MNS *i*S Motor Control Center Interface Manual Web Interface System Release V7.0





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General

Target Group

This document describes communication and control interfaces used in MNS *i*S. The manual is primarily intended for those requiring information on accessing information and data provided from MNS *i*S. Furthermore the document provides information for integration of MNS *i*S as Fieldbus component into PLC or higher level Process Control Systems to control system and application engineers.

It is assumed that the reader of this manual is familiar with basic terms of Fieldbus and control communication (e.g. basic knowledge about PROFIBUS, Modbus etc.).

Use of Warning, Caution, Information and Tip icon

This publication includes **Warning**, **Caution**, and **Information** icons where appropriate to point out safety related or other important information. It also includes **Tip** icons to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:



The electrical warning icon indicates the presence of a hazard that could result in *electrical shock*.



The warning icon indicates the presence of a hazard that could result in *personal* injury.



The caution icon indicates important information or warnings related to the concept discussed in the text. It might indicate the presence of a hazard that could result in *corruption of software or damage to equipment/property*.



The information icon alerts the reader to pertinent facts and conditions.



The tip icon indicates advice on, for example, how to design your project or how to use a certain function

Although **Warning** notices are related to personal injury, and **Caution** notices are associated with equipment or property damage, it should be understood that the operation of damaged equipment could, under certain operational conditions, result in impaired process performance leading to personal injury or death. It is, therefore, imperative that you comply fully with all **Warning** and **Caution** notices.

Terminology

List of the terms, acronyms, abbreviations and definitions that the document uses.

Abbreviation	Term	Description
	Aspect Object	ABB technology. An Aspect Object is a computer representation of a real object such as a pump, a valve, an order or a virtual object such as a service or an object type. An Aspect Object is described by its aspects and is organized in structures.
	Alarm	Alarm is defined as status transition from any state to abnormal state. Status transition to abnormal state can be data crossing over the pre-defined alarm limit.
	Bus Local	A Control Access term describing that the MControl accepts its commands from a device on the switchgear control network, e.g. the Web Interface, MView.
COTS	Commercial off the shelf	Commercial off the shelf product, term to describe products available on the market, ready to use
DCS	Distributed Control System	See also PCS
DTM	Device Type Manager	Software module used to manage devices via Fieldbus (e.g. PROFIBUS) using frame application environment (e.g. PactWare, ABB Fieldbus Builder etc.)
Eth.	Ethernet	Ethernet is a local area network (LAN) technology. The Ethernet standard specifies the physical medium, access control rules and the message frames.
	Event	An event is a status transition from one state to another. It can be defined as alarm, if the state is defined as abnormal or as warning as a pre-alarm state.
FD	Field Device	Term for devices connected to the Fieldbus (e.g. motor control units or circuit breaker protection)
GSD file	Geräte Stamm Datei (German abbreviation)	A hardware description file for a PROFIBUS-DP or PROFIBUS-DP/V1 slave type
GPS	Global Positioning System	System to detect local position, universal time and time zone, GPS technology provides accurate time to a system
	Hardware Local	A Control Access term describing that the M <i>Control</i> accepts its commands from the Hardwired inputs, when the respective Local control input is set to true.

MNS iS Interface Manual Web Interface

Abbreviation	Term	Description
НМІ	Human Machine Interface	Generic expression
LVS	Low voltage switchgear	A factory built assembly built to conform with IEC 60439-1
MCC	Motor Control Centre	Common term for switchgear used for motor control and protection.
MNS		Modular Low Voltage Switchgear family from ABB
MNS <i>i</i> S		The integrated intelligent switchgear solution from ABB
	MStart MFeed MControl MLink MView MNavigate	MNS <i>i</i> S components integrated in the switchgear, see the MNS <i>i</i> S System Guide for technical details
	MODBUS	Fieldbus communication protocol
	MODBUS RTU	Fieldbus communication protocol
	Motor Starter	Consists of motor controller and electrical components to control and protect a motor, part of Motor Control Center
NLS	Native Language Support	Providing the ability to change the language of software tools in order to support native languages (English is basis, others are optional)
OPC		OLE for Process Control, an industrial standard for exchange of information between components and process control application
PCS	Process Control System	High level process control system
PLC	Programmable Local Controller	Low level control unit
	PROFIBUS-DP	Fieldbus communication protocol with cyclic data transfer (V0).
	PROFIBUS-DP/V1	Fieldbus communication protocol, extension of PROFIBUS- DP allowing acyclic data transfer and multi master (V1).

Abbreviation	Term	Description
	PROFIBUS-DP/V2	Fieldbus communication protocol, extension of PROFIBUS- DP allowing time stamp and communication between master and slave (V2).
	PROFINET	PROFINET is an open standard for Industrial Ethernet and standardized in IEC 61158 and IEC 61784.
PNIO	PROFINET IO	PROFINET for decentralized periphery and distributed automation
RCU	Remote Control Unit	Local control unit with pushbutton and indicator to operate a device (e.g. motor) from field level.
RS232		Standard No. 232 for PC communication, established by EIA (Electronics Industries Association, USA)
RS485		Communication interface standard from EIA (Electronics Industries Association, USA), operating on voltages between 0V and +5V. RS-485 is more noise resistant than RS-232C, handles data transmission over longer distances, and can drive more receivers.
RTC	Real Time Clock	Integrated clock function in devices used to generate time and date information if a remote clock system is not present
	Software Local	A Control Access term describing that the M <i>Control</i> accepts its commands from the hardwired inputs as a result of either the PCS or M <i>View</i> passing the Control Access Authority to Soft-Local.
		Note: Does not require the hardwired local input to be set to true.
SNTP	Simple Network Time Protocol	A protocol used for time synchronization in Control Network through Ethernet
	Switchgear Bus Network	Term used to describe the internal switchgear communication network, between M <i>Link</i> and M <i>Control</i> .
TCP/IP	Transmission Control Protocol / Internet Protocol	TCP/IP is a high-level connection oriented , reliable, full duplex communication protocol developed for integration of the heterogenous systems.
	Trip	A consequence of an alarm activated or an external trip command from another device to stop the motor or trip the circuit breaker.

MNS *i*S Interface Manual Web Interface

Abbreviation	Term	Description
UTC	Coordinated Universal Time	Coordinated Universal Time is the international time standard. It is the current term for what was commonly referred to as Greenwich Meridian Time (GMT). Zero (0) hours UTC is midnight in Greenwich England, which lies on the zero longitudinal meridian. Universal time is based on a 24 hour clock.
	Warning	A warning is defined as status transition from any state to pre-alarm state to inform in advance before an alarm level is reached.

Related Documentation

MNS *i*S

1TGC910211 M0201 MNS *i*S Interface Manual MLink, Release 7.0
1TGC910111 M0201 MNS *i*S MLink Upgrade Kit Manual
1TGC910231 M0201 MNS *i*S Interface Manual OPC Server, Release 7.0
1TGC910241 M0201 MNS *i*S Interface Manual Profibus, Release 7.0
1TGC910251 M0201 MNS *i*S Interface Manual Modbus, Release 7.0
1TGC910291 M0201 MNS *i*S Interface Manual PROFINET IO, Release 7.0
1TGC910281 M0201 MNS *i*S Interface Manual Redundancy, Release 7.0
1TGC910271 M0201 MNS *i*S MConnect Interface Manual, Release 7.0
1TGC910201 MOS *i*S System Guide
1TGC910201 MOS *i*S ATEX – Enhancements for Safety

Related System Version

The content of this document is related to MNS iS System Release 7.0.

The described functions are designed but may not be fully implemented in all details. Please refer to the current system guides and release notes regarding possible restrictions.

Document Revision History

Introduction

This document gives a short introduction of the web server and its features. The web server is an option in MNS *i*S and it may not be available in each particular installation of MNS *i*S.

There are different possibilities to access the MLink. One possibility is using a web interface, e.g. Internet Explorer or Mozilla Firefox. The web interface can run on thin clients like Laptop PC or Desktop PC. Another possibility is the use of MView panel which is an option for the MNS *i*S cubicle.

All user actions can be performed with a mouse or a touch screen - a keyboard does not need to be connected.

The web server provides the following user functions (depending on user rights):

- Access to any MLink in the network
- Operation of all MControl belonging to a MLink
- Supervision of process values e.g. currents, voltages, switch status, etc.
- Sending commands to the MControl e.g. start, stop, open, close, etc.
- Display alarm and events, reset alarms
- Display of MControl parameters
- Setting the time and date of the MLink
- Showing MLink application details

Configuration parameters of the web server are stored in parameter files located on MNavigate. All required files can be downloaded by using MNavigate.

To use MView (or a PC with web interface) to access the web server in MLink a list with user names and passwords as well user rights (user profile) must be configured and loaded into MLink via MNavigate.

For further details refer to the MNS iS MNavigate help file.

Installation

Mechanical and electrical installation



For details on mechanical and electrical installation please refer to the MNS *iS* MLink Interface manual.

