Logicbus

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LBVR1718

18 - channel paperless recorder

Description

It is the world first paperless recorder of the same size in highest resolution 640x480 pixels VGA TFT display, infrared detector, maximum 18 channels, plug & play I/O cards. It has many other unique features too, 12 soft keys for easy operation, universal input, the shortest depth 174mm, well designed portable handle, fully isolated channels, reliable and high capacity storage media CF card

As a professional and experienced manufacturer, we supply high-performance and quality paperless recorders, video graphic recorders, paperless chart recorders, chart recorders, and temperature chart recorders.

Features

- **6.4"Color TFT LCD with 640X480 pixels resolution**
- **The Maximum Channels** :
  18 isolated analog input channels
- **Plug & Play Supported I / O card, 6 Slots**
- **The High Flexibility :**
  User configurable l / O card Expandable modular architecture Flexible screen configuration
- **User-Friendly**
  Soft keys coupled with interactive dialog simplify setup & operation procedures Easy - to - access function keys
- **Infrared Detector**:
  Shut off LCD automatically to prolong LCD life and save power while nobody near by
- **Save Space:**
  Only 174 mm (6.9") depth behind panel
  Various Display Formats:
  Vertical trend , Horizontal trend, Bar Graph, Numerical or mixed
- **Save Data in Flash ROM, Compact Flash Card or PC**
- **Communication :**
  Standard Ethernet and optional RS-232 / 422 / 485
- **The Highest Accuracy**
  18 - bit A -D analog input, 15-bit D-A analog output
- **Fast Sampling Rate:**
  Within 200 msec for all channels, Programmable Filter or Moving Average Sampling Method
- **Statistics with Instant , Average , Min./ Max. Values**
- **Progammable Alarms and Messages available**
- **Portable / Bench Top Assembly Kit available**

Specifications

Power
90-250VAC, 47-63Hz, 60VA, 30W maximum
11-18VDC or 18-36 VDC, 60VA, 30W maximum

Display
6.4″ TFT LCD, 640X480 pixel resolution, 256 colors

Memory
8MB storage memory on board
Storage media: 128, 512 MB, 1 GB CF (Compact Flash) cards

Analog Input Cards (LBAI17181, LBAI17182, LBAI17183)
Channels: LBAI17181 ~ 1 channel, LBAI17182 ~ 2 channels, LBAI17183 ~ 3 channels
Resolution: 18 bits
Sampling Rate: 5 times/ second
Maximum Rating: -2 VDC minimum, 12 VDC maximum (1 minute for mA input)
Temperature Effect: ±1.5 μV/ μC for all inputs except mA ±3.0 μV/ μC for mA input
Sensor Lead Resistance Effect:
T/C: 0.2 μV/ohm
3-wire RTD: 2.6 μC /ohm of resistance difference of two leads
2-wire RTD: 2.6 μC /ohm of resistance sum of two leads
Burn-out Current: 200nA
Common Mode Rejection Ratio (CMRR): 120dB
Normal Mode Rejection Ratio (NMRR): 55dB

Isolation Breakdown Voltage between channels: 430VAC min.
Sensor Break Detection:
Sensor opened for TC, RTD and mV inputs,
below 1 mA for 4-20mA input, below 0.25V for 1-5V inputs,
unavailable for other inputs.
Sensor Break Responding Time:
Within 10 seconds for TC, RTD and mV inputs,
0.1 second for 4-20 mA and 1-5V inputs.

Characteristics:

Type	Range	Accuracy@ 25 °C	Input Impedance
J	-120 ~ 1000 °C (-184 ~ 1832 °F)	±1 °C	2.2MΩ
K	-200 ~ 1370 °C (-328 ~ 2498°F)	±1 °C	2.2MΩ
T	-250 ~ 400°C (-418 ~ 752°F)	±1 °C	2.2MΩ
E	-100 ~ 900 °C (-148 ~ 1652 °F)	±1°C	2.2MΩ
B	0 ~ 1820 °C (32 ~ 3308 °F)	±2°C	2.2MΩ
R	0 ~ 1768 °C (32 ~ 3214 °F)	±2°C	2.2MΩ
S	0 ~ 1768 °C (32 ~ 3214 °F)	±2°C	2.2MΩ
N	-250 ~ 1300 °C (-418 ~ 2372 °F)	±1 °C	2.2MΩ
L	-200 ~ 900 °C (-328 ~ 1652 °F)	±1 °C	2.2MΩ
PT100 (DIN)	-210 ~ 700 °C (-346 ~ 1292 °F)	±0.4°C	1.3KΩ
PT100 (JIS)	-200 ~ 600 °C (-328 ~ 1112 °F)	±0.4°C	1.3KΩ
mV	-8 ~ 70mV	±0.05%	2.2MΩ
mA	-3 ~ 27mA	±0.05%	70.5Ω
0~1V	-0.12 ~ 1.15V	±0.05%	32KΩ

