ABB Control Technologies

Recording and Control
The most complete picture of your process

Power and productivity
for a better world™

ABB's Recorders and Controllers
Giving you a complete picture of your process

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 industries. The range includes process controllers, digital indicators, chart recorders and paperless recorders, all of which share the same high standards of reliability and flexibility and are capable of withstanding the harshest of process environments.

Something for every application

ABB's extensive range of data recorders and process controllers means there is an option for every application, whether complex or simple, large or small.

From the plant floor to the field, ABB's ScreenMaster range of paperless recorders represents the latest in electronic data recording and analysis. Whether for localised data display or plant-wide access to process information, ScreenMaster data recorders give you fast and easy access to detailed data on your process, supported by an extensive array of data security features that meet the most stringent requirements.

When it's time to review what you've recorded, ABB's DataManager Pro PC-based analysis software quickly gives you an in-depth picture of what's happening in your application.

For those who prefer a traditional paper record, there's also the proven Commander range of circular chart recorders, which offer a host of advanced features including the ability to store data electronically.

The same philosophy of simplicity and efficiency is also at the heart of our ControlMaster range of universal process controllers and indicators. Whether you're a plant or process manager, electrical engineer, process operator or maintenance engineer, the comprehensive portfolio of powerful features embedded in the ControlMaster range gives you everything you need. Choosing the right device for your application is also made simple, with a concise line of models with flexible I/O and functional capability.

Process protection and full functionality

All of ABB's recording and control instruments have a high degree of dust and water protection, many to NEMA 4X and IP66 as standard. Bright and clear displays mean process status can be seen at a glance. A high specification of I/O connections such as universal inputs and transmitter power supplies are provided within the standard instrument build.

Totalizers, math functions and logic equations are available on many instruments and are perfect for meeting the requirements of demanding applications. MODBUS RS485 and TCP communications facilities are available for linking instruments to SCADA and PLC systems. In addition, Ethernet communications provide easy remote supervision functionality and email notification of critical process events.

At a glance

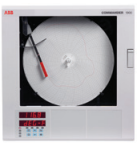
Paperless recorders

SM500F
Field mountable
videographic recorder

RVG200
Touchscreen paperless recorder

SM3000
Multi-point videographic recorder

Circular chart recorders



Commander 1900
Circular chart recorder

Commander 1900
Recorder/controller

Commander 1950
Pasteurizer recorder/controller

Commander 1960
Multi-recipe profile recorder/controller

C1300 advanced circular chart recorder

Process controllers and indicators

ControlMaster
CMF160 Field Mount indicator

ControlMaster
CMF310 Field Mount controller

ControlMaster
CM10 Single loop controller

ControlMaster
CM15 process indicator

ControlMaster
CM30 single or dual loop controller

ControlMaster
CM50 single or dual loop controller

ABB ScreenMaster paperless recorders

ABB's ScreenMaster paperless recorders provide the reliable, cost effective and secure solution for paperless data recording and analysis

ABB's ScreenMaster paperless recorder family provides a solution for every recording application. Whether you want a field mountable device that can be installed anywhere, a multipoint device for a comprehensive overview of your process, or slick and easy operation using the latest touchscreen technology, ABB's ScreenMaster recorders offer a versatile, secure and proven alternative to traditional paper-based devices.

Features include:

– High specification 21 CFR Part 11 compliant data security
– High visibility process displays
– Remote access and operation via Ethernet
– Hosedown protection to IP66 and NEMA 4X
– Automated process data management
– Flexible recording capability including alarms, totalizers, math and batch recording
– AMS2750 compliant input accuracy

Powerful yet simple

Setting up and operating a ScreenMaster recorder is easy. A simple menu-based interface takes the hard work out of configuration and makes it easy to find and view your process data, with multiple display formats offering a wide choice of viewing options.

Suitable for even the most arduous environments

Protected to NEMA 4X and IP66 as standard, ScreenMaster recorders can be installed next to the process in even the wettest or grimiest conditions, giving you local access to your information at your fingertips.

Secure, precise, reliable recording

Flexible recording capability
A wide range of features give ScreenMaster recorders the flexibility to meet the requirements of almost any recording application.

Flow recording
Flow totalizers enable instantaneous flow rates to be totalized and recorded. An automatic reset capability enables reports of daily, weekly, monthly flow volumes to be generated and alarms to be raised if predefined flow limits for a given time period are exceeded.

