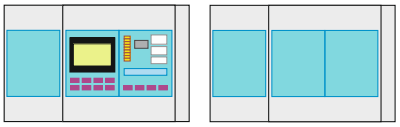
The Vesda Driver



The Vesda driver links an Xtralis Vesda LaserPLUS early smoke detection system via the Open Protocol HLI. Available for ObSys and Commander

This document relates to Vesda driver version 1.1

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

Contents

Compatibility with the Vesda System

The Vesda driver allows North to interface with an Xtralis Vesda LaserPLUS early smoke detection system.

The driver connects, via an RS232 serial connection, to a VHX-1300 Peer-to-Peer Open Protocol HLI (Fig. 1) and can communicate with up to 40 detectors.

Alternatively, use the Modbus driver with an Xtralis Vesda Modbus HLI (VHX-0410 and VHX-1410).

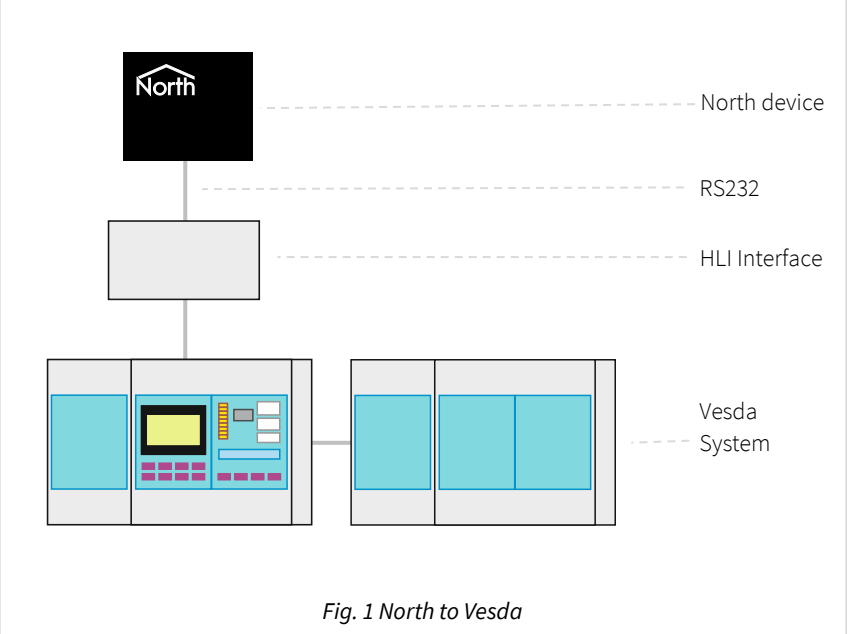


Fig. 1 North to Vesda

Equipment

Xtralis Vesda panels compatible with the driver include:

- LaserPLUS
- LaserPLUS FAS Scanner
- LaserPLUS FD Scanner
- LaserCOMPACT

Values

The driver can typically access the following values:

- Zone state
- Sector state
- Threshold levels
- Reset zone

States for smoke level, alert, action, fire, super-fire, isolate and fault are available.

Vesda zones can send alarms to the Vesda driver.

Prerequisites

An Xtralis Vesda Open Protocol High Level Interface is required. Use a peer-to-peer model, VHX-0300 or VHX-1300.

Using the Driver

On ObSys, the Vesda driver is pre-installed. On Commander, the driver is available to download in the file 'Bank15 Vesda.cdm'. On all of these North devices, you can use the driver to create an interface to Vesda. Once started, you will need to set up the driver before it can communicate with the Xtralis Vesda system.

Making the Cable

Using the RS232 cable specification (Fig. 2), connect the North device COM port to the Xtralis Vesda HLI port. Connector types at each end of the cable are shown.

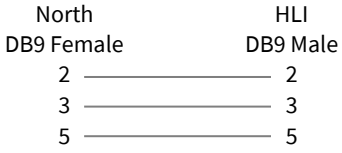


Fig 2 North to Vesda cable

The maximum RS232 cable length is 15m.

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

Starting the Interface

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

- → **Start Engineering** your North device using ObSys
- → Navigate to **Configuration, Interfaces,** and set a unused **Interface** to 'Vesda' to start the particular interface
- → Navigate to the top-level of your North device, then rescan it.