Software installation

If the M*View* panel is used, all required software is installed from factory. No further software installation is required.

If a 3rd party panel or web interface on a PC is used, please ensure that software requirements as listed below are followed.

- Web browser
 - Supporting XHTML 1.0, CSS 2.0, JavaScript 1.0, DOM 1.0, XML HTTP Request and Frames. This is usually supported by all standard web interfaces.
 - Cookies must be enabled

Hardware installation

A TCP/IP connection to the Switchgear Control Network must be available. Check the settings of the IP address and match the settings of the Switchgear Control Network. For web access connector LAN2 of MLink device has to be used. For details see the MNS iS MLink Interface Manual, see reference hereunder.

Hardware ID numbers	1TGE1020x9Rxxxx	1TGE120021R0x10
MLink Types		
Hardware available for MNS iS Versions	up to V6.0	from V6.1 onwards
MNS iS Interface Manual MLink	1TGC 91012x M020x	1TGC 910210 M020x

Operation

This chapter describes how to operate the switchgear using the web server.

Getting started

The first step is to enter the IP address (e.g. http://192.168.200.100) of any MLink in the network into the interface address bar. A list of all connected MLinks is then displayed



Figure 1 - MLink list view

Note: If MView is used it is not required to enter the IP address into the address bar. Before the first use MView has to be configured to access the desired MLink automatically. This is configuration can vary based upon the type of interface (touch panel or pc) used for the particular installation.

In situations where redundant MLinks are utilised only the active MLink is displayed.



If this list does not show all MLinks, please check the MView ID. This MView ID enables the user to create logical networks. Only MLinks parameterised with the MView ID for that particular network segment will be displayed. For more information please see chapter MView ID



Due to performance it is recommended to login with maximum 2 internet browsers to1 MLink simultaneously.

After choosing one MLink by clicking on the related button (e.g. "Pump Station 1") the following screen appears. This screen is only visible after accessing the first time after power up. The device is creating an internal database containing all system related information. The time for creating that database depends on the number of configured MControls.



Figure 2 Progress indication

Afterwards a logon screen appears:

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Figure 3 - Logon view

User and password must be entered by the virtual keyboard in the window (on M*View*) or optionally by a real keyboard if present. After selecting the Logon button the entered user and password are checked. For user administration, see document MNS *i*S MNavigate Manual. If the password is correct the user is allowed to access the switchgear view:

MNS iS Interface Manual Web Interface



Figure 4 - Switchgear view

This view shows a list of all cubicles containing configured M*Controls*. This list could consist of up to 7 entries (cubicles). After choosing one cubicle (e.g. "B101-01") the cubicle front view of the selected cubicle is displayed.



Cubicle View

Figure 5 - Cubicle view*

* Colors shown are from the standard MNS iS color profile.

Side Menu

In the example in **Figure 5** the menu and navigation button are located in the right part of the screen (default). For lefties the menu can be located on the left side, **Figure 6** by setting the corresponding flag in the user definition in MNavigate.



Figure 6 Cubicle view with menu left

The elements of the menu have the following functions (top down):

- "Log off <user name>": This button shows the user who is logged in. By clicking the button the user is logged off and gets back to the M*Link* list view, see **Figure 2**.
- ABB Logo: By clicking on the logo the version of the web server is indicated
- Text area with 4 lines. This text field indicates the current position in the navigation hierarchy:
 - 1. Current system time
 - 2. Name of the MLink
 - 3. Name of the cubicle
 - 4. Name of the MControl
- "Options": By clicking this button additional buttons appear, providing the following options:
 - 1. "Show Device Identifier <x>": The MLink and MControl devices have the possibility of 3 identifiers. This button allows switching to the next identifier (x ranges from 1 to 3)
 - "Show all Alarms" / "Show current Alarms only": This option is used for alarm view only. If option "Show all Alarms" is selected, all possible alarms / events are shown and only active alarms / events are highlighted
- "Refresh": Refresh the current view
- "Back": Go back to the last visited view. This button is inactive in Figure 2 (start view) and Figure 4 - Switchgear view (go back by "Log off <user name>")

Cubicle scheme

Apart from the menu the view consists of a scheme of the cubicle and a navigation area.

The cubicle scheme shows the positions of the devices in the cubicle. The upper one with the default plum colour is the MLink, the remaining are the positions of the configured MStarts. The colours depict the status of the combined MControl and MStart combination.

MLink	Colour *	Device Icon	MControl Status
MControl	Grey		Configured according to DeviceList, but currently absent
* X *	Beige		In place but offline
	Orange ^e		Online and switched on
	Green ^e		Online and switched off
	Blue ^e		Online and tripped
Figure 7 – Cubicle view, cubicle scheme	Orange incl. red star ^e	æ	Online, switched on with alarm
All colours that are highlighted with an ^e can be edited in M <i>Navigate</i> with the Web Colour Settings function.	Green incl. red star ^e	÷	Online, switched off with alarm
For more details please refer to the M <i>Navigate</i> Help File	Blue incl. red star ^e	±	Online, tripped with alarm
	Grey incl. red cross	X	Configured according to DeviceList but currently absent, and Application file missing (MControl application download required).
	white incl. red cross	X	Online, Application file missing (M <i>Control</i> application download required)

* Colors shown are from the standard MNS iS color profile.

Navigation



Figure 8 - Cubicle Navigation overview

Selection of a particular device is performed with the use of the four directional navigation keys, individual devices are selected by highlighting them with the focus, the selected device is the device with the black frame.

Device names / information

	1
1	
	*

MControl with focus

Information relating to the highlighted device is shown in the text area on the right hand side of the screen.

01/01/2003 07:39		

01/01/2003 07:39	Time and Date
Pumpstation1	Name of MLink
C0001	Name of Cubicle
Motor2	Name of Module

The information can change when utilising the 'Show Device Identifier, this enables the user to toggle the device identifiers associated with the MControls.

Dependant upon the requirements different options exist:

When the MLink is highlighted it is only possible to select <u>Device Setup</u>

- When MControl is selected both Device Setup and Operate are available
- Selecting Operate for the MControl is only possible when the device is 'Online'. For more information on the MControl status please review to the Cubicle View.

Description

MControl Device setup

The MControl Device setup provides the following functions dependant upon the User Profile configured in MNavigate. The Device setup page is navigated to from the <u>Cubicle View</u> page

In some cases the shown setup menu items may not be available (disabled) due to the user profile and the M*Control* status. Disabled setup items are shown light blue.



Figure 9 MControl Device Setup screen

Actions and Options for MControl Device Setup



Parameter Overview

If the user selects the option MC Parameter overview the parameters of the selected MControl are shown.



Figure 10 MControl parameter module overview

Anns is Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer _ 8 × 💌 🤧 🗙 Search P -File Edit View Favorites Tools Help 🏠 • 🔊 • 🖶 • 🔂 Page • 🍥 Tools • 🔶 🙀 🄏 MNS iS Web Configuration Parameter Display Button Parameter Display Button Alarms and Trips Log off **MViewUser** MStart Supervision - Show MControl Config Parameter MStart Supervision - Show MControl Parameter 15/05/2012 22:45 Pumpstation1 Trip Acknowledge Enable Enabled C0001 **Reset Stations** Local / Remote Motor2 Parameter Name Parameter Valu Options Refresh Back MNS i 📑 😝 Internet 100% Figure 11 MControl parameter details

After selecting the parameter module a detailed overview appears.

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CMNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer		X
Figure 10 http://192.168.200.123/modules/mc/config_para_details.php?module=8	💌 🦘 🗙 Search	P -
File Edit View Favorites Tools Help		
🔆 🎲 🍘 MNS IS Web	🏠 • 🔝 • 🖶 •	Page 🔹 🌍 Tools 🔹 "
Alarms and Trips	0 0	Log off MViewUser
MStart Supervision - Show MControl Parameter Config Parameter	15/05/2012 22:49	
Power Module Ident Number 1TCE123/567123/	Pumpstation1	
	C0001	
Min. Protection Mode - Trip Delay 10 s	Motor2	
Min. Protection Mode Enabled Configuration Parameter Name Configuration Parameter V	Value	Options
		Refresh
	Back	ABB MNS is
	Thernet	100% +

When user selects 'Show MControl Config Parameter' the following screen appears:

Figure 12.1 MControl configuration parameter details

Use the Back button to return to the cubicle view

Back

Operate view

The view below is the focal point for operating and monitoring the MControl / MStart.

