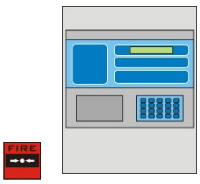
The ZitonZP Driver



The ZitonZP driver allows North to interface with a Ziton ZP3 or ZP5 fire detection system supporting the ZCP2 protocol. Available for Commander and ObSys.

This document relates to ZitonZP driver version 1.1 to 1.2

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

Contents

Compatibility with the Ziton System 3
- Equipment 3
- Values 3
- Prerequisites 4

Using the Driver 5
- Making the Cable 5
- Starting the Interface 5
- Setting up the Driver 6
- Checking Communications 6

Alarms 7
- Format 7
- Examples 7
- Point Field 7
- Condition and Priority Field 7

Object Specifications 9
- Example Object Reference 9
- Device Top-Level Objects 9
- Ziton Driver Setup 10
- Ziton System 11
- System Summary 12
- Ziton Panel 13
- Commands 14
- Ziton Loop 15
- Ziton Device 16
- Ziton Zone 17

Driver Versions 18

Compatibility with the Ziton System

The ZitonZP driver allows North to interface with a Ziton ZP3 or ZP5 fire detection system supporting the ZCP2 protocol.

The driver connects to a Ziton fire panel fitted with an optional serial communications card (Fig. 1), and can communicate with panels connected to the Ziton Z-Net. This peer-to-peer network supports up to 32 panels.

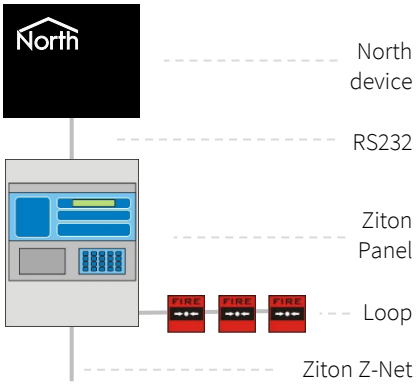


Fig. 1 North to Gent panel

Equipment

Ziton fire control panels compatible with the driver include:

- Ziton ZP3 series
- Ziton ZP5 series

Values

The driver can typically access the following values:

- Reset panel
- Sounders
- System state
- Panel state
- Loop state
- Loop device state
- Zone state
- Time & date

States for fire, pre-alarm, fault, and isolation are available.

Fire control panels can send alarms to the ZitonZP driver.

Prerequisites

The driver is only able to request the current isolation state of the system at start-up, therefore the driver will be unaware of any fire or fault conditions.

If connecting to a Ziton ZP3 panel, a ZP3AB-RS232 communications card must be fitted in Z-Port 1a. Note that Z-Port 1a cannot be used at the same time as the programming port (Z-Port 1), located on the inside door.

If connecting to a Ziton ZP5 panel, a ZP-CB422-2 communications card must be fitted along with an RS422 to RS232 adapter. Note that the driver only supports RS422 on this panel, and not RS232.

After installing the communications card, set the protocol on the panel by navigating to the menu: Setup > System Configuration > Peripheral Comms > Comms Parameters

Select Z-Port '1', set protocol to '01' or '04', then set baud rate, parity, data bits, and stop bits to match those configured in the ZitonZP driver. The default is 9600 E71.

Protocol '01 – ZCP2 (multi)' is typically used.

Protocol '04 – ZCP2 (single + text)' provides an additional custom text field with zone and point alarms. See *Alarms* for further information.

The Ziton ZP2 panel is not compatible with this driver. Use BACnetIP and ModbusTCP drivers instead.

Using the Driver

On ObSys and Commander, the ZitonZP driver is pre-installed. On all of these North devices, you can use the driver to create an interface to Ziton. Once started, you will need to set up the driver before it can communicate with the Ziton system.

