

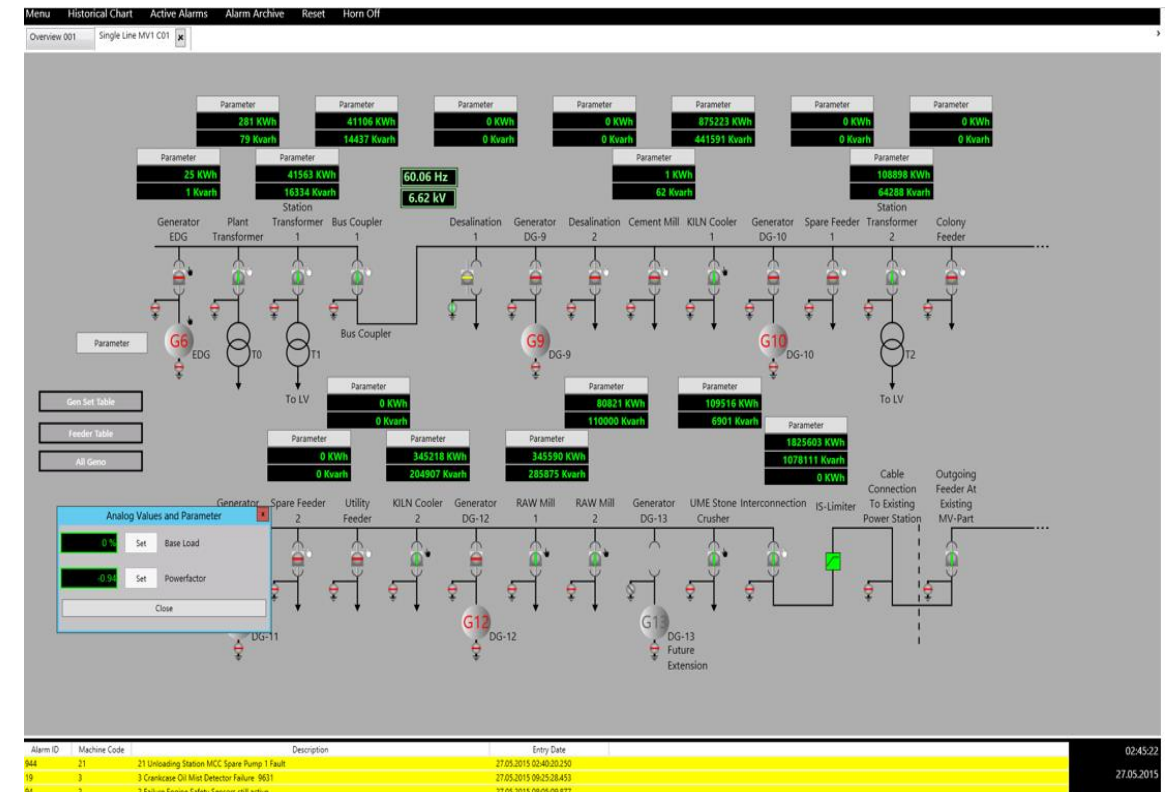


Power Plant Supervisory System

PSS System

Power Plant Supervisory System

Modular System for Visualization / Monitoring / Controlling of Gen.-Sets and Auxiliary Equipment



Power Plant Supervisory System

Modules:

- Alarming - Active and Historical Alarms
- Trending / Histogram
- Display and Control of Piping and Industrial Diagrams
- Standardizations - Editable Coding of Analog and Digital Values in PLC
- Maintenance Module - Manage Alarms and Tasks for Maintenance Power Plant Auxiliaries
- Print Screen Module
- Customer specific modules

Typical Applications



**Diesel/Gas Engine
Power Plant**



**Gas/Steam Turbine
Power Plant**

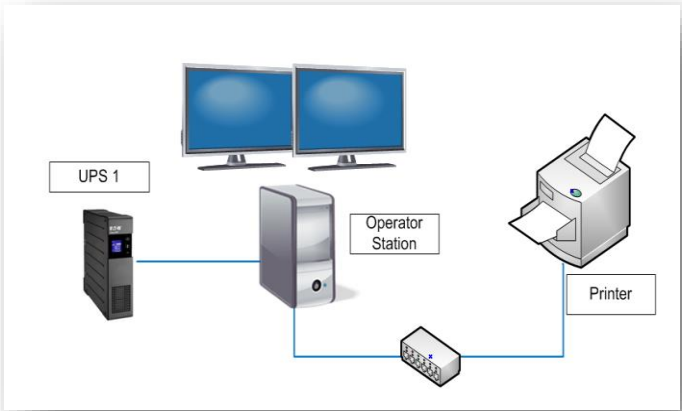


**Hybrid
Power Plant**

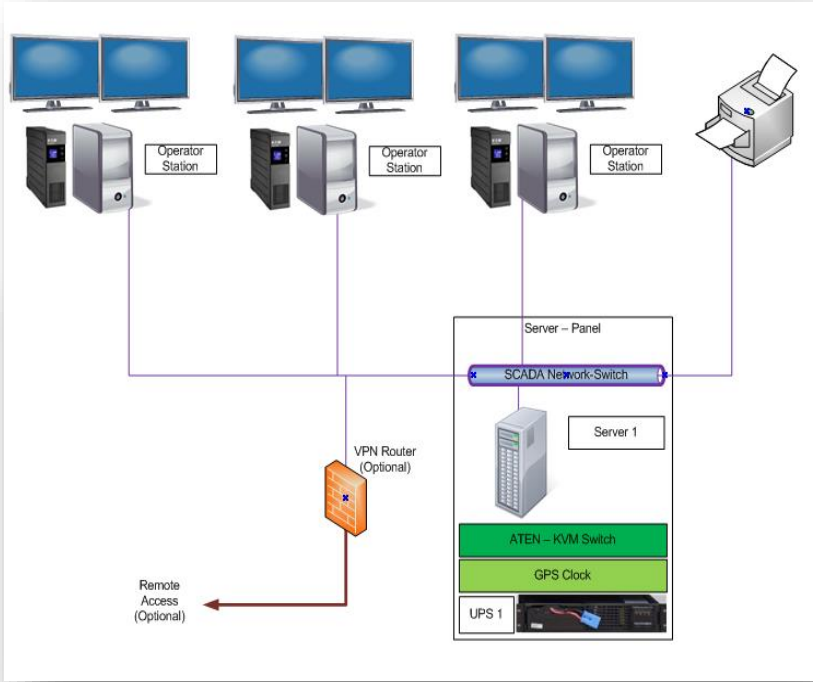
Scalable System for Supervisory:

- Allows power plants through all power ranges.
- The number of servers adapts to the size of the power plant and requirements.
- The system supports full redundancy.

