





# ABB CONTROLMASTER SELECTION GUIDE



Standard ✓  
Optional ●



	CM10	CM15	CM30	CM50	CMF160	CMF310
<b>General</b>						
Mounting	Panel	Panel	Panel	Panel	Field	Field
Size	1/8 DIN (48 x 96mm)	1/8 DIN - Horiz. (96 x 48mm)	1/4 DIN (96 x 96mm)	1/2 DIN (76 x 144mm)	213 x 194 x 98mm	213 x 194 x 98mm
Display (Colour TFT)	5.6cm (2.2in)	5.6cm (2.2in)	8.9cm (3.5in)	8.9cm (3.5in)	8.9cm (3.5in)	8.9cm (3.5in)
Dust / Water Protection	IP66 & NEMA 4X	IP66 & NEMA 4X	IP66 & NEMA 4X	IP66 & NEMA 4X	IP66 & NEMA 4X	IP66 & NEMA 4X
Supply Voltage	100-240V a.c. std (24V d.c. opt)	100-240V a.c. std (24V d.c. opt)	100-240V a.c. std (24V d.c. opt)	100-240V a.c. std (24V d.c. opt)	100-240V a.c.	100-240V a.c.
<b>Control Capabilities</b>						
PID (analogue/time proportioning)	✓		✓	✓		✓
Motorised Valve	●		●	●		●
Split Output (heat cool)	✓		✓	✓		✓
Adaptive Control			●	●		●
pPI (predictive)			●	●		●
Gain Scheduling	●		●	●		●
Autotune	✓		✓	✓		✓
<b>Templates</b>						
Single Loop	✓		✓	✓		✓
Single Loop with Feed Forward			●	●		●
Auto/Manual Station	●		●	●		●
Analogue Backup Station	●		●	●		●
Manual loader	●		●	●		●
Cascade			●	●		●
Cascade with Feed Forward			●	●		●
Ratio Controller			●	●		●
Ratio Station			●	●		●
Dual Loop			●	●		●
Indicator	●	✓	●	●	✓	●
Dual Indicator	●	●	●	●	●	●
<b>Inputs</b>						
Universal (TC, RTD, resistance, mA, volt, mV, frequency & digital)	1 std	1 std	1 std (1 opt)	1 std (1 opt)	2 opt	2 opt
Process (TC, mA, volts, mV & digital)	1 std	1 std	1 std (1 opt)	1 std (1 opt)	2 opt	2 opt
Digital	2 opt	2 opt	6 opt	2 std (4 opt)	6 std	6 std
Tx Power Supply	2 std	2 std	2 std (2 opt)	2 std (2 opt)	4 opt	4 opt
<b>Outputs</b>						
Analogue/Logic	1 std	1 std	1 std	1 std	1 std	1 std
Analogue	1 opt	1 opt	1 opt	1 opt	1 std (1 opt)	1 std (1 opt)
Relay	1 std (3 opt)	1 std (3 opt)	1 std (3 opt)	2 std (2 opt)	4 std (2 opt)	4 std (2 opt)
Digital	2 opt	2 opt	6 opt	2 std (4 opt)	6 std	6 std
<b>Advanced Features</b>						
Maths	●	●	●	●	●	●
Logic	●	●	●	●	●	●
Custom Linearisers	●	●	●	●	●	●
Delay Timers	●	●	●	●	●	●
Real-time Alarms	●	●	●	●	●	●
Totalisation		✓	●	●	✓	●
Historical Tending			●	●		●
Basic Profile	●		●	●		●
Advanced Profile			●	●		●
Bank (duty/assist) Control	●	●	●	●	●	●
<b>Communications</b>						
Ethernet	●	●	●	●	●	●
RS485 modbus	●	●	●	●	●	●



# ABB PROCESS CONTROLLERS & INDICATORS



## ControlMaster CM10

The ControlMaster CM10 is a flexible, 1/8 DIN, universal PID process controller. Detailed process information is presented clearly on the CM10's full-colour TFT display and an intuitive operator interface simplifies configuration and operation. Scalable in both hardware and software functionality.

- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display. User-customisable.
- **Profile control** - Setpoint profiling function
- **Flexible control functionality** - On/off, time proportioning, analogue PID and motorised valve control strategies
- **Exceptionally easy to use** - Intuitive user interface and clear text prompts make installation, commissioning and operation quick and simple
- **Built to survive** - IP 66 and NEMA 4X environmental protection
- **Flexible connectivity** - Ethernet and MODBUS® communications



## ControlMaster CM15

The ControlMaster CM15 is a feature-packed, 1/8 DIN, universal process indicator. A crystal-clear, full-colour, TFT display shows operators exactly the information they need to know and provides operation and configuration menus in full text making the CM15 intuitive to use and very quick to install and commission.

- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display. User-customisable.
- **Comprehensive I/O** - 2 universal inputs, 1 analogue output & 1 relay fitted
- **Totalisation and counter functions** - Calculation and display of flow total values. Pulse counting capability.
- **Exceptionally easy to use** - Intuitive user interface and clear text prompts make installation, commissioning and operation quick and simple
- **Built to survive** - IP 66 and NEMA 4X environmental protection
- **Flexible connectivity** - Ethernet and MODBUS® communications
- **Problem-solving capability** - Flexible functionality including maths, logic and totalisation providing power to solve complex application requirements



## ControlMaster CMF160

The ControlMaster CMF160 is a feature-packed, 1/8 DIN, universal process indicator. With a unique field-mountable design that enables wall or pipe-mounting without the need for an additional enclosure.

- **Cost saving field-mount design** - Wall, pipe or panel-mountable. No need for an instrument panel. IP66 and NEMA4X environmental protection.
- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display user-customisable, exceptionally easy to use. Intuitive user interface and clear text prompts ensure installation, commissioning and operation are quick and simple.
- **Comprehensive I/O** - Up to 4 universal inputs, 4 analogue outputs, 6 digital I/O and 6 relays.
- **Totalisation and counter functions** - Calculation and display of flow total values, pulse-counting capability, problem-solving capability. Flexible functionality including maths, logic and totalisation providing power to solve complex application requirements.
- **Flexible connectivity** - Ethernet and MODBUS® communications







# ABB PROCESS PROFILING CONTROLLERS



## ControlMaster CM30

The ControlMaster CM30 is a highly versatile, 1/4 DIN, universal PID process controller. Detailed process information is presented clearly on the CM30's full-colour TFT display and an intuitive operator interface simplifies configuration and operation. Highly scalable in both hardware and software functionality, a CM30 can be specified easily to meet the needs of virtually any process control application - simple or advanced.



- **Built to survive** - IP 66 and NEMA 4X environmental protection
- **Flexible connectivity** - Ethernet and MODBUS® communications
- **Scalable to match application requirements** - Hardware and software options
- **Exceptionally easy to use** - Intuitive user interface and clear text prompts make installation, commissioning and operation quick and simple
- **Profile control** - Comprehensive setpoint profiling capabilities
- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display, user-customisable, historical trending
- **Powerful functionality** - Cascade, feed-forward, ratio, predictive and adaptive control strategies. Dual-loop capability



## ControlMaster CM50

The ControlMaster CM50 is a highly versatile, 1/2 DIN, universal PID process controller. Detailed process information is presented clearly on the CM50's full-colour TFT display and an intuitive operator interface simplifies configuration and operation.



- **Built to survive** - IP 66 and NEMA 4X environmental protection
- **Flexible connectivity** - Ethernet and MODBUS® communications
- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display, user-customisable, historical trending
- **Exceptionally easy to use** - Intuitive user interface and clear text prompts make installation, commissioning and operation quick and simple
- **Scalable to match application requirements** - Comprehensive hardware and software options
- **Profile control** - Comprehensive setpoint profiling capabilities
- **Problem-solving capability** - Flexible functionality including maths, logic and totalisation providing power to solve complex application requirements
- **Powerful functionality** - Cascade, feed-forward, ratio, predictive and adaptive control strategies. Dual loop capability



## ControlMaster CMF310

The ControlMaster CMF310 is a highly versatile, field-mountable, universal PID process controller. With a unique field-mountable design that enables wall or pipe-mounting without the need for an additional enclosure. Detailed process information is presented clearly on the CMF310's full-colour TFT display and an intuitive operator interface simplifies configuration and operation.

- **Cost saving field-mount design** - Wall, pipe or panel-mountable, no need for an instrument panel, IP66 and NEMA4X environmental protection
- **Flexible connectivity** - Ethernet and MODBUS® communications
- **Profile control** - Comprehensive setpoint profiling capabilities
- **Exceptionally easy-to-use** - Intuitive user interface and clear text prompts ensure installation, commissioning and operation are quick and simple
- **Scalable to match application requirements** - Comprehensive hardware and software options
- **Problem-solving capability** - Flexible functionality including maths, logic and totalisation providing power to solve complex application requirements
- **Comprehensive display of process status** - Crystal-clear, full-colour TFT display, user-customisable, historical trending
- **Powerful functionality** - Cascade, feed-forward, ratio, predictive and adaptive control strategies. Dual-loop capability





# ABB CONFIGPILOT SOFTWARE



Available free of charge, ConfigPilot PC configuration software for ControlMaster is easy to use and compatible with the entire range. Configurations can be quickly created and transferred to and from a ControlMaster via its front panel IrDA port.