0~5V	-1.3 ~ 11.5V	±0.05%	332KΩ
1~5V	-1.3 ~ 11.5V	±0.05%	332KΩ
0~10V	-1.3 ~ 11.5V	±0.05%	332KΩ

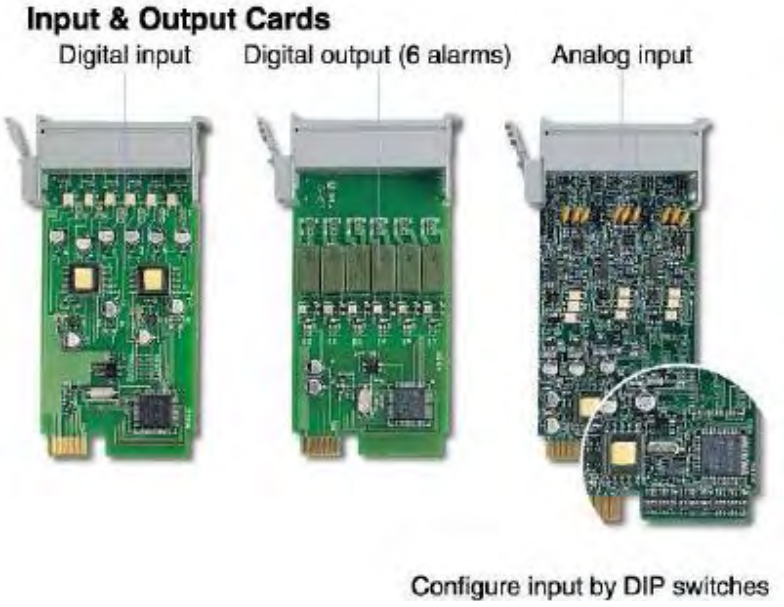
Analog Input Cards (LBAI17183V)

Type	Range	Accuracy@ 25 °C	Input Impedance
-60~60mV	-62~62mV	±0.1%	2.2 MΩ
-2~2V	-2.2~2.2V	±0.3%	332KΩ
-20~20 V	-22~22 V	±0.1%	332KΩ
-20~20 mA	-22~22 mA	±0.1%	70.5Ω

Digital Input Card (LBDI17181)
Channels: 6 per card Logic
Low: -5V minimum, 0.8V maximum
Logic High: 2V minimum, 5V maximum
External pull-down Resistance: 1KΩ maximum
External pull-up Resistance: 1.5MΩ minimum

Digital Output Card (LBDO17181)
Channels: 6 per card
Contact Form: N.O. (form A)
Relay Rating: 5A/240 VAC, life cycles 200,000 for resistive load

Analog Output Card (LBAO17183I, LBAO17183V)
Channels: 3 per card Output signal: AO183I: 4-20mA, 0-20mA, AO183V: 0-5V, 1-5V, 0-10V
Resolution: 15 bits
Accuracy: ±0.05% of Span ±0.0025% /°C
Load Resistance: 0-500 ohms (current), 10K ohms minimum (voltage)
Output Regulation: 0.01% for full load change
Output Setting Time: 0.1 second (stable to 99.9%)
Isolation Breakdown Voltage: 1000VAC min.
Integral Linearity Error: ±0.005% of Span
Temperature Effect: ±0.0025% of Span /°C



24VDC Auxiliary Power Supply Card (LBAP17181)
Channels: to be used for 6 transmitters
Output Rating: 24 ± 1 VDC, 180mA in maximum, 30mA / each channel

COMM Module (LBCM17181)
Interface: RS-232 (1 unit), RS-485 or RS-422 (up to 247 units)
Protocol: Modbus Protocol RTU mode
Address: 1-247
Baud Rate: 0.3~38.4 Kbits/sec.
Measured data Bits: 7 or 8 bits
Parity Bit: None, Even or Odd
Stop Bit: 1 or 2 bits

Standard Ethernet Communication
Protocol: Modbus TCP/IP, 10 Base T
Ports: AUI (Attachment Unit Interface) and RJ-45, Auto- detect capability

