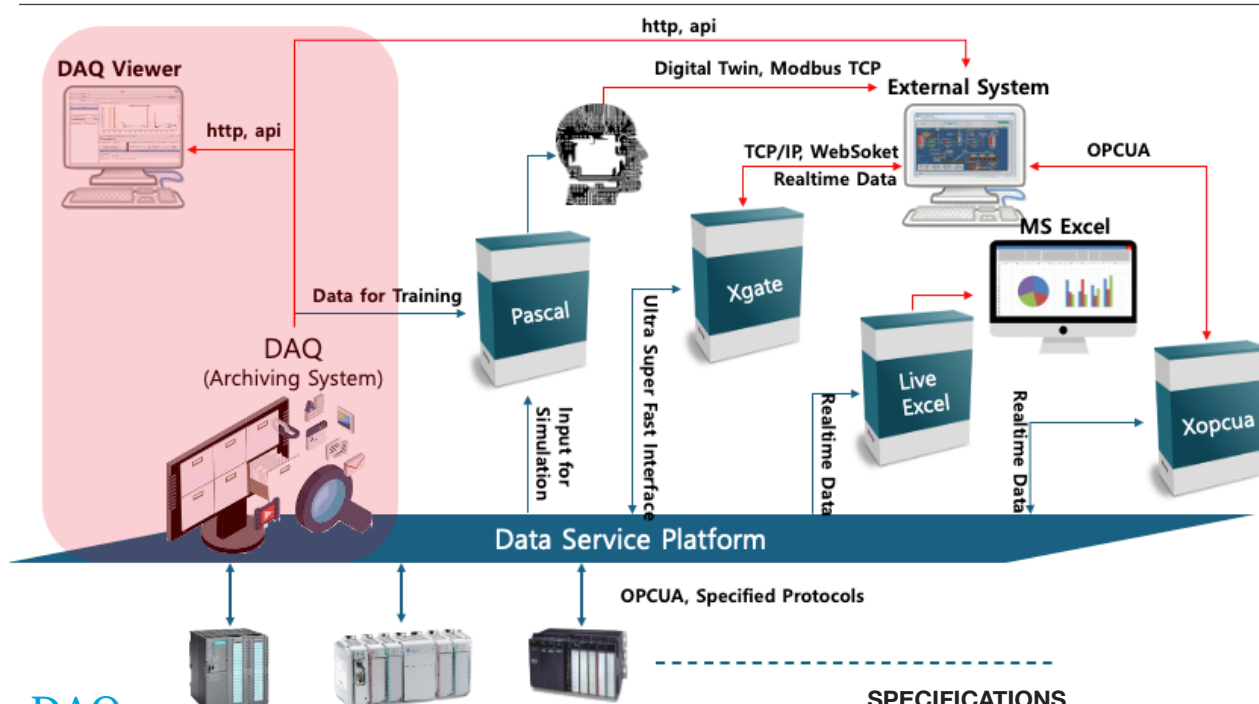


DAQ



DAQ

DAQ is a high-performance Data Acquisition System that records defined data, including metadata such as timestamps and alarm severity, at ultra-fast speeds in the time domain.

The DAQ system provides an advanced data viewer. It includes a Trend Chart for multi-channel data insights and a Data Browser for detailed analysis. The charts support a variety of mathematical and statistical functions, allowing users to view basic statistical results such as average, minimum, maximum, and standard deviation values.

Additionally, the system supports exporting multiple datasets as CSV files via the data viewer or web interface. This enables users to analyze data on various platforms and easily share archived data with others.