Powerful maths
Mathematical functions such as averages and deviations can be calculated using ScreenMaster's math and logic option. Results of math calculations can be displayed, recorded and used to drive alarms and totalizers.

Batch recording
For batch processes, ScreenMaster's batch recording option allows data including batch numbers and product type information to be recorded alongside process data. With ABB's DataManager Pro software, collected batch records can be rapidly displayed by searching for their batch number or batches with common attributes identified.

The highest levels of data protection
Every model in the ScreenMaster range incorporates the highest levels of protection against the accidental loss of valuable process data.

Multiple users can be configured, each with individual user name, password and access rights. A comprehensive audit log records configuration changes, calibration changes, system events and many other items key to data security. Where applicable, all entries are detailed with operator identification. Operators can securely annotate the chart with comments and signatures.

ScreenMaster's standard complement of security features mean that it is also fully compliant with the requirements of 21 CFR Part 11.

Ethernet communications

It is very simple to connect a ScreenMaster recorder to an existing plant network via Ethernet communications. Once connected, archived data and email facilities become instantly available. Using a modem router or GSM technology, the ScreenMaster's labour-saving Ethernet features can still 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. For an on-line demonstration of this feature enter http://217.46.239.73 in to the address bar of your web browser.

Email notification

Keep up to date with the latest process alarms or critical process events with email notifications which can be automatically sent to your PC or smartphone. The same technology can also be used to provide routine performance updates, giving you even greater power over your process.

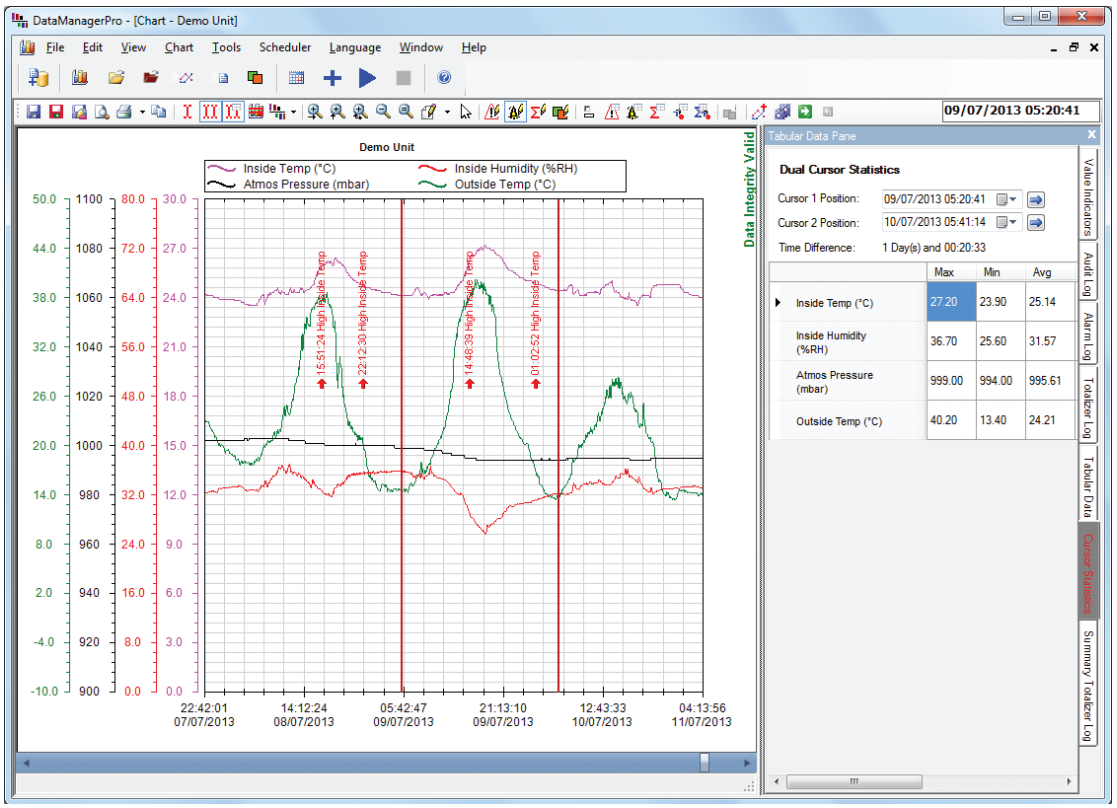
Real-time data communication

Via the use of MODBUS TCP or RTU protocol, a ScreenMaster recorder 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 of the data.