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le Edit View Favorites Tools Help					
👌 🛟 🏈 MNS iS Web				🛉 • 🔊 • 🖶 •	Page 🔹 🍥 Tools
Special Status	Alarm	Trip	Show Diagnostics	0 0	Log off MViewUser
Current Phase L1		26,43 A		15/05/2012 22:51	
Current Phase L2 Current Phase L3		26,21 A 28,26 A	Up	C0001 Motor2	
Current Phase L1 Percentage		88 %			
Current Phase L2 Percentage Current Phase L3 Percentage		94 %	Down		Options
Notor Status	Ru	ins CW s-Local	Set CA To Soft	Locate Module	Refresh
MStart Status		On	Local		
Start CW Start CCW	Stop			Back	ABB MNS is
				Ta la Internet	100%

Figure 13 - Operate view

This screen enables interrogation and operation as follows:

Control	On / Off and Control Access Handling
Alarm & Trip Interrogation	Viewing of Alarm & Trip status together with Event monitoring
Status Information	Operation and Maintenance information and diagnostics
Process Variables	Interrogation of Process and Measurement values
Special Status Information	Indication of running Proof Test & Indication of activated Minimum Protection Mode

Controlling a device

To control a single device from the Web Interface, the following is required;

- The MControl must be in the 'Online' state.
- The User Profile created in MNavigate must allow 'Switching' commands to be sent.
- The Motor Status must be Stopped Ready to Start, Running or Tripped.
- The <u>MStart Status</u> must be either Main Switch On or Test Position.
- The <u>Control Access</u> status must be set to Bus-Local.

Select before operate

For safety reasons the active buttons (for sending commands to MControl) work according to "select before operate" in two steps:



The example left shows the sequence required to start a motor in the CW direction from the M*View*, for this to be possible the Control Access must be in the Bus-Local state.

With the first click the button is selected and adopts another colour (dark blue). Motor Status indication remains unchanged.

With a second click on the selected button the command is finally sent to the M*Control.*

Motor Status then changes to 'Running' and current flow is indicated.

Command Selector



Device specific commands can be sent to the MControl. In this example (motor control) commands like "Start CW", "Start CCW" or "Stop" are listed. "Stop" is inactive (light blue) since the motor is stopped. Other factors influencing buttons to be inactive are the control access, user rights, and parameterisation and configuration of the modules

Locate Module

Locate module function enables the user to check availability of physical MStart in switchgear panel. *Locate module* function is available at *"Operate"* page & *"Device Setup"* page under menu column next to *Refresh button*. The functionality can be used to check the physical location of MStart module. As soon as the button is pressed the LED's on the front of MStart are blinking for a dedicated time interval (40 seconds).

When MControl connected to MStart is ONLINE, Locate Module button will be enabled and if MControl is OFFLINE Locate Module button will be disabled.

MNS iS Web - Microsoft Internet Explorer prov	ided by ABB Vietnam Interr	net Explorer			X
C C C F M http://192.168.200.123/modules/	mc/operate.php?newDiv=1		<u> </u>	Search	₽ •
File Edit View Favorites Tools Help					
A A MNS is Web				🏠 • 🔊 • 🖶 •	Page + 🔘 Tools + "
Special Status	Alarm	Trip	Show Diagnostics	0 0	Log off MViewUser
Current Phase L1		25,91 A		15/05/2012 22:52	
Current Phase L2		25,92 A	Up	Pumpstation1	
Current Phase 13		27.68 A		C0001	
Current Fildse LJ		21,00 A		Motor2	
Current Phase L1 Percentage		86 %			
Current Phase L2 Percentage		86 %	Down		Options
Current Phase L3 Percentage		92 %			
Motor Status	Run	s CW			
Control Access	Bus-	Local	Set CA To Soft Local	Locate Module	Refresh
MStart Status	C)n			
Start CW Start CCW	Stop			Back	ABB MNS /S
				🗌 🙀 🚱 Internet	₹ 100% × //

Figure 14: Locate Module Function in Operate Page

ANNS IS Web - Windows Internet Explorer provided by IBM			_ 8 ×
G + Image: http://192.168.200.180/modules/mc/device_setup.ph	np?newDiv=2	💌 🖘 🗙 Search	P -
File Edit View Favorites Tools Help			
😭 🍻 🍘 MNS IS Web		🔓 🔹 🔂 🗸 🖶 🔹 🔂 Tools •	· @• 🖉 🛍 🕄 🍕
Alarms and Trips		1 1 M	_og off ∕iewUser
		01/01/2003 08:23	
Dat Office	Ont Online	Pumpstation1	
Set Omine	Set Online	C0001	
		Motor2	
Send Application	Send Parameter	c	ptions
Send Config Parameter	Parameter Overview	Locate Module	tefresh
		Back	
Done		📑 😜 Internet	* 100% *

Figure 15: Locate Module in MControl Device Setup page

Alarms and Trips

The top section of the <u>Operate View</u> is where the Alarms and Trip are indicated in the Web Interface. The examples below are shown with the standard MNS *i*S color profile, these colors may be edited in MNavigate to suit plant operating requirements.

Alarms and Trips	R

The Alarm indication is .to the left and Trip indication is to the right. Indication is given if any Alarm or Trip is active, for more detailed interrogation navigate to the <u>Alarm View</u> by selecting the active Alarm or Trip area.

The following basic possibilities exist for Alarm and Trip indication; other combinations may be displayed due the actual plant operational conditions.

Alarm	Trip	No Alarms or Trips active
Alarm	Trip	Any active Alarm

Alarm	Trip	Any active Trip
Alarm	Trip	Active Alarm and Active Trip
Alarm	Trip A	Trip has been Acknowledged
Alarm	Trip R	Trip may now be reset

Alarm view

By selecting the alarm or trip area in the **Operate view** the user is able to access the alarm view.

		🗾 🦘 🗙 Search	
Edit View Favorites Tools Help			
🛞 🎯 MNS i5 Web		🟠 • 🔊 - 🖶 ·	• 📝 Page • 🔘 Tool
ive alarms/events: 15/05/2012 22:55:38.064	Read Event Record Read Even	Record Button	
ernal Trip1		0 1	Log off MViewUser
-	R		
ergency Stop		15/05/2012 22:55	
		Pumpstation1	
Active Events		C0001	
		Motor2	
			Options
			Refresh

After selecting either the Alarm or Trip area from the Operate View, the Alarm View is then displayed. All active Alarms and Trips are then displayed for the selected device.

Device information is displayed as in the Operate View to the right hand side.

The top row shown in the Alarm / Trip indication is the Time Stamp from the last Event to occur, this can be either an Alarm, Trip or <u>Event</u>.

Figure 16 - Alarm view, current alarms

Active alarms/events: 15/05/2012 22:55:38.064	Read Eve	nt Record
External Trip1		
TOL		R
Emergency Stop		

In the Alarm view indication for both Alarm and Trip is split as in the Operate View. The left hand side indicates the Alarm and the right hand side the Trip. The Acknowledged and Reset functions are also indicated here.

Where trips are highlighted with a blue boarder it is not possible with the current user rights to reset. Please refer to the MNavigate Help File section 'Reset Mask' for further information.

The colors shown above are the standard MNS iS color profile

Read Event Record

When user clicks on 'Read Event Record' button in Alarm view the last 32 event details related to a particular MControl are shown.

MNS iS Web - Microsoft Inte	rnet Explorer provided by ABB Vietnam Interne	t Explorer				_ 8 ×
	68.200.123/modules/mc/event_record.php		-	🔸 🗙	Search	- 9
File Edit View Favorites	Tools Help					
🔆 🔅 🍘 🖉				🙆 • 6	- 🖶 ·	Page 🔹 🎯 Tools 🔹 🂙
MControl Event Record	Time Stamp MControl Event Details	Event Type				-
2012-05-15 22:55:37,129	External Trip1	Trip	Тор	0	1	Log off MViewUser
2012-05-15 22:55:37,051	Flash: Parameter Changed	Event				
2012-05-15 22:55:26,863	Time Synchronization O.K.	Event		Pumpstati	2 23:02 on1	
2012-05-15 22:55:26,823	Motor Tripped	Event	Up	C0001		
2012-05-15 22:55:26,823	TOL Reset Level Reached	Event		Motor2		
2012-05-15 22:55:26,823	Emergency Stop	Trip	Down			Options
2012-05-15 22:54:46,739	Motor Tripped	Event				
2012-05-15 22:54:46,620	TOL	Alarm Going				
2012-05-15 22:54:46,620	TOL	Trip	End			Refresh
2012-05-15 22:53:28,777	TOL	Alarm				
2012-05-15 22:51:44,576	Motor Started CW	Event		B	ack	ABB
2012-05-15 22:37:58,704	Flash: Parameter Changed	Event				MNS iS
					Internet	

Figure 17 – Read Event Record

Use the Back button to return to the cubicle view

|--|

Show All Alarms / Events

From the <u>Alarm View</u> shown previously the possibility exists to view all events and alarms associated with the particular MControl / MStart.

The Alarm view as default shows only the active Alarms.

