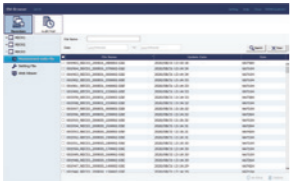


Data Management Package

Centralized management of the recorded data file

Access Control

Users are assigned to groups and are given access privileges based on the group they belong to.  
Only authorized users can login to the system and search and browse through data



Audit Trails

All file operations by an authorized user are recorded in the audit trail.

- File operations (Archive, Delete)
- Backup and Restore



Configuration Tool

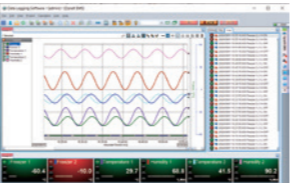
Administrator configures the Data Management Package using this tool.

- Register new recorders
- Register new users
- License management

GA10 Real-time Monitoring Software

Monitor measured data in real time

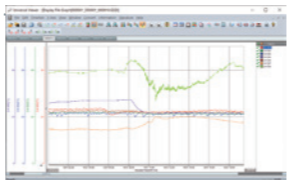
- Measured value display (Trend display / Digital display)
- Alarm notification on the screen
- Monitor data for each measurement group



Universal Viewer

Dedicated viewer software browsing recorded data

- Display recorded data
- Supports latest OS and offers best viewing quality
- Supports 7 languages



Paperless Recorder SMARTDAC+Series

Measure and record a variety of data

- Add I/O modules as needed
- Wide variety of powerful display functions
- A full range of network functions



Advanced Security Function

Electronic recording of data is compliant with pharmaceutical regulations

- Logical security
- Secure data storage in binary format (fraud proof)
- Audit trail function
- Dedicated viewer software

**OpreX™** Yokogawa achieves operational excellence by providing products, services, and solutions based on the OpreX comprehensive brand that cover everything from business management to operations.

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OpreX™ Data Acquisition

Environmental Monitoring System



Manufacturing  
area



Quality Control  
area

Storage area

# OpreX™ Environmental Monitoring System

Environmental Monitoring Compliant with  
Pharmaceutical Regulations

OpreX Environmental Monitoring System collects, measures, and stores data such as temperature and humidity as well as other management data to monitor the environment in pharmaceutical manufacturing area, quality control area, and storage area.



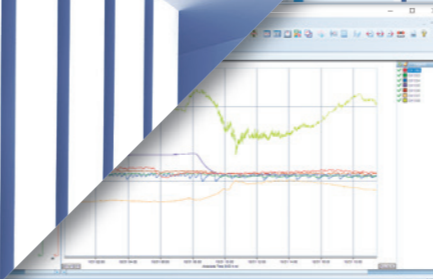
# Data Integrity

Meets ALCOA+ requirements

**A**tributable  
**L**egible  
**C**ontemporaneous  
**O**riginal  
**A**ccurate  
**C**omplete  
**C**onsistent  
**E**nduring  
**A**vailable