## ConfigPilot PC Configuration Software

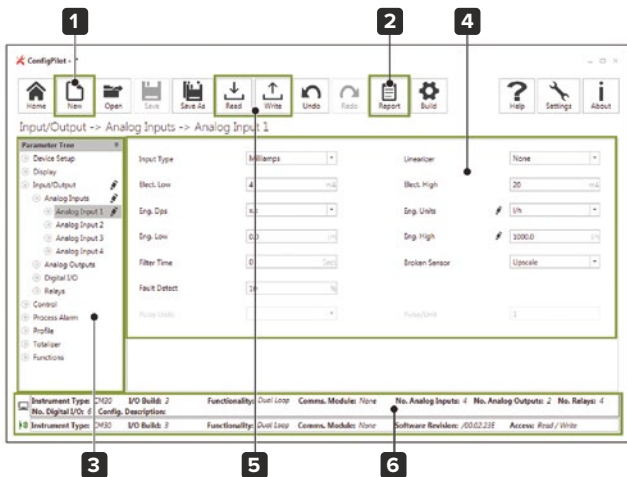
ConfigPilot PC configuration software provides an extremely quick and easy method of configuring a ControlMaster. Thanks to its menu structure being identical to ControlMaster ConfigPilot is instantly familiar.

Configurations can be created from scratch off-line or read from a ControlMaster device. Graphical displays for complex configuration items such as profile control and display customisation make configuration quick and easy.

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 documentation. In order for ConfigPilot to communicate with a ControlMaster a USB to IrDA adapter is required.



### ConfigPilot interface



**1 Single solution for all devices**  
ConfigPilot is capable of configuring the entire ControlMaster range. Simply select the product you are creating a configuration for.



**2 Configuration report generation**  
Create a report of your configuration in Word, Excel or pdf format easily.



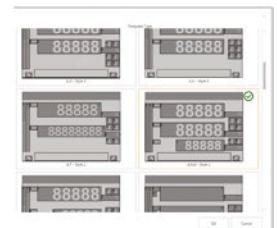
**3 Parameter tree identical to device**  
ConfigPilot is instantly familiar thanks to a parameter tree that is identical to the selected ControlMaster. In addition, the tree is uncluttered as only the parameters available on the device you are configuring are displayed.

**4 Easy configuration**  
Logically laid out config parameters with graphical representation of complex items.



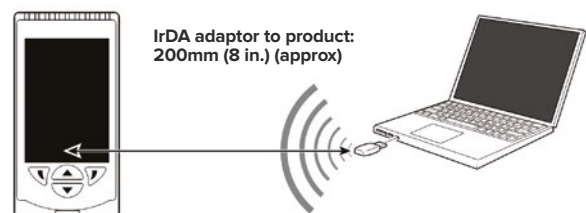
• **Profile control** - visually verify your profile is correct using the overview diagram.

• **Display customisation**  
Select the display template that best suits your needs by its graphical representation; then quickly customise it as required.



**5 Rapid configuration transfer**  
Read and write a complete configuration from a device in only 15 seconds.

**6 Device identification**  
See at a glance the specification of the device connected to your PC and check it matches the specification you have selected in the configuration you are writing.



IrDA adaptor to product:  
200mm (8 in.) (approx)



# ABB CONTROLMASTER APPLICATIONS



## Batch Dispensing in the Food & Beverage Industry

### Introduction

Batch dispensing systems are a convenient way of dispensing a predetermined amount of product through a system. Batch dispensing significantly reduces the product handling that, in turn, reduces batch manufacturing times and improves batch-to-batch consistency.