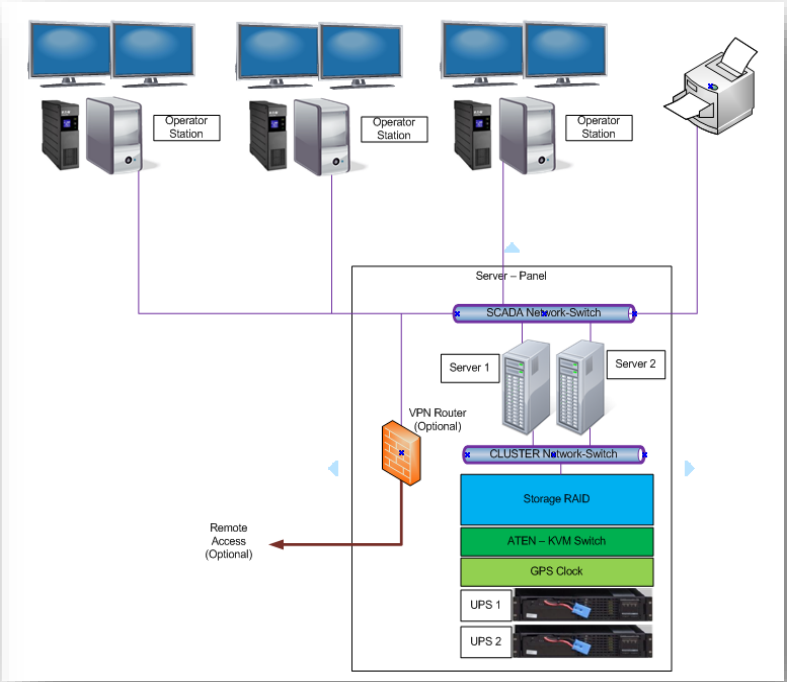
Scalable System



Single Stand-alone Solution



Client Server Solution



Redundant RAID Client Server Solution

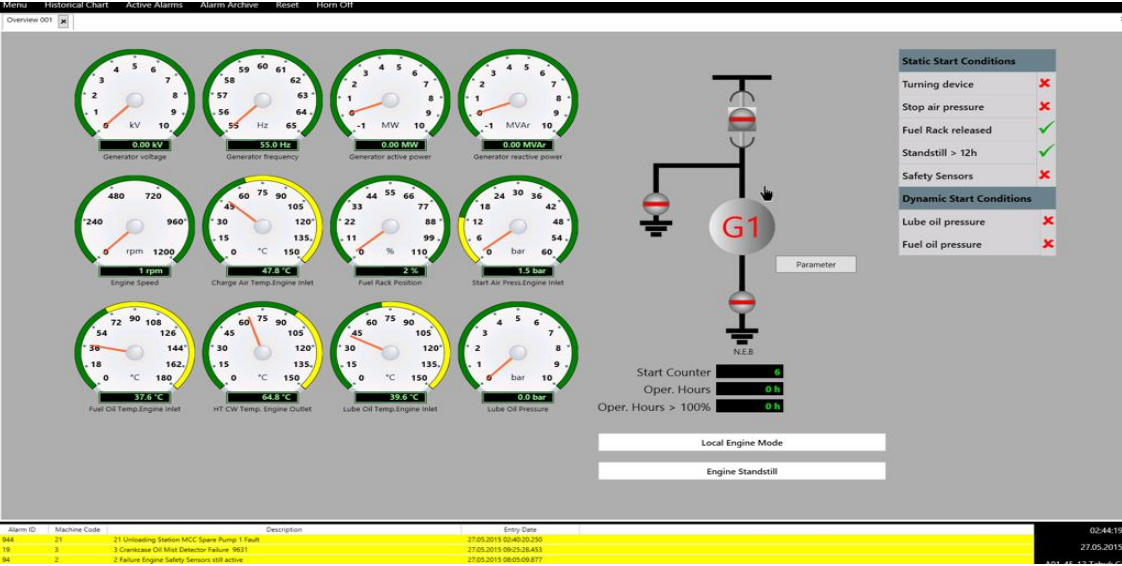
Gen.-Set PSS Features

- Main menu with the complete overview of each gen.-set
- Process pictures of the different media like fuel oil, cooling water, lube oil, exhaust, etc.
- Single line diagram with indication of the circuit breaker, display of all electrical measurements
- Historical trend data logger with selectable input values of almost all of the analog values
- Protocol list of active and archived alarms/messages (printable)
- Long-term storage and print-out of data and events
- Remote monitoring and control of the Gen.-Set
- Manual start/stop
- Selection of operation mode
- Selection of fuel
- Parameter setting

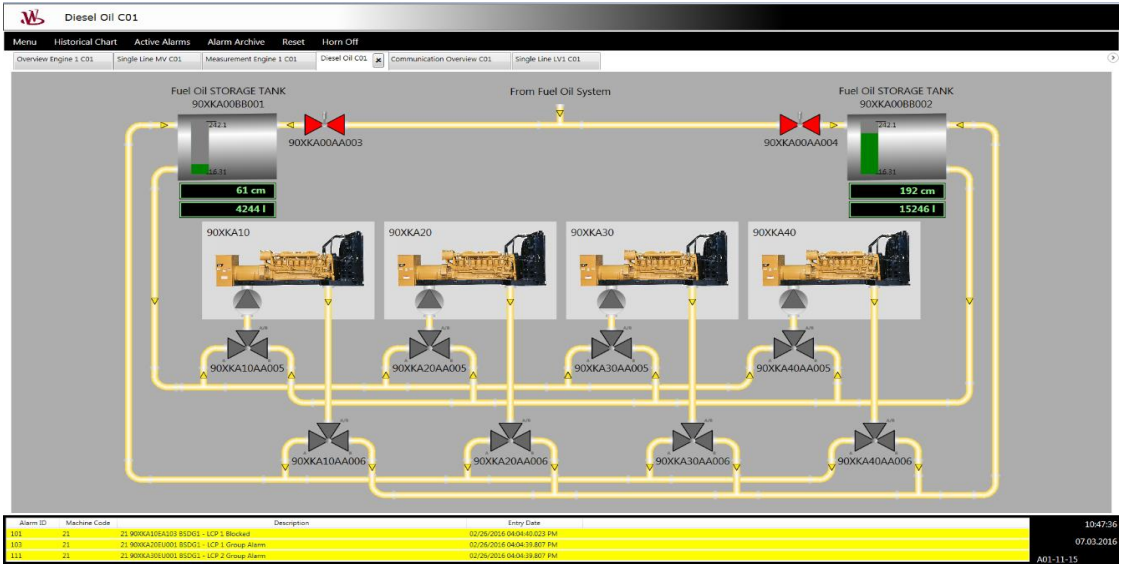
Plant PSS Features

- Main menu with the layout of the power station and its most important components shown as a process picture
- Fading of significant events into the relevant station components
- Selection of the individual control systems
- Remote monitoring and control of "HV" and "MV" systems
- Power Station Load Management System
- Transmission of control and switching commands to the respective systems (with password protection)
- Long-term storage and print out of the data and events stored in the individual subsystems
- Historical trend data logger with selectable input values of almost all of the analogue values
- Protocol list of active and archived alarms/messages (printable)
- Communication overview / status
- Single line diagram of "HV" and "MV" systems
- Histograms (printable)
- Process pictures of the different common systems like fuel oil, cooling water, lube oil, thermal oil, compressed air, etc.

Screenshots - Control View / Fuel Management

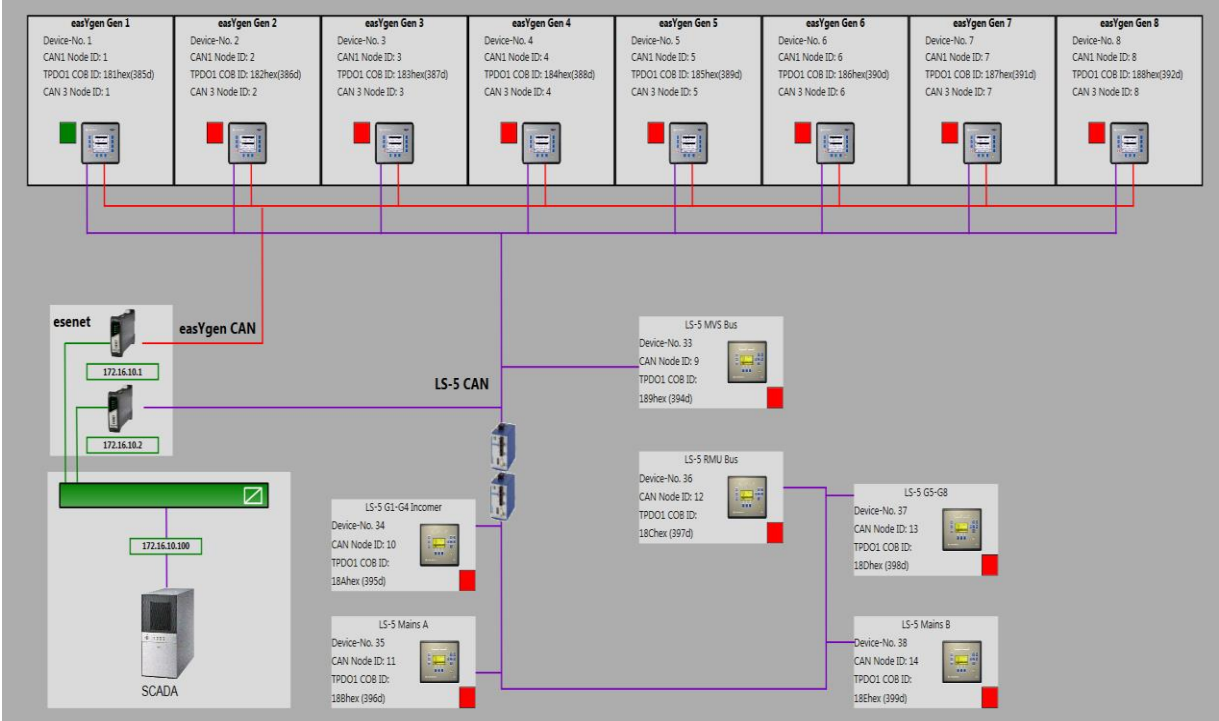
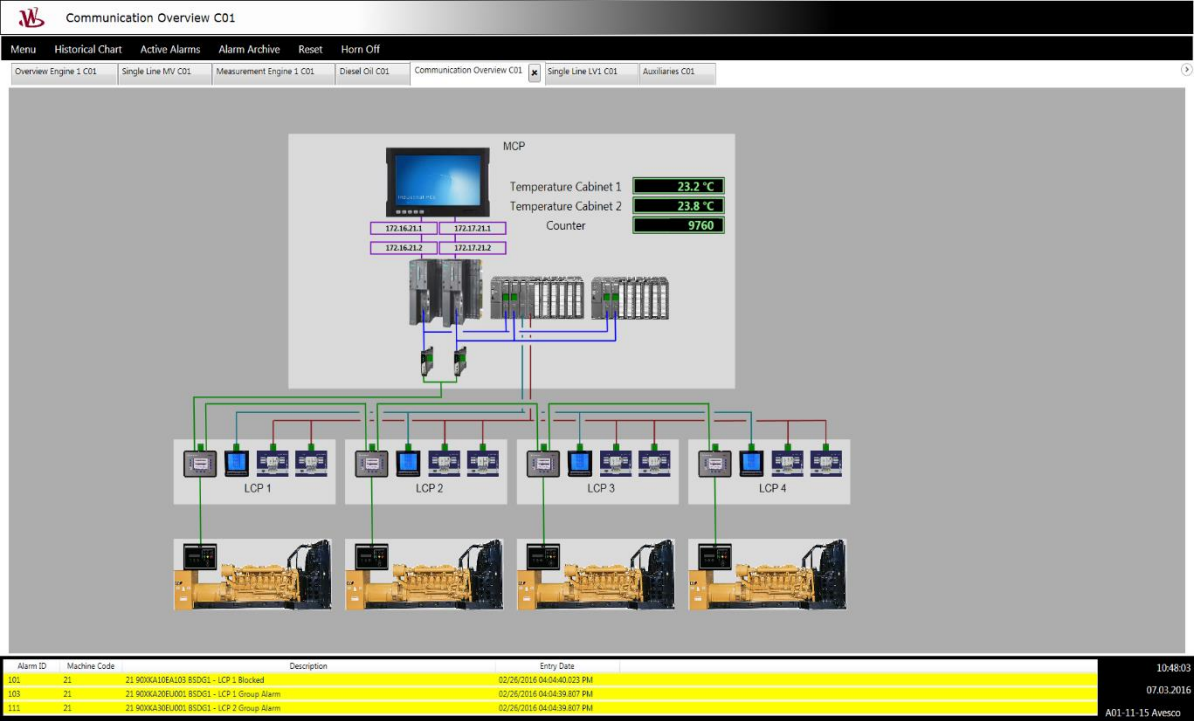