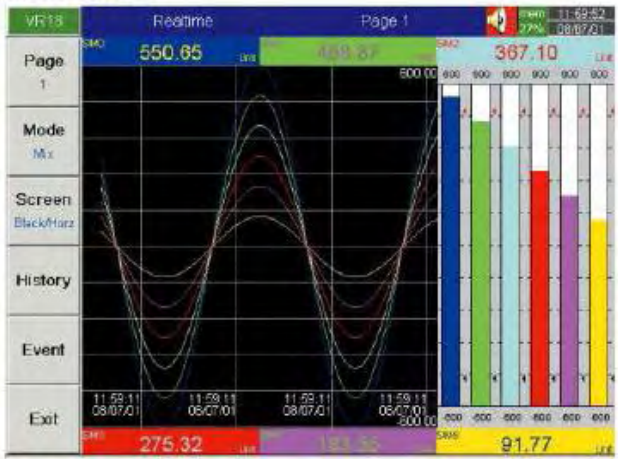
Infrared Detector
Distance: Detect moving human body in distance around 2 meters
Time delayed: 10, 20, 30, 40, 50 or 60 minutes to be defined

Real time clock accuracy vs. temperature inside of housing
Temperature inside housing typical error per month
10 ~ 40 °C 18 seconds
0 °C or 50 °C 52 seconds
-10°C or 60 °C 107 seconds

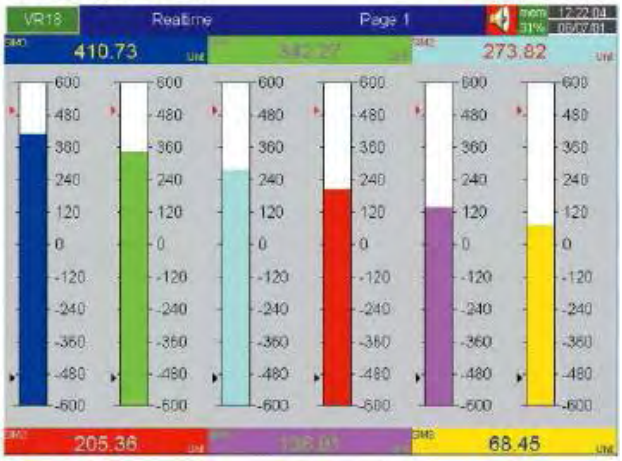
Approval Standards
Safety: UL61010C-1,
CSA C22.2 No. 24-93
CE: EN61010-1 (IEC1010-1)
over voltage category II, Pollution degree 2
Protective Class:
IP 30 front panel for indoor use,
IP 20 housing and terminals
EMC:
Emission: EN61326 (EN55022 class A, EN61000-3-2, EN61000-3-3)
Immunity: EN61326 (EN61000-4-2, EN61000-4-3, EN61000-4-4,
EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11)

Environmental & Physical
Operating Temperature: 5 ~ 50 °C
Storage Temperature: -25 ~ 60 °C
Humidity: 20 to 80% RH (non-condensing), maximum relative humidity 80% for temperature up to 31°C decreasing linearly to 50% relative humidity at 40°C
Altitude: 2000 M maximum
Insulation Resistance: 20 M ohms min. (at 500 VDC)
Dielectric Strength: 1350 VAC, 50/60 Hz for 1 minute
Vibration Resistance: 10-55 Hz, 10m/ s2 for 2 hours
Shock Resistance: 30m/ s2 (3g) for operation, 100g for transportation
Operation Position: no inclined restriction
Dimensions: Panel Mount style: 166(W) x 144(H) x 174mm(D)
Bench Top style: 166 (W) x 192 (H) x 194mm (D)
Standard Panel Cutout: DIN size in 138 x 138mm

Mixed Mode



Bar Graph Mode



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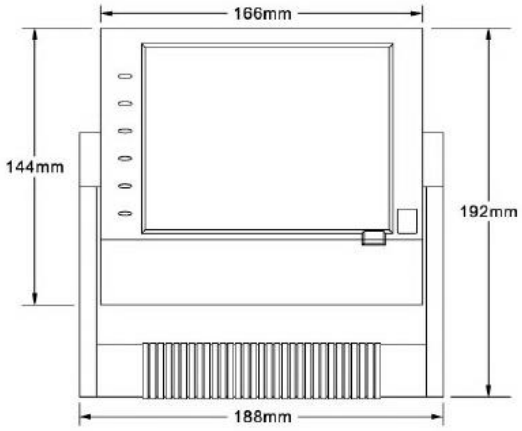
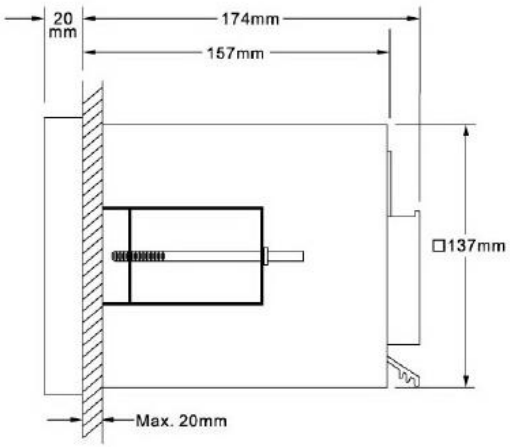
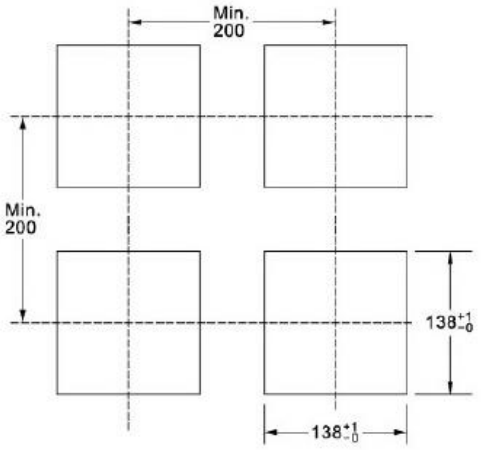
Installation