### The Process

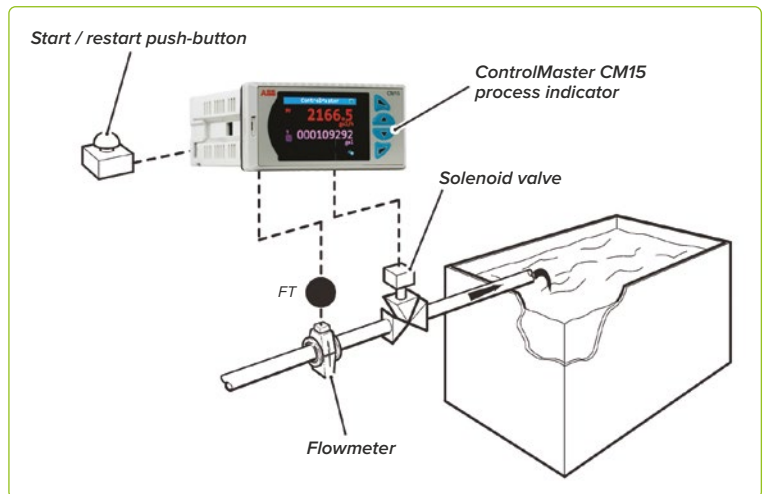
The ControlMaster CM15 process indicator can be configured as a simple, accurate and reliable batching unit. A fully automatic batching system can be assembled with a minimum of additional equipment.

The batch process can be started by resetting the CM15's totaliser by either a digital signal from a remote push-button or from the indicator's front panel. When the totaliser preset count is reached, the output relay changes state and stops the flow through the solenoid valve. Pressing the push-button restarts the process.

### What ABB products are suitable?

- ControlMaster CM15 process indicator

ABB's panel-mount CM15 indicator is a feature-packed 1/8 DIN universal process indicator. A crystal-clear, full-colour, TFT display shows operators exactly the information they need to know and provides operation and config menus in full text, making the CM15 intuitive to use and very quick to install and commission.



## Monitoring and Controlling Accurate Carbonation Levels

### Introduction

CO<sub>2</sub> levels in carbonated drinks vary between manufacturer and product. Each manufacturer requires different CO<sub>2</sub> levels depending on the final product. For example, cola-type drinks require a different carbonation level to carbonated orange drinks. Manufacturers demand accurate CO<sub>2</sub> injection and high consistency in the packaged product. To achieve this, it is necessary to control and record the CO<sub>2</sub> gas pressure and record the temperature of the product as part of the quality control procedure.

The correct amount of carbonation for a product is achieved by injecting a predetermined volume of CO<sub>2</sub>. The CO<sub>2</sub> pressure set-point varies due to the type of product and the temperature of the product. Therefore the CO<sub>2</sub> pressure set-point is a function of the product temperature. The product temperature is taken as a remote set-point from the process and ratio bias settings are applied to it to produce the process set-point.

$$P = 2.0 + 0.1 t$$

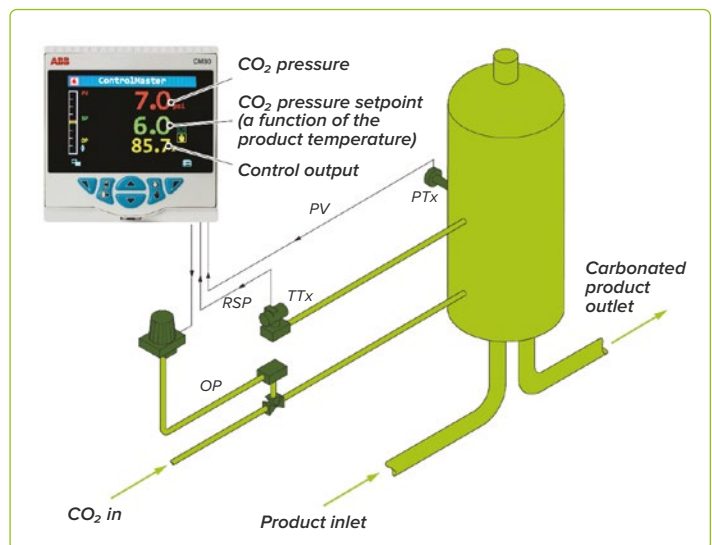
Where: P = final CO<sub>2</sub> pressure set point  
t = product temperature



In the above example, to achieve the correct amount of carbonation in a product, a final CO<sub>2</sub> pressure of 3.0 bar is required when the product temperature is 10°C. If the product temperature increases by 1°C, the CO<sub>2</sub> pressure must be increased to 3.1 bar to compensate. By varying the bias and ratio values, different CO<sub>2</sub> levels can be produced for the complete range of carbonated drinks.