Control View



Fuel Management

Communication Overview / Topology



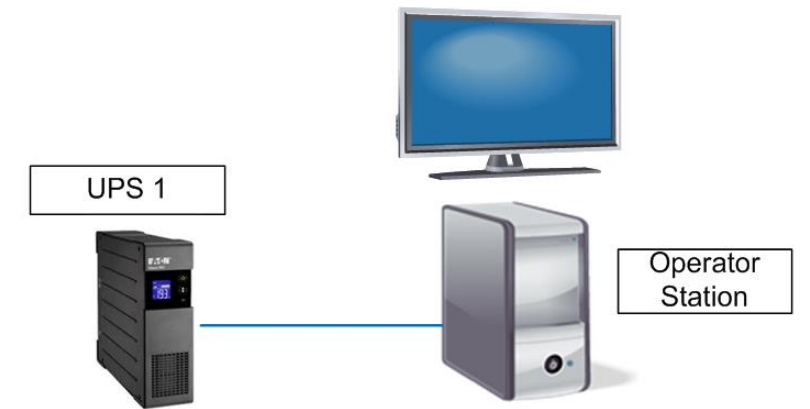
Woodward provides complete IT Hardware

SCADA System - Single Stand-alone IPC

IPCS System consists of:

- Independant personal computer(s), midi tower industrial type
 - Operating System: Microsoft windows 7
 - Microsoft SQL Server Express
 - OPC driver
 - 500GB HD for 24/7 operation (1 x spare)
 - Ethernet network interfaces
- UPS 1500VA, stand-alone
- Color graphic TFT monitor, 22" 16:9 format high resolution
- Application software - Wonderware Intouch

SCADA Hardware Topology

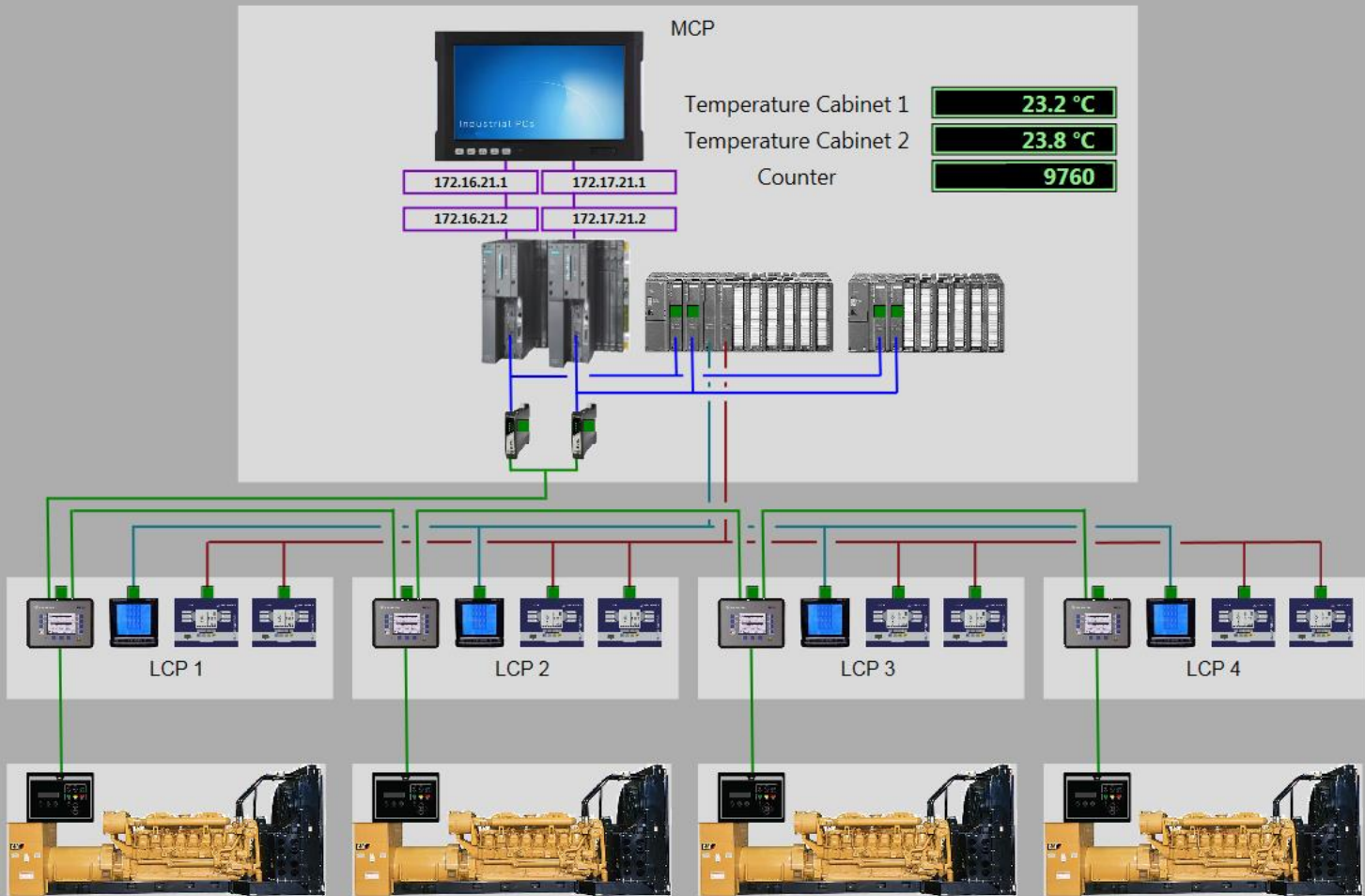


(figure 1: principle hardware topology - single stand-alone IPC)



Attachments

SCREENSHOTS of an Application Example



Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Name	LimitValue	SourceText
▶ 1		0.00	
▶ 2		0.00	
▶ 3		0.00	
▶ 4		0.00	
▶ 5		0.00	
▶ 6		0.00	
▶ 7		0.00	
▶ 8		0.00	
▶ 9		0.00	
▶ 10		0.00	
▶ 11		0.00	
▶ 12		0.00	
▶ 13		0.00	
▶ 14		0.00	
▶ 15		0.00	
▶ 16		0.00	
▶ 17		0.00	
▶ 18		0.00	
▶ 19		0.00	
▶ 20		0.00	
▶ 21		0.00	
▶ 22		0.00	
▶ 23		0.00	
▶ 24		0.00	

Name

Type Analog Analog Limit Digital Input Digital Coding

Source

Rev. Date

Greater than

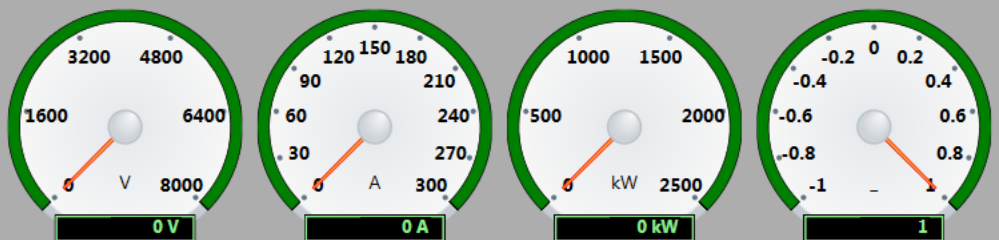
Less than

Limit V

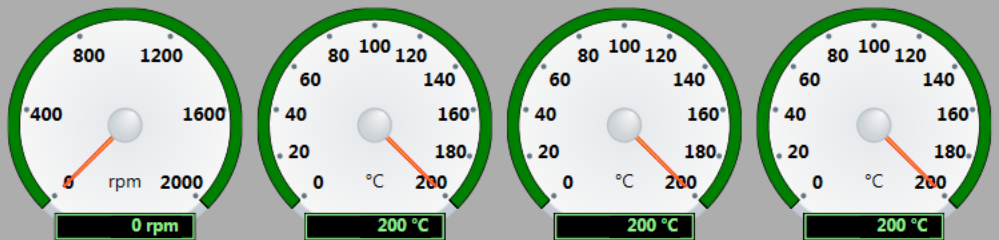
Save

Undo / Reload

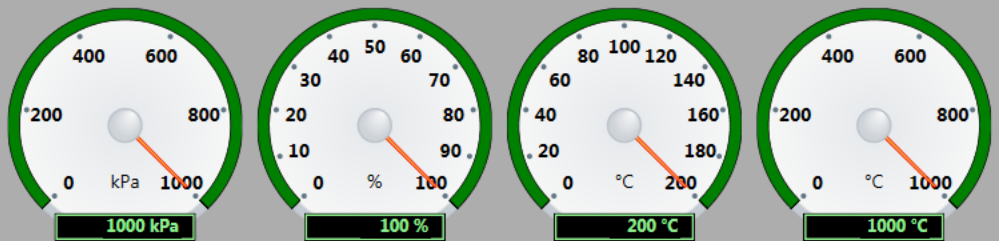
Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



