PYRO® CONTROLE
CHAUVIN ARNOUX GROUP

Pyrotracer® Video C.A 650

Production lot traceability, at your fingertips

"Plug & play" paperless recorder for the traceability needs of the most demanding industry environments. Rapid set-up and ease of use. Tamper-proof encrypted files for totally secure "Quality" recording.

- Very-high-definition 6.1-inch 256 colour TFT screen
- Up to 18 configurable isolated measurement channels
- Data back-up using 128 Mb Compact Flash memory
- Includes as standard Ethernet link + PC processing software

Pyro-Contrôle presents a "plug & play" paperless recorder equipped with ***an 18-bit converter, offering extremely high precision measurements and a polling speed of 200 ms per channel!***
With a very high definition 6.1" TFT display screen, and 18 isolated measurement channels, the ***Pyrotracer Video*** measures up to the most demanding of thermal process industry requirements.

The replacement of conventional recorders by paperless recorders offers the following advantages:

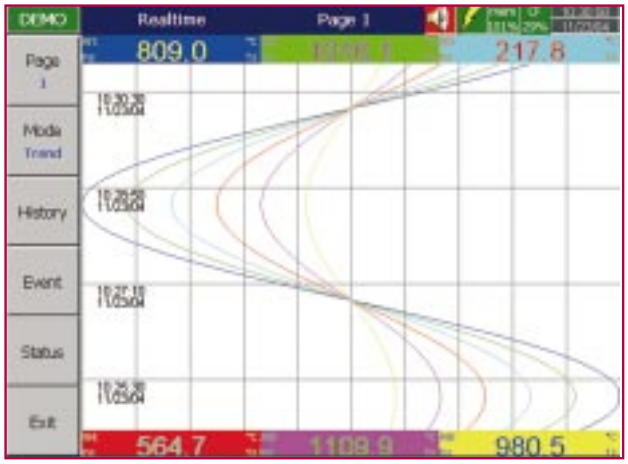
- Simpler maintenance - no longer the need to replace used parts;
- The increased benefits of digital precision over electromechanical precision;
- Computerised processing of data via PC link;
- Remote adjustment and calibration via field bus;
- Possibility of both on-site and remote processing of data.

Whatever the industry - food processing, laboratories & hospitals, chemicals, metallurgy, steel-making, petrochemicals or glass manufacturing - these instruments permit the acquisition, recording & display of the physical quantities of processes, thereby providing on-demand traceability to quality departments; as well as data for testing and calibration, the analysis and development of processes, and their troubleshooting and maintenance.

In addition to the simplicity of access provided by its system of "plug & play" cards, the Pyrotracer Video ensures total security of use, thanks to 18 fully-isolated channels and tamper-proof file encryption. Data is recorded in the instrument's integrated 8Mb memory, and automatically transferred to the memory card when the memory use reaches 95%.

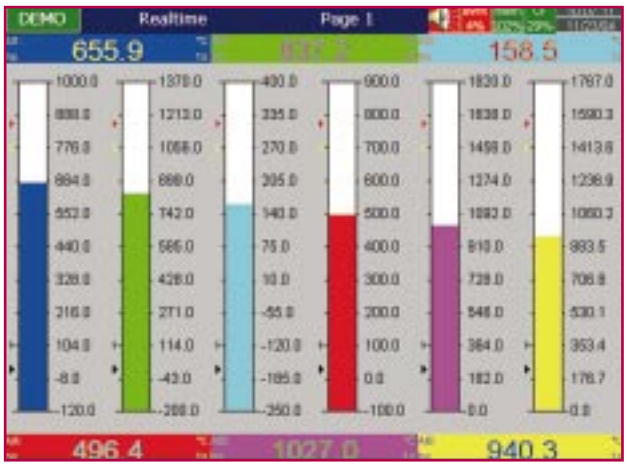
With total autonomy of use guaranteed by its 8 Mb memory capacity, very-high-definition screen and Windows CE, ergonomy, the recorder offers greatly enhanced data representation and analysis capabilities thanks to their direct processing on PC. For this reason, the Ethernet link and data processing software are included as standard. Data may also be accessed via a field bus connected to an RS 232 or RS 485 link.