DataManager Pro

ABB's DataManager Pro advanced data review software opens up a raft of new possibilities for interrogating and presenting recorded data. The software creates a database of recorded data providing secure long-term storage and enabling instant access to data regardless of when or on which ScreenMaster it was recorded.

Via Ethernet communications, DataManager Pro can be integrated with any number of ScreenMaster recorders to create a fully automatic data gathering and storage system. Data is automatically collected from the networked recorders and made available for review.



View DataManager Pro videos

ABB Paperless recorders

SM500F

Field-mountable paperless recorder

The SM500F is the world's first field-mountable videographic data recorder. Featuring seven process inputs, twelve recording channels and available with wall, panel and pipe mounting options, it provides a truly simple recording solution that can be used anywhere, anyhow and by anyone. Its fully sealed IP66 and NEMA 4X enclosure means it is ideal for use in even the most hostile environments, including hosedown and dusty applications.

View
SM500F video

RVG200

Touchscreen paperless recorder

The RVG200 recorder takes the established operating and security benefits of the ScreenMaster range one step further. Features include touchscreen 'swipe' operation, front and rear USB ports for connecting peripheral devices, including a barcode scanner and keyboard, and Ethernet and RS485 communications.

Up to 24 process signals can be connected to the RVG200's analog inputs or transferred to it via digital communications.

View
RVG200 video

SM3000

Multi-point paperless recorder

Using the SM3000, up to 36 channels can be recorded, with data able to be arranged in a variety of views to provide users with a tailored view of their process. Six process groups are provided, allowing channels to be grouped together and individual displays created for different processes.

Process data can be easily viewed on the SM3000's large 31cm (12.1in) display in a wide variety of formats, including a circular chart and a combined overview format showing all six process groups.

ABB ControlMaster universal process controllers

Whether you're a plant or process manager, electrical engineer, process operator or maintenance engineer, the future of process control instrumentation starts here.

ABB's ControlMaster range elevates process monitoring and control to an altogether higher level.

ABB has used its experience in controllers and indicators to create a new generation of process control instruments that are more intuitive, easier to operate and significantly more powerful in use.

The concept at the very heart of ControlMaster is 'Control Made Easy'. Each instrument provides a comprehensive display of process status using crystal clear, full color, TFT technology. The simple to use user interface delivers clear text prompts that make installation, commissioning and operation quick and easy. And full scalability from the concise range makes ControlMaster suitable for the most basic applications through to complex, difficult to control processes.

Specify any ControlMaster and you'll be choosing a tough, compact process partner. From IP66 and NEMA 4X environmental protection all the way through to powerful control functionality, with cascade, feed forward and ratio control, plus advanced predictive, adaptive and dual loop capabilities.

Then we put problem-solving diagnostics right at your fingertips, plus total communications flexibility - connect the way that suits you, with Ethernet and Modbus protocols.

Enjoy the flexibility of field mount

The field mounted CMF310 controller and CMF160 indicator eliminate the time and cost associated with adapting panel mount devices to suit wall-mounted applications.

Both units can be wall or pipe mounted out of the box and can be installed and commissioned in a fraction of the time needed for adapting panel mounted units. This makes them ideal for locations where panels cannot be installed, either due to lack of space or where costs are prohibitive.

With fully-sealed IP66 and NEMA 4X enclosures offering full protection against water and dust ingress, both products are ideal for use in a wide range of industries.

ABB ControlMaster universal process controllers

Innovative, easy to use HMI

Each ControlMaster has an innovative HMI at the heart of its operation, providing a common link with other instrumentation products from ABB. So, if you know one, you know them all. Operation is so easy that you will be impressed by the efficiency of it all.

Advanced controls and functionality

On each of the 4 ControlMaster instruments, higher levels of functionality are right at your finger tips. Features packed in include math, totalization and a frequency input, logic, gain scheduling, split output, valve control and real time alarms.

