16 K-Chief 700
16.02.02 System Overview Maintenance

Ref:

Document name: Kongsberg K-Chief 700 Product Description

Document nr: 304844/B

Document name: Kongsberg K-Chief 700 Operator Manual (rel. 8.2)

Document nr: 332618/A

Document name: AIM 8.3 User Guide
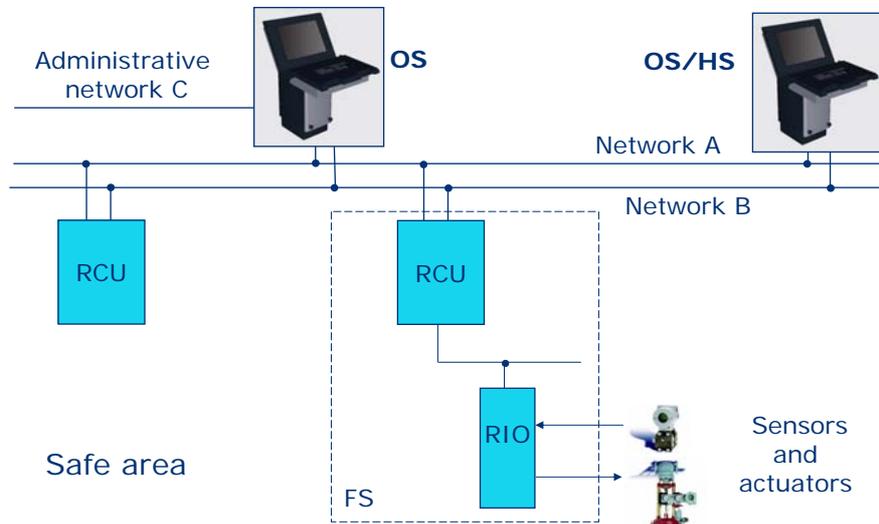
Document nr:

DMS no: xxxxxxxxxxxxx

Objectives

- Be familiar with the naming and abbreviations of the automation control system
- To obtain knowledge about the different hardware units in the system and how they are connected
- To learn how to monitor the status of the hardware units by using System Status image and Station Explorer view on the operator station
- Repetition of some tools from basic course

AIM 2000 hardware components

Administrative network C

OS

OS/HS

Network A

Network B

RCU

RCU

RIO

Sensors and actuators

Safe area

FS

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Operator station

Main interface between the operator and the process

Monitor
The operators "eye" into the process

Panels
Specific panels for simplified operator communication

MP7900 computer

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OS Panels

BU-AUT Panel
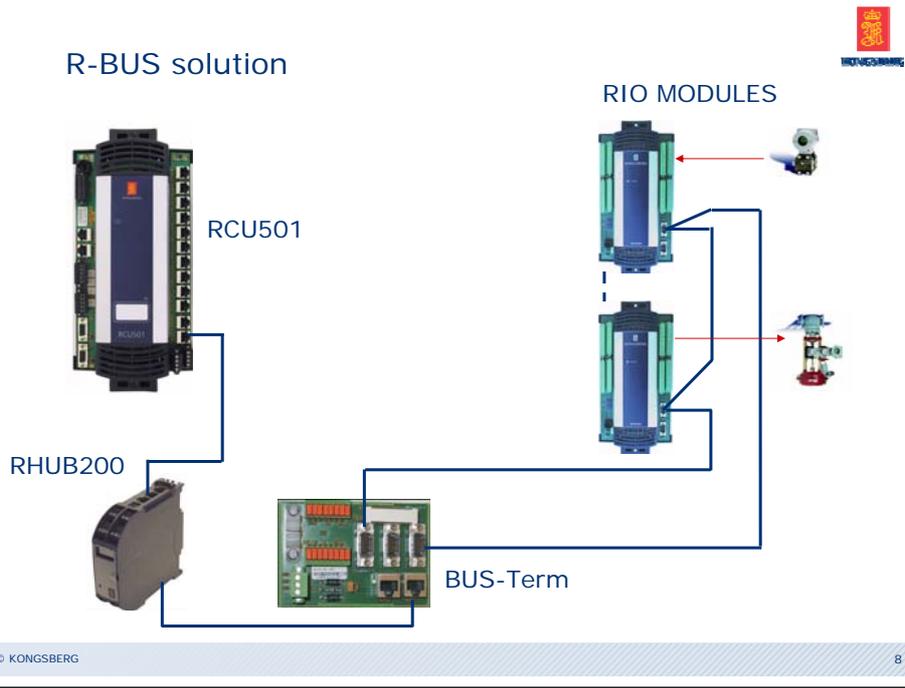
ALC Panel

Input Panel

Field Station

Interface between the control system
and the physical equipment
• RCU
• RIO units