BSDG1 Phase to phase voltage U12 BSDG1 Phase current 1 BSDG1 Sum active power +/- BSDG1 Sum power factor - leading and + lagging



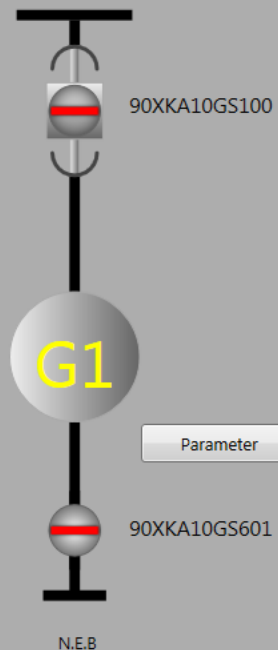
BSDG1 Engine Speed (j1939-EEC1) BSDG1 Engine Coolant Temperature (j1939-ET1) BSDG1 Fuel temperature (j1939-ET1) BSDG1 Engine Oil Temperature (j1939-ET1)



BSDG1 Engine Oil Pressure (j1939-EFL/P1) BSDG1 Engine oil level (j1939-EFL/P1) BSDG1 Air inlet temperature (j1939-AMB) BSDG1 Exhaust Gas Temp.(j1939-JC1)

BSDG 1 Test with Load Mode

BSDG 1 Test without Load Mode



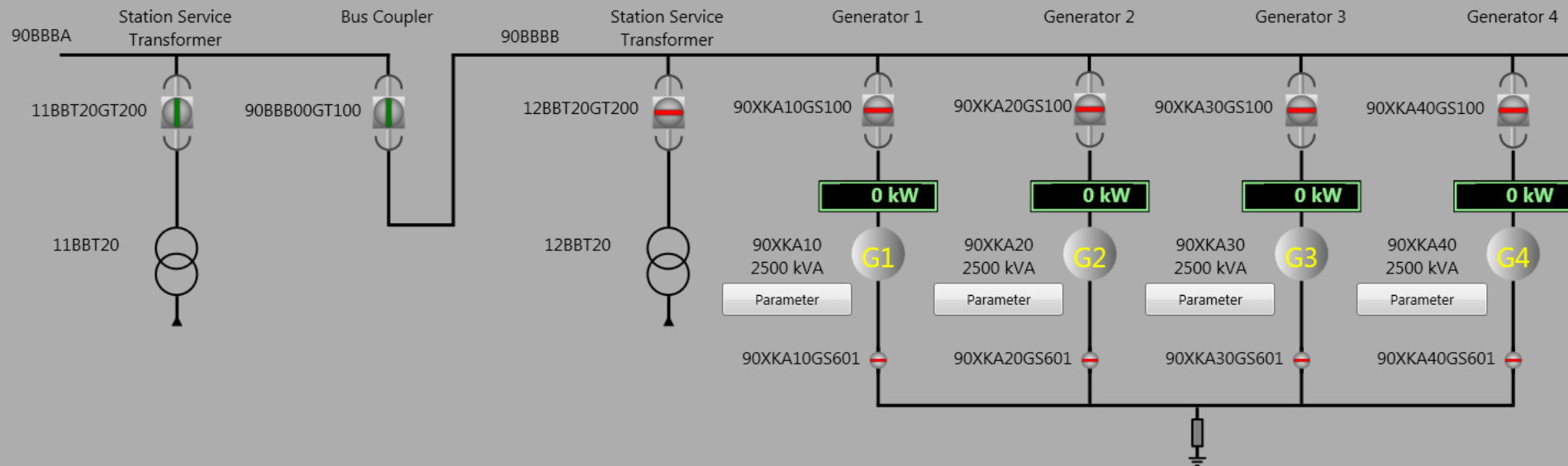
Start Request 163
Operating Hours 9 h

Active Energy 46329 kWh
Reactive Energy 0 kvarh
Apparent Energy 46757 kVAh

Stop Mode

Engine Standstill

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM

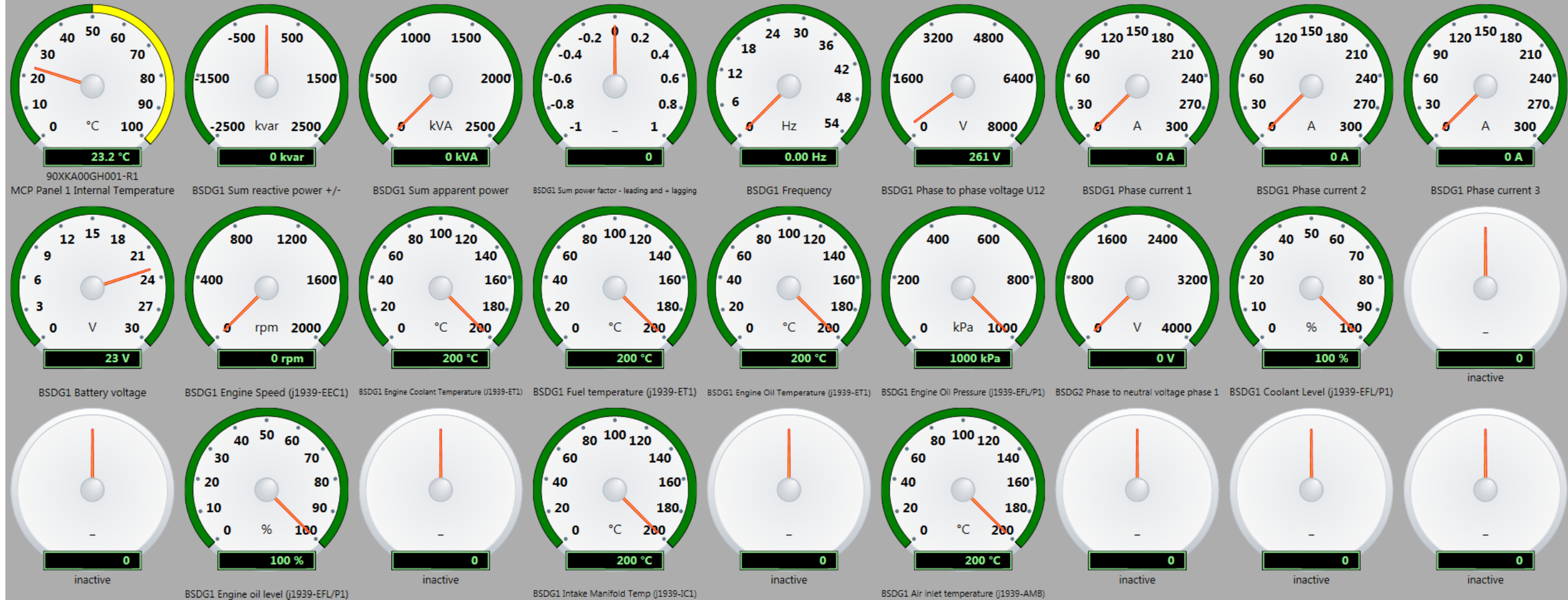


Single Line LV1 C01

BSDG Black Start Mode

Gen Set Table

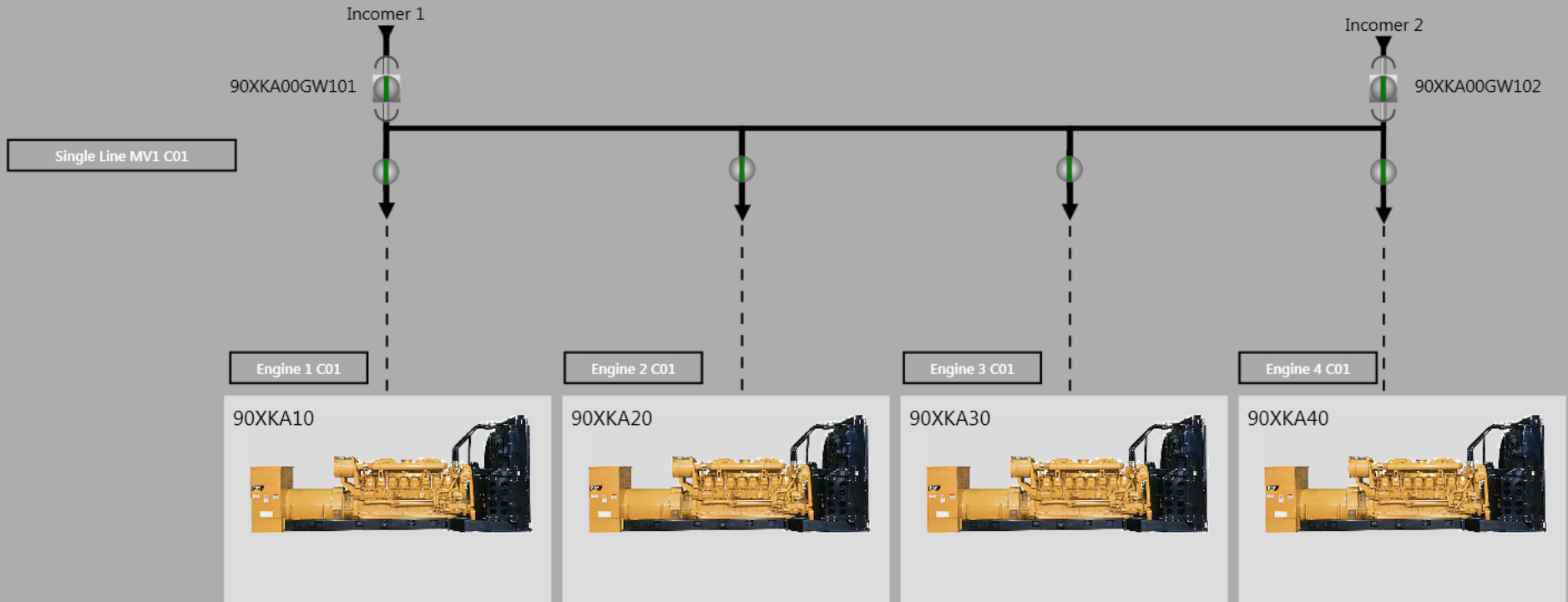
Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