Making the Cable

ZP3 Panel

Using the RS232 null-modem cable specification (Fig. 2), connect the North device COM port to the Ziton ZP3 communications card. Connector types at each end of the cable are shown:

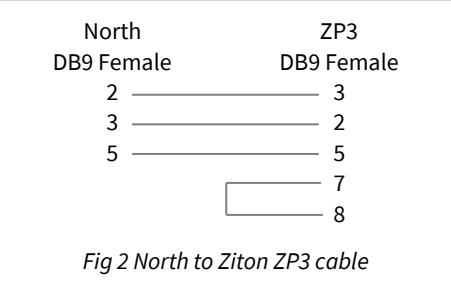


Fig 2 North to Ziton ZP3 cable

The maximum RS232 cable length is 15m and should be as short as possible.

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

ZP5 Panel

Connect the North device COM port to an RS232 to RS422 adapter.

Using the RS422 cable specification (Fig. 3), connect the RS422 adapter to the Ziton ZP5 communications card. Connect the cable screen to pin 3 at Ziton end only.

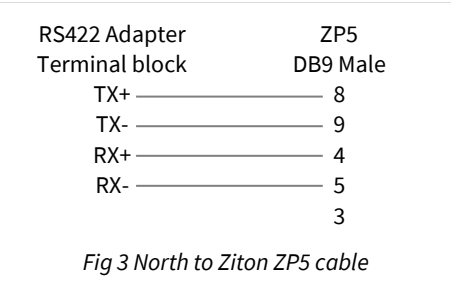


Fig 3 North to Ziton ZP5 cable

RS422 adapters are available from North, order code MISC/RS232/422.

Starting the Interface

To start an interface using the ZitonZP driver, follow these steps:

- → **Start Engineering** your North device using ObSys
- → Navigate to **Configuration, Interfaces,** and set an unused **Interface** to 'ZitonZP' to start the particular interface
- → Navigate to the top-level of your North device and re-scan it

The driver setup object (Mc), labelled **ZitonZP 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 **Ziton 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 panel is connected to
- Set the **Baud Rate** (RS.BR) and **Byte Format** (RS.BF) to match that configured on the Ziton panel

Checking Communications

Ziton Setup contains a **Comms Online** (DS) object. A value of 'yes' indicates the driver is receiving data from the Ziton system.

Alarms

When the Ziton 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 ZitonZP 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 and Priority Field section below

Priority – see Condition and Priority Field section below

Date & Time – from fire panel

Examples

System	Point	Condition	Priority	Date	Time
Ziton System	Panel 2 Loop 2 Dev 16 Zone 1 MCP	Isolated	2	19/07/14	14:29:48
Ziton System	Panel 1 Loop 1	Loop Fault	3	19/07/14	15:35:12
Ziton System	Panel 2 Loop 1 Dev 3 Zone 6	Fire	1	19/07/14	18:52:06
Ziton System	Panel 2	Alarms sounding	3	19/07/14	18:52:06
Ziton System	Panel 2	Alarms silenced	3	19/07/14	18:52:51
Ziton System	Panel 2	Reset	1	19/07/14	18:55:26
Ziton System	Panel 2 Loop 2 Dev 16 Zone 1 MCP	De-isolated	2	20/07/14	10:41:37

Point Field

When the panel protocol is set to '01 – ZCP2 (multi)', the point field can be:

Panel *a*

Panel *a* Loop *b*

Panel *a* Loop *b* Dev *c*

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

If the detector is a manual call point, then 'MCP' will be appended to the point field.