Trend Mode



- Vertical or horizontal display of 6 curves in real time
- Curves identified by colour and process indicators
- Simplified "Page" display function
- Permanent date-time display
- Automatic "Alarm" and "Memory Full" Warning icon

Histogram mode

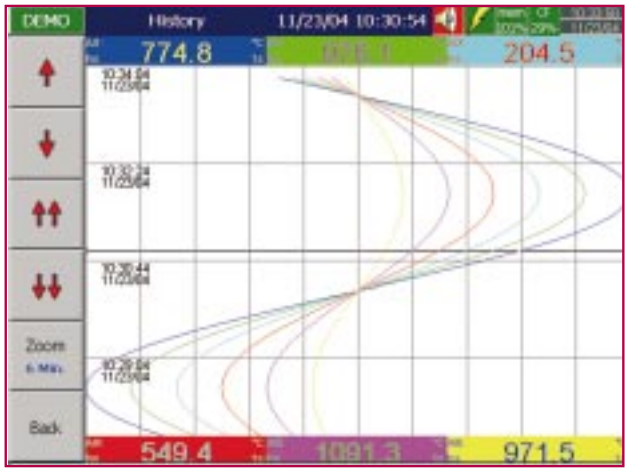


- 6-column bar graph display
- Individual scale configuration for each histogram
- Curves identified by colour and process indicators
- "Hi/Lo" alarm status indicators
- Permanent date-time display
- Automatic "Alarm" and "Memory Full" Warning icon

Digital input display

- Real-time display of 6 analogue inputs
- Colour differentiated value and process indicators
- "Hi/Lo" alarm status indicators
- Permanent date-time display
- Automatic "Alarm" and "Memory Full" Warning icon

Historical mode

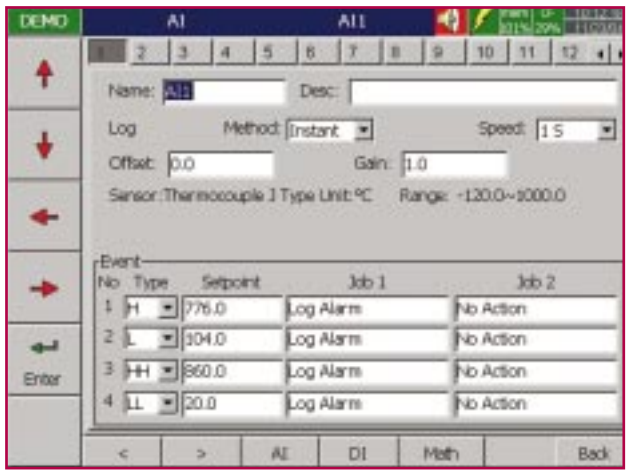


- Vertical or horizontal display of 6 time series curves
- Automatic display of numerical values - selected by cursor
- "ZOOM" function for expanding and reducing Time scale
- Curves identified by colour and process indicator

Alarm log

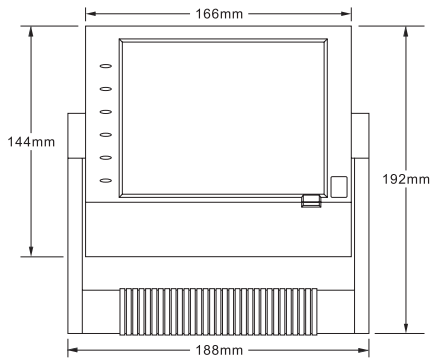
- Log includes full date/time listing of all alarms
- "Browse" function to select and clear alarms
- Uncleared alarms displayed in red for High, green for Low

