

DLS Data Logging System

DLS-VR06 - up to 6 channel

DLS-VR18 - up to 18 channel

6.4" Color TFT LCD with 640x480 pixels resolution



Feature

- ✓ Model DLS-VR06 -Up to 6 channel i.e 1..6 channel
- ✓ Model DLS-VR18 -Up to 18 channel i.e 1..18 channel
- ✓ Input : Thermocouple, mV,mA,V
- ✓ Overall Size (Panel Mount) : 203 x203 x203mm
- ✓ 90~264VAC, 47-83Hz
- ✓ Standard Ethernet interface
- ✓ High / Low alarm setting
- ✓ Volt free contact for
 - power failure
 - High / Low Alarm with Time delay function
- ✓ Provide link contact to BMS System i.e enable to inform personnel when contact activated
- ✓ Compact Flash Card
- ✓ Relevant Sensor inclusive for measurement
- ✓ Thermocouple 5 mtr included per channel

The Maximum Channels :
6 or 18 isolated analog input channels
Plug & Play Supported I/O Cards, 6 Slots

The High Flexibility :
User configurable I/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

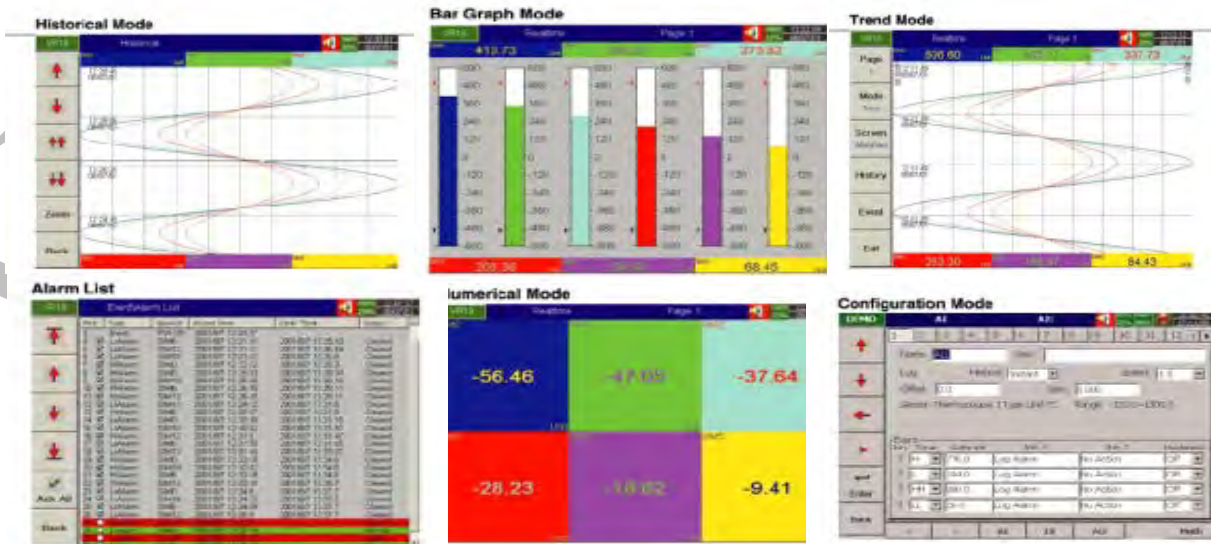
Save Data in Flash ROM, Compact Flash Card or PC

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
Programmable Alarms and Messages available



SPECIFICATION

Power

90-250VAC, 47-63Hz, 60VA, 30W maximum 11-18 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, 512MB, 1GB CF Compact Flash) cards

Analog Input Card (AI181, AI182, AI183)

Channels: AI181 ~ 1 channel, AI182 ~ 2 channels, AI183 ~ 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: $\pm 1.5 \mu\text{V}/\mu\text{C}$ for all inputs except mA input $\pm 3.0 \mu\text{V}/\mu\text{C}$ for mA input

Sensor Lead Resistance Effect:

T/C: 0.2vV/ohm

3-wire RTD: 2.6 $\mu\text{C}/\text{ohm}$ of resistance difference of two leads

2-wire RTD: 2.6 $\mu\text{C}/\text{ohm}$ 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 open 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.