R-BUS solution

RIO MODULES

RCU501

RHUB200
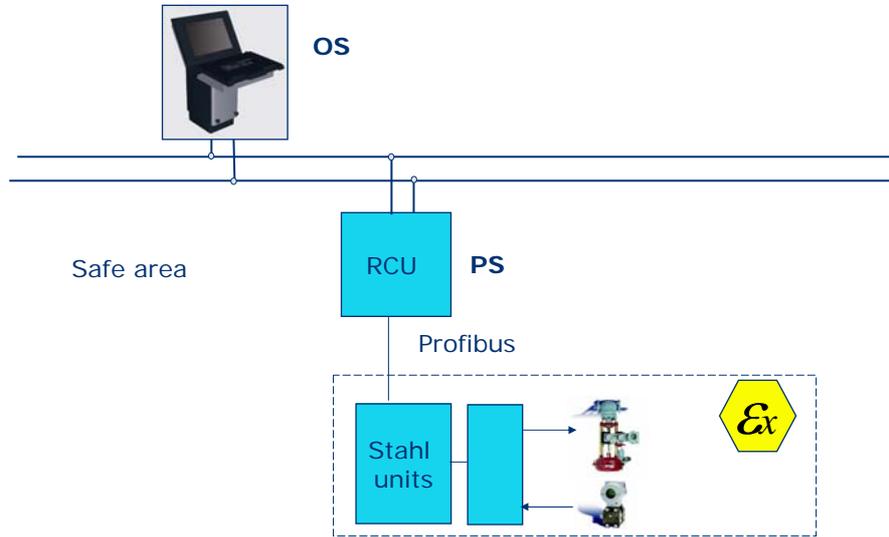
BUS-Term

Process Station

Remote Controller Unit (RCU) is a real-time single board computer and remote IO bus driver
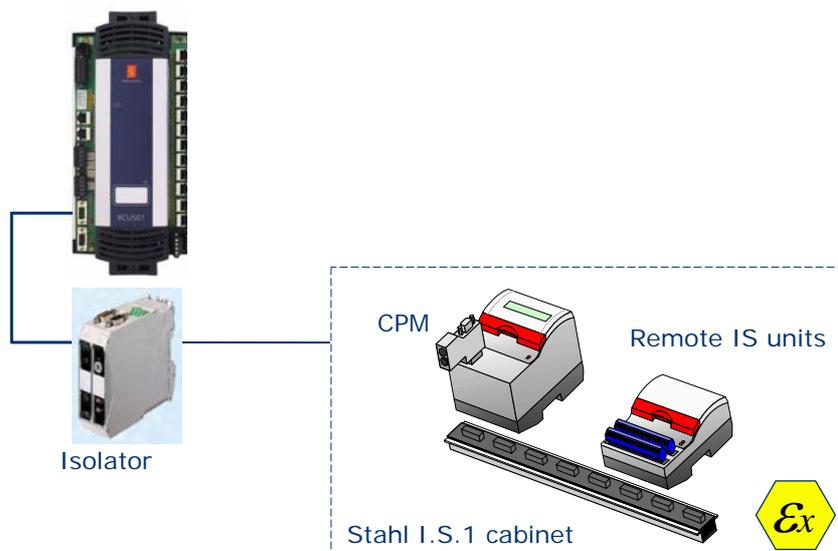
RCU 501 is based on PowerPC Host Processor MPC 8245 running at 400MHz
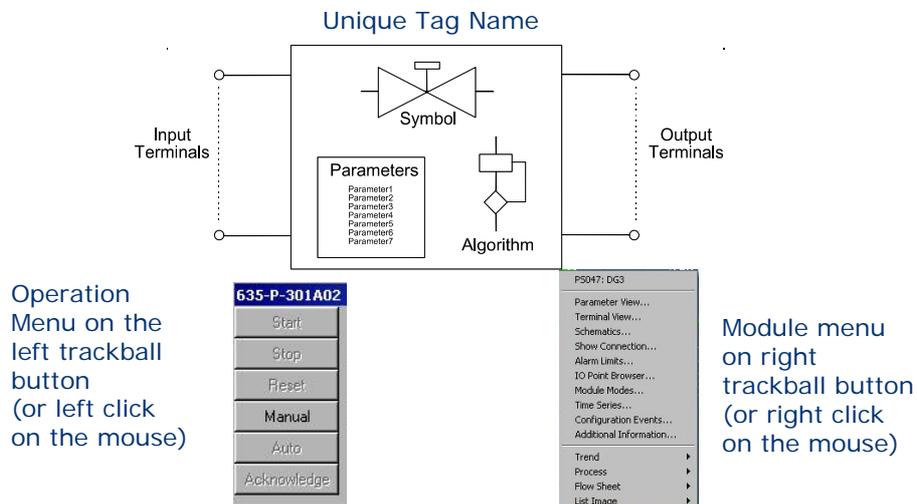
64 MB RAM, 16 MB Flash memory

