functionality includes cascade, feed forward, adaptive, predictive and ratio control strategies, plus Ethernet, RS485, Modbus TCP/RTU and a web server for remote process monitoring.

Profile control
Profile control enables setpoint profiling for thermal processing applications. Two versions are available; a basic single program version and an advanced, multi-program version with sequencing. Profile-specific displays provide a clear overview of the profile progress, including program name and time remaining, with more detailed information available at the press of a button.

Template based configuration
ControlMaster configuration is vastly simplified by using application templates. Selecting the template best suited to your process requirements configures I/O and control functionality automatically while display templates are also selected automatically.

Advanced functions
The ControlMaster range gives you even greater functionality. Features include math, totalization, a frequency input, logic, gain scheduling, split output, valve control and real time alarms.

ABB Commander circular chart recorders
The tried and tested paper chart recorder

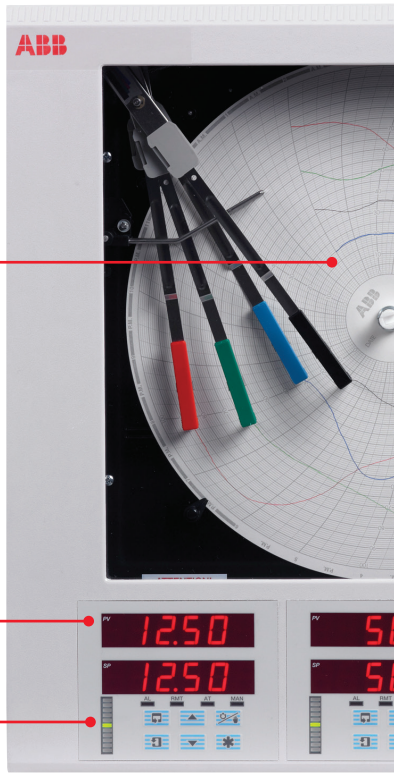
Robust and easy to use, our Commander circular chart recorders have established a reputation for their reliable performance in a host of industrial applications including water and waste water treatment, food, pharmaceuticals and tyre production.

A range of advanced functions, plus NEMA 4X and IP66 protection, make Commander recorders the first choice wherever paper chart recording is required.

Recording versatility
Recording is easy to set up. Pen ranges are set individually to give the best resolution for each signal and the time per revolution can be selected from between one hour and 32 days. A true time event pen facility allows 1 pen to be set up as a 3-position event marker to accurately capture event timings.

Status at a glance
High visibility displays provide a clear indication of up to 4 process values and 2 PID loops simultaneously whilst active alarms are signalled below the main display.

Intuitive operation
The clearly labelled tactile keypad gives direct access for operator adjustments and configuration programming without the door being opened. A password protected system prevents unauthorized access to configuration menus.



Math and logic
User configurable math functions, mass flow calculations and totalizers are all fully supported. The logic capability allows interlocking and the integration of discrete and continuous functions to solve a wide range of process problems.

Discover more

Built to meet your process's needs
A high level of I/O fitted as standard enables Commander recorders to meet the requirements of most processes out of the box. In addition, plug-and-play modules can be added at any time to further extend a recorder's I/O capability.



MODBUS RS485 communications
Communication with PCs or PLCs is achieved via the RS485 serial communications link, enabling the Commander 1900 to serve as the front end of plant-wide data acquisition systems. Using the MODBUS RTU protocol, all process inputs and other variables can be read continuously by a host PC running on a wide variety of standard SCADA packages.

Install anywhere
The unit can be wall/pipe or panel mounted anywhere in the plant and, with its rating of NEMA 4X and IP66, it can be subjected to rigorous cleaning with complete confidence.

Timers and clock
Two real-time events triggered by the recorder's clock can be configured to operate relays, start/stop the chart or enable other actions within the record.

Integrated PID loops
Offering dual integrated PID loops, the C1900 chart recorder can be utilized as both a recorder and controller, eliminating the space and cost associated with using separate devices.

Options for every application



C1900RC circular chart recorder / controller



C1960 Multi-recipe profile recorder / controller



C1950 pasteurizer recorder / controller



C1300 municipal recorder with flow totalizer display

The ABB controller and recorder range

Comprehensive solutions for food and beverage, water and manufacturing

Water and wastewater

Our recording and control devices play a vital role in ensuring that water meets the highest quality standards at either end of the water treatment cycle. You'll find our ControlMaster, ScreenMaster and Commander products used in a range of applications including:

- Abstraction
- Dosing control and monitoring
- Effluent discharge
- Anaerobic digestion
- Aeration

Food and Beverage

Knowing what happens where, when and for how long are key considerations in making sure that food and beverage products are produced to the right quality and under the correct conditions. Our recording and control equipment can be used in a wide variety of applications to ensure production processes perform properly and to help keep track of every product:

- Batch recording
- Pasteurization
- Spirit distillation and brewing
- Carbonation control and monitoring
- Steam usage monitoring
- Retort control and monitoring
- Temperature monitoring in fridges, freezers and cold rooms
- Cooking and baking



Guides and videos

RVG200 recorder guides and videos

Scan this QR code to view and download application guides and videos explaining how the RVG200 can be used across different industrial applications.

SM500F recorder guides and videos

Scan this QR code to view and download application guides and videos explaining how the SM500F can be used across different industrial applications.



Heat treatment
Heat treatment of metals for the aerospace, automotive and general engineering industries must be controlled rigorously to ensure the reliability of the parts being produced. Our solutions include the ControlMaster range of process controllers, plus the RVG200 paperless recorder with AMS2750 compliant inputs.

Tyres and rubber
Our multi-recipe profile controllers can help you achieve the precise pressure, temperature and time control demanded during the curing of tyres and other rubber products.

Marine
Marine operators are subject to increasingly strict emissions legislation governing their emissions to air and sea. Our RVG200 paperless data recorders with GPS can be used to satisfy MARPOL regulations requiring the accurate control and recording of bilge water discharges from ships.

Pharmaceuticals
The use of electronic devices in pharmaceuticals production is strictly regulated to ensure the highest levels of product quality and safety. Our SM500F and RVG200 paperless data recorders, together with our DataManager Pro data analysis software, can help you comply with the regulations, including the FDA's 21CFR Part 11 rules governing data security.

Electrical power monitoring
Our SM500F and RVG200 paperless data recorders provide an ideal solution for localized energy consumption monitoring. Using collected data, you can find ways to reduce your energy costs and cut your carbon emissions.

CMF310 controller guides and videos
Scan this QR code for application guides and videos about the CMF310 field-mount controller and how it can be used across different industrial applications.

ControlMaster panel-mount controllers guides and videos
Scan this QR code to see how our ControlMaster panel-mount controllers can help to solve a broad range of application challenges.

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