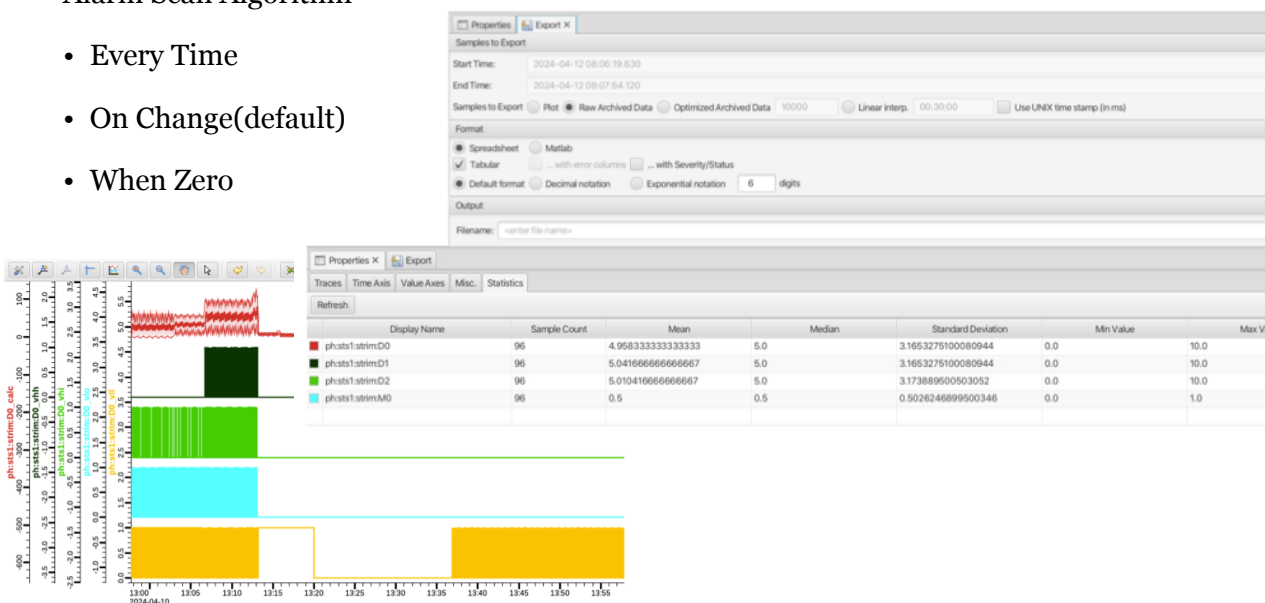
When required, archived data in the DAQ system can be shared online via HTTP protocol in JSON format. This allows external systems, such as artificial intelligence platforms, to access the data for machine learning and other automated processes without interruption.

SPECIFICATIONS

- Performance: faster than MHz.
- Meta Data: Value, Timestamp, Alarm Severity
- Time Resolution: Nanosecond precision
- Archiving Algorithm: Event-based, Polling, Trigger-based
- Tag Editing:
 - Editable in online mode
 - Manual and Auto editing supported
- Web Interface (Default):
 - Tag adding, editing, deletion
 - Chart View
 - Data download (CSV format)
 - Diagnostic statistics
 - Supports URLs and API for external systems
- Custom HMI (Free):

DAQ

- Data processing using provided functions
- Chart Zoom In/Out
- Annotation support
- X-Y axis scrolling
- Data export in Microsoft Excel-compatible format (CSV)
- Statistics display
- Tag search by name, description, and all fields
- Time axis ruler for precise data analysis
- Tag Configuration
- Map PLC memory names to signal names
- Comment field for each tag
- Alarm Configuration
 - Supports tag alarms and composite alarms
 - HH, HI, LO,LL alarms for each analog tag
 - Accumulated alarm for each tag
 - Reset timer for tag alarms and composite alarms
- Alarm Scan Algorithm
 - Every Time
 - On Change(default)
 - When Zero
- When Non-zero
- Transition to Zero
- Transition to None-Zero
- Operating Environments:
 - OS: Linux
 - Memory: 128GB (256GB recommended)
 - SSD: 256GB (512GB recommended) for short-term storage
 - HDD: 1TB or more for long-term storage
 - Web and Custom HMI: Cross-Platform, including Microsoft Windows



