FeSCADA – Windows software for process monitoring

SCADA

Supervisory

Display/Check TAGS values:
- SCREENS (with digital and/or analog indicators)
- ALARMS
- E-MAILS

Provider Name (secure email)
Computer Name (simple email)
gmail.com

SMTP Security   Port
TLS   587

User Account (secure email)
From: (simple email)
john@gmail.com

Password (secure email)
Empty (simple email)
●●●●●●●●●●●●

ACTIVE ALARMS

| History Alarms | Acknowledge | Acknowledge All | Show History Alarms |
Load History from File

No.	Date	Time	Alarm	Code	Priority
3	2022-01-03	01:11:19	Alarm 4 - Bit 3 is ON	AB1	10
6	2022-01-03	01:11:15	Alarm 7 - MemRec7 value Out...	ABC...	200

Control

Modify TAGS with:
- Buttons, sliders, data entry displays
- TIMERS (simple, cyclic, date/time)
- RECIPES
- RAMPS (linear or spline)
- PIDs
- LOGIC PROGRAMS

if Tag1>10 then Tag2=10 else Tag2=10*EXP(Tag3);
if Sensor1 AND Sensor2 AND NOT Sensor3
{ Tag10 = 1; Tag11 = 0; Tag12 = 10.5 }

And

$$CO(t) = K_p \cdot e(t) + K_i \cdot \int_{t_0}^{t} e(\tau) \cdot d\tau + K_d \cdot \frac{de(t)}{dt} + K_{FF}$$

Data
Aquisition

Different formats   Flexibility

Save TAGS values in:
- TEXT or CSV files
- MS Access database
- ODBC databases

When? (trigger)
- Timer only
- Timer and a tag value
- Tag value change
- Time/Date (e.g. weekly, Monday at 8:30 AM)

Trigger Mode
(when Tag ..... Value)
Equal with
Equal with
Different than
Less than
Greater than

Your PC

192.168.1.5 - Local   10.10.0.2 - VPN

FeSCADA

DDE Client
TAGS
SCADA

VPN Server/Client

DDE Server
TAGS
Communication
Driver
(e.g.) FeMODBUS
RSLINX, etc.

Databases
Write/Read
TAGS, ALARMS

Serial RS232 – COM17
USB – RS485 adaptor

RS485

TCP/IP

Screen 3

Run Command   Reset Command   Ramp1 Status   Ramp1 Running
On   Off   8

Ramp 1
Ramp1_Output
250
200
150
100
50
0   25   50   75   100   125   150   175   200

RTU 1 – Remote Terminal Unit

VFD 1 – Variable Frequency Drive

Screen 2
Status   Pressure
1   30
              Temperature
Load Cmd Loaded   250
On   Duration
Index   50
1

Alarms

Alarms

MemStr4
FAULT 404

MemRec6
0.00   59.77   200.00   10.000
                           20.500
MemRec7   55.750
0.00   54.02   200.00   1.0258
On

192.168.1.100
PC 2
Write/Read TAGS, ALARMS in Database (Local network)

192.168.1.10
PLC 1
Process 1 Temperature control

192.168.1.11
PLC 2
Process 2 Pick and Place

192.168.1.12
PLC 3
Process 3 Conveyors control

192.168.1.13
Raspberry
Play sounds and Local data collection

192.168.1.14
Arduino
Home automation, supervision

192.168.1.1
Router (Gate)
VPN

Internet

10.10.0.12
PLC 4
Process 4 (remote) Machine control (VPN network)

10.10.0.15
PC 3
Write/Read TAGS, ALARMS in a Database (VPN network)