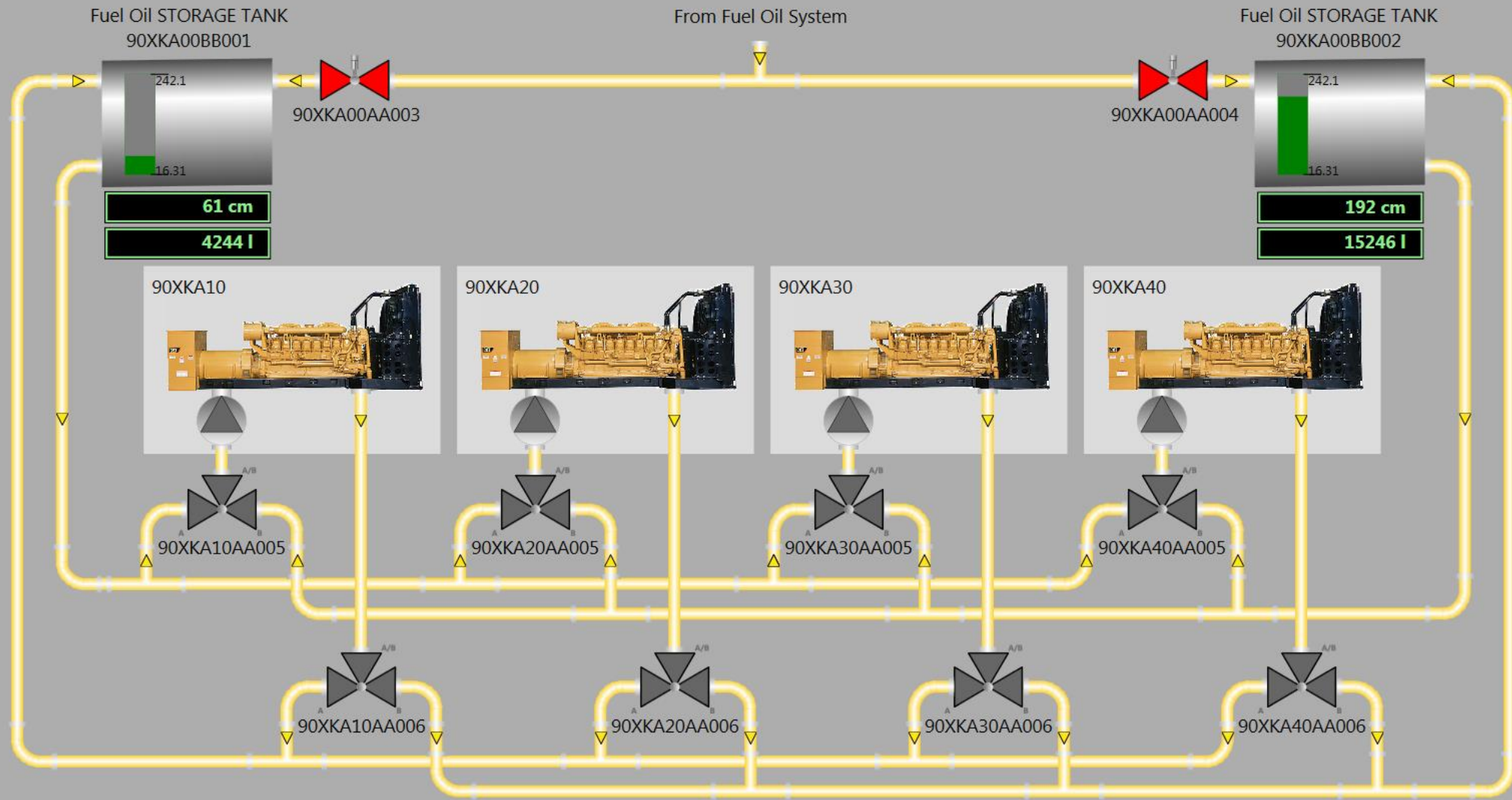
Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM





Low Voltage Distribution Bord



Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM





Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM

23.2 °C

Air Condition Regulator 1 Cabinet 1 Fan

23.8 °C

Air Condition Regulator 2 Cabinet 2 Fan

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Name	CurrentValueDetail
▶ 1	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm]	61 cm
▶ 2	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [l]	4244 l
▶ 3	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm]	192 cm
▶ 4	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [l]	15246 l
▶ 5	90XKA00CL002 Fuel Oil Tank 1 Level Transmitter [cm]	154 cm
▶ 6	90XKA00CL002 Fuel Oil Tank 1 Level Transmitter [l]	12119 l
▶ 7	90XKA00CL004 Fuel Oil Tank 2 Level Transmitter [cm]	17 cm
▶ 8	90XKA00CL004 Fuel Oil Tank 2 Level Transmitter [l]	519 l
▶ 9	inactive	0
▶ 10	90XKA00GH001 MCP Panel 1 Internal Temperature	23.2 °C
▶ 11	90XKA00GH001 MCP Panel 2 Internal Temperature	23.8 °C
▶ 12	inactive	0
▶ 13	inactive	0
▶ 14	inactive	0
▶ 15	inactive	0
▶ 16	inactive	0
▶ 17	inactive	0

Name: 90XKA00CL002 Fuel Oil Tank 1 Level Transmitter [cm]

Source: 9 Fuel Oil Tank 1 Level Transmitter

Type: 7 4 - 20 mA with polygon and wire break

Rev. Date: 2/16/2016 3:59:52 PM

Add Offset: 0 0

Offset: 0 cm Scale Value: 16 cm 242 cm

Decimal Point: 0 Instrument Range: 16 cm 242 cm

Unit: cm Limit Range: 16 cm 242 cm

Dicare 0 Logging

Save Undo / Reload

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Description	Source	AlarmState	RevisionDate
1	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm] Level Low Low	701		2/18/2016 02/18/2016 03:51:09.093 PM
2	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm] Level High High	701		2/18/2016 02/18/2016 03:14:10.697 PM
3	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm] Level Low Low	703		2/18/2016 02/18/2016 03:50:20.310 PM
4	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm] Level High High	703		2/18/2016 02/18/2016 03:42:52.130 PM
7	90XKA00GH001 MCP Panel 1 Internal Temperature High	10		2/15/2016 02/15/2016 02:51:48.317 PM
8	90XKA00GH001 MCP Panel 2 Internal Temperature High	11		2/15/2016 02/15/2016 02:52:24.333 PM
5	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
6	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
9	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
10	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
11	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
12	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
13	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
14	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
15	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
16	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
17	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM
18	inactive	10000		2/12/2016 02/12/2016 12:23:50.000 PM

Name: 90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm] Level High High

Rev. Date: 2/18/2016 3:14:10 PM

Source: 701 90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm]

Compare with: 0 0

Alarm group: No Group

Activation: No Condition

Limit: 225.00

Operator: > < Warning

Hysteresis: 1

Pre Alarm: Delay time[s]: Dicare: 1.0

Status Registration: Load Reduction: Stop with Recooling: Direct Stop:

0 0 0 0

10:48:57 AM

Save Undo / Reload

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Name	Unit	Value
1	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm] Level Low (Open Valve 90XKA00AA003)	cm	51.60
2	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm] Level High (Close Valve 90XKA00AA003)	cm	209.90
3	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm] Level Low (Open Valve 90XKA00AA004)	cm	51.60
4	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm] Level High (Close Valve 90XKA00AA004)	cm	209.90
5	Not Used		0.00
6	Not Used		0.00
7	Cabinet 1 Fan Start Setpoint	°C	30.00
8	Cabinet 1 Fan Stop Setpoint	°C	25.00
9	Cabinet 2 Fan Start Setpoint	°C	30.00
10	Cabinet 2 Fan Stop Setpoint	°C	25.00
11	Not Used		0.00
12	Not Used		0.00
13	Air Conditioning 1 Temperature Setpoint	°C	32.00
14	Air Conditioning 2 Temperature Setpoint	°C	32.00
15	Not Used		0.00
16	Not Used		0.00
17	Not Used		0.00
18	Not Used		0.00
19	Not Used		0.00
20	Not Used		0.00
21	Not Used		0.00
22	Not Used		0.00
23	Not Used		0.00
24	Not Used		0.00
25	Not Used		0.00

