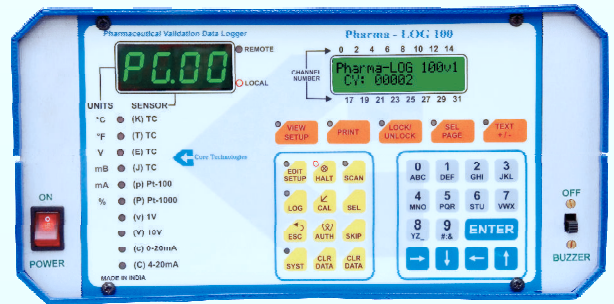


# Pharma - LOG 100

## Features

- Selectable Scan Rates 2 seconds to 8 hours
- Two Level Password protected Set-up and operation
- Dual Mode of operation, SCAN / LOG mode
- Software Calibration
- Alarm outputs Optional
- On / Off Line Printing of Reports
- Graphic Software CoSTER on PC under Windows XP/Vista
- 16 / 32 Channel Options
- Flexibility to connect any channel anywhere
- Steam trap Junction Box
- Tabletop, Rack or Panel Version



## Logger Set-up Templates

- Dry Heat Sterilizers
- Autoclaves
- Tunnels
- Deep Freezer
- Cold Storage
- Incubators
- Custom 1
- Custom 2

## Description

The Data Logger Pharma - LOG 100 is designed for Pharmaceutical validation applications. This single instrument meets requirements stipulated by US FDA regulation 21 CFR Part 11 for the validations of DHS, Autoclave, Tunnel, Deep Freezers, Incubators, cold storage and cold rooms.

Pharma -LOG100 Data Logger can interface with all of the commonly used sensors without the need of separate signal conditioning modules. It is true universal input Logger, with unsurpassed accuracy. Pharma -LOG100's 512 Kbyte Memory is structured into 16 pages each with capacity to store 500 to 1000 Samples of data. Each page logs data of a validation cycle, which may be transferred to a PC under Core Technologies' software CoSTER, off line, for Validation Report generation. These reports include Graphical representation of a Validation cycle, Bar Graph and Tabular display of  $F_0$ ,  $F_h$ , Min Max, Avg and all other parameters required to certify a validation cycle.

Pharma -LOG100 is easy to use. A global view of all channels with sensor type, units and SKIP or SEL, information is available on one screen. All standard applications are stored in 8 user definable templates. These templates can be called and loaded for a cycle effortlessly and run directly in minimum key operations.

Operating under two level Password and user Id protection, Pharma -LOG100 is 100% tamper proof. It also features "Imposter" trap not only preventing but identifying attempts to make unauthorized use of the logger.

Data upload to CoSTER software is password protected and is encrypted. All calculations are performed in real-time and created in write protect windows document files. Pharma -LOG100 is available in 16 or 32 channel versions. Both models can be programmed from the front panel of the instrument, however, CoSTER also provides a set-up screen which helps in programming of the Pharma -LOG100 in matter of seconds.

Pharma - LOG 100 captures all 16 or 32 channel data in a single snap shot of less than 1.0 Seconds thus eliminating data skew effect.

Pharma -LOG100 can be connected to any 80 Col. Dot Matrix Printer to generate on-line or post cycle (Off-Line) reports. These reports are authenticated by printing an additional "Authentication" sheet which has provision for hand signatures of the operator and the plant supervisor. Authentication sheet is linked to cycle number uniquely and to CoSTER reports.

Core Technologies guarantees and certifies Pharma -LOG100 calibration for 12 months. Return lead compensation for RTD is automatic and independent of user skills. It supports single step calibration of all channels using standard oil bath and ice bath. Pharma -LOG100 is modular, making field servicing an easy task. The logger maintains records of all calibrations with tagging. Core Tech data loggers have an impressive MTBF > 500,000 Hrs. and a Mean Time to Repair (MTTR) of less than 48 hours ensures a minimum down time.

# Pharma - LOG 100

## Full Specifications :

### 1. Type of Inputs :

Volts, Current (mA), RTD Pt-100, Pt-1000, Thermocouples, J,K,T,E..

Input Termination :

Screw type 5 terminations Group per sensor.

Input Type Selection :

Through Key Board (No external Plug-in Modules).

### 2. Span-Zero and Units :

Selection through Key-Board under Pass word.

### 3. Channel Selection :

Through SEL /SKIP Keys.

### 4. Set up Programming :

Through Eight pre-programmed Templates

Template # 1 -DHS, Template # 2 -Autoclave

Template # 3 -Tunnel, Template #4-Incubator,

Template # 5-Deep Freezer, Template #6-Cold Room, Template #7 and 8 Custom set up.

All set up stored in Non Volatile Memory (10 Yrs)

### 5. Ranges :

Volt Inputs: 10 V,1.0 V, and 0.1 V.

Current Inputs: 4-20 mA, 0-20 mA,

RTDs: Pt-100 Excitation 0.25 mA, -100 to 400°C

Pt-1000 Excitation 0.25 mA -100 to 400°C (2,3,4 Wire), Automatic lead compensation.

J,K and E-TC= -100 to 500°C, T-TC= -100 to 400°C

### 6. Calibration :

Single shot Global (All channels) using reference oil bath and Ice bath.