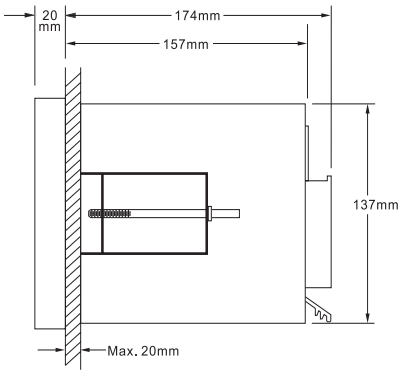
Configuration of entry settings



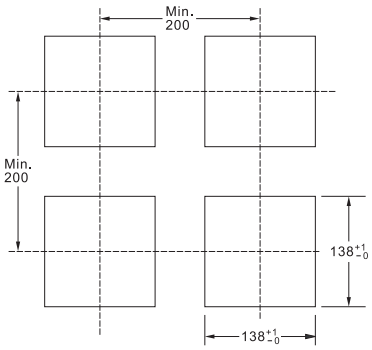
- Configuration of input/output/name/event pens
- Page configuration (colours, pens, decimal format, pen + link, etc.)
- Configuration of timer
- Configuration of internal functions (storage memory, display, communication, real-time clock, etc.)

DIMENSIONS



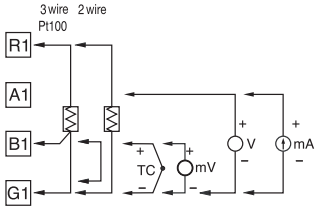


Subdivisions of the panels

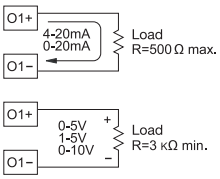


Connection of analogue inputs

