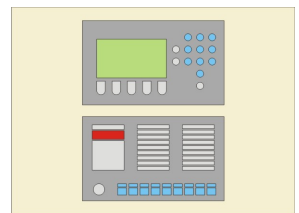


The Minerva Driver



The Minerva driver connects to a single Minerva MX fire panel. Available for Commander and ObSys.

This document relates to Minerva driver version 1.1

Please read the *Commander Manual* or *ObSys Manual* alongside this document, available from www.northbt.com

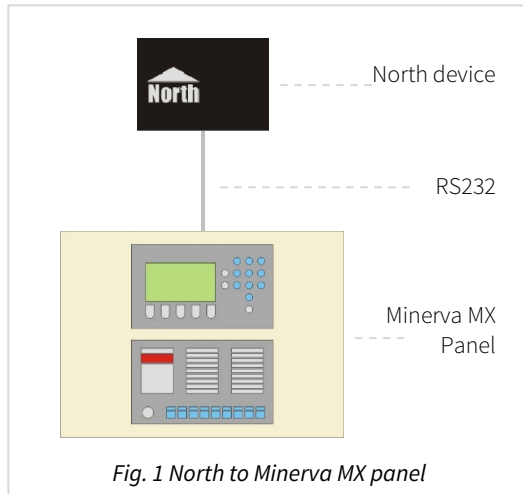
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Compatibility with the Minerva System

The Minerva driver allows North to interface with a single Minerva MX fire panel (Fig. 1).

The driver connects to the panel's third-party serial port interface. This printer-style output port provides limited monitoring only, no commands can be sent to the panel.



Equipment

Tyco/ADT Minerva range of MX fire panels compatible with the driver includes the MX1000, MX4000, ZX1, and ZX4.

Values

The driver can typically access the following values:

- Panel state
- Loop state
- Loop device state
- Zone state

Fire, pre-alarm, fault, and isolation conditions are available.

The fire control panel can send alarms to the Minerva driver.

Prerequisites

The driver decodes the printer-style output sent from the panel. Only recognised events are decoded and made available as objects. All alarms from the configured panel will be routed onwards.

The driver is unable to request the current state of the panel at start-up, therefore the panel should be clear of all events when starting or resetting the driver.

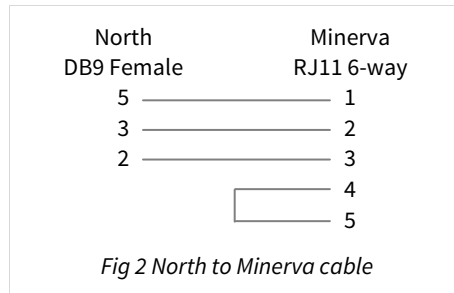
The Minerva MX panel should have software version 4.0 or later installed.

Using the Driver

On ObSys, the Minerva driver is pre-installed. On Commander, the driver is available to download in the file 'Bank7 Minerva.cdm'. On all of these North devices, you can use the driver to create an interface to Minerva. Once started, you will need to set up the driver before it can communicate with the Minerva system.

Making the Cable

Using the RS232 cable specification (Fig. 2), connect the North device COM port to the Minerva MX panel's RJ11 port labelled 'COM1'. Connector types at each end of the cable are shown.



The maximum RS232 cable length is 15m.

Cables are available from North, order code CABLE/MINERVA.

Starting the Interface

- ☞ To start an interface using the Minerva driver, follow these steps:
 - **Start Engineering** your North device using ObSys
 - Navigate to **Configuration, Interfaces**, and set an unused **Interface** to 'Minerva' to start the particular interface
 - Navigate to the top-level of your North device and re-scan it

The driver setup object (Mc), labelled **Minerva Setup**, should now be available. If this object is not available, check an interface licence is available and the driver is installed.

Setting up the Driver

- ☞ To set up the driver, follow these steps:
 - Navigate to the **Minerva Setup** object (Mc). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
 - Set **RS232 COM Port** (RS.COM) to select the serial port number on the North device the Minerva panel is connected to
 - Set **Baud Rate** (RS.BR) to match that of the Minerva interface port
 - Set the **Panel address** (ADDR) to match the address of the Minerva panel to monitor.

Checking Communications

You can check that the interface is communicating by reading the **Comms Online** object (DS). A value of 'Yes' indicates the driver has received messages from the Minerva panel.

Alarms

When the Minerva system reports an event to the driver, the driver sends a North-format alarm to the device's alarm processing.

Format

North-format alarms contain six text fields. The Minerva driver places the following information into these fields:

System – copied from System Label object (DL) within driver setup

Point – see Point Field section below

Condition – see Condition Field section below

Priority – see Priority Field section below

Date & Time – from panel

Examples

System	Point	Condition	Priority	Date	Time
Minerva System	Panel 1 Loop 1 Dev 3 Zone 2	FIRE ALERT	1	01/03/13	14:29:48
Minerva System	Panel 1	SOUNDERS SILENCED	3	01/03/13	14:35:12
Minerva System	Panel 1	SYSTEM RESET	1	01/03/13	14:35:20
Minerva System	Panel 1 Loop 2 Dev 16 Zone 1	ISOLATE COMMAND	2	11/03/13	14:26:26
Minerva System	Panel 1 Loop 2 Dev 16 Zone 1	DE-ISOLATE COMMAND	2	11/03/13	14:32:02

Point Field

Selected by the Alarm Point field object (AT) within driver setup.