To interrogate all events; the following commands are available:

Select Options

Options Show All Alarms



The following is then displayed

AMNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer			_ 8 ×
G + http://192.168.200.123/modules/mc/alarm.php?index=0	2	🖌 🍫 🗙 Search	₽ -
File Edit View Favorites Tools Help			
A A MNS iS Web		🟠 • 🔊 • 🖶 •	Page • Q Tools • *
All alarms/events: 15/05/2012 23:08:07.667 Read Event	Record		-
Stall Protection	Тор	0 1	Log off MViewUser
Earth Leakage			
Contact Temperature Unbalance		15/05/2012 23:08	
External Trip1	A Un	Pumpstation1	
		C0001	
External Trip2		Motor2	
TOL			
PTC Supervision	Down	Show Device Identifier 2	Options
PTC Supervision Short Circuit			
PTC Supervision Open Circuit			
Underload	End	Show current Alarms only	Refresh
Underload CosPhi			<u></u>
Phase Failure			ADD
Phase Unbalance	Trip Reset	Back	
Undervoltage			MNS iS
		📑 🐻 🚱 Internet	tt 100% ▼ //

Figure 18 - Alarm view, Show all alarms / events

It is now possible to navigate through the alarms and events with the following keys



Alarms / Events displayed depend upon Project configuration.

All alarms/events: 07/10/2009 08:56:01.370	
Control Voltage	
Start Limitation	
Autorestart Inhibit	
Emergency Stop	
Main Switch Supervision	
Feedback Supervision K1	
Feedback Supervision K2	
Feedback Supervision K3	
Motor Still Running	
Motor Not Running	
Welded	
Test Mode Failure	
No Load	
IRF Hardware	

All alarms/events: 07/10/2009 08:56:01.370	
MStart Id Number Or Range Error	
MStart Communication Error	
Location Supervision	
IRF Software	
Motor Stopped	
Motor Stopped By RCU	
Motor Stopped By Priority Stop	
Motor Started	
Motor Started By RCU	
Motor Started CW	
Motor Started CW By RCU	
Motor Started CCW	
Motor Started CCW By RCU	
Motor Started Open Direction	

All alarms/events: 07/10/2009 08:56:01.370
Actuator Both Limit Switches Active
Actuator Torque Open
Actuator Torque Close
PT100 Card Failure
PT100 Low Level Sensor1
PT100 Short Circuit Sensor1
PT100 High Level Sensor1
PT100 Open Circuit Sensor1
PT100 Low Level Sensor2
PT100 Short Circuit Sensor2
PT100 High Level Sensor2
PT100 Open Circuit Sensor2
PT100 Low Level Sensor3
PT100 Short Circuit Sensor3

All alarms/events: 07/10/2009 08:56:01.370	
PT100 High Level Sensor3	
PT100 Open Circuit Sensor3	
Fuse Supervision L1	
Fuse Supervision L2	
Fuse Supervision L3	
Contact Temperature Supervision L1	
Contact Temperature Supervision L2	
Contact Temperature Supervision L3	
Switch Cycle Supervision K1	
Switch Cycle Supervision K2	
Switch Cycle Supervision K3	
Operating Hours	
Insertion Cycle Supervision MStart	
StarDelta Transition Failed	

Figure 19 Alarms and Events

All alarms/events: 07/10/2009 08:56:01.370		
Motor Started Close Direction		
Motor Started N1		
Motor Started N2		
Motor Tripped		
Failsafe Activated		
Main Switch Off		
Test Position Activated		
Main Switch On		
Test Position Deactivated		
Flash: Configuration Parameter Changed		
Flash: Parameter Changed		
CA Switched To Local		
CA Switched To Bus-Local		
CA Switched to Remote		

All alarms/events: 07/10/2009 08:56:01.370		
TOL Bypass Activated		
TOL Reset Level Reached		
Time Synchronization Lost		
Time Synchronization O.K.		

When entries are in Alarm / Trip format they are displayed with both Alarm and Trip indication

When they are an Event they are displayed as below

TOL Reset Level Reached

TOL

R

General Alarm/Trip Indication

General Alarm/Trip Indication function informs user about the Alarms or trips occurred in any MControl which is connected to any MLink in the network with same MView ID. It also indicates number of alarms or trips occurred in MLink network.

This function is located at the top of side menu bar in all MView pages except on pages inside ABB Logo.

ML-000000666	0 0	
ML-000000681	01/01/2003 02:17	
		Options
		Refresh
	Back	ABB MNS /S

Figure 20: General Alarm/Trip Indication on MLink list page

General Alarm/Trip indication button is partitioned in two sections: one for Alarms and another for Trips. General Alarm / Trip button can have the following layout:









1-Alarm and 0-Trip:



0-Alarm and 0-Trip:



Note:

Colors shown are from the standard MNS iS color profile. User can change colours of Alarm and Trips by changing web colour settings in MNavigate.

When user clicks on General Alarm/Trip indication button at MLink list page (user is not loggedin) it will redirect to login page. User has to enter the user credentials. After entering user credentials, it will redirect to Plant alarm page as shown in below image.

Plant Alarm page will list all the devices containing Alarms and Trips occurred in MLink network provided MView IDs of all connected MLinks are same. List gives information of Device identifier and MLink name to which the device is connected and also alarm and trip.



Figure 21: Plant Alarm page

Selecting one of the listed devices will redirect to Alarm/Event page of that particular device. If the user is created on both MLinks the redirection is done automatically. If not the user has to enter the credentials before redirection to Alarm/Event page.

Process values / measurement values

The process value area shows different groups of values received by *MControl* depending on group selector settings. The display changes from measurement values to diagnostic values to the device status. All values are updated periodically. If there are more than 6 process values the list can be scrolled up and down by the navigation buttons to the right of the list.

Group Selector Show Diagnostics Show Device Status		Show leasurement Values	 Using the group selector three different groups of values can be displayed: Measurement Values (default) Diagnostics Device Status
Current Phase L1 Current Phase L2 Current Phase L3 Phase Voltage L1-L2 Phase Voltage L2-L3 Phase Voltage L3-L1	Measured values 23,23 A 23,05 A 22,83 A 523,74 V 518,34 V 523,48 V	Show Diagnostics Up Down	Click on Group Selector
Operating Hours TOL Diagnostic Time To Reset Time To Trip	Diagnostic information 3 h 0 NA NA	Show Device Status	Click on Group Selector
Current At Trip L1	(0,00) A Device status information 67240321	Show Measurement Values	Click on Group Selector
GPI1 Status GPI2 Status GPI3 Status GPI4 Status GPI5 Status	1 0 0 1 0	Up Down	

Status information

The Status information area is located above the <u>Command Selector</u> keys. Information on the Control Access function is contained in the <u>Control Access status (CA)</u> section.

Motor Status	Stopped	٦ e
Control Access	Bus-Local	c i
MStart Status	Main Switch On	1

The information displayed here enables the user to have an overview of the M*Start*, the Motor and which nterface holds the current Control Access rights.

Figure 22 – Status Information Area

The following possibilities exit for **Motor Status**.

NOTE: Motor Status information is Starter Type Dependant. Please refer to the M*Navigate* Help File for further information.

Motor Status	Stopped ready to start
Motor Status	Runs CW
Motor Status	Stopped
Motor Status	Runs CW
Motor Status	Stopped ready to start

Starter type dependant information

Alarms or Trips present.

Stopped due to Protection function or external action

When background of the Motor Status is highlighted with Blue, this indicates that the MStart has been switched to Failsafe Status, this is due to loss of communication between the MControl and MLink or MLink and DCS.

The following possibilities exit for **MStart Status**

MStart Status	Main Switch On
MStart Status	Test Switch On
MStart Status	

Main power and Control circuits connected. Isolator in ON position.

Main power circuit disconnected, Control circuit connected. Isolator in TEST position.

Main power and Control circuits are disconnected. The isolator is in either the OFF position or the ISOLATED position.

Control Access status (CA)

Control Access (CA) is a mechanism within MNS *i*S to define and determine which interface has control rights to operate the M*Control*, this handling is defined below. Control Access rights can be given, for example, by a specific command sent to switch operation rights from push-button (hardwired to M*Control*) to any other interface connected to the switchgear control network (e.g. M*View* or PCS). Soft-Local or Remote options exist for the CA handling from the Web Interface, it is only possible to have one of these selected for operation on any single M*Link*.

The following possibilities exit for Control Access Status

Control Access	Remote	Control from Plant Control System via the Fieldbus interface.
Control Access	Bus-Local	Operation is possible via M <i>View</i> (local panel in switchboard) or via a Web interface (any PC with a Web Browser software).
Control Access	Soft-Local	Operation is possible via digital inputs on M <i>Control.</i> Soft Local does not require a hardware input to be set
Control Access	Hardware-Local	Operation is possible via digital inputs on <i>MControl.</i> Hardware Local required a signal to be set on the 'Local' Function, parameterised in <i>MNavigate.</i> Hardware Local
Control Access	Direct Fieldbus	Operation is possible only via MControl Direct Fieldbus interface card (direct connection).
CA Status – Soft Local / B	us Local Operation	Operation of the CA for the Web interface utilises the " <u>select before operate</u> " mechanism
Control Access	Remote Get CA from Remote	Here the PCS currently 'Holds' the CA. The PCS can at anytime request the CA by sending the 'Remote' or 'Auto' command.
Get CA from Remote	A to Soft- local Get CA from Soft-Local	To obtain the CA at the Web Interface, select 'Get CA' This is possible either when the CA has either Remote or Soft-Local status. Once the CA is Set to Bus-Local it is then possible to Control the M <i>Control</i> from the Web Interface. From Bus-Local it is then possible from the Web Interface to set the CA to Soft-Local.