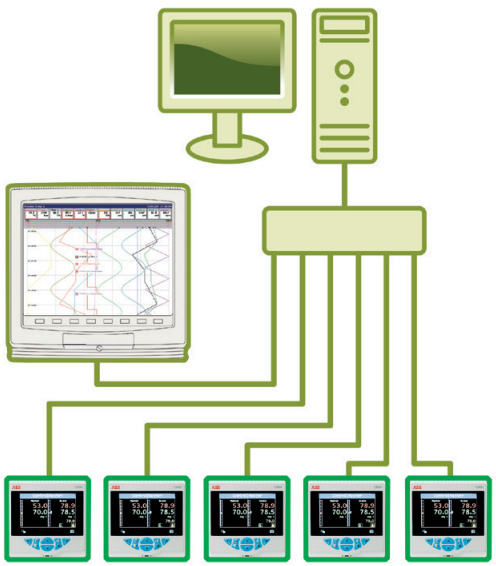
pPI predictive control enables processes with long dead times to be easily controlled. Simple configuration needs only three parameters - proportional band, integral time and dead time. Adaptive control means automatic adjustment of control response to correct changing process dynamics. Valuable where processes have varying or uncontrolled types of load, it provides continuous tuning for optimum control efficiency 24/7. Dual loop control independently manages two separate processes. The loops operate entirely independently while ControlMaster's flexibility and functionality provides interlock and interaction between both if required. Processes can be displayed simultaneously on one screen without compromizing data.

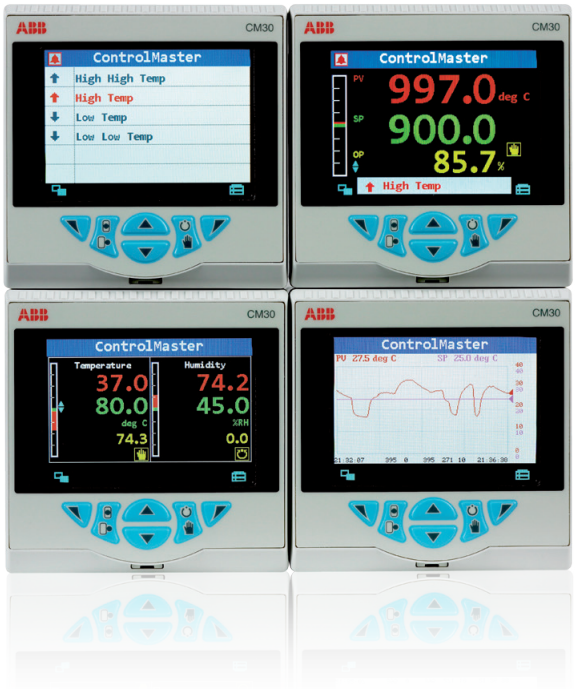
Scalable I/O and functionality

I/O, functionality and template availability is easily expanded with additional plug-and-play input models and function keys, making a single ControlMaster unit fully scalable from basic through to complex control applications. Users can now standardize on a single product so operators have the familiarity of a single user interface regardless of application requirements.

Communications protocols

Ethernet communications provide high levels of connectivity. Remote process monitoring is made easy via the integrated web server. A ControlMaster can send emails upon alarm conditions or critical process status, providing instant notification to a plant supervisor. Modbus communications (TCP or RTU) enable rapid connection to PLCs and control systems. Modbus also provides simple, fast connection of multiple ControlMasters to a ScreenMaster recorder to create a multipoint control and data logging system.





Customizable full color TFT display

Clear, comprehensive process status and history trending. Information messages and configuration menus are displayed in full text, unabbreviated or scrolled as on other commonly used process control display technologies. Custom set-up is fast and uses predefined display templates, as well as template customization with unique display values and colors.

Historical Trending

ControlMaster features short-term trending capability, providing invaluable information during commissioning or for the history of unattended processes.

Diagnostics

To quickly alert an operator to important process information, ControlMaster's diagnostic functions clearly display messages detailing fault conditions, abnormal process status and maintenance requirements. At any time the operator can also switch to an alarm and diagnostic status display to gain an overview of any active messages.

Template based configuration

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

Profile control

Profile control enables setpoint profiling for thermal processing applications, including retorts, sterilisers, heat treatment ovens, temperature and humidity chambers and autoclaves.