**7. Accuracy :**  $\pm 0.2^\circ\text{C}$  or  $\pm 0.1\%$  of Full Scale.

### 8. Linearity :

Volts and mA  $\pm 0.05\%$  of Full Scale

RTDs  $\pm 0.1^\circ\text{C}$  Thermocouples  $\pm 0.2^\circ\text{C}$  (Software Linearization using Polynomial equation.

### 9. Scan Period :

2 Sec to 8 Hrs in step of 2 Sec up to 30 Sec, in step of 1 Min from 1 Min to 30 Min, in step of 1 Hr from 1Hr to 8 Hrs.

### 10. Modes :

Scanner Mode (i.e. without Data Storage) and Logging Mode (i.e. with Data Storage)

### 11. Memory :

Non Volatile Data Storage 16 Pages, 512 KBytes with Time and Date Tagging, up to 425 records (When all 32 channels are selected).



### 12. Storage Mode :

Fixed Mode (Logging stops on Memory Full with warning at 90% full).

### 13. Printer Interface :

Centronics Parallel Printer (EPSON FX 300+) 80 Column DMP, with Pre-Formatted report printing.

Pharma -LOG 100 falls under Hybrid Instrument as defined in US FDA Regulation 21 CFR Part 11 "Electronic System with direct Printer output".

### 14. PC Inetrface :

Through Serial Communication Port using RS-485 Multidrop configuration up to 128 Data Loggers or other Core Tech Product can be interrogated from a Centralized Control Room.

Windows based PC Software available "CoSTER" Core Technologies proprietary software for Setrlization Aapplications with  $F_0/F_H$  calculations and also Report Generation

**15. Electrical :** 160 - 260 V AC, 50 Hz, 20 Watt.

### 16. Environmental :

Operation from  $0^\circ\text{C}$  to  $45^\circ\text{C}$  ambient, RH 10 to 95% non-condensing.

### 17. Mechanical :

Fully enclosed dust proof construction, Half 19" -4U Rack mounting or Panel mounting with 190(H) mm x 220(W) mm panel cut out. Depth 350 mm. Weight 4.5 Kg.

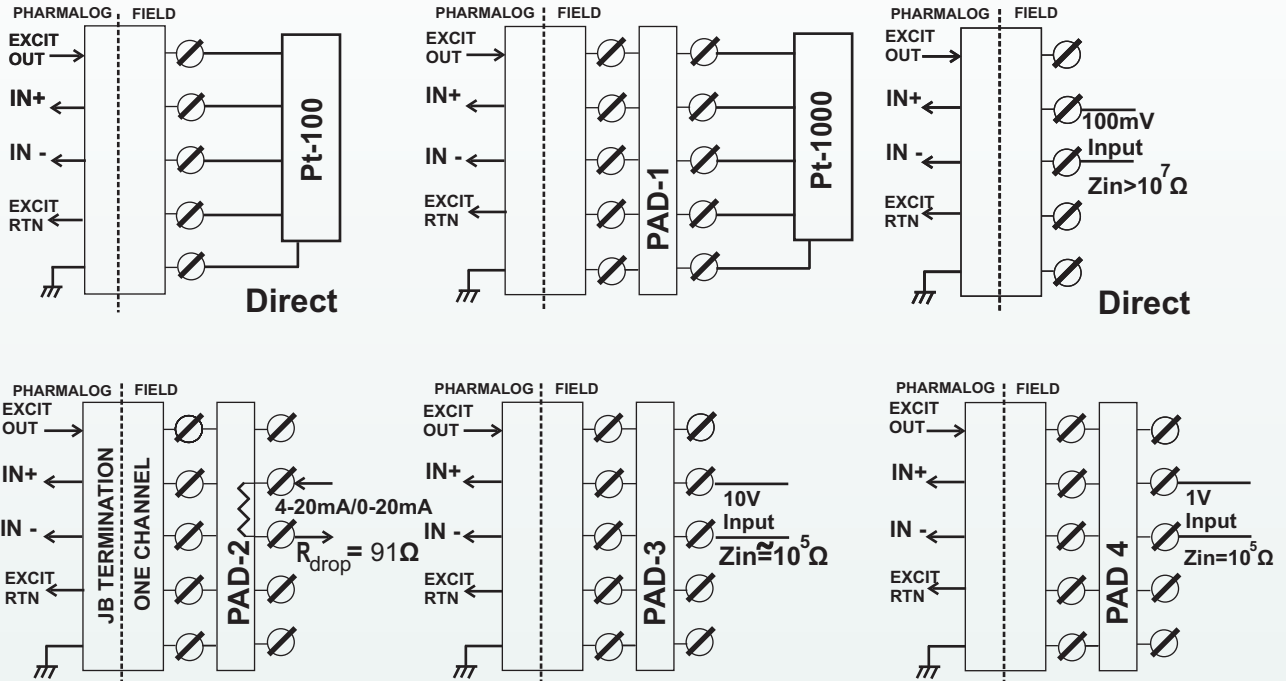
**18.** Two level Password for three operators and one supervisor. Automatic storage with time and date tagging of set up creation, logging, setup modifications, Calibration performed and Imposter logging after 3 failed attempts. Imposter audible alarm.





# Pharma - LOG 100

## JUNCTION BOX SCHEME



**NOTE:** The diagram represents any typical channel, PAD=Parameter Adapter Device