Note:

The CA can be taken from any holder by the Hardware-Local functionality. This has the highest Control Access authority. For more information please refer to the M*Navigate* help file.



CA Status – Set CA to Remote Operation

Note:

The CA can be taken from any holder by the Hardware-Local functionality. This has the highest Control Access authority. For more information please refer to the M*Navigate* help file.

Special Status Information

The top section of the <u>Operate View</u> is where the Special Status Information is indicated in the Web Interface.



No Information

As long as the Minimum Protection Mode is running the shown indication is done. If the Minimum Protection Mode is finished the box is cleaned.

MLink Device setup

The user selects the device setup from the <u>cubicle view</u> by highlighting the MLink with the cursor and selecting 'Device Setup.



Figure 23 MLink Device Setup selection

MLink settings

The device setup for MLink gives the user the possibility to providing the correct user rights are available.

- Set the internal system time (<u>Time synchronization</u>)
- Obtain application version / status information (<u>Application Information</u>)
- Search for MControls (<u>MControl Search</u>)
- Retrieve <u>Network Information</u> (IP Configuration setting)
- MLink Parameter overview

Time synchronization

Depending on the kind of time synchronization RTC or NTP the device setup looks different. In some cases the shown menu items may not be available (disabled) due to the user profile. Disabled menu items are shown light blue.

Amns is Web - Microsoft Internet Explorer provided by ABB Vietnam Inter	rnet Explorer		_ 8 ×
C	NewTzValue=19800	Search	P -
File Edit View Favorites Tools Help			
🔆 🏤 🍘 MNS IS Web		🙆 • 🔊 • 🖶 •	Page + 🌍 Tools + 🎽
Set Time and Date (RTC)	Disabled	0 0	Log off Technician
		16/05/2012 00:06	
Application Information	[En abla d	Pumpstation1	
	Enabled	C0001	
		Pumpstation1	
Device Search			Options
Network Information			Refresh
MLink Parameter Overview		Back	ABB MNS iS
		-	100% •

Figure 24 MLink Device Setup, no user right for setting the MLink system time (RTC)

CMNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Inter	net Explorer		X
C		Search	₽ -
File Edit View Favorites Tools Help			
2 4 CMNS IS Web		🙆 • 🔊 - 🖶 •	Page + 🔘 Tools + »
Set Time and Date (NTP)	Disabled	0 0	Log off Technician
		16/05/2012 00:03	
Application Information	Enabled	Pumpstation1	
Appreciation mornation		C0001	
		Pumpstation1	
Device Search			Options
Network Information			Refresh
MLink Parameter Overview		Back	ABB MNS /S
		📑 🚱 Internet	100% +

Time synchronisation

Figure 25 MLink Device Setup, no user right for setting the MLink system time (NTP)

Depending upon the user profile setting and project configuration "Time Synchronization" the following options are possible:

CMNS IS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer		_ <u>8</u> ×
C C F P Atp://192.168.200.123/modules/ml/device_setup_ml.php	💽 🍫 🗙 Search	₽ •
File Edit View Favorites Tools Help		
😭 🎲 🍘 MNS IS Web	🏠 + 🔊 - 🚔 + 🔂 Page +	🚫 Tools 🔹 🎽
Application Information	0 0 Log MView	off /User
Device Search	Pumpstation1 C0001 Pumpstation1	
Network Information	Opti	ons
MLink Parameter Overview	Refr	esh
	Back	S is
	Thternet	* 100% +

1. No time synchronization configured

Figure 26 MLink Device Setup, no time synchronization configured

Amnu Si Si Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer		_ <u>8</u> ×
G + ktp://192.168.200.123/modules/ml/device_setup_ml.php	🗾 🖘 🗙 Search	P -
File Edit View Favorites Tools Help		
🔆 🎲 🍘 MNS IS Web	🟠 • 🔊 - 🖶 • .	Page + 🎯 Tools + "
Set Time and Date (RTC)	0 1	Log off MViewUser
	15/05/2012 23:22	
Application Information	Pumpstation1	
Approadon mornedon	C0001	
	Pumpstation1	
Device Search		Options
Network Information		Refresh
MLink Parameter Overview	Back	ABB MNS /S
	Theret	• 100% • /

2. RTC time synchronization

Figure 27 MLink Device Setup, RTC time synchronization

CMNS IS Web	Windows Inter	rnet Explorer pro	ovided by IBM										_ 8 ×
G • [http://192.168	.200.180/modules/	ml/set_time_date	.php						• **	× Search		P -
File Edit V	iew Favorites	Tools Help											
😫 🅸 🍘	1NS iS Web									• 🗟 • 🖶	• E Page •	🔘 Tools + 🔞 + 🕼 🔛	03
										2	2	Log off MViewUser	
				1					01/0	1/2003 1	0:01		
year		month	day		hour	min	sec	0.4	Pun	pstation1			
2011		05	11		10	01	00	Set	COO	01			
2011		00	1		1.0				Pun	pstation1			
1	2	3										Options	
4	5	6										Refresh	
7	8	9											
0	c	iel								Bacl	k	AB MNS /	S
Done											Interr	et 🔍 10	0% • /

After selecting the menu item **Set Time and Date (RTC)** the following screen appears.

Figure 28 MLink Device Setup, setting RTC time

From here it is possible to set the M*Link* system time.

Use the Back button to return to the cubicle view

3. NTP time synchronization

🖉 MNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer		_ 8 :
C	💌 🍫 🗙 Search	P •
File Edit View Favorites Tools Help		
🔆 🎲 🍘 MNS is web	🏠 • 🔝 - 🖶 • 🔂 Page -	• 🚫 Tools •
Set Time and Date (NTP)	0 1 Ltc	∋g off ∋wUser
	15/05/2012 23:25	
Application Information	Pumpstation1	
	C0001	
	Pumpstation1	
Device Search	Of	itions
Network Information	Re	fresh
MLink Parameter Overview	Back MN	BB S is
	Thernet	100% •

Figure 29 MLink Device Setup, NTP time synchronization

After selecting the menu item Set Time and Date (NTP) the following screen appears.

ANS IS Web - Windows 1	Internet Explorer pr	ovided by IBM								_ 8	1>
🕒 🗸 🖉 🖉 http://192	2.168.200.180/modules	/ml/set_time_date.p	php						😽 🗙 Search	P	
File Edit View Favori	tes Tools Help										
😭 🏟 🏾 🏉 MINS iS Web								🛛 🙆 • 📾 ·	🖶 🔹 🔂 Page -	🕐 🕜 Tools + 🕢 🖗 🛍 💈	3
year	month	day		hour	min	sec		2	2	Log off	-
2003	01	01		08	59	30				Mviewuser	
								01/01/200	3 08:59		
								Pumpstat	on1		
								C0001			
								Pumpstat	on1		
										Options	
										Refresh	
					Rec	onnect to 192.1	68.200.181	в	ack	ABB MNS iS	
Done							1		Toter	net 🗮 100% 🔹	

Figure 30 MLink Device Setup, reconnect to NTP server

Here the user has the possibility to request the time from the time server again.

Local Time Zone Support

After enabling **Use Time Zone Offset** in MNavigate the WEB interface shows localized time information on the system menu and on Alarm / Event overview page. As soon as the parameter file is downloaded the local time zone offset is taken out of the client machine and added to MLink system time information.



If the **Use Time Zone Offset** setting is disabled the UTC system time is shown in system menu.

🖉 MNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer			_ 8 ×
G 🕞 👻 🖉 http://192.168.200.123/modules/mc/alarm.php?index=0	-	😽 🗙 Search	- 9
File Edit View Favorites Tools Help			
A A A A A A A A A A A A A A A A A A A		🐴 • 🔊 • 🖶 •	Page + 🔘 Tools + *
Active alarms/events: 16/05/2012 01:33:07.933 Read Event Record External Trip1		1 0	Log off MViewUser
		16/05/2012 01:33	
		Pumpstation1	
		C0001	
		Motor2	
			Options
			Refresh
	Trip Reset	Back	ABB MNS is
1		🛛 🧊 🌍 Internet	• 100% • /



The Web Interface is running on a machine having an offset of 2h (1h offset & 1h daylight saving).