SOFTDCS

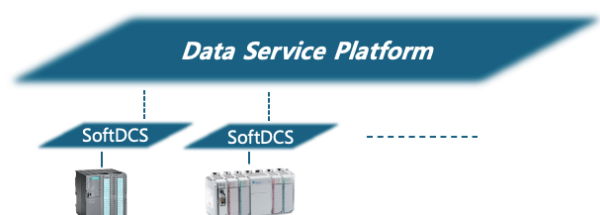
SoftDCS

SoftDCS is the core module for building the Data Service Platform. It operates like a traditional Distributed Control System (DCS), but is entirely software-based. As a result, SoftDCS can be implemented on a wide range of hardware—from embedded devices like Raspberry Pi to enterprise-grade server computers.

SoftDCS supports a feature called Composite Alarm for each tag. It allows you to create virtual alarms by combining multiple tags and executing user-defined functions. These functions can be configured manually online or through predefined settings.

SPECIFICATIONS

- Communication with devices.
- Data Reading: Default
- Data Writing: Engineering Option
- Printing time stamp on each data when updated.
- Scan Algorithm: Event-Driven , Polling
 - Polling Interval(msec): 20, 50,100, 500,1000
 - Order based Polling Interval: up to microsecond.
- Tag Capacity:
 - Supported : 500 tags per instance, 10 instances per device
- Data Type:
 - Default: Binary, Analog
 - Additional: String, Array
- Alarm:
 - Binary Data: On/Off
 - Analog Alarm: HH, HI,LO,LL
 - Composite Alarm: supported
- Data Properties:
 - Programmable
 - Alarms
 - Calculation
 - Data Link
 - Timestamp
- Engineering:
 - Language: FBD, Text
 - Via provided commands and HMI online
- Monitoring Tools: Console Commands, HMI
- Supported Well-Known Protocol:
 - S7 Profinet
 - AB Controllogix EtherIP
 - Melsec(A, Q/L, iQ-R Series)
 - MicrexSx Series
 - Modbus TCP
 - OPCUA
 - BACNetIP
 - LS(XGT, GLOFA Series)
 - Omron



SOFTDCS

DAQ Preference Panel

Inst00 Inst01 Inst02 Inst03 Inst04 Inst05 Inst06 Inst07 Inst08 Inst09 Inspector

Comm_00
 Configuration ☒ RUN/STOP ☒ Connection ☒ Update Time(msec): 94 msec
 Avg. Update Time(msec): 94 msec

Site:Device ph:sts1.ttl
 Instance Name inst00 IP Address:Port 10.0.1.102
 Scantime(msec) 100 Rack Number 0
 Total Number of Tag 10 Slot Number 3
 Arch.Start Address 0 Device Type s7pic

Tag Editor_00 0/0
 Create Mem. Upload Mem. Write PV File

Index	PLC Mem	Edit	Unit	Description	Signal Name
00000	DB0.DBW30 INT16	☐	V	Voltage [0..10]	Voltage
00001	DB0.DBW32 INT16	☒	mA	Current [4..20]	Current
00002	DB0.DBW34 INT16	☐	Count	Count [0..100]	Count
00003		☐			
00004		☐			
00005		☐			
00006		☐			
00007		☐			

Operation_00
 Command Status
 Make Run Stop Link Unlink Delete

- Unsupported Protocols:
- Interface development possible if protocol specification is provided in raw format
- Operating Environments:
 - OS: Linux, Mac OSX
 - HMI & Debugging: Cross-Platform (including Microsoft Windows)
- Preference Panel:
 - Excel Interface support
 - Device connection configuration panel
 - Tag editor support
 - Alarm configuration panel (Tag & Composite Alarm)
 - Upload/download tag and alarm configurations to/from SoftDCS
 - Link/unlink tags to DAQ for data archiving (DAQ required)
 - SoftDCS run/stop control

- SoftDCS creation/deletion
- Simple Chart for daily maintenance(DAQ required)
- Analysis Chart(DAQ required)
- Diagnosis information(DAQ required)