Name

Unit Value

Rev. Date

Save
 Undo / Reload

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Description	Name	AlarmState	RevisionDate
1	90XKA00AG001A BSDG Black Start Command	90XKA00AG001A BSDG Black Start Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
2	90XKA00AG001B BSDG Stop Command	90XKA00AG001B BSDG Stop Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
3	90XKA00AG001C Emergency Start Command	90XKA00AG001C Emergency Start Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
4	12BBT20GT200A Initiate Back Synchronizing of STT on BBB	12BBT20GT200A Initiate Back Synchronizing of STT on BBB	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
5	12BBT20GT200B Back Synchronizing On BBB Stop Command	12BBT20GT200B Back Synchronizing On BBB Stop Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
6	11BBT20GT200A Initiate Back Synchronizing of SST on BBA	11BBT20GT200A Initiate Back Synchronizing of SST on BBA	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
7	11BBT20GT200B Back Synchronizing on BBA Stop Command	11BBT20GT200B Back Synchronizing on BBA Stop Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
8	90XKA10AG001 BSDG 1 Test With Load Command	90XKA10AG001 BSDG 1 Test With Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
9	90XKA20AG001 BSDG 2 Test With Load Command	90XKA20AG001 BSDG 2 Test With Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
10	90XKA30AG001 BSDG 3 Test With Load Command	90XKA30AG001 BSDG 3 Test With Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
11	90XKA40AG001 BSDG 4 Test With Load Command	90XKA40AG001 BSDG 4 Test With Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
12	90XKA10AG002 BSDG 1 Test Without Load Command	90XKA10AG002 BSDG 1 Test Without Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
13	90XKA20AG002 BSDG 2 Test Without Load Command	90XKA20AG002 BSDG 2 Test Without Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
14	90XKA30AG002 BSDG 3 Test Without Load Command	90XKA30AG002 BSDG 3 Test Without Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
15	90XKA40AG002 BSDG 4 Test Without Load Command	90XKA40AG002 BSDG 4 Test Without Load Command	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
16	MCP Emergency Stop	MCP Emergency Stop	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
17	90BBA00CE014_HG01 MV 90BBA Incomer Measuring for BSDG Disturbed	90BBA00CE014_HG01 MV 90BBA Incomer Measuring for BSDG Disturbed	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
18	90BBB00CE014_HG01 MV 90BBB Incomer Measuring for BSDG Disturbed	90BBB00CE014_HG01 MV 90BBB Incomer Measuring for BSDG Disturbed	<input type="checkbox"/>	2/18/2016 02/18/2016 08:59:48.000 AM
19	90BBB00CE044_HG01 MV 90BBB Busbar Measuring for BSDG Disturbed	90BBB00CE044_HG01 MV 90BBB Busbar Measuring for BSDG Disturbed	<input type="checkbox"/>	2/20/2016 02/20/2016 07:46:11.040 AM

26 5 0 1

Name

Rev. Date

Alarm group

Activation

Source

Normally close Status Registration

Pre Alarm Warning

Delay time[s] Load Reduction

Dicare Stop with Recooling

 Direct Stop

Save Undo / Reload

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



- Digital Input
- Analog Inputs
- Analog Types
- Alarm Groups
- Activations
- Digital Codings
- Analog Standardization
- Analog Limits
- Redundant Analog Standardization
- Control Settings
- Start Preparations
- Analog Display Settings

Read coding files

Select Source: Load File to Visualization Load File to Visualization and PLC Load PLC from Visualization DB

Source Folder:

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



ID	Name	RevisionDate	CurrentValueDetail
701	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [cm]	02/12/2016	61 cm ¹
702	90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [l]	02/12/2016	4244 l ¹
703	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [cm]	02/12/2016	192 cm ¹
704	90XKA00CL003 Fuel Oil Tank 2 Level Transmitter [l]	02/12/2016	15246 l ¹
705	inactive	02/12/2016	-
706	inactive	02/12/2016	-
707	inactive	02/12/2016	-
708	inactive	02/12/2016	-
709	inactive	02/12/2016	-
710	inactive	02/12/2016	-
711	inactive	02/12/2016	-
712	inactive	02/12/2016	-
713	inactive	02/12/2016	-
714	inactive	02/12/2016	-
715	inactive	02/12/2016	-
716	inactive	02/12/2016	-
717	inactive	02/12/2016	-

Name: 90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [l] Instrument Range:

Rev. Date: 2/12/2016 12:23 PM Limit Range:

Source 1: 90XKA00CL001 Fuel Oil Tank 1 Level Transmitter [l]

Source 2: 90XKA00CL002 Fuel Oil Tank 1 Level Transmitter [l]

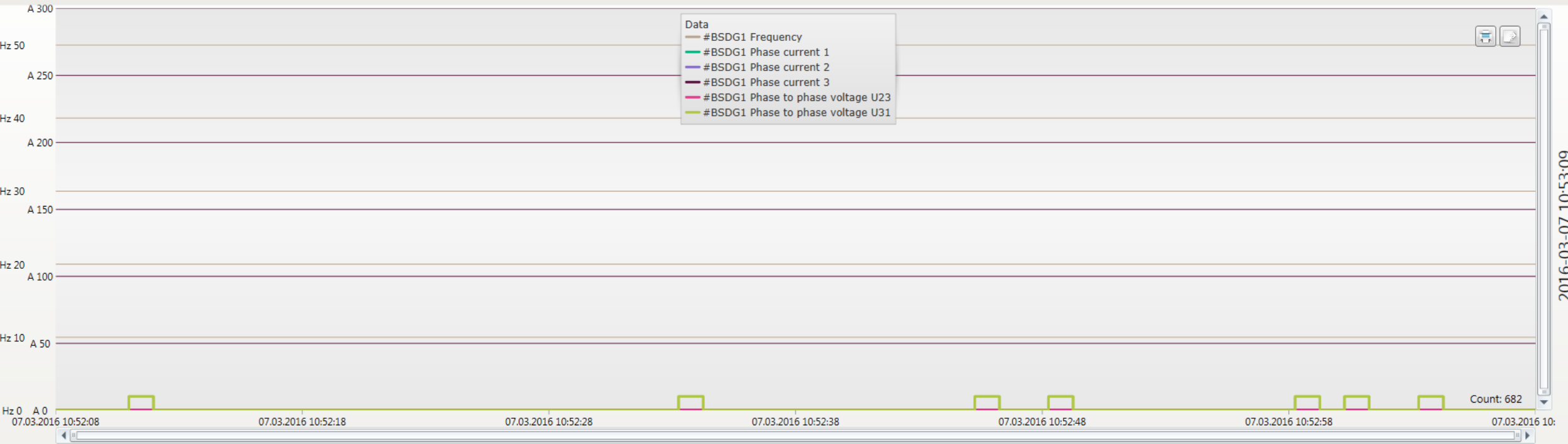
Plausibility Value: xxx

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM

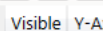


Live History

Time Frame: 1 Minutes play



Settings



Visible	Y-Axis	Y-Axis Offse	Color	Chart Type	Title
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	█	Stepline	C01 BSDG1 Frequency
<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	█	Stepline	C01 BSDG1 Phase current 1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	█	Stepline	C01 BSDG1 Phase current 2
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	█	Stepline	C01 BSDG1 Phase current 3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	█	Stepline	C01 BSDG1 Phase to phase voltage U23
<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	█	Stepline	C01 BSDG1 Phase to phase voltage U31

Chart display

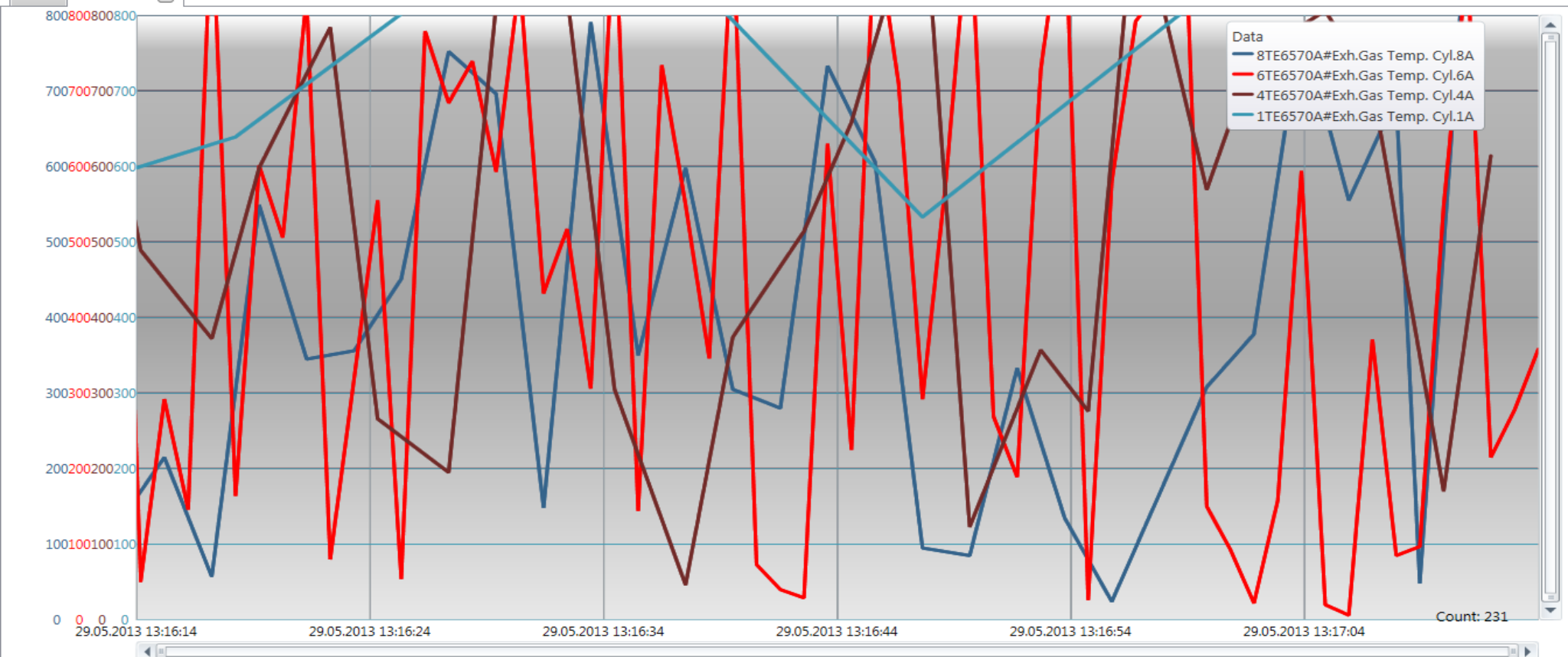
Legend
 Count

X-Axis

Automatic
 Manual

Interval: 30 Minutes

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



Historical Data

Start: 05/29/2013 13:16

Ende: 05/29/2013 13:17

Layout

Interval X-Achse: []