Digital Input Card (DI181)

Channels: 6 per card

Logic Low: -5V minimum, 0.8V maximum.

Logic High: 2V minimum, 5V maximum

External Pull-down Resistance: 1 K Ω maximum

External pull-up Resistance: 1.5M Ω

Digital Output Card (DO181)

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 (AO183I, AO183V)

Channels: 3 per card Output signal: AO183I: 4~20mA, 0~20mA, AO183V: 0~5V, 1~5V, 0~10V

Resolution: 15 bits

Accuracy: $\pm 0.05\%$ of span $\pm 0.0025\%/^{\circ}\text{C}$

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: $\pm 0.005\%$ of Span

Temperature Effect: $\pm 0.0025\%$ of Span/ $^{\circ}\text{C}$

24VDC Auxiliary Power Supply Card (AP181)

Channels: to be used for 6 transmitters

Output Rating: 24 \pm 1 VDC, 180mA in maximum, 30mA/ each channel

COMM Module (CM181)

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.

Data Bits: 7 or 8 bits

Parity Bit: None, Even or Odd

Stop Bit: 1 or 2 bits

Standard Ethernet Communication

Protocol: Mod Bus TCP/IP, 10 BaseT

Ports: AUI (Attachment Unit Interface) and RJ-45 Auto- detect capability

Infrared Detector

Distance: Detect moving human body within 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

10~18 $^{\circ}\text{C}$ 18 seconds

0 $^{\circ}\text{C}$ or 50 $^{\circ}\text{C}$ 52 seconds

-10 $^{\circ}\text{C}$ or 60 $^{\circ}\text{C}$ 107 seconds

Environmental & Physical

Operating Temperature: 5 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$

Storage Temperature: -25 $^{\circ}\text{C}$ to 60 $^{\circ}\text{C}$

Humidity: 20 to 80% RH (non-condensing), max relative humidity 80% for temperature up to 31 $^{\circ}\text{C}$ decreasing linearly to 50% relative humidity at 40 $^{\circ}\text{C}$

Altitude: 2000M maximum

Insulation Resistance: 20 M ohms min. (at 500 VDC)

Dielectric Strength: 1350VAC 50/60 Hz for 1 minute

Vibration Resistance: 10-55 Hz, 10m/S² for 2 hours

Shock Resistance: 30 m/S² (3g) for operation, 1 00g for transportation

Operation Position: no inclined restriction

Dimensions: 166mm(W) x 144mm(H) x 174mm(D) for panel mount

Bench Top style: 166mm(W) x 192mm(H) x 194mm (D)

Standard Panel Cutout: DIN size in 138 x 138mm

Approval Standards

Safety : UL61010C-1

CSA C22.2 No. 24-93

CE: EN61010-1 (IEC1010-1)