If 'PLD reference' option is selected, Point field can be:

Panel *a*

Panel *a* Loop *b*

Panel *a* Loop *b* Dev *c* Zone *d*

If 'Detector label' option is selected, Point Field contains:

Panel *a* + Sector description + Zone description + Point description

The panel number field is only included if Include panel number object (IPN) is enabled. The sector description field is only included if Include sector description object (ISD) is enabled.

Condition Field

The driver uses the event text field sent from the panel.

Priority Field

The driver uses the event category from the panel to determine the priority field:

Event Category	Priority
0 Information	3
1 Warning	3
2 Test Mode	3
3 Isolation	2
4 Fault	3

Event Category	Priority
5 Supervisory	2
6 Pre-Alarm	2
7 Gas Alert	2
8 Fire	1

Object Specifications

Once an interface is started, one or more extra objects become available within the top-level object of the device. As with all North objects, each of these extra objects may contain sub-objects, (and each of these may contain sub-objects, and so on) - the whole object structure being a multi-layer hierarchy. It is possible to navigate around the objects using the ObSys Engineering Software.

Each object is specified below, along with its sub-objects.

Example Object Reference

An example of a reference to an object in the same device: the Minerva System (S1) contains Loop 1 (L1), which has Device 22 (D22), which contains an alarm state (C). Therefore, the complete object reference will be 'S1.L1.D22.C'.

An example of a reference to an object in a different device: the IP network object (IP) contains Default Commander object (CDIP), which contains the object above (S1.L1.D22.C) – therefore the complete object reference is 'IP.CDIP.S1.L1.D22.C'.

Device Top-Level Objects

When an interface is started using the Minerva driver, the objects below become available within the top-level object of the device. For example, if Interface 1 is started, then the object with references 'M1' and 'S1' become available.

Description	Reference	Type
Minerva Setup Set up the Minerva driver, started on interface <i>c</i> (<i>c</i> is the interface number)	Mc	Fixed Container: On the Commander platform this will be <i>[CDM v20\Minerva v11]</i> On the ObSys platforms this will be <i>[OSM v20\Minerva v11]</i>
Minerva System Access Minerva system connected to interface <i>c</i> (<i>c</i> is the interface number)	Sc	Variable Container: <i>[Minerva v11]</i>

Minerva Driver Setup

Object Type: [OSM v20\Minerva v11]

Object Type: [CDM v20\Minerva v11]

The Minerva driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num: 1...8; Adjustable
Baud Rate	RS.BR	Obj\Num; Adjustable Values: 4800, 9600, or 19200
System Label Label displayed when scanning the system and within alarms	DL	Obj\Text: 20 Chars; Adjustable
Panel Address Address of the panel to monitor	ADDR	Obj\Num: 1...16; Adjustable
Comms Online Indicates whether communication is established with the panel	DS	Obj\NoYes
Alarm Point field Selects source of the alarm message point field.	AT	Obj\Enum: 0...1; Adjustable Values: 0=PLD reference, 1=Detector label
Include panel number Prefix the alarm point field with the panel number	IPN	Obj\NoYes; Adjustable
Include sector description Include sector description from panel in the alarm point field. Alarm Point field (AT) must also be set to 'Detector label'	ISD	Obj\NoYes; Adjustable
Event storage available Each event from the system must be remembered by the driver. If no storage is available for a new event, the driver will not be able to remember it.	SC	Obj\Num: 0...150
Reset driver Clears the internal database of events	RST	Obj\NoYes; Adjustable

Minerva System

Object Type: *[Minerva v11]*

A Minerva panel contains the following objects:

Description	Reference	Type
Panel Alarm State	C	Obj\Enum: 0...4; Where: 0=Ok, 1=Isolated, 2=Fault, 3=Pre-Alarm, 4=Fire
Panel OK	C0	Obj\NoYes
Isolations	C1	Obj\NoYes
Faults	C2	Obj\NoYes
Pre-Alarm	C3	Obj\NoYes
Fire	C4	Obj\NoYes
Loop x The loop number, <i>x</i> , is in the range 1...8.	Lx	Fixed container: <i>[Minerva v11\Loop]</i>
Zone y The zone number, <i>x</i> , is in the range 1...240	Zy	Fixed container: <i>[Minerva v11\Zone]</i>

Compatibility Objects

A Minerva panel also contains the following objects for backward compatibility.