When the panel protocol is set to '04 – ZCP2 (single + text)', the point field can be:

Panel *a Custom text from panel*

Condition and Priority Field

The following alarm conditions can be sent by the driver:

Condition	Priority
Fire	1
Gas relay active	1
Gas released	1
Reset	1
De-isolated	2
Fire-station alarm isolated	2
Gas control unit isolated	2
General de-isolate	2
General isolate	2
High sensitivity smoke pre-alarm	2
IO de-isolated	2

Condition	Priority
IO isolated	2
Isolated	2
Pre-alarm	2
Silence isolated	2
Sounder isolated	2
Address group fault	3
Alarm fault	3
Alarms silenced	3
Alarms sounding	3
Ancillary power fault	3
Battery fault	3

Condition	Priority
Battery low	3
Battery offline	3
Charger fault	3
Checksum fault	3
Comms fault	3
Door error	3
Double address fault	3
Dual monitored loop	3
Earth leakage fault	3
External fault	3
Failed test	3
Faults cleared	3
Fault restored	3
Fire station monitor fault	3
First unit offline	3
Gas unit fault	3
Gas unit normal	3
Gas unit power fault	3
Halon bell fault	3
Halon detonator fault	3
Hardware report	3
High sensitivity smoke fault	3
Incorrect type	3
Input off	3
Input on	3
Last unit offline	3
Loop fault	3
Mains power fault	3
Maintenance required	3
Manual callpoint fault	3
Memory R/W fault	3
No devices online	3
No slave panels online	3
Not accepted	3
Offline	3
Online	3
Open circuit	3
Printer options set	3
RAM backup voltage low	3
RAM fault	3
RDU alarm fault	3
RDU battery fault	3
RDU mains fault	3
Relay no response	3
Remote display offline	3
Remote display online	3
Removed from base	3

Condition	Priority
Security switch activated	3
Sensing fault	3
Short circuit	3
Sounder charger fault	3
Sounder fault	3
Sounder silenced	3
Sounder supply fault	3
Sounder time-out	3
System Fault	3
System Fault restored	3
Tamper	3
T-bar to switch	3
Test finished	3
Z-input fault	3
Accepting	4
Alarm/Trigger	4
Auto Mode	4
Calibrating	4
Comms board offline	4
Comms board online	4
Comms link down	4
Comms link up	4
Control switch activated	4
Control switch deactivated	4
Day mode	4
EPROM changed	4
EPROM write fault	4
Ext computer offline	4
Ext computer online	4
Framing	4
Gas unit locked off	4
Initialising	4
Manual mode	4
Menu accessed	4
Night mode	4
Output activated	4
Overrun	4
Parity	4
Pre-service	4
RS422 fail test	4
Service done	4
Service required	4
Stack fault	4
Standard mode	4
Testing	4
Text area full	4
Watchdog	4

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 Ziton System (S1) contains Panel 1 (P1), which contains Zone 3 (Z3), which contains an alarm state (C). Therefore, the complete object reference will be 'S1.P1.Z3.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.P1.Z3.C) – therefore the complete object reference is 'IP.CDIP.S1.P1.Z3.C'.

Device Top-Level Objects

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

Description	Reference	Type
Ziton Setup Set up the ZitonZP driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed Container: On the Commander platform this will be *[CDM v20\ZitonZP v12]* On the ObSys platforms this will be *[OSM v20\ZitonZP v12]*
Ziton System Access ZitonZP system connected to interface *c* (*c* is the interface number)	S*c*	Variable Container: *[ZitonZP v12]*

Ziton Driver Setup

Object Type: *[OSM v20\ZitonZP v12]*
Object Type: *[CDM v20\ZitonZP v12]*
Object Type: *[OSM v20\ZitonZP v11]*
Object Type: *[CDM v20\ZitonZP v11]*

The ZitonZP 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: 2400, 4800, 9600, 14400, 19200, 38400
Byte Format	RS.BF	Obj\ENum: 0..11; Adjustable See note 1
System Label Label displayed when scanning the system and within alarms	DL	Obj\Text: 20 Chars; Adjustable
Comms Online Indicates whether communications has been established with the panel	DS	Obj\NoYes
Ignore Isolations Enable to ignore isolation events from the system. This provides more event storage for fire and fault conditions. Not available in driver version 1.1	II	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.** Not available in driver version 1.1	SC	Obj\Num: 0…500
Reset driver Clears the internal database and re-establishes communication with the Ziton system. The driver will re-request the current isolation state of the system, but will be unable of any fire of fault conditions. Not available in driver version 1.1	RST	Obj\NoYes; Adjustable