### What ABB products are suitable?

- ControlMaster CM30 or CMF310







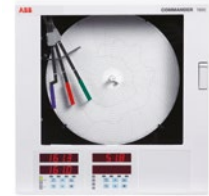
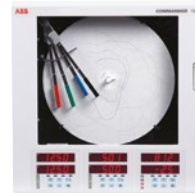
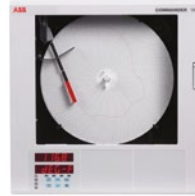
# ABB RECORDER SELECTION GUIDE



Standard ✓  
Optional ●



	SM500F	RVG200
<b>General</b>		
Display	120mm (4.7in) TFT, Mono STN or 140mm (5.7in) TFT	140mm (5.7in) TFT
Operator interface	Tactile keys	Touchscreen
Internal memory	64MB Flash	256MB Standard 2GB Optional
Memory card	SD	SD
No. of software recording channels	12	24
Process groups	2	6
USB		✓
<b>Process inputs</b>		
Universal analogue / digital inputs	1 to 7	6, 12, 18 or 24
2 wire transmitter power supply	2 loops optional	12 optional
<b>Additional I/O</b>		
Relays	1 standard, 2 optional	1 standard, 24 optional
Digital inputs		10 optional
Digital outputs		12 optional
Analogue outputs		12 optional
MODBUS RS485	●	●
Ethernet	●	✓
<b>Advanced processing</b>		
Alarms	48 (4 per channel)	96 (4 per channel)
Totalisers	24 optional (2 per channel)	48 optional (2 per channel)
Advanced maths / Logic	●	●
21 CFR Part 11 compliant security	✓	✓
Batch recording	●	●
<b>Physical attributes</b>		
IP Rating	NEMA 4X & IP66	NEMA 4X & IP66
Panel cut out	138mm x 138mm (5.43in x 5.43in)	138mm x 138mm (5.43in x 5.43in)
Power supply	85-265V ac or 10-36V dc	Combined 100-to 240V ac and 24V dc
Overall size	144mm x 144mm x 79mm (5.67in x 5.67in x 3.1in)	144mm x 144mm x 175mm (5.67in x 5.67in x 6.9in)
Mounting options	Panel, wall or pipe	Panel



	C1300	C1901	C1900	C1950
<b>Recording function</b>				
Traces	1, 2, 3 or 4	1	1, 2, 3 or 4	1, 2 or 3
Chart type	Circular	Circular	Circular	Circular
Event pen function	✓	N/A	✓	✓
Truetime event	●	N/A	●	✓
Chart speed	1hr - 32 days	1hr - 32 days	1hr - 32 days	1hr - 32 days
<b>Process connections</b>				
Universal inputs	✓	✓	✓	✓
Transmitter power supply	1 std per channel		1 std per channel	1 std per channel
Alarm relays	1 std per channel, 8 opt		1 std per channel, 8 opt	1 std per channel, 8 opt
Digital I/O	2 std per channel, 24 opt		2 std per channel, 24 opt	2 std per channel, 24 opt
Analogue outputs	1 std per channel		1 std per channel	1 std per channel
MODBUS RS 485	●		●	●
<b>Advanced processing</b>				
Totalisers	●	●	●	
Maths block	●		●	
Logic equations	8		●	8
PID loops			Up to 2 opt	Up to 2 opt
Ramp/Soak profile			●	
<b>General</b>				
Size	382 x 386mm (15.04 x 15.23in)	382 x 386mm (15.04 x 15.23in)	382 x 386mm (15.04 x 15.23in)	382 x 386mm (15.04 x 15.23in)
Depth	101mm (3.98in)	101mm (3.98in)	101mm (3.98in)	101mm (3.98in)
Display	128x 64 Dot Matrix	6 Digit LED	6 Digit LED	6 Digit LED
IP rating	NEMA 3/IP54, NEMA 4X/IP66 opt	NEMA 4X/IP66	NEMA 4X/IP66	NEMA 4X/IP66
Mounting	Panel / wall / pipe	Panel / wall / pipe	Panel / wall / pipe	Panel / wall / pipe
Supply	85-265v ac	85-265v ac	85-265v ac	85-265v ac



# ABB SCREENMASTER PAPERLESS RECORDERS



## ScreenMaster SM500F - Field-mountable Paperless Recorder

The SM500F is a field-mountable paperless recorder. Its unique enclosure design enables wall, pipe or panel-mounting of the unit. Process data is displayed clearly to the local operator through a variety of display formats, including chart, bargraph and digital indicator displays. Additionally, process data is logged securely to the removable memory card. Ethernet communications provide convenient remote monitoring of the process and access to logged data.