MNS iS Web - Microsoft Internet Explorer prov	ided by ABB Vietnam Inter	rnet Explorer				_ 8 :
G - + 12 http://192.168.200.123/modules/	mc/operate.php		<u>-</u>	* , 🗙 [Search	P -
File Edit View Favorites Tools Help						
A A A A A A A A A A A A A A A A A A A				🟠 • 🛙	3 · 🖶 ·	Page + 🔘 Tools +
Special Status	Alarm	Trip	Show Diagnostics	1	1	Log off MViewUser
Current Phase L1		0,00 A		16/05/2012	2 07:06	
Current Phase L2		0,00 A	Up	Pumpstatio		
Current Phase L3	0,00 A		Motor2			
Current Phase L1 Percentage	0 %					
Current Phase L2 Percentage		0 %	Down			Options
Current Phase L3 Percentage		0 %				
Motor Status	Sto	opped				
Control Access	Bus	Bus-Local		Locate	Module	Refresh
MStart Status		On				
Start CW Start CCW	Stop			Ba	ack	ABB MNS /S
					JInternet	💐 100% 🔹

After enabling of **Use Time Zone Offset** setting in M*Navigate* the offset is added accordingly (system menu & Alarm / Event overview).

Options Refresh Trip Reset Options Option	CMNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam Internet Explorer			_ 8 ×
File Edit Lott Mail Mail </th <th>C 🖉 🖉 🔻 🖉 http://192.168.200.123/modules/mc/alarm.php</th> <th>•</th> <th>😽 🗙 Search</th> <th>P -</th>	C 🖉 🖉 🔻 🖉 http://192.168.200.123/modules/mc/alarm.php	•	😽 🗙 Search	P -
Image: Source weeks: External Trip1 Active alarms/events: External Trip1 Image: Source weeks: External Trip1 Image: Source weeks: External Trip1 Image: Source weeks: Image: Source weeks: Image: Source weeks: External Trip1 Image: Source weeks: Image: Source weeks: Image: Source weeks: Image:	File Edit View Favorites Tools Help			
Active alarms/events: 16/05/2012 07:03:07:933 External Trip1 1 1 1 1	2 4 6 MNS IS Web		🏠 • 🔊 • 🖶 ·	Page + 🕥 Tools + »
External Trip1 1 </th <th>Active alarms/events: 16/05/2012 07:03:07.933 Read Event Record</th> <th>d</th> <th></th> <th><u>*</u></th>	Active alarms/events: 16/05/2012 07:03:07.933 Read Event Record	d		<u>*</u>
16/05/20 12 07 09 Purpstation 1 C000 1 Motor2 Options Refresh Back ■ Comparison Note: Solution Refresh Refresh Comparison Refresh Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Comparison Refresh Refresh Comparison Refresh Refresh Comparison Refresh Refresh Comparison Refresh Refresh Comparison Refresh Comparison Refresh Comparison Refresh Refresh Refresh Refresh Refresh Refresh	External Trip1		1 1	Log off MViewUser
Pumpstation1 C0001 Motor2 Options Refresh Back Back CALLER AND			16/05/2012 07:09	
C001 Motor2 Options Refresh Back Back Back C001 Motor2 C001 Motor2 C001 Motor2 C001 Motor2 C001 Coptions			Pumpstation1	
Motor2 Options Refresh Back Back Refresh MS /S			C0001	
Options Refresh Back Back Control Cont			Motor2	
Trip Reset Back Refresh				Options
Trip Reset Back ABB MNS /S				Refresh
		Trip Reset	Back	ABB MNS /S
			Internet	• 100% • /

For further details how to activate local time zone support (**Use Time Zone Offset**) refer to the MNS *i*S MNavigate help file.



Application Information

If the user selects **Application Information** the following screen appears, giving MLink application version information.

Amns is Web - Windows Internet Explorer provided by IBM			_8>
G V Flag + 102.168.200.180/modules/ml/applicationinfo.php		💌 🐓 🗙 Search	P -
File Edit View Favorites Tools Help			
😪 🍪 🍘 MNS IS Web		🔄 🖓 🔹 🔂 🔸 🖶 🕈 🔂 Page 🔹 🎯 Tools 🔹 🔞	• 🕼 🛍 🚳
Application Name		2 2 Log MView	ı off vUser
Quantity	8	13/05/2011 20:15	
FrameApplication 6.0a	Pumpstation1		
ModbusTCP/RTU 6.0a	C0001		
RTSgbm Version 6.0a	0x0000202	Pumpstation1	
BC Client 6.0a	0x00001c02		
BC Server 6.0a	0x0000002	Ont	ione
PLink 6.0a	0x0000000	Opt	UIIS
MNavigateServer 6.0a	0x0000002		
MLinkSupervision 6.0a	0x18000002		
•	1	Refr	resh
		Back A	
Application name & version	Application status		100%

Figure 31 MLink Device Setup, Application information

This screen can be used by to review internal tasks and processes executed by the MLink.

Use the Back button to return to the cubicle view

Back

MControl Search Function

If the user selects **MControl Search** the following screen appears, giving the possibility to find MControls in a MNS *i*S system:

CMNS IS Web	- Windows Inter	net Explorer pro	vided by IBM									_ 8
G - [http://192.168.	200.180/modules/n	nl/mcontrolsearch.p	hp						▼ * ₇ × s	iearch	P -
j File Edit Vi	iew Favorites	Tools Help										
😪 🍪 🏉 M	INS IS Web									🔄 🔁 • 📾 • 🔂	Page 🔹 🎯 Tools 🔹 🕢 🎣 👯	0 4
										2 2	Log off MViewUser	
MContro	Mama		-					0.00	rah	13/05/2011 20:16		
MContro	name							Sea	rcn	Pumpstation1		
										C0001		
										Pumpstation1		
1 :	2 "	3 s	4 %	5 /	6 (7)	8 _	9.	0 =		Options	
q	w	е	r	t	z	u	i	ο	р		Pofrash	
a	S	d	f	g	h	j	k		?		Keiresii	
У	x	с	v	b	n	m	,		*	Back	ABI	
Caps OF O	F > Caps N			sp	ace			d	el	Back	MNS /	S
											Tobornak 🔶 1002	01 -

Figure 32 MControl Search Dialog

From here it is possible to either enter the full tag name or a group of characters to search for a module. The input field allows entering two supported 'wild'search characters:

- ? Replaces a single undefined character
- * Replaces an undefined string

The *MLink* then searches with the entered *MControl* tag name against all 3 device identifiers (Device Identifier 1, Device Identifier 2, LocationId (Device Identifier 3)). If the *MControl* name matches to one of these identifiers the result is shown in a dialog containing three columns. The third column is the identifier the match occurred.

Device	MLink	ID
Valve-4	PumpStation2	1

In the example above the MControl / MStart has the name 'Valve-4' designated as its 'device identifier 1' and MLink named PumpStation2 is connected.

Result	Device	MLink	ID Device Id Number
Match in M <i>Control</i> Device Identifier 1	Device Identifier 1 of M <i>Control</i>	DeviceName1 of M <i>Link</i> is shown	1
Match in M <i>Control</i> Device Identifier 2	Device Identifier 2 of M <i>Control</i>	DeviceName2 of M <i>Link</i> is shown	2
Match in M <i>Control</i> Device Identifier 3	Device Identifier 3 of MControl	LocationId of M <i>Link</i> is shown	3

The following shows an example of the correct usage of this feature. Here the shown MNS *i*S network structure is taken as precondition. The startup page of M*View* is M*Link* Pump Station 1.



Figure 33 MNS /S System Structure

If an MControl is not found with a know Device Identifier please check the MView ID . This MView ID enables the user to create logical networks. Only MControls connected to a MLink parameterised with the MView ID for that particular network segment will be displayed. For more information please see chapter <u>MView ID</u>

When the physical location and / or the exact name of a MControl is not known the search function can be used in the following way.

User input: "Valve-01":



Figure 34 User Input 1

MView output:

CMNS iS Web -	Windows Inter	net Explorer pro	vided by IBM									_ 6
G • 	http://192.168.	200.180/modules/n	nl/mcontrolsearch.p	hp						-	😽 🗙 Search	Q
File Edit Vi	iew Favorites	Tools Help										
😪 🍪 🍘 м	INS IS Web									0 · 🔊	- 🖶 • 🔂 Page •	• 🕥 Tools • 🔞 • 🚑 🛍 🕄
No hits										2	2	Log off MViewUser
MContro	Namo		Valve	-01				Baa	rah	13/05/20	11 20:19	
weonue	JIName		p arve	01				560	ircn	Pumpstat	ion1	
				_						C0001		
										Pumpstat	ion1	
1 :	2 "	3 s	4 %	5 /	6 (7)	8 _	9.	0 =			Options
q	w	е	r	t	z	u	i	0	р			Bofrooh
а	s	d	f	g	h	j	k	1	?			Reliesh
У	x	C	V.	b	n	m	,		*	_	back	ABB
Caps OF O	F > Caps			sp	ace			d	el		JUCK	MNS iS
1 Done, but with	n errors on page.										📷 😜 Inter	met 🔍 100% 👻

Figure 35 Search Results 1

Result: There is no M*Control* "Valve-01" available in the MNS *i*S network. **User input:** "Valve-?" – Search with undefined character