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Stahl RIO solution

OS

Safe area   RCU   PS

Profibus

Stahl units

Ex

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Profibus/Stahl solution

Isolator

CPM   Remote IS units

Stahl I.S.1 cabinet

Ex

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Function Module: Main Parts

Unique Tag Name

Symbol

Input
Terminals

Parameters
Parameter1
Parameter2
Parameter3
Parameter4
Parameter5
Parameter6
Parameter7

Algorithm

Output
Terminals

Operation
Menu on the
left trackball
button
(or left click
on the mouse)

635-P-301A02

Start
Stop
Reset
Manual
Auto
Acknowledge

PS047: DG3

Parameter View...
Terminal View...
Schematics...
Show Connection...
Alarm Limits...
IO Point Browser...
Module Modes...
Time Series...
Configuration Events...
Additional Information...

Trend
Process
Flow Sheet
List Image

Module menu
on right
trackball button
(or right click
on the mouse)

Navigation in K-Chief 700

AIM-OS - OS050 - Kongsberg - Course   Exhaust Gas Systm

File   Edit   View   Module   Operation   Tools   System   Panel   Help

2/263   1   T   G   S   R

Image NavigatorPrimaryWindow
☑ Image Tree
⊟ MAIN PAGE
   ⊞ Ballast Main
   ⊞ Bilge Main
   ⊞ Diesel Generator Main
      Drill Water System
   ⊞ Exhaust Gas Systm
   ⊞ Fire Main 1
   ⊞ FO Bunker Transfer
      FW Cooling System
      HPU
      HVAC System Main
   ⊞ LO System Engine Room 1 and 2
   ⊞ Power
      Potable Water System
   ⊞ Propulsion
   ⊞ Starting Air Pressure Engine Room 1 and 2
      Steam Condensate Feedwater
   ⊞ SW Cooling System
   ⊞ SW Service System
      Water Tight Doors

- Six buttons for easy navigation
  in the toolbar
- Use the navigator to go to
  different images in the system

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Navigation Using the Module Context Menu

- From Module
- Using Find Tag

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Alarms

Dynamic Alarm Page
- * indicates an unacknowledged alarm
- Use TBI 🖼 for quick navigation to Process Image

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Alarm Settings

To configure alarms: open Alarm limits from the Module Context Menu

Configuration Events

- Open Configuration Events from Tools
  - Green; saved changes
  - Blue; not saved changes
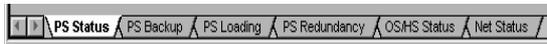 - Red; lost changes
  - Black; information

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System Status

Toolbar:

	Station	Status	Exceptional Modes	Spare Time	Net State	I/O Errors	I/O Status	Serial Errors	Serial Status	Other Errors	Other Status	Free Memory	Uptime	Started	Last Reported	Version
	PCU031	Operational	SA+AI	0	OK	8	ERROR				OK	0	2.04 h	24/10/06 01:09:39	24/10/06 03:12:34	33.68
	PCU032	Operational	SA+AI	0	OK	9	ERROR				OK	0	2.02 h	24/10/06 01:09:42	24/10/06 03:12:28	35.61
	PCU041	Operational	SA+AI	0	OK	9	ERROR				OK	0	2.04 h	24/10/06 01:09:51	24/10/06 03:12:26	43.98
	PCU042	Operational	SA+AI	0	OK	9	ERROR				OK	0	2.02 h	24/10/06 01:09:54	24/10/06 03:12:30	30.87
	PCU043	Operational	SA+AI	0	OK	1	ERROR				OK	0	2.02 h	24/10/06 01:09:57	24/10/06 03:12:33	25.56
	PCU044	Operational	SA+AI	0	OK	1	ERROR				OK	0	2.02 h	24/10/06 01:10:00	24/10/06 03:12:26	24.57
	PCU045	Operational	SA+AI	0	OK	1	ERROR				OK	0	2.02 h	24/10/06 01:10:03	24/10/06 03:12:29	29.59
	PCU046	Operational	SA+AI	0	OK	1	ERROR				OK	0	2.02 h	24/10/06 01:10:06	24/10/06 03:12:32	30.63
	PCU051	Operational	SA+AI	0	OK	2	ERROR				OK	0	2.02 h	24/10/06 01:10:12	24/10/06 03:12:28	84.91
	PCU052	Operational	SA+AI	0	OK	2	ERROR				OK	0	2.02 h	24/10/06 01:10:16	24/10/06 03:12:32	85.92
	PCU053	Operational	SA+AI	0	OK	3	ERROR				OK	0	2.02 h	24/10/06 01:10:18	24/10/06 03:12:33	71.89
	PCU131	Not Reported														
	PCU132	Not Reported														
	PCU141	Not Reported														

Coloured cells indicate errors

PS Status \ PS Backup \ PS Loading \ PS Redundancy \ OS/HS Status \ Net Status

Additional pages can be chosen by tabs

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System Status - PS Backup

Station	Backup Time	Elapsed Backup Time	Number Of Backup Servers	Backup Server List	Backup Progress	Backup Status	Version
PS031	19/10/11 08:53:22	27 s	3	OS031,OS034,OS097		OK	451.0
PS032	19/10/11 08:53:26	26 s	3	OS031,OS034,OS097		OK	426.0
PS033	19/10/11 08:53:30	27 s	3	OS031,OS034,OS097		OK	424.0
PS034	19/10/11 08:53:59	27 s	3	OS031,OS034,OS097		OK	420.0
PS035	19/10/11 08:54:03	28 s	3	OS031,OS034,OS097		OK	418.0
PS036	19/10/11 08:54:05	29 s	3	OS031,OS034,OS097		OK	418.0
PS037	19/10/11 08:54:09	28 s	3	OS031,OS034,OS097		OK	413.0
PS038	19/10/11 08:54:12	29 s	3	OS031,OS034,OS097		OK	423.0
PS039	19/10/11 08:54:14	31 s	3	OS031,OS034,OS097		OK	470.0
PS040	19/10/11 08:54:17	30 s	3	OS031,OS034,OS097		OK	496.0
PS041	19/10/11 08:54:20	29 s	3	OS031,OS034,OS097		OK	465.0
PS042	19/10/11 08:54:25	33 s	3	OS031,OS034,OS097		OK	454.0

PS Status \ PS Backup \ PS Loading \ PS Redundancy \ OS/HS Status \ Net Status
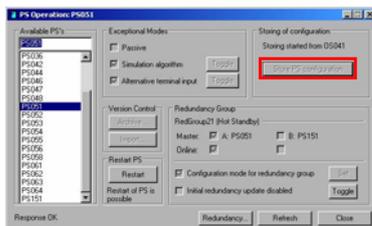
Store PS Configuration
- Alarm Changes
- IO Changes

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System Status – Net Status

Use Net Status to locate network problems

Static page – right click to get updated data

- Net A
- Net B
- RedNet

Station Explorer

To open:

- Tools, Station Explorer
- Right-click in Station Status view on selected PS

Properties dialog box, for displaying the software and hardware status of the selected PS

IO Block dialog box, for displaying the information on a selected IO block and its IO points

Module context menus, for displaying information of the selected module

IO Manager dialog box, for displaying the status of the IO drivers, IO objects and IO blocks for a selected station