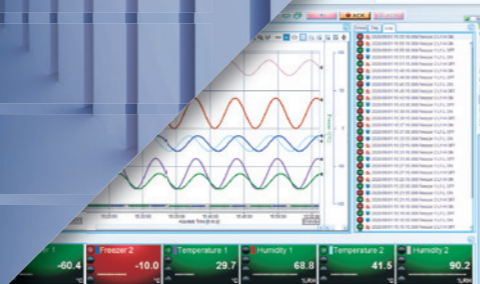
Recorder setting



Data file display



Recorded data file management



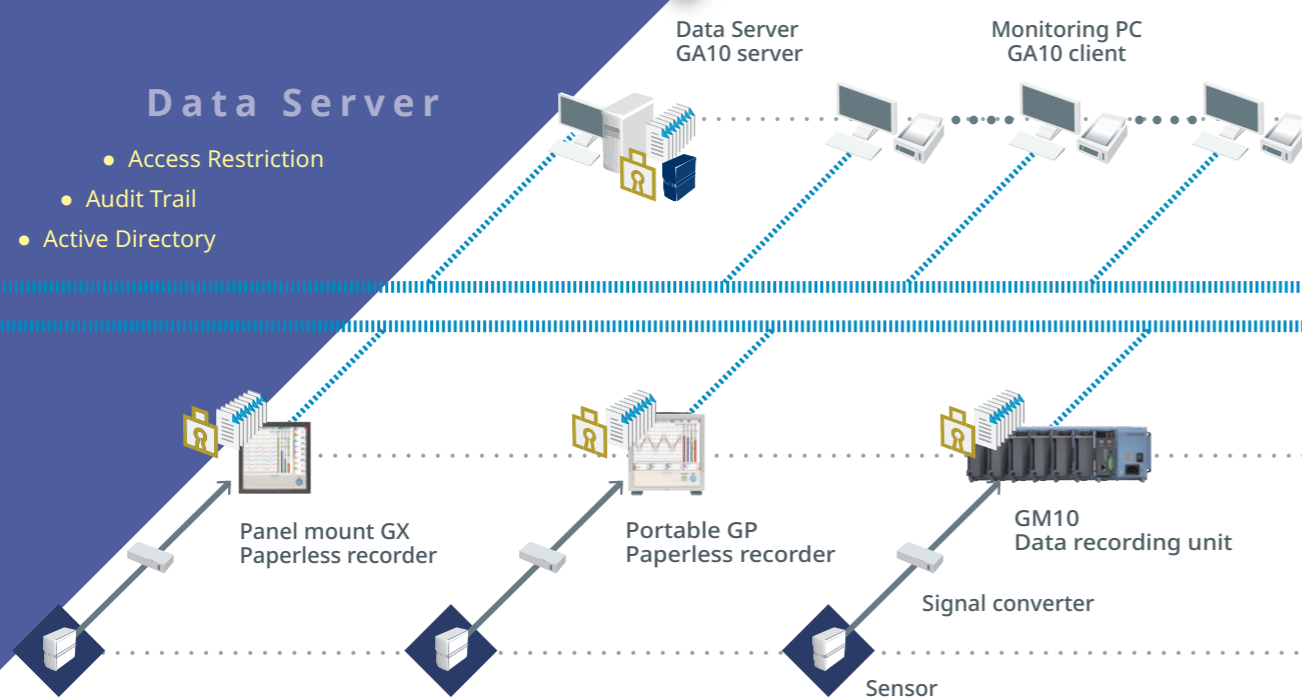
Real-time monitoring

## Support for GAMP5, CSV of PIC/S GMP Annex11

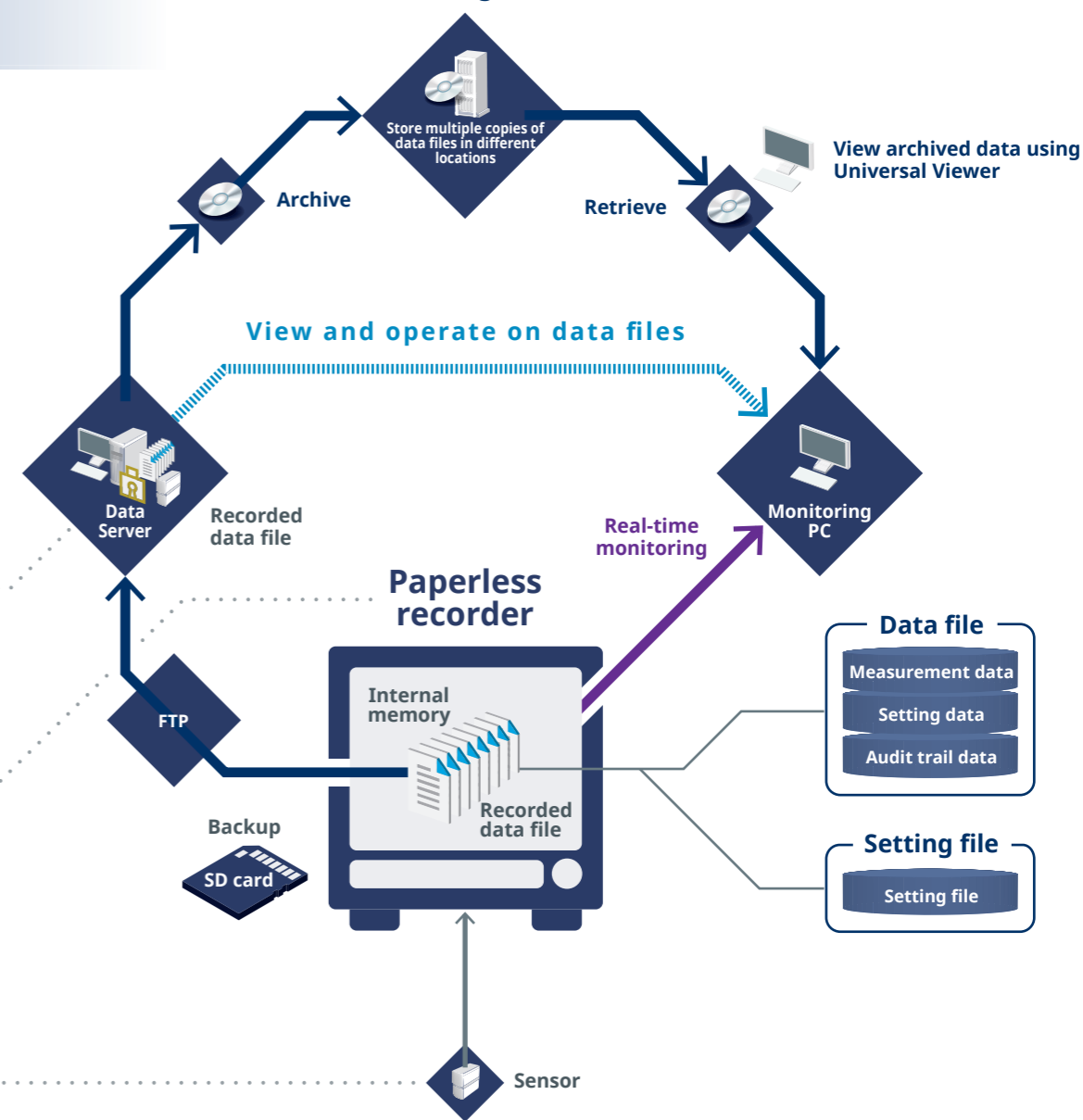
- Validation Plan (QPP)
- Functional Specification (FS)
- Hardware/Software Specification (HSS)
- FAT Plan/Report (FTP/FTR)
- SAT Plan/Report (STP/STR)
- Test Report, Calibration Certificate
- Instruction Manual