TAG Input Table

Tag Name	Signal Name	Engineering Unit	Description	Type	Min	Max	Unit	High	Low	LOLO	Alarm	Alarm
DB0.DBW30	Voltage	V	Voltage [0..10]	INT16	0.000	10.000	6.000	4.000	2.000	disabled	manua	
DB0.DBW32	Current	mA	Current [4..20]	INT16	4.000	20.000	16.000	13.000	10.000	2.000	disabled	manua
DB0.DBW34	Count	Count	Count [0..100]	INT16	0.000	100.000	80.000	60.000	40.000	20.000	disabled	manua

Alarm Configuration Panel

Help

Alarm Sum

PV Name ph:sts1.ttl:Voltage
 PV Value 7.000000 V
 DIFF. 0.010660 V/msec
 Alarm Sum Interval(sec) 0 sec
 Reset Sum On Change Alarm Chart

Timer A DIS. EN. RST A MAN. AUTO.

Alarm Status

Alarm Status	PV Alarm Limit	Sum	Sum HI	Sum HI	Sum LO	Sum LL
HIHI	80.000000 V	0 Counts	8 Counts	6 Counts	4 Counts	2 Counts
HIGH	40.000000 V	0 Counts	8 Counts	6 Counts	4 Counts	2 Counts
LOW	20.000000 V	0 Counts	8 Counts	6 Counts	4 Counts	2 Counts
LOLO	20.000000 V	1 Counts	8 Counts	6 Counts	4 Counts	2 Counts

Composite Alarm

Timer C DIS. EN. PV Cal. Interval(sec) 0 sec
 Reset Calc On Change Calculation Chart

Calculation

Equation

$$((A/2) * 0.2) + B$$
 2.700000

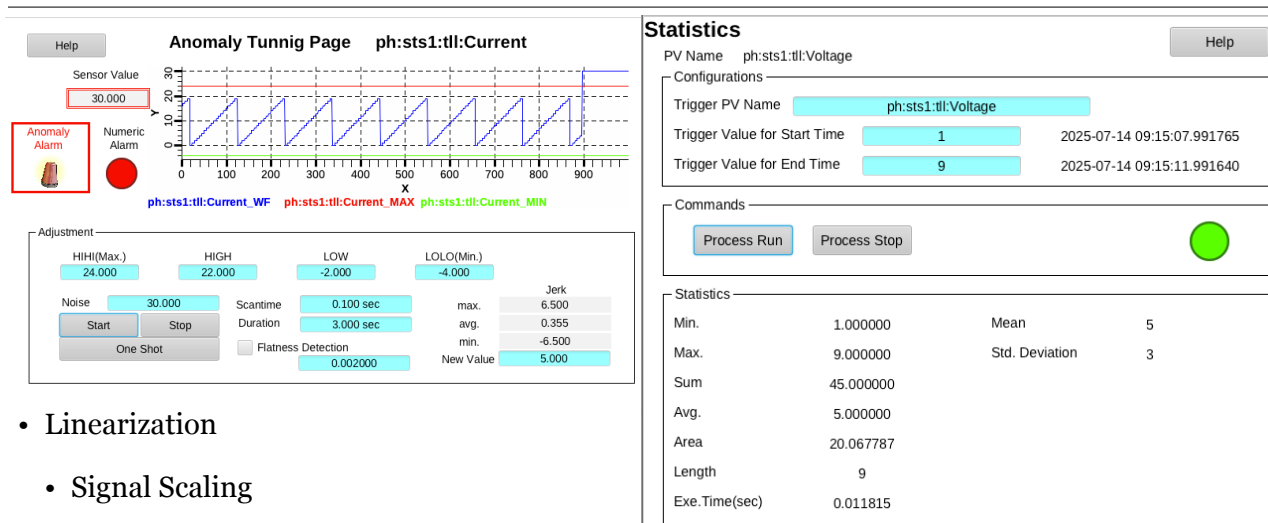
ph:sts1.ttl:Voltage INPA 7.000000 V
 INPB 2.000000
 INPC 0.000000E0
 INPD 0.000000E0
 INPE 0.000000E0
 INPF 0.000000E0
 INPG 0.000000E0