Driver Properties dialog box, for displaying the configuration of the IO drivers of the system
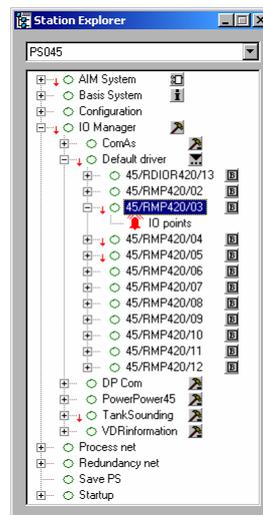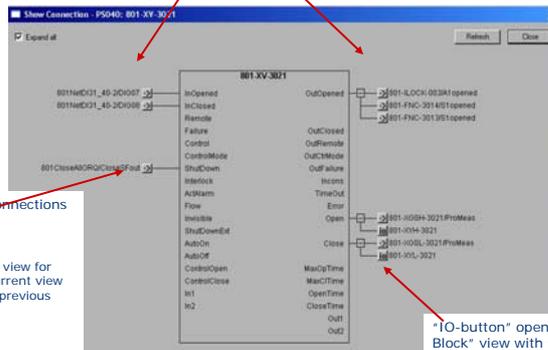
Show Connections

Tool for following signals through the system;
- shows where values on input terminals are "coming from"
    and where values on output terminals are "going to"

The "arrow-buttons" indicates connections
between modules by
<TagName>/<TerminalName>

On selection the "Show Connection" view for
connected module (Tag) replaces current view
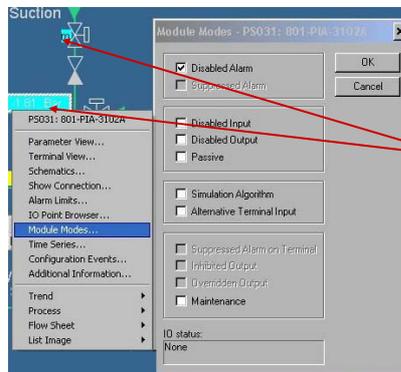with highlighted Tag/Terminal from previous
view.

"IO-button" opens the "IO-Terminal
Block" view with selected IO-point
highlighted

Module menu
available on right click

Module Modes: Exceptional Modes

Selected from module menu

The user may set the function module in
some exceptional operational modes;

- Turn off alarm reporting from the module.

- Set the module passive; none of the
 modules functions will be executed,
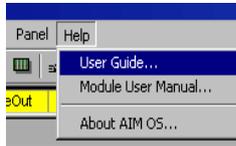 all data/values is "frozen".

The exceptional modes are indicated by
background colouring the tag mark or the
numeric measurement presentation

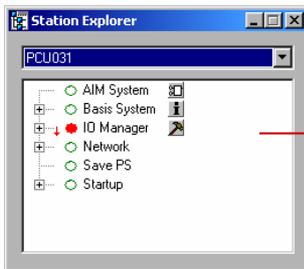The colour convention for module mode are usually:

- Disabled alarm (By Operator)

- Suppressed Alarm (By Logic)

- Passive Module

- Input/Output terminal Disabled
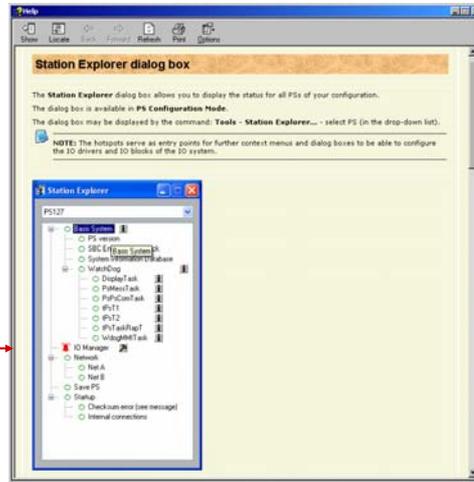
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User Guide (Help)

Open the complete User Guide

Select the window, press F1 and a dialog box with reference information is displayed

F1

Exercises

- System Status
- Station Explorer
- Operation Repetition

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Summary

- System Topology
- System Status
- Station Explorer
- I/O
- Tools