## Data Server

- Access Restriction
- Audit Trail
- Active Directory



## Data storage room





**Data server**



Transfer



- File operation (Archive, Delete)



Monitors

Monitor


Search

IP Address:  Name:

IP Address	Name	Type	Status	Location
192.168.1.1	Monitor 1	Webcam	Online	Room 101
192.168.1.2	Monitor 2	Webcam	Online	Room 102
192.168.1.3	Monitor 3	Webcam	Online	Room 103
192.168.1.4	Monitor 4	Webcam	Online	Room 104
192.168.1.5	Monitor 5	Webcam	Online	Room 105
192.168.1.6	Monitor 6	Webcam	Online	Room 106
192.168.1.7	Monitor 7	Webcam	Online	Room 107
192.168.1.8	Monitor 8	Webcam	Online	Room 108
192.168.1.9	Monitor 9	Webcam	Online	Room 109
192.168.1.10	Monitor 10	Webcam	Online	Room 110

Monitor

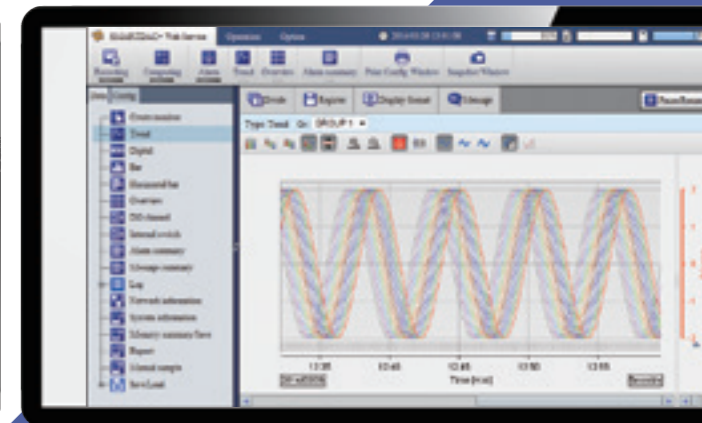
- View the recorded data



Each sensor  
(Temperature, humidity, pressure differential, etc.)



Display measured data in real time.  
measured data abnormality is reported with a  
visual alarm (red blinking) as well as a buzzer sound.



Users can monitor the operation status and measured data on recorders through a web browser in real time.



- Centralized management of user name/password in Data Server and recorders
- User login access control