Description	Reference	Type
Panel Value Panel alarm state	V1	Obj\Enum Value: 0=OK, 15=Supervisory, 16=Fault, 19=Gas Alert, 20=Devices Isolated, 21=Pre-Alarm, 22=Fire
Panel in Fault <i>b</i> condition The fault condition, <i>b</i> , is in the range 15...22, where: 15=Supervisory (Cat 5), 16=Fault (Cat 4), 19=Gas Alert (Cat 7), 20=Devices Isolated (Cat 3), 21=Pre-Alarm (Cat 6), 22=Fire (Cat 8)	Fb	Obj\NoYes

Loop

Object Type: *[Minerva v11\Loop]*

A Minerva loop contains the following objects:

Description	Reference	Type
Loop Alarm State	C	Obj\Enum: 0...4; Where: 0=Ok, 1=Isolated, 2=Fault, 3=Pre-Alarm, 4=Fire
Loop OK	C0	Obj\NoYes
Isolations	C1	Obj\NoYes
Faults	C2	Obj\NoYes
Pre-Alarm	C3	Obj\NoYes
Fire	C4	Obj\NoYes
Device x The device address, <i>x</i> , is in the range 1 to 250	Dx	Fixed container: <i>[Minerva v11\Device]</i>

Compatibility Objects

A Minerva loop also contains the following objects for backward compatibility.

Description	Reference	Type
Loop Value Loop alarm state	V1	Obj\Enum Value: 0=OK, 15=Supervisory, 16=Fault, 19=Gas Alert, 20=Devices Isolated, 21=Pre-Alarm, 22=Fire
Loop in Fault <i>b</i> condition The fault condition, <i>b</i> , is in the range 15...22, where: 15=Supervisory (Cat 5), 16=Fault (Cat 4), 19=Gas Alert (Cat 7), 20=Devices Isolated (Cat 3), 21=Pre-Alarm (Cat 6), 22=Fire (Cat 8)	Fb	Obj\NoYes

Device

Object Type: [Minerva v11\Device]

A Minerva loop device contains the following objects:

Description	Reference	Type
Device Alarm State	C	Obj\Enum: 0...4; Where: 0=Ok, 1=Isolated, 2=Fault, 3=Pre-Alarm, 4=Fire
Device OK	C0	Obj\NoYes
Device Isolated Indicates whether this device is isolated	C1	Obj\NoYes
Device in Fault	C2	Obj\NoYes
Device in Pre-Alarm	C3	Obj\NoYes
Device in Fire	C4	Obj\NoYes

Compatibility Objects

A Minerva loop device also contains the following objects for backward compatibility.

Description	Reference	Type
Device Value Loop device alarm state	V1	Obj\Enum Value: 0=OK, 15=Supervisory, 16=Fault, 19=Gas Alert, 20=Devices Isolated, 21=Pre-Alarm, 22=Fire
Devices in Fault <i>b</i> condition The fault condition, <i>b</i> , is in the range 15...22, where: 15=Supervisory (Cat 5), 16=Fault (Cat 4), 19=Gas Alert (Cat 7), 20=Devices Isolated (Cat 3), 21=Pre-Alarm (Cat 6), 22=Fire (Cat 8)	F <i>b</i>	Obj\NoYes

Zone

Object Type: [Minerva v11\Zone]

A Minerva zone contains the following objects:

Description	Reference	Type
Zone Alarm State	C	Obj\Enum: 0...4; Where: 0=Ok, 1=Isolated, 2=Fault, 3=Pre-Alarm, 4=Fire
Zone OK	C0	Obj\NoYes
Devices Isolated Indicates whether any devices in this zone are isolated	C1	Obj\NoYes
Devices in Fault	C2	Obj\NoYes
Devices in Pre-Alarm	C3	Obj\NoYes
Devices in Fire	C4	Obj\NoYes

Compatibility Objects

A Minerva zone also contains the following objects for backward compatibility.

Description	Reference	Type
Zone Value Zone alarm state	V1	Obj\Enum Value: 0=OK, 15=Supervisory, 16=Fault, 19=Gas Alert, 20=Devices Isolated, 21=Pre-Alarm, 22=Fire
Zone in Fault <i>b</i> condition The fault condition, <i>b</i> , is in the range 15...22, where: 15=Supervisory (Cat 5), 16=Fault (Cat 4), 19=Gas Alert (Cat 7), 20=Devices Isolated (Cat 3), 21=Pre-Alarm (Cat 6), 22=Fire (Cat 8)	F <i>b</i>	Obj\NoYes

Driver Versions

Version	Build Date	Details
1.0	20/8/2003	Driver released
1.1	9/6/2014	New-style fire objects now supported (C, Cx, etc). Object V1 still supported for existing installations. Panel can now send messages from networked panels. Only support one panel, so added Panel address object (ADDR) to filter out other messages. Alarm Point field object (AT) option 0, now formats as standard PLD reference rather than using raw format of device address. Added Include panel number (IPN) and Include sector description (ISD) objects to further customise alarm point field. Added Reset driver (RST) to clear internal database. (No re-sync available) Added Event storage available (SC) Baud rate defaults to 9600 on initialisation.

Next Steps...

If you require help, contact support on 01273 694422 or visit www.northbt.com/support



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Document issued 16/07/2015.