

Tempris Sensors for Lyophilization Measurement Technology



Measurement Technology

TSTART



Application:

Laboratory Freeze Dryers with Acrylic Plastic DoorScope of delivery

Delivered along with four sensors, calibration certificate TDS Software for real-time data monitoring, antenna for acrylic door and accessories, installation guide and operational manual.

For data visualization, an external PC/Laptop (Windows 7 or 8 requested) is required. Simple and quick to operate.

TLAB



Application:

Scale-up / transferScope of delivery

Delivered along with up to 16 sensors including calibration certificate; external or internal antenna (CIP/SIP), accessories, TDS software operating manual and installation guide.

The measurement data are stored directly on the TLAB unit in real-time. The measurement system is mounted with a few simple steps and immediately ready to use.

Options: GAMP5/ 21CFR Part 11, IQ/OQ documentation, engineering support for system adaptation (URS) and installation, training.

TPRO



Application:

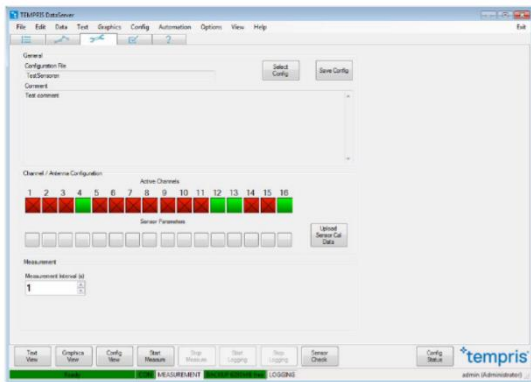
Commercial productionScope of delivery

Delivered along with up to 16 sensors including calibration certificate, CIP/SIP antenna kit with antenna multiplexer, accessories, PLC/SCADA interface for automation and GAMP5/ 12CFR Part 11 compliant, TDS software operating manual and user manual, IQ/OQ documentation, engineering support for system adaptation (URS) and installation, sensor handling solutions at RABS/Isolator via RTP, automated loading/unloading, training, etc.

The measurement data are stored directly on the TIRU radio interrogation unit and on the PLC/SCADA computer in real-time.

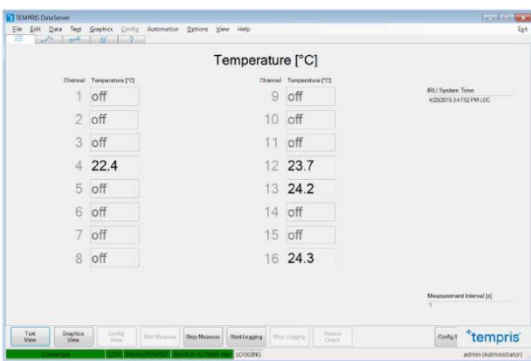
TDS Tempris DataServer software

- Tempris system configuration
- Real-time data monitoring
- Online or offline data visualization
- Data logging and log file reports
- User administration
- Audit trail
- Backup
- CSV export
- Fully configurable automation interfaces to PLC, SCADA, data recorders
- Sensor function check
- cGMP/GAMP5 and FDA 21 CFR Part 11 compliance



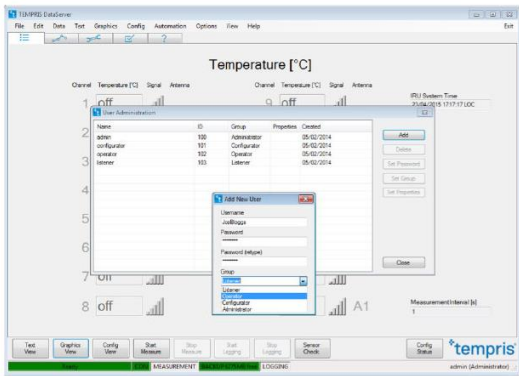
TDS Config view

Tempris system configuration
 Configuration and activation of up to 16 sensors
 Importing and managing sensor coefficient files
 Sensor parameter retrieval
 Sensor-specific measuring range selection
 Measuring interval setting 1 to 600 seconds
 Saving and loading system configurations



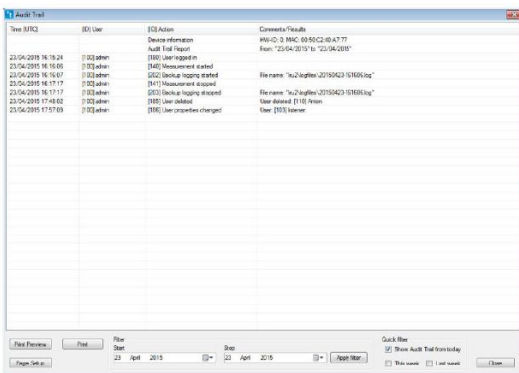
TDS Text view

Real-time temperature readings
 Temperature display in Celsius, Fahrenheit or Kelvin
 Option to show signal strength displays
 Option for fading in the antenna selection
 Text View Screenshot and Printout



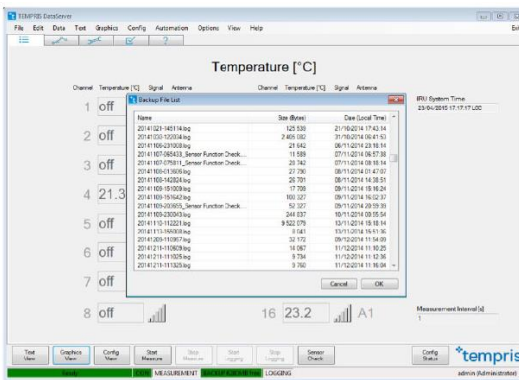
TDS User Administration

- Optional user administration according to GAMP 5 requirements
- Up to 4 user levels with granular access rights
- Unique usernames with secure passwords
- Functions for creating and deleting user accounts
- Functions for changing/setting user passwords
- Functions for Changing User Group Assignments
- Option to disable user accounts



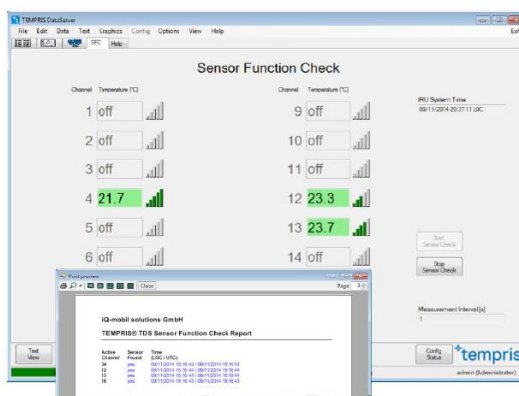
TDS Audit Trail

- Optional Audit Trail functionality according to GAMP 5 requirements
- Secure audit trail format
- Storage of audit trail actions with UTC timestamps, user names and additional available process information
- Audit trail display with start/stop date filter
- Audit trail display with quick filter selection for the current day or the current or previous week
- Audit trail functions for print preview, page setup and print output



TDS Backup

- Option for redundant data backups according to GAMP requirements
- Secure backup log file format for optimized use of backup media space
- Backup log file management with functions for listing, downloading and deleting backup log files
- Function for the secure ejection of the backup data carrier
- Monitoring the storage space available on the backup medium
- Automatic restart of the backup process after power failure



TDS Sensor function test

- Option to validate sensor functionality prior to measurement run
- Sensor can be tested together, in groups or individually
- Generation of a log file for the sensor function check
- Sensor function test report