Legende

Fadenkreuz

Live Data

Time frame: 1 Minutes

2013-05-29 13:17:14

Hist Live Save Load Print Save DF

Visible	Y-Axis	Y-Axis offset	Color	Chart type	Titel
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	[Blue]	Line	8TE6570A#Exh.Gas Temp. Cyl.8A
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	[Red]	Line	6TE6570A#Exh.Gas Temp. Cyl.6A
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	[Brown]	Line	4TE6570A#Exh.Gas Temp. Cyl.4A
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	[Cyan]	Line	1TE6570A#Exh.Gas Temp. Cyl.1A

Alarm Priority	Active	Value
4	4	TestAlarm4 db145.0004
5	4	TestAlarm5 db145.0005
6	4	TestAlarm6 db145.0006



Machine Code	Alarm ID	Priority	Description	Entry Date
21	101	3	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	2/26/2016 02/26/2016 04:04:40.023 PM
21	103	3	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	2/26/2016 02/26/2016 04:04:39.807 PM
21	111	3	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	2/26/2016 02/26/2016 04:04:39.807 PM
21	119	3	21 90XKA40EU001 BSDG1 - LCP 3 Group Alarm	2/26/2016 02/26/2016 04:04:39.807 PM
21	127	3	21 90XKA40EU001 BSDG1 - LCP 4 Group Alarm	2/26/2016 02/26/2016 04:04:39.807 PM
21	104	1	21 90XKA20EU002 BSDG1 - LCP 1 Group Fault	2/26/2016 02/26/2016 04:04:39.807 PM

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM



Options

Alarms

Groups Date Begin 01/04/2016 Time Begin 10:53 AM

Types Date End 03/07/2016 Time End 10:53 AM

Criteria

active not active active & not active

acknowledged not acknowledged acknowledged & not acknowledged

Load Archive Print Archive

ID	Machine Code	Alarm ID	Priority	Description	Entry Date	Ack Timestamp	Del Timestamp
713521	21	49	4	BSDG Locked	03.02.2016 12:27:50.117	---	08.02.2016 11:05:23.820
713520	21	53	4	Automatic Synchronizing	03.02.2016 12:27:50.117	---	04.02.2016 11:04:43.187
713519	21	57	4	MV 90BBA Incomer Release Back Synchronizing	03.02.2016 12:27:50.117	05.02.2016 13:27:10.480	06.02.2016 12:26:45.907
713525	21	31	3	Heater Disturbance Alarm MCP	03.02.2016 12:27:50.117	04.02.2016 10:28:22.800	05.02.2016 15:22:58.973
713524	21	37	3	Neutral Grounding Panel M.C.B. Trip 24V/DC	03.02.2016 12:27:50.117	04.02.2016 10:28:22.797	05.02.2016 12:42:10.557
713523	21	38	3	Neutral Grounding Panel M.C.B. Trip Panel Heater	03.02.2016 12:27:50.117	04.02.2016 10:28:22.790	05.02.2016 12:42:10.557
713522	21	39	3	Neutral Grounding Panel M.C.B. Trip Socket / Lighting	03.02.2016 12:27:50.117	04.02.2016 10:28:22.777	05.02.2016 12:42:10.557
713518	21	69	3	Low Voltage Distribution Board Incomer 1 CB Undervoltage	03.02.2016 12:27:50.117	04.02.2016 10:28:22.763	05.02.2016 14:16:59.897
713517	21	72	3	Low Voltage Distribution Board Incomer 1 MCB Common Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.760	05.02.2016 14:16:59.897
713516	21	77	3	Low Voltage Distribution Board Incomer 2 CB Undervoltage	03.02.2016 12:27:50.117	04.02.2016 10:28:22.753	05.02.2016 14:16:59.897
713515	21	80	3	Low Voltage Distribution Board Incomer 2 MCB Common Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.750	05.02.2016 14:16:59.897
713514	21	87	3	230V/AC MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.747	05.02.2016 15:22:58.973
713513	21	88	3	24V/DC MCB Distribution Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.743	05.02.2016 08:04:30.290
713512	21	95	3	Low Voltage Distribution Board Internal 230V/AC Distribution Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.740	05.02.2016 15:26:20.007
713511	21	96	3	Low Voltage Distribution Board Internal 400V/AC Distribution Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.733	05.02.2016 15:26:20.007
713510	21	129	3	MV 90BBB Busbar Measuring / Synchronizing Voltage MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.730	05.02.2016 08:04:30.290
713509	21	130	3	MV 90BBA Incomer Measuring / Synchronizing Voltage MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.727	05.02.2016 15:27:23.697
713508	21	131	3	MV 90BBB Incomer Measuring / Synchronizing Voltage MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.723	05.02.2016 15:27:23.697
713507	21	133	3	Measuring / Synchronizing Voltage to BSDG1 MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.717	05.02.2016 08:04:30.290
713506	21	134	3	Measuring / Synchronizing Voltage to BSDG2 MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.713	05.02.2016 08:04:30.290
713505	21	135	3	Measuring / Synchronizing Voltage to BSDG3 MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.710	05.02.2016 08:04:30.290
713504	21	136	3	Measuring / Synchronizing Voltage to BSDG4 MCB Trip	03.02.2016 12:27:50.117	04.02.2016 10:28:22.707	05.02.2016 08:04:30.290
713503	21	399	3	PLC Program Execution Error	03.02.2016 12:27:50.117	04.02.2016 10:28:22.700	05.02.2016 12:30:12.233

Alarm ID	Machine Code	Description	Entry Date
101	21	21 90XKA10EA103 BSDG1 - LCP 1 Blocked	02/26/2016 04:04:40.023 PM
103	21	21 90XKA20EU001 BSDG1 - LCP 1 Group Alarm	02/26/2016 04:04:39.807 PM
111	21	21 90XKA30EU001 BSDG1 - LCP 2 Group Alarm	02/26/2016 04:04:39.807 PM

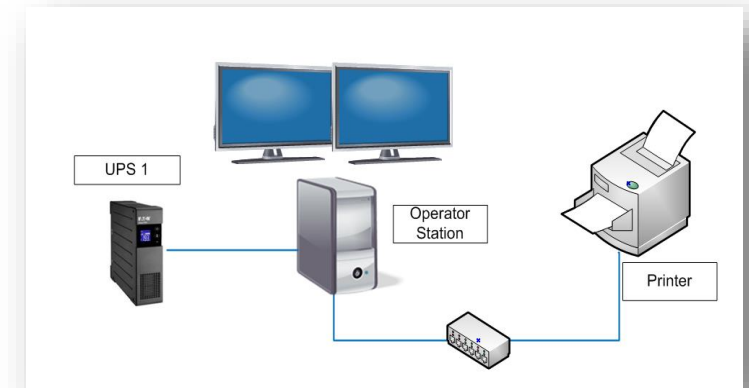
Supervisory System - Variants

Supervisory System - Single Stand-Alone

1 Independent personal computer(s), midi tower industrial type, with Intel processor, with appropriate performance and memory capacity (Operator Station)

This IPC system is equipped with the following:

- 1 Operating system Microsoft Windows 7
 - 1 Microsoft SQL Server
 - 1 OPC driver
 - 2 500GB hard disk for 24/7 operation
 - 1 RAID controller for data synchronization of both hard disks
 - 2 Ethernet network card
- 1** UPS 1500 VA, stand-alone
 - 2** Color graphic TFT monitor, 24" 16:9 format with high resolution
 - 1** Color laser printer, LAN, WLAN, USB, DIN A4 format with cartridges



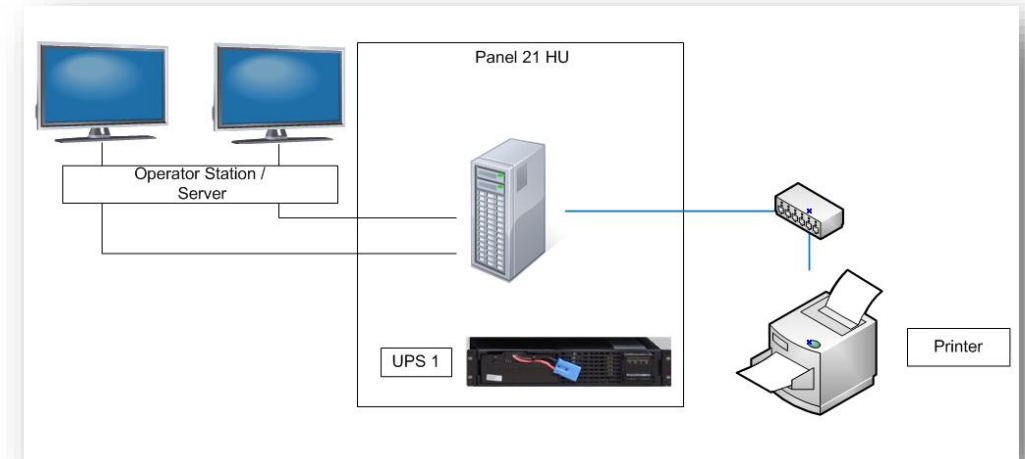
Supervisory System - Server-Panel IPC

1 Independent personal computer(s), 19" rack PC industrial type, with Intel processor, with appropriate performance and memory capacity (Operator Station)

