



TECHNICAL REQUIREMENTS

AUTOMATION AND INSTRUMENTATION

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HMI/SCADA SYSTEM

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1. SCOPE

This Specification covers requirements for HMI/SCADA system

2. REFERENCES

The latest editions of the following publications are to be used with this Specification as applicable:

EEMUA 201 *Process Plant Control Desks Utilizing Human-Computer Interfaces according - A Guide to Design, Operational and Human Interface Issues.*

OL-TR-GR-000 *General Requirements*

OL-TR-IR-000 *Automation and Instrumentation. General*

3. TERMS AND DEFINITIONS

For general terms and definitions see:

OL-TR-IR-000 *Automation and Instrumentation. General*

HMI: Human-Machine Interface.

SCADA: Supervisory Control and Data Acquisition.

4. GENERAL

4.1 SCADA System shall be designed to control, monitor, store, display and log process and equipment operating information and to perform various process control functions and generate various reports.

4.2 New SCADA system must be compatible with new or existence automated control system (DCS, ESD, BMS, etc.) or SCADA systems which is already installed .

4.3 Graphic displays is needed to harmonize with the customers, because different manufacturing units are used to the different conventions.








4.4 For examples of graphic displays see para. 5.

5. DISPLAY EXAMPLES

5.1 Pipes

Pipelines are marked with colored lines, the color depends on the type of product (see Table 1). On the arrow indicates the direction of flow, such as near the pipeline the product name, such as fuel oil.

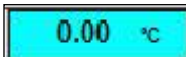


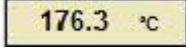
Table 1. Pipelines Display

Fluid	Display	Fluid	Display
Fuel Oil		Chemical Clay Water	
Steam		Condensate	
Gas		Water-Steam Mixture	
Petroleum Products			

5.2 Display Analog Signals

The position of the field contains the current value of the measured parameter and measurement units. In addition to the position of the outdoor unit of a related position. The position of the field background color of the messages related to the alarms nature. For field stats color coding see Table 2.



Table 2. Field Stats Color Coding

Status	Display
No connection with the position: faulty measuring device or broken wire connecting to the measuring device (the alarm is received)	
Parameters received Max. / Min. Emergency (interlocking) limit (alarm is received)	
Parameters received Max. / Min. alarm limit (received alarm)	
Normal operating conditions (no alarm)	

5.3 Discrete Signals

Some of the positions measured at the analog, but only discrete size t. y. signal or not. Such technological positions measured parameter value is displayed as shown in Table 3.

Table 3. Parameters Display







Status	Display
Parameters normal	
Parameters abnormal	

Discrete position signal status is displayed on the field, and the next - the name of the position. Discrete position in the field depends on the color of messages related to alarms nature.

5.4 Valves

Solenoid valve head and the valve body displays the status of corresponding unit processes the color on the screen (see Table 4).




Table 4. Valves Display

Status	Display	Status	Display
Closed		Signal to open (valve intermediate position)	
Signal to close (intermediate valve position)		Signal to close (did not close within the specified period of time)	
Opened		Signal to open (did not close within the specified period of time)	

5.5 Pumps

For pumps display see Table 5.

Table 5. Pumps Display

Status	Display	Status	Display
Pump-state error, the pump does not work and not prepared		The pump is stopped and ready to work	
The pump is working, but there is no preparation signal		The pump runs and are preparation signal	