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.

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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.

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