- **Unique universal mounting capability** - wall, pipe or panel-mount, ultra-slim design, <90mm (3.5in.) deep
- **Secure data recording** - 64Mb internal Flash memory, archiving to SD memory card
- **21 CFR Part 11 compliant data security** - extensive physical and electronic security features
- **GAMP validation package** - 21 CFR part 11 compliant
- **Remote access and data retrieval** - Ethernet connectivity, MODBUS® RS485 connectivity
- **Install into the harshest of process environments** - protection to NEMA4X and IP66 standards
- **Choice of displays** - colour TFT or monochrome options
- **Quick and easy setup** - on-line help and Windows™ style menus
- **Batch recording** - easy tracking of batch processes
- **12 software recording channels** - up to 7 analogue/digital inputs, maths function results, MODBUS® signals



## ScreenMaster RVG200 - Paperless Recorder

The ScreenMaster RVG200 is a secure, easy-to-use paperless recorder. Up to 24 process signals can be connected directly to the RVG200's analogue inputs or transferred to it via digital communications. All process data, including alarm conditions, maths calculation results and totaliser values, are displayed clearly to the operator and archived securely in an encrypted format for review using the accompanying DataManager Pro PC software.



- **Advanced functionality** - maths and logic, batch recording, flow totalisation
- **Easy network integration** - standard Ethernet communications provide remote data access, process supervision and easy integration to control systems, RS485 MODBUS® RTU master and slave
- **Scalable high spec I/O** - high accuracy and stability compliant to AMS 2750, recording of up to 24 channels, optional relays, mA outputs and Tx PSU
- **Complete data recording solution** - automatic data collection via Ethernet combined with powerful data analysis using DataManager Pro software
- **Built to survive** - IP66 and NEMA 4X environmental protection
- **High security data recording** - encrypted data storage compliant to 21 CFR Part 11, up to 2Gb of internal memory
- **Simple, intuitive operation** - touchscreen operation and configuration, USB ports for keyboard and barcode scanner







## ABB CIRCULAR CHART RECORDERS



### Commander C1300 - Advanced Circular Chart Recorder

The C1300 is an advanced, programmable circular chart recorder for up to four process signals.

The C1300's straightforward operator controls and robust construction make it suitable for a variety of industrial environments.

With many features supplied as standard and a powerful range of options, the C1300 is a truly flexible unit that can adapt to match your process requirements.

- **High-definition backlit display** - latest LCD panel display technology ensures instrument operation and configuration is as easy as possible
- **Simple-to-configure totalisers** - automatic calculation of the relationship between units of measure and volume flow units
- **Designed to survive** - environmental protection options up to NEMA 4X for the entire recorder, providing reliable operation for wall, panel and pipe-mount versions
- **Fully field upgradeable** - additional options easy to add
- **Configuration backup** - ability to backup and restore configurations from a PC



### Commander C1900 - Circular Chart Recorder

The C1900 is a fully programmable circular chart recorder for up to four process signals. Its straightforward operator controls and robust construction make it suitable for a variety of industrial environments. Excellent standard facilities are complemented by a powerful range of options to give the flexibility to match your application. The C1900 lets you see the status of your process at a glance: high visibility 6-digit displays provide a clear indication of up to four process values simultaneously and active alarms are signalled by flashing LEDs below the main display.

- **1 to 4 pens** - full application flexibility
- **NEMA 4X/IP66 construction** - hose-down protection
- **Analogue, relay outputs, digital inputs and transmitter power supply as standard** - range of inputs and outputs built-in
- **Multiple 6-digit indicator panels** - continuous display of all signal values
- **0.1% measurement accuracy** - precise process information
- **High noise immunity** - robust, dependable operation
- **RS485 Modbus serial communications** - open system compatibility
- **Totalisers and math functions built-in** - fully integrated solutions



### Commander C1950 - Pasteuriser Recorder & Recorder Controller (STLR & HTST)

The Commander 1950 Series recorder is a totally self-contained unit suitable for panel, wall or post mounting. As standard, the case is rated NEMA4X (IP66), making it suitable for use in almost any location in a modern dairy where cleaning of all surfaces takes place. All models are fully password protected and can be sealed, as required by the FDA.