MNS iS Web -	Windows Inter	net Explorer pro	vided by IBM								<u>_181×</u>	
C 🖸 - 🖉	http://192.168.	200.180/modules/n	nl/mcontrolsearch.p	hp?oldsearch=Val	ve-?					💌 🐓 🗙 Searc	h 👂 🔹	
File Edit Vi	ew Favorites	Tools Help										
😪 🎸 🏉 м	NS IS Web									🛉 🛉 🔊 - 👘 - 🕞 Page	• • 🕥 Tools • 🕢 • 🚑 🔛 🖏	
										2 2	Log off MViewUser	
			Valvo	2						13/05/2011 20:23		
MContro	ol Name		valve	- 1				Sea	arch	Pumpstation1		
										C0001		
										Pumpstation1		
1 :	2 "	3 s	4 s	5 /	6 (7)	8_	9.	0 =		Options	
q	w	е	r	t	z	u	i	0	р		Refresh	
а	s	d	f	g	h	i	k	1	?			
У	x	с		b	n	m	,		*	Back	ABB	
Caps OF O	F > Caps N			sp	ace			d	el	MNS		
L Done, but with	errors on page.									ini 😏 👘	ternet 100% •	

Figure 36: User Input 2

MView output:

MNS iS Web - Windows Internet Explorer provided	by IBM				_8 ×
S	ntrolsearch.php			💌 😽 🗶 Sear	ch 🖉 🖓 🔹
File Edit View Pavorites Tools Help					
🙀 🍻 🍘 MNS IS Web				🔄 🟠 • 🖾 • 🖶 • 🔂 Pog	e • 🎯 Taols • 🕢 🚧 🗱 💈 🕉
List Entries: 12, No: 1 - 8			Page up	2 2	 Log off
Device	MLink	ID	Fage up	2 Z	MViewUser
Valve-1	Pumpstation1	1		13/05/2011 20:23	
Valve-1	Fullpstation		Un	Pumpstation1	
Valve-1	Pumpetation1	2	op	C0001	
Valve-1	Fumpstation	-		Pumpstation1	
Valve-1	C0001	3	-		
Valve-2	Pumpstation1	1	Down		Opuons
Valve-3	Pumpstation1	1			
Valve-4	Pumpstation1	1	Page down		Refresh
Valve-1	Pumpstation1	1			ABB
Valve-1	Pumpstation1	2	Select	Back	MNS IS
 javascript:moveUp() 					ternet 100% +

Figure 37: Search Results 2

Result: 4 MControls were found, connected to two different MLinks. In this case the selected MControl is connected to the same MLink the MView uses (Pump Station 1). If the user selects one of theses MControls (Valve-1) a redirection is done to the Operate Screen of the dedicated MControl.

MNS iS Web - Microsoft Internet Explorer provi	ded by ABB Vietnam Inter nc/operate.php?newDiv=1	net Explorer		+ , ×	iearch	<u>ة ـ</u>
ile Edit View Favorites Tools Help						
🔶 🚓 🍘 MNS IS Web				🟠 • 🖻	•	Page 🔹 🚫 Tools 🔹
Special Status	Alarm	Trip	Show Diagnostics	1	1	Log off MViewUser
Current Phase L1		0,00 A		16/05/2012 07:13		
Current Phase L2		0,00 A	Up	Pumpstation1		
Current Phase L3		0,00 A		C0001 Valve-2		
Current Phase L1 Percentage		0 %		_		
Current Phase L2 Percentage		0 %	Down			Options
Current Phase L3 Percentage		0 %				
Notor Status	Sto	pped				
Control Access	Bus	Local	Set CA To Soft Local	Locate	Module	Refresh
MStart Status	(On				
Start CW Start CCW	Stop			Ва	ck	ABB MNS iS
	8				Internet	* 100%

Figure 38: Redirection from Search Results 2

User input: "Val*"-?" - Search with undefined string



Figure 39: User Input 3

MView output:

MNS is Web - Windows Internet Explorer provided by I	BM				_ 0' ;
😋 🕞 🕶 🔊 http://192.168.200.186/modules/ml/mcontrols	earch.php			💌 🐓 🗙 Sea	di 🖉 -
File Edit View Favorites Tools Help					
🙀 🏟 🏾 🍘 MNS iS Web				🔄 🏠 • 🔝 • 🖶 • 🔂 Pag	ie • 🎯 Tools • 🕢 🛱 🏭 🕄
List Entries: 12, No: 1 - 8			Page up	2 1	Log off
Device	MLink	ID			Mvlewuser
Valvemotor-1	Pumpstation2	1		01/01/2003 22:16	
Valvemotor-2	Pumpstation2	1	Up	C0001	
	1 uniperationit			Pumpstation2	
Valvemotor-3	Pumpstation2	1			
Valve-1	Pumpstation1	1	Down		Options
Valve-1	Pumpstation1	2			
Valve-1	C0001	3	Page down		Refresh
Valve-2	Pumpstation1	1	Soloct	Back	ABB
Valve-3	Pumpstation1	1	Select	Васк	MNS iS
http://192.168.200.186/modules/MCsearch/connect.php2ID=192	168 200 1808/CII=18MC=1				ternet + 100% +

Figure 40: Search Results 3

Result: 4 MControls were found, connected to two different MLinks. In this case the selected MControl is connected to another MLink the MView uses (Pump Station 2). If the user selects one of these MControls (Valve-3) a redirection is done to the **Operate Screen** of the dedicated MControl.

MNS IS Web - Microsoft Internet Explorer provid	led by ABB Vietnam Interr	net Explorer			Search		
File Edit View Envorter Tools Halo	c/operace.pnp		ت		bearch		
Carl Here Paralities Tools Help				<u>ه</u> . [2 · 🖶 ·	📝 Page + 🅥 Tools + 👌	
Special Status	Alarm	Trip	Show Diagnostics	1	1	Log off MViewUser	
Current Phase L1 Current Phase L2	t Phase L1		Up	16/05/2012 07:16 Pumpstation1 C0001			
Current Phase L3 Current Phase L1 Percentage Current Phase L2 Percentage		0,00 A 0 %	Valve-3			Options	
Current Phase L3 Percentage Motor Status Stop		0 %	Set CA To Soft			Befreeh	
MStart Status	C)n	Local	Locate Module		Retresh	
Start CW Start CCW	Stop			В	ack	ABB MNS /S	
					Internet	💐 100% 👻	

Figure 41: Redirection from Search Results 3

Network Information

If the user selects **Network Information** the following screen appears, giving information regarding used Ethernet IP address settings and Subnet masks.