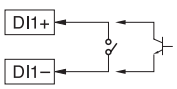
Pt100, TC, mV, V, mA



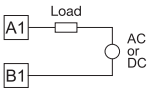
Connection of analogue outputs



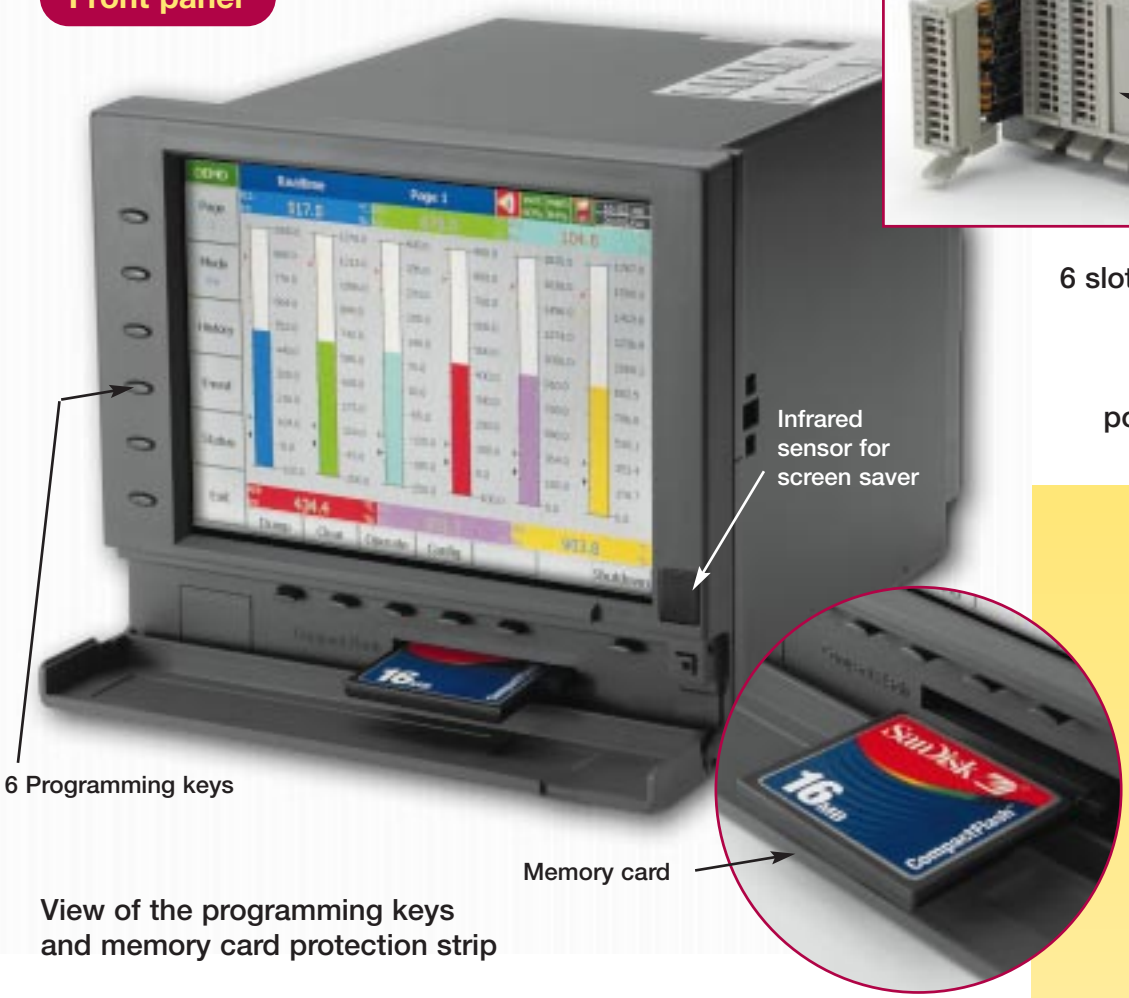
Connection of logical inputs



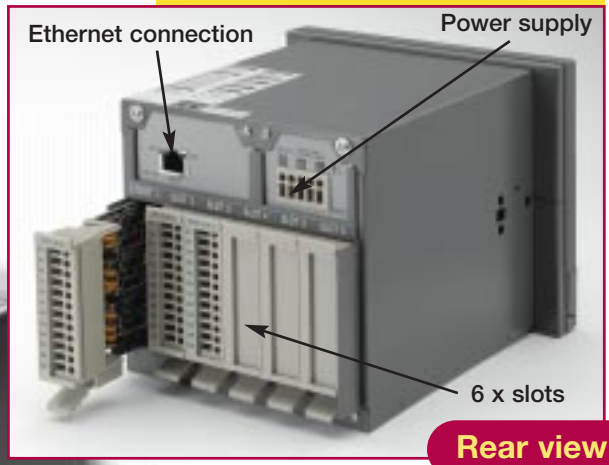
Connection of relay outputs



Front panel



View of the programming keys and memory card protection strip

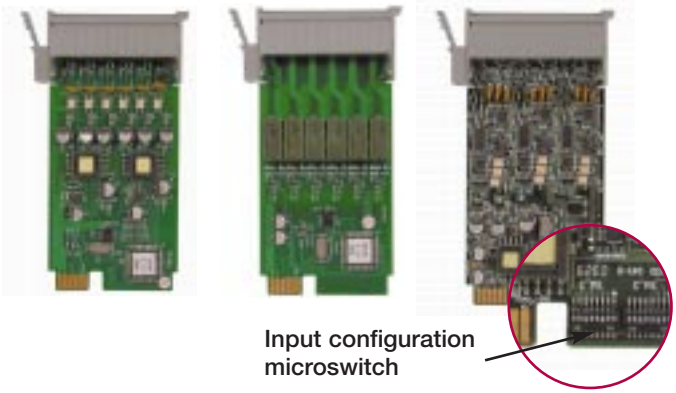


Rear view

6 slots for input/output boards
Each type of board is recognized individually.
Up to 18 analogue inputs possible (3 inputs x 6 slots)