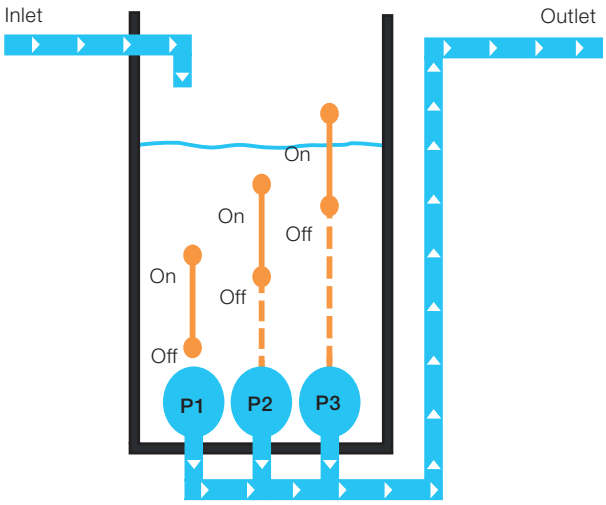
Profile control is available in two versions; a basic single program version and an advanced, multi-program version with sequencing.

Special features include guaranteed ramp/soak, self-seeking set point and eight segment events, which can be allocated to relays or digital outputs to trigger specific events for added flexibility. When combined with the ControlMaster's existing maths, alarm, interlocking logic and control capabilities the new profile option is well-suited to complex applications.

Profile-specific displays provide operators with a clear overview of the profile progress. Program name and time remaining is clearly displayed, with more detailed information on specific profile segments available at the press of a button.

Bank control

Bank control functionality enables improved control of multi-element output devices such as banks of heaters, pumps and fans. This function gives users the choice of either 'rotate' or 'First In, First Out (FIFO)' wear levelling schedules, which helps to minimise wear by sharing duty and assist handling between every device in the bank.



Commander circular chart recorders
The tried and tested solution for process recording

ABB's Commander circular chart recorders provide a tried and tested solution for a host of industries such as water and waste water, food, chemical and pharmaceutical and heat treatment.

COMMANDER 1900
Circular chart recorder
The COMMANDER 1900 is a fully programmable circular chart recorder for up to four process signals.

Straightforward operator controls and robust construction make it suitable for a number of industrial environments. Advanced functionality is complemented by a powerful range of options that give it the flexibility to match your application needs.

NEMA 4X/IP66 protection means that the recorder will thrive in even the harshest industrial environments.

- **Status at a glance**
  High visibility, six-digit displays provide a clear indication of up to four process values simultaneously and active alarms are signalled below the main display.

- 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.

- **Recording versatility**
  The chart is easy to set up. Pen ranges are individually set to give the best resolution for each signal and the time per revolution can be selected from between one hour and thirty-two days. A true time event pen facility allows one pen to be set up as a three-position event marker on the same time line as pen one.

- **Math and logic**
  User configurable math functions, mass flow calculations, totalizers and RH tables 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.

- **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 recorder.

Commander circular chart recorders

Built to meet your needs

Modular architecture gives you a wide choice of hardware configuration with up to five input/output modules that can be added to the basic instrument.

The standard I/O module supplied with every pen comes complete with a fully isolated analog input, a relay output, transmitter power supply, isolated analog retransmission and two digital inputs. Further I/O capability is provided by a range of plug-in modules:

- Analog input and relay – for use with math function
- Four relays – channel alarm outputs
- Eight digital inputs – linked using logic equations
- Eight digital outputs – TTL level alarm outputs
- MODBUS RS 485 communications – interfaces with PCs and PLCs

The COMMANDER 1900 can be quickly upgraded to meet your changing process requirements.

- Additional recording channels, math capability or input and output can be retro-fitted on site using plug-in cards and easily-fitted pen arms.

- **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 continuously read by a host PC running on a wide variety of standard SCADA packages.

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

COMMANDER 1900
Recorder/Controller

A fully programmable, circular chart recorder with integral capability for single or dual loop PID control. Analog, heat/cool, time proportioning or on/off control can all be selected as standard. Motorized valve operation, with or without feedback, is available as an option. The instrument offers seamless integration of loop functionality to solve process problems, eliminating the need for auxiliary devices.

Specific applications can be fully met by using the full range of options available, including one to four-pen recording; flow totalization; process alarms; ramp/soak profile - giving outstanding flexibility in just one instrument.

Commander circular chart recorders

COMMANDER 1950
Pasteurizer recorder / controller

Three separate models give outstanding coverage of pasteurizer applications. From a simple recording device to the top-of-the-range hot or cold product controller / recorder, all versions are fitted with a four-position, true-time event pen which indicates forward flow, divert, CIP and secondary divert.