Notes

1 Byte format can have the following values:

Value	Parity	Data bits	Stop bits
0	None	8	1
1	None	8	2
2	None	7	1
3	None	7	2
4	Odd	8	1
5	Odd	8	2
6	Odd	7	1
7	Odd	7	2
8	Even	8	1
9	Even	8	2
10	Even	7	1
11	Even	7	2

Ziton System

Object Type: *[ZitonZP v12]*
Object Type: *[ZitonZP v11]*

The Ziton system is a network of Ziton ZP3 or ZP5 fire detection panels. It contains objects to view the status of the whole system (P) and objects to access information from each connected panel (P*x*).

Description	Reference	Type
System Summary Not available in driver version 1.1	P	Fixed container: *[ZitonZP v12\System]*
Panel *x* The panel number, *x*, is a number in the range 1..127	P*x*	Fixed container: *[ZitonZP v12\Panel]*

System Summary

Object Type: *[ZitonZP v12\System]*

The System Summary object contains the network-wide status for the Ziton system.

Description	Reference	Type
System Alarm State	C	Obj\ENum: 0…4; Where: 0=Ok, 1=Isolation, 2=Fault, 3=Pre-Alarm, 4=Fire
System OK	C0	Obj\NoYes
Isolations	C1	Obj\NoYes
In Fault	C2	Obj\NoYes
In Pre-Alarm	C3	Obj\NoYes
In Fire	C4	Obj\NoYes
Sounders	S	Obj\OffOn

Ziton Panel

Object Type: *[ZitonZP v12\Panel]*
Object Type: *[ZitonZP v11\Panel]*

A Ziton panel contains the following objects:

Description	Reference	Type
Commands Contains objects for resetting, isolating and silencing the panel	A	Fixed container: *[ZitonZP v12\Actions]*
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, *x*, is in the range 1..8	L*x*	Fixed container: *[ZitonZP v12\Loop]*
Zone *y* The Zone number, *y*, is in the range 1..128	Z*y*	Fixed container: *[ZitonZP v12\Zone]*

Compatibility Objects

A Ziton panel also contains the following objects for backward compatibility:

Description	Reference	Type
Reset	R	Obj\NoYes; Adjustable only
Sounder	S	Obj\OffOn; Adjustable
Date and Time	TIME	Obj\DateTime: Adjustable only
Panel Value List	V	Obj\Text List of values from the numbers listed below in object V. E.g. '22|19|15'
Panel Value Highest priority panel value	V1	Obj\ENum Value (in order of priority): 22=Fire, 21=Pre-Alarm, 15=Detector fault, 16=Loop fault, 14=Sounder Fault, 13=Panel Supply Fault, 20=Device Isolation, 19=Alarms sounding, 0=OK
Panel Fault *b* The fault number, *b*, is in the range 13…22, where: 13=Panel Supply Fault, 14=Sounder Fault, 15=Detector fault, 16=Loop fault, 19=Alarms sounding, 20=Device Isolation, 21=Pre-Alarm, 22=Fire	F*b*	Obj\NoYes

Commands

Object Type: *[ZitonZP v12\Actions]*

The Ziton panel commands object contains the following objects:

Description	Reference	Type
Reset Panel Performs a reset on the panel	R	Obj\NoYes; Adjustable only
Sounders Silences or re-sounds sounders	S	Obj\OffOn; Adjustable
Set Date & Time Set the panel's date and time	TIME	Obj\DateTime; Adjustable only

Ziton Loop

Object Type: *[ZitonZP v12\Loop]*
Object Type: *[ZitonZP v11\Loop]*

A Ziton 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 number, *x*, is in the range 1..254	D*x*	Fixed container: *[ZitonZP v12\Device]*