This IPC system is equipped with the following:

- 1 Operating system Microsoft Windows 7
- 1 Microsoft SQL Server
- 1 OPC driver
- 2 500GB hard disk for 24/7 operation
- 1 RAID controller for data synchronization of both hard disks
- 2 Ethernet network card

- 1** UPS 1500 VA, 19" rack type for single IPC without network
- 2** Color graphic TFT monitor, 24" 16:9 format with high resolution
- 1** Color laser printer, LAN, WLAN, USB, DIN A4 format with cartridges

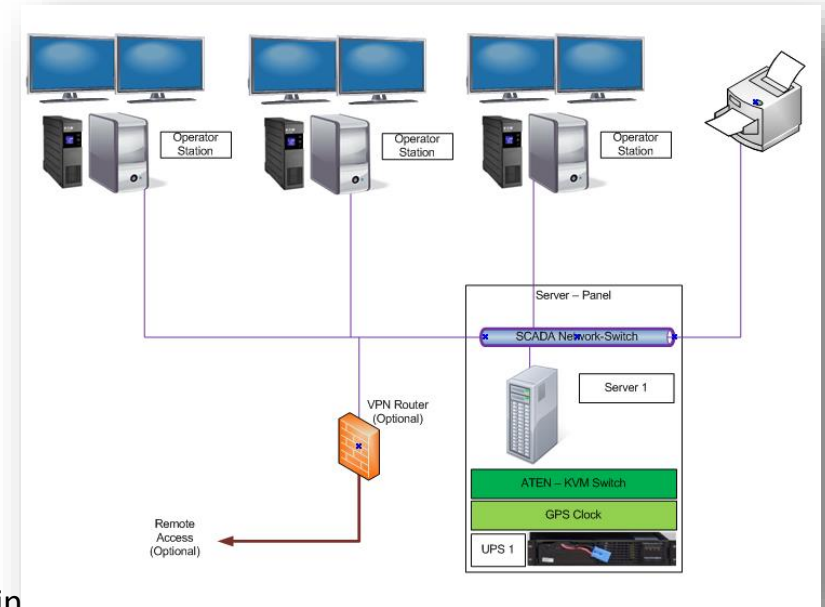


Supervisory System - Client Server System

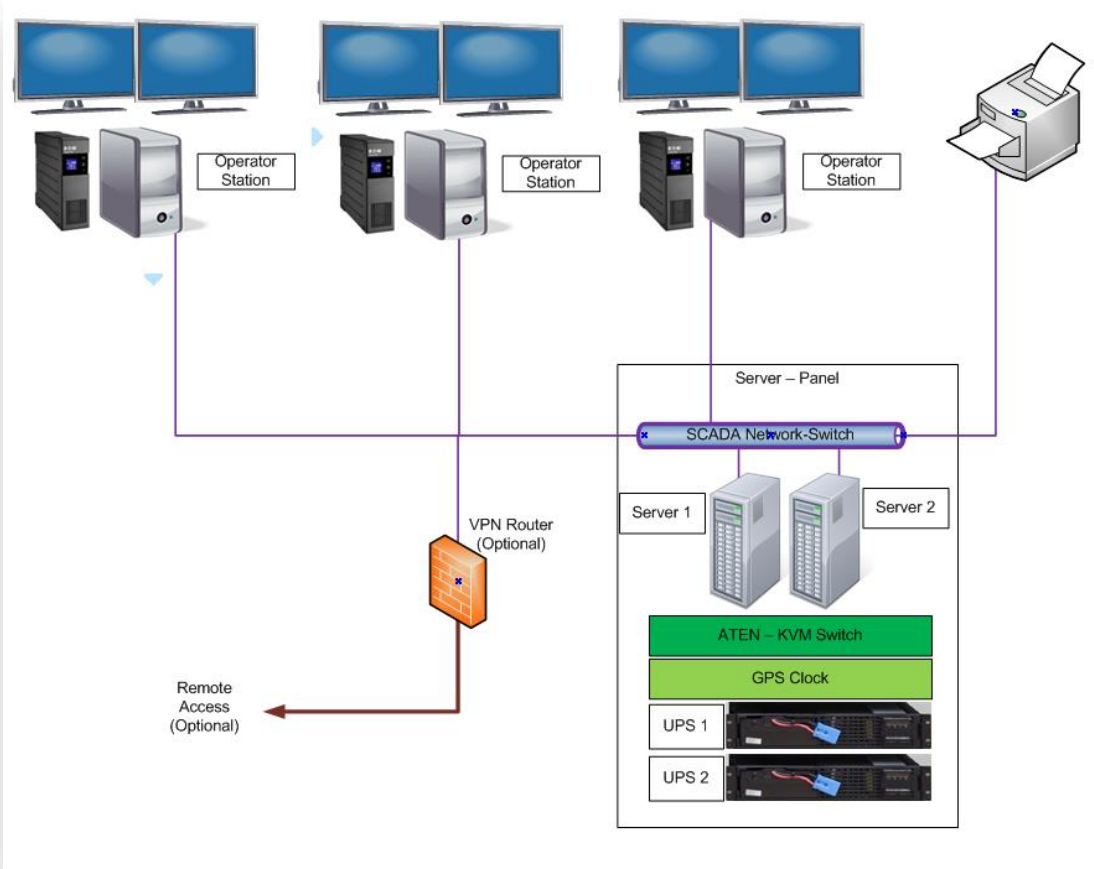
1 Independent personal computer(s), 19" rack PC industrial type, with Intel processor, with appropriate performance and memory capacity (Server Station)

This IPC is equipped with the following:

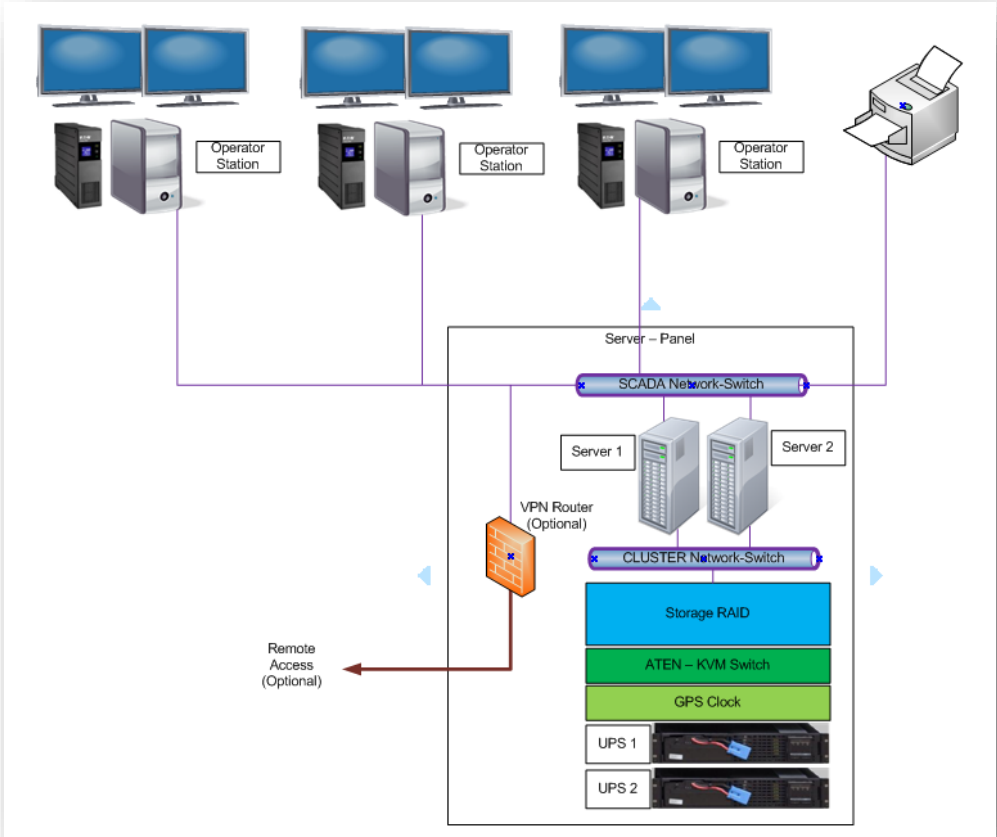
- 1 Operating system Microsoft Windows Server
 - 1 Microsoft SQL Server
 - 1 OPC driver
 - 2 500GB hard disk for 24/7 operation
 - 1 RAID controller for data synchronization of both hard disks
 - 2 Ethernet network card
 - 1 UPS 1500 VA, 19" rack type with network
 - 1 KVM switch - rack console
1. 17" TFT Display, keyboard and touchpad for administration of all server systems in the server panel.
 - 1 GPS clock incl. protection
 1. 19" GPS Receiver for time synchronization with external antenna and preassembled coaxial cable 20m



Supervisory System - Redundant Client Server



Supervisory System - Red. Raid Client Server





WOODWARD

Always Innovating for a Better Future