- The COMMANDER 1951 records the hot product temperature and either divert set point or cold product temperature.
- The COMMANDER 1952 is a recorder/controller. It controls hor water and records hot product and either divert set point or cold product temperature.
- The COMMANDER 1953 is the top-of-the-range recorder/ controller, combining all the capabilities of the C1952 with cold product temperature control from the cold product temperature probe.

COMMANDER 1960
Multi-recipe profile recorder/controller

For applications where advanced ramp/soak profiling control and the recording of multiple process parameters is all-important. It is designed as a totally self-contained unit with 20 profiles/99 segments and features such as guaranteed ramp/soak, a dedicated operator display and time events to assign relays/outputs to individual or multiple segments.

C1300 circular chart recorder
Adding a new dimension to paper chart recording

Building on ABB's successful COMMANDER recorder range, the C1300 provides a powerful and flexible data recorder for many industrial applications, but particularly water and waste water treatment.

ABB's C1300 advanced circular chart recorder combines established paper chart recording technology with the latest advances in electronic data collection, giving you more power than ever before to use your recorded data to its full potential.

Eliminate complexity

With the C1300, the time and complexity needed for setting up and operating traditional recorders is greatly reduced. Push button controls and commands displayed in full English on the unit's LCD panels help reduce set-up time and eliminate the need for specialist knowledge.

A configuration back-up port enables the C1300 to be configured simply by plugging it into a PC. Using this facility, configuration files can be copied between different recorders - ideal wherever multiple units are installed.

For totalization applications, the C1300 can also automatically program itself to calculate relationships between different volumetric and instantaneous flow values. The totalizer can also be programmed to reset at specific times to automatically gather daily, weekly or monthly totals.

See things more clearly

Collecting and reviewing data is also very easy. LCD panels display multi-digit totalization figures together with channel tag and engineering unit values.

Get the most from your data

The C1300 lets you do more with your data. By incorporating data logging technology from our ScreenMaster series videographic recorder range, the C1300 allows data to be viewed exactly when you want it. Totalizer data can be automatically collected on a daily, weekly or monthly basis and can be viewed on the unit's LCD display panels.

Flexibility to meet your needs

As your plant needs grow, so can the C1300. Upgrading the unit is very easy - plug-in modules allow extra recording channels, relay outputs, math capabilities and totalizers to be added without having to remove the unit.

Install anywhere

Wherever it is installed, the C1300 is the ideal choice.

Full NEMA 4X / IP66 protection makes it suitable for use in the wettest or dustiest locations. The unit's backlit, transflective display also presents the data clearly in any lighting conditions. Wiring up is simple, with detachable terminal blocks enabling easy connection of input and output wiring.

ScreenMaster product selection guide

Standard ✓
Optional ●

Model	SM500F	RVG200	SM3000
General features			
Display	120mm (4.7 in) TFT Mono STN or 140mm (5.7 in) TFT	140mm (5.7 in) TFT	310mm (12.1 in) TFT
Operator interface	Tactile keys	Touchscreen	Tactile keys
Internal memory	64MB Flash	256MB Standard 2GB Optional	8MB Flash
Memory card	SD	SD	Compact Flash
Number of software recording channels	12	24	36
Process groups	2	6	6
USB		✓	
Process inputs			
Universal analog / Digital inputs	1 to 7	6, 12, 18 or 24	Up to 36
2 wire transmitter power supply	2 loops optional	12 optional	2 loops standard 8 optional
Additional I/O			
Relays	1 standard, 2 optional	1 standard, 24 optional	24 optional
Digital inputs		10 optional	24 optional
Digital outputs		12 optional	24 optional
Analog outputs		12 optional	8 optional
MODBUS RS485	●	●	
Ethernet	●	✓	✓
Advanced processing			
Alarms	48 (4 per channel)	96 (4 per channel)	144 (4 per channel)
Totalizers	24 optional (2 per channel)	48 optional (2 per channel)	72 (2 per channel)
Advanced math / Logic	●	●	●
21 CFR Part 11 compliant security	✓	✓	✓
Batch recording	●	●	●
Physical attributes			
IP Rating	NEMA 4X & IP66	NEMA 4X & IP66	NEMA 4X & IP66
Panel cut out	138mm x 138mm (5.43 in x 5.43 in)	138mm x 138mm (5.43 in x 5.43 in)	281mm x 281mm (11.06 in x 11.06 in)
Power supply	85-265V ac or 10-36V dc	Combined 100-to 240V ac and 24V dc	85-265V ac or 24V dc
Overall size	144mm x 144mm x 79mm (5.67 in x 5.67 in x 3.1 in)	144mm x144mm x 175mm (5.67 in x 5.67 in x 6.9 in)	288mm x 288mm x 245mm (11.34 in x 11.34 in x 10 in)
Mounting options	Panel, Wall or Pipe	Panel	Panel