Type of input/output boards

Logical input | Relay output | Analogue input



Portable version

Power supply

90-264 VAC, 47-63 Hz, 60 VA, 30 W maximum
11-18 or 18-36 VDC 60 VA, 30 W maximum

Display / Screen

6.1" LCD TFT, 640 x 480 pixels, 256 colours

Memory

Basic storage memory: 8 MB
Compact Flash: 16 MB standard
64 or 128 MB optional

Analogue input board

Channels: 3 per board
Resolution: 18 bits

Polling time: 200 ms
Maximum value: -2 VDC minimum, 12 VDC maximum
(1 minute max. for mA)
Temperature drift: ±1.5µV/°C except mA inputs
±3.0µV/°C for the mA inputs
Influence of line resistance:
TC: 0.2 µV/W
Pt100, 3 wires: 2.6°C/Ω of difference between two branches
Break-induced sensor current: 200 nA
Common mode rejection: 120 dB
Serial mode rejection 55 dB
Insulation voltage between channels: at least 430 VAC min

Detection of sensor failure:
Sensor open-circuit for TC, Pt100 and mV inputs,
below 1 mA for the 4-20 mA input,
below 0.25 V for the 1-5 V input,
not applicable to the other inputs

Response time after a sensor failure:
10 seconds for TC, Pt100 and mV,
0.1 second for 4-20 mA and 1-5 V.

Type	Scale	Precision at 25°C	Impedance
J	120 ...1 000°C	±1°C	2.2 MΩ
K	-200 ...1 370°C	±1°C	2.2 MΩ
T	-250 ...400°C	±1°C	2.2 MΩ
E	-100 ...900°C	±1°C	2.2 MΩ
B	0 ...1 820°C	±2°C	2.2 MΩ
S	0 ...1 767.8°C	±2°C	2.2 MΩ
R	0 ...1 767.8°C	±2°C	2.2 MΩ
N	-250 ...1300°C	±1°C	2.2 MΩ
L	-200 ...900°C	±1°C	2.2 MΩ
Pt100 (DIN)	-210 ...700°C	±0.4°C	1.3 kΩ
Pt100 (JIS)	-200 ...600°C	±0.4°C	1.3 kΩ
mV	-8 ...70 mV	±0.05%	2.2 MΩ
mA	-3 ...27 mA	±0.05%	70.5 Ω
V	-0.12 ...1.15 mV	±0.05%	32 kΩ
0/5 V	-1.3 ...11.5 V	±0.05%	332 kΩ
1/5 V	-1.3 ...11.5 V	±0.05%	332 kΩ
0/10 V	-1.3 ...11.5 V	±0.05%	332 kΩ

Logical inputs board

Channels: 6 per board
Low level: 0 V minimum, 0.8 V maximum
High level: 2 V minimum, 30 V maximum
External pull-down resistance: 1 kΩ maximum
External pull-up resistance: 1.5 kΩ maximum

Relay outputs board

Relays: 6 per board
Type of contact: N.O. (normally open).
Type of relay: 5 A/240 VAC,
number of cycles: 200,000 (resistive load).

Communication module

Interface: RS232 (1 x C.A 650), RS485, or RS422 (up to 247)
Protocol: Modbus RTU
Address: 1-247
Speed: 0.3~38.4 kbits/sec.
Data bits: 7 or 8 bits
Parity bit: None, Even, or Odd
Stop bit: 1 or 2 bits

Ethernet communication module

Protocole : ModBus TCP/IP, 10 BaseT
Self-bias correction for 10 BaseT
Ports: AUI and RJ-45, auto-detect capability

Infrared sensor

Detection of human presence up to 2m (screen saver)

Dimensions and environment conditions

Operating temperature: 5°C to 50°C
Storage temperature: -25°C to 60°C
Humidity: 20 to 80% RH (without condensation)
Insulation resistance: at least 20 MΩ (at 500 VDV)
Dielectric strength: 3 kVAC 50/60 Hz for 1 minute
Vibration resistance: 10-55 Hz, 10 m/s² for 2 hours
Impact resistance: 30 m/s² (3 g) in operation, 100 g during transport
Dimensions: 166 mm (W) x 144 mm (H) x 174 mm (D), cabinet mounting