Composite Alarm Limit

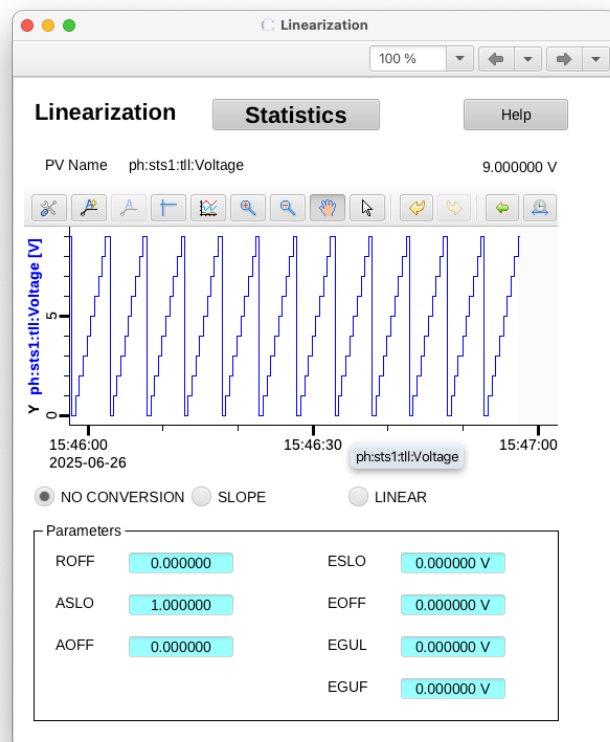
Alarm Status	Limit
HIHI	80.000000
HIGH	60.000000
LOW	40.000000
LOLO	20.000000

- Anomaly Detection (DAQ Required)
 - Pattern Detection
 - Flatness Detection
 - Save Anomaly Pattern

SOFTDCS

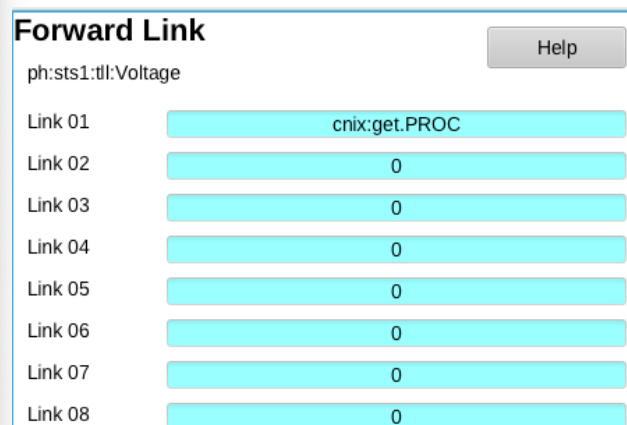


- Linearization
- Signal Scaling
- Linearization



- Statistics (DAQ Required)
 - Triggered Statistics
 - Event Trigger
 - Min, Max, Sum, Avg, Area, Mean, Standard Deviation

- Number of Data, Execution Time
- Enable/Disable individual tag.
- Event Forwarding
 - Forwarding Tag Event
- Fanout: 8



- Configurable Output Tag
 - User Configurable
 - Manual Setting Output Tag
 - Automatic Output Tag Using Event Forwarding

SOFTDCS

List Of Active Composite Alarms

Link Forward

Control Tags

Open

Control Tags work with instance00.
Please, tap inst00 in the left pane of this window.

PLC Mem	DOL	System Name	Unit	
%MW1	ph:sts1:lsxgt:Voltage	wVoltage	V	Set \
%DD1		wCurrent	mA	Set \
Click to ad...				