- **Dedicated pasteuriser recorder/controller** - designed to meet requirements of the pasteurisation processes
- **High clarity digital displays** - continuous indication of hot product and divert temperature
- **Compliance review** - meets PMO requirements
- **Pasteuriser status indicator** - LED indication to show forward or diverted flow
- **True time event pen** - 4 position event, records divert and forward flow plus optional CIP (clean in process) and secondary divert
- **Up to eight diversion setpoints** - local or remote selection of hot product divert temperature settings
- **Hot product pen calibration** - optimisation of pen reading to independent thermometer
- **Second resistance thermometer option** - allows checking for sensor error and gives additional alarm/divert protection





# ABB DATAMANAGER PRO SOFTWARE



DataManager Pro is an advanced process data management and analysis application used to store and review data archived by ScreenMaster paperless recorders. Stored data can be displayed in both tabular and graphical format and analysed using the extensive array of tools provided.

## DataManager Pro RDM500

A ScreenMaster's archived data can be transferred to DataManager Pro either manually via the ScreenMaster's memory card, or automatically via Ethernet communications. DataManager Pro provides automatic, secure, long-term process data storage and enables data to be retrieved quickly when required.

### Guaranteed data security

- Automatic validation of data files

### Long term data management

- Database storage and management of process data

### Information at your fingertips

- Automatic data collection direct from multiple recorders via Ethernet

### Secure data distribution

- Create packages of specific process data

DataManager Pro enables detailed analysis of process data by presenting the data in graphical chart format.

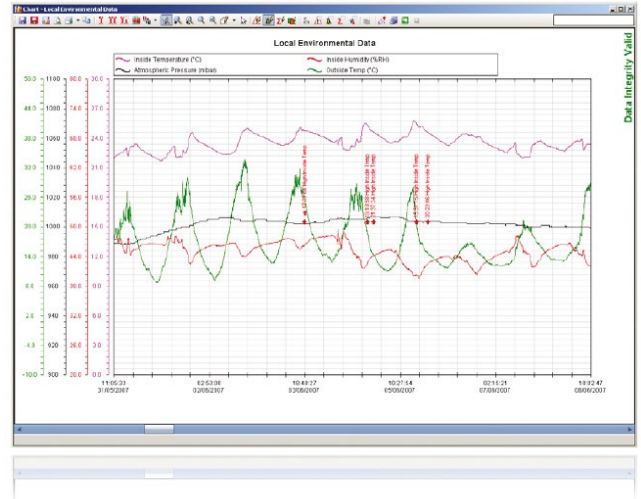
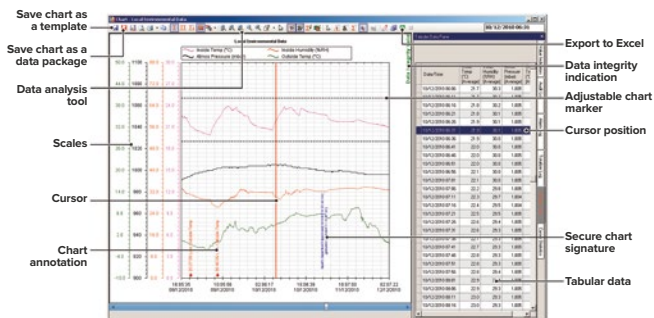
- Data recorded on different ScreenMasters can be combined on a single chart and analysed side-by-side.
- Once a chart has been configured to display data in the required format, it can be saved as a template. When the template is reopened, the same chart format is presented, complete with any new process data imported to DataManager Pro's database.
- A cursor can be positioned on the chart to display the exact values of the traces at the cursor's position. A second cursor can also be placed on the chart; statistical information on the data between the two cursors is then displayed.
- During data analysis, signatures and comments can be added securely to the chart - ideal for approval or verification purposes.

### Compatible products

Datamanager Pro can be used to analyse data from the following ABB products:

- SM series paperless recorders\*
- Aztec series analysers
- Navigator series analysers

\*Recorders manufactured from 2003 onwards



### Functionality

DataManager Pro can be used either licensed or unlicensed; when used unlicensed, it offers basic functionality only. To enable full functionality, the software must be licensed.

The table below details the features available in each version. After the first installation DataManager Pro will work in licensed (full functionality) mode for a 30 day evaluation period.

Feature	Unlicensed (Basic)	Licensed (Full)
Manual data import	•	•
Scheduled automatic data import via ethernet (FTS)		•
Database data management	•	•
Data quick view	•	•
Chart display	•	•
Tabular display	•	•
Log files display	•	•
Chart printing	•	•
Predefined chart templates		•
Chart signature		•
Create chart package		•
Display chart package	•	•
Export to Excel		•
Batch data search & access	•	•



# ABB RECORDING APPLICATIONS



## Monitoring of Steam Usage: Recording and Control in Food, Beverages & Drink Processing Plant

### Introduction

Steam systems are a part of almost every major industrial process today. Knowing the correct usage and cost of steam is important for many reasons; it is one of the few areas of opportunity where management can reduce operating costs and improve profits.