Compatibility Objects

A Ziton loop also contains the following objects for backward compatibility:

Description	Reference	Type
Value List	V	Obj\Text List of values from the numbers listed below in object V*a*. E.g. '22|15'
Panel Value Highest priority panel value	V1	Obj\ENum Value (in order of priority): 22=Fire, 21=Pre-Alarm, 15=Detector fault, 16=Loop fault, 20=Device Isolation, 0=OK
Fault *b* The fault number, *b*, is in the range 15…22, where: 15=Detector fault, 16=Loop fault, 20=Device Isolation, 21=Pre-Alarm, 22=Fire	F*b*	Obj\NoYes

Ziton Device

Object Type: *[ZitonZP v12\Device]*
Object Type: *[ZitonZP v11\Det]*

A Ziton 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
Isolated	C1	Obj\NoYes; Adjustable
Fault	C2	Obj\NoYes
Pre-Alarm	C3	Obj\NoYes
Fire	C4	Obj\NoYes

Compatibility Objects

A Ziton device also contains the following objects for backward compatibility:

Description	Reference	Type
Sounder	S	Obj\OffOn; Adjustable
Value List	V	Obj\Text List of values from the numbers listed below in object V*a*. E.g. '22|15'
Panel Value Highest priority panel value	V1	Obj\ENum Value (in order of priority): 22=Fire, 21=Pre-Alarm, 15=Detector fault, 20=Device Isolation, 0=OK
Fault *b* The fault number, *b*, is in the range 15…22, where: 15=Detector fault, 20=Device Isolation, 21=Pre-Alarm, 22=Fire	F*b*	Obj\NoYes
Isolate Device	I	Obj\NoYes: Adjustable

Ziton Zone

Object Type: *[ZitonZP v12\Zone]*
Object Type: *[ZitonZP v11\Zone]*

A Ziton 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
Isolated	C1	Obj\NoYes; Adjustable
Faults	C2	Obj\NoYes
Pre-Alarm	C3	Obj\NoYes
Fire	C4	Obj\NoYes

Compatibility Objects

A Ziton zone also contains the following objects for backward compatibility:

Description	Reference	Type
Value List	V	Obj\Text List of values from the numbers listed below in object V*a*. E.g. '22|15'
Panel Value Highest priority panel value	V1	Obj\ENum Value (in order of priority): 22=Fire, 21=Pre-Alarm, 15=Detector fault, 20=Device Isolation, 0=OK
Fault *b* The fault number, *b*, is in the range 15…22, where: 15=Detector fault, 20=Device Isolation, 21=Pre-Alarm, 22=Fire	F*b*	Obj\NoYes
Isolate Device	I	Obj\NoYes: Adjustable

Driver Versions

Version	Build Date	Details
1.1	22/06/2000	Added isolate and time objects
1.1	26/03/2001	Fix: Driver object DS, incorrectly reporting lost comms
1.1	08/04/2003	Reset panel object now only accepts value of '1' to action
1.1	01/07/2009	Increase storage to 250 events
1.2	18/07/2014	Increase storage to 500 events Added driver objects SC, II, and RST Alarms: Removed device type from alarm condition field. Now end object field with 'MCP' if manual call point. Add System Summary, device object P Rework device objects for new fire object model – C, Cx, A.
1.2	26/10/2016	Added support for protocol 4: ZCP2 (single + text). Select this to include custom text in zone and point alarms
1.2	28/06/2018	Resolved issue on receiving panel reset. Driver was incorrectly clearing isolations instead of device faults (bug introduced in build 18/07/14). Added support for 'all panel faults cleared' event. These are cleared by a reset event, but on a site reset not sent in certain scenarios. New 'Faults Cleared' alarm sent. Tidied up database access when clearing and adding events. Acknowledge message received after processing, as this can contain multiple events and take a period to process.

Next Steps…

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

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