Image: Source	ANS iS Web - Windows Internet Explorer provided by IBM						_ 8 ×
The Eat: Were Percenter tools Help Image: Participant and the percenter tools and th	C - Mttp://192.168.200.186/modules/LanInfo.php			▼ + ₂ >	Search		P -
Image: Syme weight w	File Edit View Favorites Tools Help						
Network Information 2 1 Log off MVIewUser IP Address LAN 1 192.168.100.00 0101/2003 22.18 0101/2003 22.18 Broadcast Address LAN 1 192.168.100.255 C001	🙀 🏟 🍘 MNS IS Web		6	• • • •	E Page 🔻	🞯 Tools * 🕢 🚧 🔛	8 3
IP Address LAN 1 192.168.100.100 01/01/2003 22.18 Broadcast Address LAN 1 192.168.100.255 Pumpstation2 Subnet Mask LAN 1 255.255.05 Co001 Default Gateway LAN 1 0.0.0.0 Pumpstation2 Rx / Tx LAN 1 0 (Byte), 180 (Byte) Options MAC Address LAN 2 192.168.200.186 Pumpstation2 Broadcast Address LAN 2 192.168.200.255 Refresh Subnet Mask LAN 2 255.255.05 Back Back MAC Address LAN 2 0.0.0.0 Back Mack Sign Sign Sign Sign Sign Sign Sign Sign	Network Information			2	1	Log off MViewUser	1
Broadcast Address LAN 1 192.168.100.255 Subnet Mask LAN 1 255.255.255.0 Default Gateway LAN 1 0.0.0.0 Rx / Tx LAN 1 0 (Byte), 180 (Byte) MAC Address LAN 2 192.168.200.186 Broadcast Address LAN 2 192.168.200.255 Subnet Mask LAN 2 255.255.255.0 Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) MAC Address LAN 2 00:07:32:06:BD:42	IP Address LAN 1	192.168.100.100	0	1/01/2003 22:	18		
Subnet Mask LAN 1CoolSubnet Mask LAN 1255.255.255.0Default Gateway LAN 10.0.0.0Rx / Tx LAN 10 (Byte), 180 (Byte)MAC Address LAN 10.0007:32:0B:BD:41IP Address LAN 2192.168.200.255Subnet Mask LAN 2255.255.255.0Default Gateway LAN 20.0.0.0Rx / Tx LAN 2127.05 (MB), 275.23 (MB)MAC Address LAN 200:07:32:0B:BD:42	Broadcast Address LAN 1	192.168.100.255	P	umpstation2			
SUDDIet Mask LAN 1 255.255.0 Pumpstation2 Default Gateway LAN 1 0.0.0.0 Options MAC Address LAN 1 0 (Byte), 180 (Byte) Options IP Address LAN 2 192.168.200.186 Refresh Broadcast Address LAN 2 255.255.050 Refresh Default Gateway LAN 2 0.0.0.0 Back MAC Address LAN 2 127.05 (MB), 275.23 (MB) Back		C0001					
Default Gateway LAN 10.0.0.0Rx / Tx LAN 10 (Byte), 180 (Byte)MAC Address LAN 100:07:32:0B:BD:41IP Address LAN 2192.168.200.186Broadcast Address LAN 2192.168.200.255Subnet Mask LAN 2255.255.255.0Default Gateway LAN 20.0.0.0Rx / Tx LAN 2127.05 (MB), 275.23 (MB)MAC Address LAN 200:07:32:0B:BD:42	Subnet Mask LAN 1	255.255.255.0	P	umpstation2		-	
Rx / Tx LAN 1 0 (Byte), 180 (Byte) Options MAC Address LAN 1 00:07:32:0E:BD:41 Paddress LAN 2 Paddress LAN 2 IP Address LAN 2 192.168.200.186 Refresh Broadcast Address LAN 2 255.255.255.0 Refresh Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 Pack MAC Address LAN 2 00:07:32:0E:BD:42 Pack Pack	Default Gateway LAN 1	0.0.00					
MAC Address LAN 100:07:32:0B:BD:41IP Address LAN 2192.168.200.186Broadcast Address LAN 2192.168.200.255Subnet Mask LAN 2255.255.050Default Gateway LAN 20.0.0.0Rx / Tx LAN 2127.05 (MB), 275.23 (MB)MAC Address LAN 200:07:32:0B:BD:42	Rx / Tx LAN 1	0 (Byte), 180 (Byte)				Options	
IP Address LAN 2 192.168.200.186 Broadcast Address LAN 2 192.168.200.255 Subnet Mask LAN 2 255.255.05 Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) MAC Address LAN 2 00:07:32:0B:BD:42	MAC Address LAN 1	00:07:32:0B:BD:41					
Broadcast Address LAN 2 192.168.200.255 Subnet Mask LAN 2 255.255.255.0 Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) MAC Address LAN 2 00:07:32:0B:BD:42	IP Address LAN 2	192.168.200.186					
Subnet Mask LAN 2 255.255.0 Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) MAC Address LAN 2 00:07:32:0B:BD:42	Broadcast Address LAN 2	192.168.200.255				Refresh	
Default Gateway LAN 2 0.0.0.0 Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) MAC Address LAN 2 00:07:32:0B:BD:42	Subnet Mask LAN 2	255.255.255.0				6	
Rx / Tx LAN 2 127.05 (MB), 275.23 (MB) Back MID ID MAC Address LAN 2 00:07:32:0B:BD:42 MINS iS MINS is	Default Gateway LAN 2	0.0.0.0				ADI	
MAC Address LAN 2 00:07:32:0B:BD:42 MNS is	Rx / Tx LAN 2	127.05 (MB), 275.23 (MB)		Back		73 ID I	
	MAC Address LAN 2	00:07:32:0B:BD:42				MNS i	5

Figure 42 Network Information Dialog

Use the Back button to return to the cubicle view

Back

MLink Parameter Overview

If the user selects 'MLink Parameter Overview' the following screen appears, giving overview regarding various MLink Parameters i.e. OPC ID, MView ID, Access control. These have direct relationship with parameter value set and downloaded to MLink via MNavigate.

CMNS iS Web - Microsoft Internet Explorer provided by ABB Vietnam In	ternet Explorer			_ 8 ×	
COO - I http://192.168.200.123/modules/ml/MLinkParameterinfo.php			😽 🗙 BitTorrentBar C	Customized Web Search 🔎 🗸	
File Edit View Favorites Tools Help Links 🙋 Customize Links 🍘 support					
🔆 🎲 🧭 MINS IS Web			🔄 • 🔊 • 🖶 •	Page • 🚫 Tools • *	
MLink Parameter Overview			0 0	Log off MViewUser	
OPC Server / OPC ID	1		15/05/2012 08:40		
Web Server / MView ID	1	Pumpstation1			
Web Course / Timore Office Users			C0001		
Web Server / Timezone Onset Usage	no		Pumpstation1	-	
Modbus TCP / Protocol	tcp				
Modbus TCP / Slave Address	247			Options	
Modbus TCP / TCP Port	502				
Modbus TCP / PLC Timeout Enable	no				
Modbus TCP / PLC Timeout [sec]	10			Refresh	
Modbus TCP / Mapping Type	DefaultMap				
MLink Extended Failsafe / Extended Failsafe Enabled	no		1.00	ABB	
Access Control / Access Control Enabled	no		Back	MNS IS	
			📑 📑 🚱 Internet	100% +	

Use the Back button to return to the cubicle view

Back

Redundancy

The web interface will always use data received from the primary MLink. Should a change over occur the web interface will be automatically redirected. The following sequence will run when a change over of the primary MLink is initiated. For more information please refer to the MNS iS Redundancy Manual.



MView ID

The MView ID enables the user to create MNS *i*S Ethernet network segments without the need of physical splitting. This could be required in systems containing a large number of MLinks. In these circumstances it may not be possible to handle all MLinks in one MView, because of the size of the MLink-list available, (one entry for every physically connected MLink). By using the MView ID the number of accessible MLinks can be reduced.

By using M*Navigate* an M*View* ID can be configured for each M*Link*. The example below will describe the system behaviour if this function is used.

	M <i>Link</i> 1	MLink2	M <i>Link</i> 3	MLink4
M <i>View</i> 1	yes	yes	yes	no
M View 2	no	no	no	yes

The MView ID has to be set accordingly by using M*Navigate*. After downloading the settings to M*Link* and adapting the start-up page for M*View* as described below the following segmentation is created:

M <i>View</i> name	M View Startup page	
M <i>View</i> 1	MLink 1 or MLink 2 or MLink 3	
M View 2	MLink 4	



Figure 46 MView ID – Ethernet network segmentation



MLinks having no MLinkId support (previous to V5.3) are available / visible in all logical network segments.

WEB Server Interface settings

The following WEB interface settings can be customized

- User and user roles
- Language native languages support
- User colour schemes Web Color Setting
- Date & Time Format (system menu)
- MView ID
- Time Zone Offset
- Single Trip Reset

For more details refer to the MNS iS MNavigate Help File.

Problem	Solution			
No access to M <i>Link</i> with the web interface	Check if the correct IP address in the address bar of the web interface has been entered.			
	Check if the MLink is powered on and no fault indication is on the LED indication of MLink.			
	Check if the Web Server option is activated. This can be done using MNavigate and verification of the settings for the MLink.			
	MNavigate and verification of the settings for the MLink. Check if the network configuration is correct; use a ping command to verify that the MLink is reachable. Open a command window on the PC: • Start / Run, then type in "cmd" and select Enter Run Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in "cmd" and select Enter Image: Start / Run, then type in the correct IP address: Image: Start / Run, type in the select Enter Image: Start / Run, type in the select Enter Image: Start / Run, type in type in the select Enter Image: Start / Run, type in type 			
	<pre>Pinging 192.168.200.100 with 32 bytes of data: Reply from 192.168.200.100: bytes=32 time=1ms ITL=64 Reply from 192.168.200.100: bytes=32 time(1ms ITL=64 Reply from 192.168.200.100: bytes=32 time(1ms ITL=64 Ping statistics for 192.168.200.100: Packets: Sent = 4. Received = 4. Lost = 0 (0% loss), Approximate round trip times in milli=seconds: Minimum = 0ms, Maximum = 1ms, Average = 0ms C:\>_</pre>			

Troubleshooting and Maintenance

Problem	Solution	
	If it is still not possible to reach the MLink. Remove insert the CF card into a card reader connected to M MLink data again to the CF card. Re-insert the card and check communication.	the CF card from M <i>Link</i> , <i>MNavigate</i> and write the to M <i>Link</i> , start M <i>Link</i>
MLink communication	In case of the following kind of error please check the connections (LAN 2 on M <i>Link</i> side) and press the R	ne Ethernet cable R estart button.
problem	C MYS iS Web - Windows Internet Explorer provided by IBM	
	Solver Je http://192.168.200.189/modules/cubide.php File Edit View Favorites Tools Help	Search 2
	🚱 🕸 🔾 MNS IS Web	🏠 🔹 🔂 🔹 🖶 Page 🔹 🎯 Tools 🔹 🚱 🎎 💈 🎿
	Connecting to redundant MLink	Log off MViewUser 11/01/2007 06:37 ML-0000000761 C0001 2
	Reconnect	Options Refresh Back
		₩ 1 3 / 3 y

Contact us

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Local Contacts on www.abb.com/mns

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