Compliance with standards

Safety: UL873 (11th edition, 1994)
CSA C22.2 No. 24-93
CE: EN61010-1 (IEC1010-1)
Overvoltage category II, Pollution degree 2
Protection class for indoor use:
IP30 for front panel of cabinet, IP20 for wiring
EMC
Emission: EN50081-1, EN61326 (EN55011 class B, EN61000-3-2, EN61000-3-3)
Immunity: EN50082-2, EN61326 (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4 11, EN50204)

TO ORDER

C.A 650 [1] [2] [3] [4] [5] [6] [7] [8] [9] [10]

Caution: the recorder has a maximum of 6 slots

1 Power supply — Code

4 : 90-264 VAC 47-63Hz — standard
6 : 11-18 VDC — LR00110-000
7 : 18-36 VDC — LR00111-000

2 Analogue inputs — LR00112-000

0 : no analogue inputs	0
3 : 3 Analogue inputs	1 slot
6 : 6 Analogue inputs	2 slots
A : 9 Analogue inputs	3 slots
B : 12 Analogue inputs	4 slots
C : 15 Analogue inputs	5 slots
D : 18 Analogue inputs	6 slots

3 Logical inputs — LR00113-000

0 : no logical inputs	0
1 : 6 Logical inputs	1 slot
2 : 12 Logical inputs	2 slots

4 Relay outputs — LR00114-000

0 : no relays	0
1 : 6 relays	1 slot
2 : 12 relays	2 slots

5 Communication
0 : standard → Ethernet communication
1 : RS232/422/485 (3 in 1) + Ethernet interface — LR00116-000

6 Configuration software
1 : Standard: "Observer 1" software

7 Software of the C.A 650
0 : basic
1 : Calculation, metering, and totalling accumulator function — LR00117-000

8 Compact Flash
1 : 16MB → standard

9 Mounting the C.A 650
1 : Standard: cabinet mounting version
2 : Portable version with carrying handle — LR00118-000

10 Option
0 : no option
1 : 24 VDC transmitter power supply (up to 6) [1 slot] — LR00115-000

ACCESSORIES:

"Observer 2" software	LR00122-000
16 MB Compact Flash memory	LR00119-000
64 MB Compact Flash memory	LR00120-000
28 MB Compact Flash memory	LR00121-000

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PYRO-CONTROLE
Export Sales Department

Subsidiaries and sales departments abroad

AUSTRIA
Tel.: (43) 1 616 19 61
Fax: (43) 1 616 19 61 61
E-mail : vie-office@chauvin-arnoux.at

CHINA
Tel.: (86) 21 65 08 15 43
Fax: (86) 21 65 21 61 07
E-mail : enerdisb@online.sh.cn

GERMANY
Tel.: (49) 78 51 99 260
Fax: (49) 78 51 99 26 60
E-mail : info@chauvin-arnoux.de

ITALY
Tel.: (39) 039 2 45 75 45
Fax: (39) 039 48 15 61
E-mail: info@amra-chauvin-arnoux.it

LEBANON
Tel.: (961) 1 890 425
Fax: (961) 1 890 424
E-mail : camie@chauvin-arnoux.com

SPAIN
Tel.: (34) 93 459 08 11
Fax: (34) 93 459 14 43
E-mail : comercial@chauvin-arnoux.es

SWEDEN
Tel.: (46) 8 50 52 68 00
Fax: (46) 8 50 52 68 10
E-mail: jb@camatsystem.com

SWITZERLAND
Tel.: (41) 1 727 75 55
Fax: (41) 1 727 75 56
E-mail: info@chauvin-arnoux.ch

UNITED KINGDOM
Tel.: (44) 1 628 788 888
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Fax: (33) 4 72 14 15 41
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Pyro-Contrôle
244, avenue Franklin Roosevelt
69516 VAULX-EN-VELIN Cedex - France
Tél.: +33 4 72 14 15 55
Fax : +33 4 72 14 15 41
info@pyro-controle.tm.fr **www.pyro-controle.com**

CHAUVIN ARNOUX GROUP