Circular recorders product selection guide

Standard ✓
Optional ●
*** not available on 1901

Model	C1300	C1900	C1950	C1960
Recording function				
Traces	1,2,3 or 4	1,2,3 or 4	1,2 or 3	1,2 or 3
Chart type	Circular	Circular	Circular	Circular
Event pen function	✓	✓	✓	✓
Truetime event	●	●	✓	●
Chart speed	1hr-32 days	1hr-32 days	1hr-32 days	1hr-32 days
Process connections				
Universal inputs	✓	✓	✓	✓
Transmitter power supply	1 std per channel	1std 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	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	2 std per channel, 24 opt
Analog outputs	1 std per channel	1std per channel***	1 std per channel	1 std per channel
MODBUS RS 485	●	●***	●	●
Advanced processing				
Totalizers	●	●		
Maths block	●	●		
Logic equations	8		8	8
PID loops	N/A	Up to 2 opt	Up to 2 opt	1 std, 1 opt
Ramp/Soak profile	N/A	●		20 profiles, 99 segments
General				
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

ControlMaster product selection guide

Standard ✓
Optional ●

	CM10	CM15	CM30	CM50	CMF160	CMF310
General						
Mounting	Panel	Panel	Panel	Panel	Field	Field
Size	1/8 DIN (48 x 96mm)	1/8 DIN (Horizontal) (96 x 48mm)	¼ DIN (96 x 96mm)	3 x 6 DIN (76 x 144mm)	213 x 194 x 98mm	213 x 194 x 98mm
Display	5.6cm (2.2in) Colour TFT	5.6cm (2.2in) Colour TFT	8.9cm (3.5in) Colour TFT	8.9cm (3.5in) Colour TFT	8.9cm (3.5in) Colour TFT	8.9cm (3.5in) Colour TFT
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.
Control Capabilities						
PID (analog/time proportioning)	✓		✓	✓		✓
Motorized Valve	●		●	●		●
Split Output (heat cool)	✓		✓	✓		✓
Adaptive Control			●	●		●
pPI (predictive)			●	●		●
Gain Scheduling	●		●	●		●
Autotune	✓		✓	✓		✓
Templates						
Single Loop	✓		✓	✓		✓
Single Loop with Feed Forward			●	●		●
Auto/Manual Station	●		●	●		●
Analog Backup Station	●		●	●		●
Manual loader	●		●	●		●
Cascade			●	●		●
Cascade with Feed Forward			●	●		●
Ratio Controller			●	●		●
Ratio Station			●	●		●
Dual Loop			●	●		●
Indicator	●	✓	●	●	✓	●
Dual Indicator	●	●	●	●	●	●

ControlMaster product selection guide (continued)

Standard ✓
Optional ●

	CM10	CM15	CM30	CM50	CMF160	CMF310
Inputs						
Universal (TC, RTD, Resistance, mA, Volt, mV, Frequency & Digital)	1 std	1 std	1std (1 opt)	1std (1opt)	2 opt	2 opt
Process (TC, mA, Volts, mV & digital)	1 std	1 std	1std (1 opt)	1std (1opt)	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
Outputs						
Analog/Logic	1 std	1 std	1 std	1 std	1 std	1 std
Analog	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
Advanced Features						
Math	●	●	●	●	●	●
Logic	●	●	●	●	●	●
Custom Linearizers	●	●	●	●	●	●
Delay Timers	●	●	●	●	●	●
Real-time Alarms	●	●	●	●	●	●
Totalization		✓	●	●	✓	●
Historical Tending			●	●		●
Basic Profile	●		●	●		●
Advanced Profile			●	●		●
Bank (duty/assist) Control	●	●	●	●	●	●
Communications						
Ethernet	●	●	●	●	●	●
RS485 modbus	●	●	●	●	●	●

Contact us

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PB/RecordersandControllers-EN 03.2015

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