Over voltage category II, Pollution degree 2

TABLE 1

Type	Range	Accuracy @25 $^{\circ}\text{C}$	Input Impedance
J	-120 $^{\circ}\text{C}$ - 1000 $^{\circ}\text{C}$ (-184 $^{\circ}\text{F}$ - 1832 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
K	-200 $^{\circ}\text{C}$ - 1370 $^{\circ}\text{C}$ (-328 $^{\circ}\text{F}$ - 2498 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
T	-250 $^{\circ}\text{C}$ - 400 $^{\circ}\text{C}$ (-418 $^{\circ}\text{F}$ - 752 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
E	-100 $^{\circ}\text{C}$ - 900 $^{\circ}\text{C}$ (-418 $^{\circ}\text{F}$ - 1652 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
B	0 $^{\circ}\text{C}$ - 1820 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ - 3308 $^{\circ}\text{F}$)	$\pm 2^{\circ}\text{C}$ (200 $^{\circ}\text{C}$ - 1820 $^{\circ}\text{C}$)	2.2M Ω
R	0 $^{\circ}\text{C}$ - 1767.8 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ - 3214 $^{\circ}\text{F}$)	$\pm 2^{\circ}\text{C}$	2.2M Ω
S	0 $^{\circ}\text{C}$ - 1767.8 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ - 3214 $^{\circ}\text{F}$)	$\pm 2^{\circ}\text{C}$	2.2M Ω
N	-250 $^{\circ}\text{C}$ - 1300 $^{\circ}\text{C}$ (-418 $^{\circ}\text{F}$ - 2372 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
L	-200 $^{\circ}\text{C}$ - 900 $^{\circ}\text{C}$ (-328 $^{\circ}\text{F}$ - 1652 $^{\circ}\text{F}$)	$\pm 1^{\circ}\text{C}$	2.2M Ω
PT100 (DIN)	-210 $^{\circ}\text{C}$ - 700 $^{\circ}\text{C}$ (-346 $^{\circ}\text{F}$ - 1292 $^{\circ}\text{F}$)	$\pm 0.4^{\circ}\text{C}$	1.3K Ω
Pt100 (JIS)	-200 $^{\circ}\text{C}$ - 600 $^{\circ}\text{C}$ (-328 $^{\circ}\text{F}$ - 1112 $^{\circ}\text{F}$)	$\pm 0.4^{\circ}\text{C}$	1.3K Ω
mV	-8mV - 70mV	$\pm 0.05\%$	2.2M Ω
mA	-3mA - 27mA	$\pm 0.05\%$	70.5 Ω
0~1V	-0.12 - 1.15V	$\pm 0.05\%$	32K Ω
0~5V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω
1~5V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω
0~10V	-1.3V - 11.5V	$\pm 0.05\%$	332K Ω

Protective Class:

IP 30 front panel, indoor use,
IP 20 housing and terminals

EMC

Emission: EN61 326 (EN55022 class A, EN61 000-3-2, EN61 000-3-3)

Immunity: EN61326

(EN61000-4-2, EN61000-4-3, EN61 000-4-4, EN61 000-4-5, EN61 000-4-6, EN61000-4-8, EN61 000-4-11)

ORDERING INFORMATION

DLS-VR06- - -

1: Input Type (See Table 1)

J: J
K:K
T:T
E: E
B: B
R: R
S: S
N: N
L:L
PT100(DIN): PT100DIN
PT100(JIS): PT100 JIS
mV: mV
mA: mA
1V: 0~1V
5V: 0~5V
10V: 0~10V

2: No of Channel (Max 6 channel)

01: 1 Channel
02: 2 Channel
03: 3 Channel
04: 4 Channel
05: 5 Channel
06: 6 Channel

3: Calibration (Optional)

0: Nil
CAL: Calibration

ORDERING INFORMATION

DLS-VR18- - -

1: Input Type (See Table 1)

J: J
K:K
T:T
E: E
B: B
R: R
S: S
N: N
L:L
PT100(DIN): PT100DIN
PT100(JIS): PT100 JIS
mV: mV
mA: mA
1V: 0~1V
5V: 0~5V
10V: 0~10V

2: No of Channel (Max 18 channel)

01: 1 Channel
02: 2 Channel
03: 3 Channel
04: 4 Channel
05: 5 Channel
06: 6 Channel
07: 7 Channel
08: 8 Channel
09: 9 Channel
10: 10 Channel
11: 11 Channel
12: 12 Channel
13: 13Channel
14: 14 Channel
15: 15 Channel
16: 16 Channel
17: 17 Channel
18: 18 Channel

3: Calibration (Optional)

0: Nil
CAL: Calibration