Mechanical Data

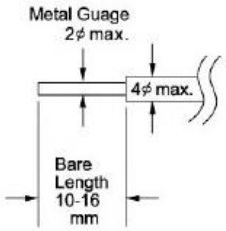




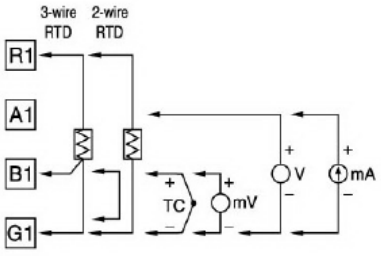
Panel Cutout



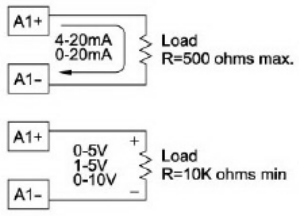
Wiring Cable



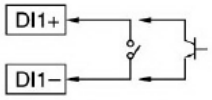
Analog Input Card



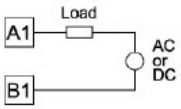
Analog Output Card



Digital Input Card



Digital Output Card



Ordering Code

LBVR1718 - ☐☐☐☐ - ☐☐☐ - ☐☐☐

1 2 3 4 - 5 6 7 - 8 9 10

1 Power

4: 90-250 VAC, 47-63 Hz
5: 20-28 VAC, 47-63 Hz
6: 11-18 VDC
7: 18-36 VDC
8. 36-72 VDC
9: Special order

2 Analog Input Card

0: none
1: 1 channel with LBAI17181
2: 2 channels with LBAI17182
3: 3 channels with LBAI17183
4: 4 channels with LBAI17181 & LBAI17183
5: 5 channels with LBAI17182 & LBAI17183
6: 6 channels with LBAI17183
A: 9 channels with LBAI17183
B: 12 channels with LBAI17183
C: 15 channels with LBAI17183
D: 18 channels with LBAI17183
G: 3 channels with LBAI17183V
H: 6 channels with LBAI17183V
J: 9 channels with LBAI17183V
K: 12 channels with LBAI17183V
L: 15 channels with LBAI17183V
M: 18 channels with LBAI17183V

*See LBAI17181/2/3(V) in Accessories below.

3 Digital Input Card

0: none
1: 6 channels
2: 12 channels
3: 18 channels
4: 24 channels
5: 30 channels
6: 36 channels

4 Digital Output Card

0: none
1: 6 relays
2: 12 relays
3: 18 relays
4: 24 relays

5 Communication

0: standard Ethernet interface
1: RS-232/422/485 (three in one) + Ethernet interface
9: special order

6 PC software

1: Free basic software Observer I for non-communication application
2: Extensive software Observer II for communication of RS-232/422/485 or Ethernet

7 Firmware

0: Basic function
1: with Mathematics, Counter & Totalizer & FDA 21 CFR part 11 compliance

8 Storage Media

1. 128 MB Compact Flash card
6: 1 GB Compact Flash card
X: other options

9 Case/Mounting

1: standard panel mounting, grey case
2: Bench top / portable style with handle, USA power cable, grey case
3: Bench top with handle, European power cable, grey case
4: standard panel mounting in black case

5: Bench top / portable style with handle, USA power cable, black case

10 Special Option

0: none
1: 24VDC auxiliary power supply (for transmitter, 6 channels)
2: 3-channel current output
3: 6-channel current output
4: 9-channel current output
D: 3-channel voltage output
E: 6-channel voltage output
F: 9-channel voltage output
5: panel mounting with rear power plug
6: panel mounting with front power switch
7: 7=1+5
8: 8=1+6
9: 9=1+5+6
X: other options