These energy savings are also presented as CO<sub>2</sub> emissions reductions to show the potential for energy efficiency measures and reduce the industrial contribution to emissions.

### The Process

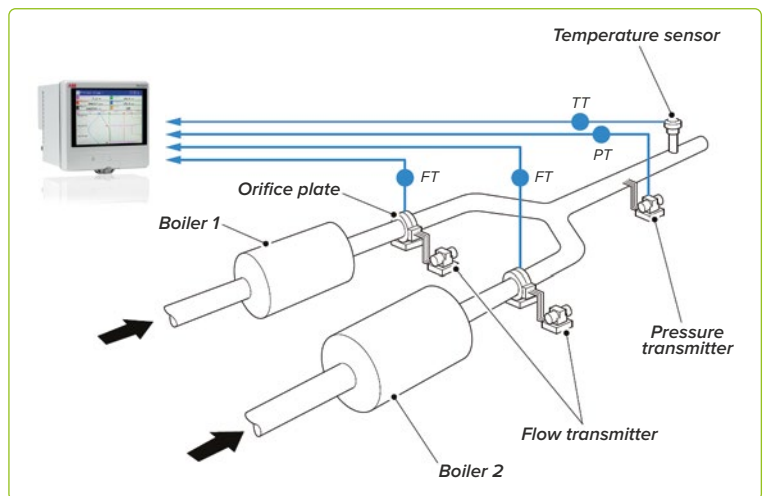
Flow from each boiler passes through an orifice plate and flow signals generated at the flow transmitter are passed to the RVG200 recorder to enable the flow to be displayed. Pressure and temperature in the flow line are monitored where the two flow pipes join and the signals are transmitted to the RVG200 recorder.

### What ABB products are suitable?

- ScreenMaster RVG200

ABB's ScreenMaster RVG200 recorder offers a versatile, secure and proven alternative to traditional paper-based devices.

RVG200 is ideal for recording steam pressure, temperature and flow. The newly-integrated energy calculation functionality enables easy calculation of energy usage in saturated steam systems.



## Data Recording in Effluent Discharge Processes

### Introduction

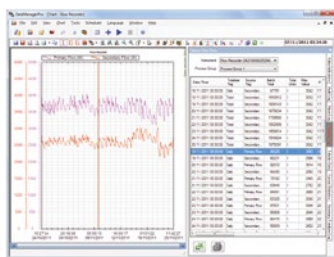
Discharge of liquid effluent to the environment is subject to strict legislation that obliges operators of industrial and municipal sites to record data on both water quantity, including levels of any chemicals present, and quality, to ensure that emissions are within the required limits.

Typically, instantaneous pH and flow is monitored and totalised as a minimum. These variables must be recorded securely so that, in the event of a downstream incident or an inspection, the original data can be easily retrieved and interrogated. Depending on the type of discharge, other contaminants may also need to be measured.

ABB's ScreenMaster paperless recorders are widely used on effluent monitoring systems. They measure and display the process signals and store them in a secure, tamper-proof format. Their compact design ensures they are easier to validate than a large telemetry system.

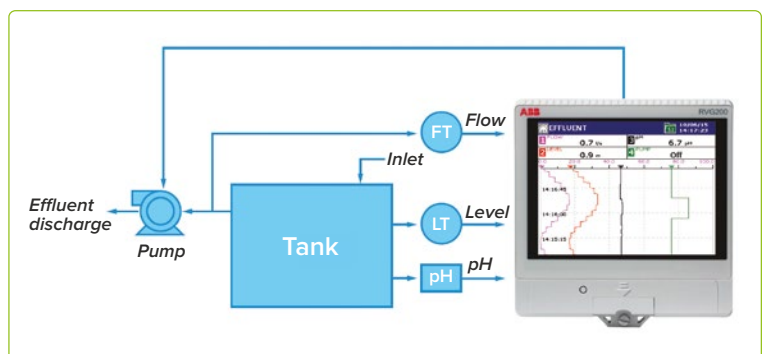
Advanced features allow for remote viewing using the webserver or notification by email if an alarm condition occurs. Once recorded, the data can then be transferred to remote servers where a long-term data storage procedure can be implemented.

Using ABB's DataManager Pro software analysis tool, the original data can be verified as intact and analysed on a PC.



### What ABB products are suitable?

- ScreenMaster RVG200
- DataManager Pro







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