The driver setup object (Mc), labelled **Vesda 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 **Vesda Setup** object (M*c*). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
- → Set the **RS232 Com Port** (RS.COM) to select which serial port on the North Device is connected to the Vesda device
- → Set the **Max Scannable Zones** to the highest device address on VESDAnet network
- → For each **Zone**, set the **Type** of device connected. Note that only 40 zones are supported by the HLI.

Checking Communications

You can check that the interface is communicating by reading the **Comms OK** object (DS). A value of 'yes' indicates the driver has connected to, and is communicating with, the Vesda system.

Alarms

When the Vesda 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 Vesda 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 North device.

Examples

System	Point	Condition	Priority	Date	Time
Vesda System	Zone 4	Fire	1	01/03/19	14:29:48
Vesda System	Zone 4	OK	1	01/03/19	14:55:12
Vesda System	Zone 6	Action	2	11/03/19	11:26:26
Vesda System	Zone 6	OK	2	11/03/19	11:32:02
Vesda System	Zone 3 Power	Fault	3	10/04/19	13:06:59
Vesda System	Zone 3 Power	OK	3	10/04/19	14:17:35
Vesda System	Zone 1	Isolated	2	11/07/19	16:20:07
Vesda System	Zone 1	Deisolated	2	11/07/19	16:35:25

Point Field

The point field starts:

Zone *a*

On Laser Scanner systems, the point field may also start:

Zone *a* Sector *b*

These are then followed by an additional label, depending on the condition (see below).

Condition and Priority Field

The following alarm conditions can be sent by the driver:

Point (additional)	Condition	Priority
	Alert	3
	Action	2
	Fire	1
	Super Fire	1
System	Fault	3
Zone	Fault	3
Urgent	Fault	3
Power	Fault	3
Network	Fault	3
Airflow	Fault	3
Filter	Fault	3
	Isolated	2
	Deisolated	2
	OK	1-3

An 'OK' cleared event uses the priority of the original alarm event.

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 Vesda System (S1) contains Zone 1 (Z1), which itself contains a Value (V1). Therefore, the complete object reference is 'S1.Z1.V1'.

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.Z1.V1') – therefore the complete object reference is 'IP.CDIP. S1.Z1.V1'.

Device Top-Level Objects

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

Description	Reference	Type
Vesda Setup Set up the Vesda driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed Container: On the Commander platform this will be *[CDM v11\Vesda v11]* On the ObSys platform this will be *[OSM v11\Vesda v11]*
Vesda System Access Vesda system connected to interface *c* (*c* is the interface number)	S*c*	Variable Container: *[Vesda v11]*

Vesda Driver Setup

Object Type: *[OSM v11\Vesda v11]*
Object Type: *[CDM v11\Vesda v11]*

The Vesda driver contains the following objects:

Description	Reference	Type
System Label Label displayed when scanning the system	DL	Obj\Text: 20 chars; Adjustable
RS232 COM Port	RS.COM	Obj\Num:1…8; Adjustable
Comms OK Indicates whether communications have been established	DS	Obj\NoYes
Max Scannable Zones	MZ	Obj\Num: 1…254; Adjustable
Zone *x* Type The zone number, x, is in the range 1..254	Z*x*.T	Obj\ENum: Adjustable Values: 0=LaserPLUS, 1=LaserPLUS FAS Scanner, 2=LaserPLUS FD Scanner, 3=LaserCOMPACT

Vesda System

Object Type: *[Vesda v11]*

The Vesda system contains the following objects:

Description	Reference	Type
Zone *x* The zone address, *x*, can be in the range 1…254.	Z*x*	Fixed Container: LaserPLUS zones: *[Vesda v11\Plus]* LaserCOMPACT zones: *[Vesda v11\Compact]* LaserSCANNER FAS zones: *[Vesda v11\FAS]* LaserSCANNER FD zones: *[Vesda v11\FD]*

Laser Plus and Compact Zone

Object Type: *[Vesda v11\Plus]*
Object Type: [Vesda v11\Compact]

A Vesda LaserPlus and LaserCompact zone contains the following objects:

Description	Reference	Type
Label	L	Obj\Text: 22 characters
Value *a* The zone value index, *a*, is in the range 1...12. Value 1 is the highest priority event.	V*a*	Obj\ENum: 9…23; Where: 9=Urgent, 11= Network Fault, 12=System Fault, 13=Power Fault, 14= Filter Fault, 15=Airflow Fault, 16=Zone Fault, 17=Alert, 20=Isolate, 21=Action, 22=Fire, 23=Super Fire
Super Fire Alarm	F23	Obj\NoYes
Fire Alarm	F22	Obj\NoYes
Action Alarm	F21	Obj\NoYes
Isolate Occurred	F20	Obj\NoYes
Alert Alarm	F17	Obj\NoYes
Zone Fault	F16	Obj\NoYes
Airflow Fault	F15	Obj\NoYes
Filter Fault	F14	Obj\NoYes
Power Fault	F13	Obj\NoYes
System Fault	F12	Obj\NoYes
Network Fault	F11	Obj\NoYes
Urgent Fault	F9	Obj\NoYes
Reset	RST	Obj\NoYes; Adjustable-only
Isolate	I	Obj\NoYes; Adjustable
Silence	S	Obj\NoYes; Adjustable-only
Alert Threshold	AL.T	Obj\Float
Action Threshold	AC.T	Obj\Float
Fire Threshold	FR.T	Obj\Float
Super Fire Threshold	SF.T	Obj\Float
Pipe *p* Zone pipe airflow status. The zone's pipe number is in the range 1…4	P*p*	Fixed container: *[Vesda v11\Pipe]*
Display Zone LED status	D	Fixed container: *[Vesda v11\Display]*
Fault ID *z* Alternative to using event-based Value object (V*a*). Polls zone for fault status. The Fault ID number, *z*, is in the range 0…77	FID*z*	Obj\NoYes

LaserScanner Zone

Object Type: [Vesda v11\FAS]
Object Type: [Vesda v11\FD]

A LaserScanner Vesda zone contains the following objects:

Description	Reference	Type
Label	L	Obj\Text: 22 characters
Value *a* The zone value index, *a*, is in the range 1...12. Value 1 is the highest priority event.	V*a*	Obj\ENum: 9…23; Where: 9=Urgent, 11= Network Fault, 12=System Fault, 13=Power Fault, 14= Filter Fault, 15=Airflow Fault, 16=Zone Fault, 17=Alert, 20=Isolate, 21=Action, 22=Fire, 23=Super Fire
Super Fire Alarm	F23	Obj\NoYes
Fire Alarm	F22	Obj\NoYes
Action Alarm	F21	Obj\NoYes
Isolate Occurred	F20	Obj\NoYes
Alert Alarm	F17	Obj\NoYes
Zone Fault	F16	Obj\NoYes
Airflow Fault	F15	Obj\NoYes
Filter Fault	F14	Obj\NoYes
Power Fault	F13	Obj\NoYes
System Fault	F12	Obj\NoYes
Network Fault	F11	Obj\NoYes
Urgent Fault	F9	Obj\NoYes
Reset	RST	Obj\NoYes; Adjustable-only
Isolate	I	Obj\NoYes; Adjustable
Silence	S	Obj\NoYes; Adjustable-only
Alert Threshold	AL.T	Obj\Float
Action Threshold	AC.T	Obj\Float
Fire Threshold	FR.T	Obj\Float
Super Fire Threshold	SF.T	Obj\Float
First Alarm Sector	FAS	Obj\Num
Sector *y* The sector number is in the range 1…4	S*y*	Fixed container: *[Vesda v11\Sector]*
Display Zone LED status	D	Fixed container: *[Vesda v11\Display]*
Fault ID *z* Alternative to using event-based Value object (V*a*). Polls zone for fault status. The Fault ID number, *z*, is in the range 0…77	FID*z*	Obj\NoYes

Sector

Object Type: [Vesda v11\Sector]

A Sector within a Vesda zone contains the following objects:

Description	Reference	Type
Airflow Percentage Percentage of normalised operating airflow. 100% is the normalised operating air flow	AP	Obj\Num: 0…200
State	S	Obj\ENum; Values: 0=Not in use, 1=In use
Display Zone LED status	D	Fixed container: *[Vesda v11\Display]*

Display

Object Type: [Vesda v11\Display]

LED indicators on zone display.

Description	Reference	Type
Smoke level	SM	Obj\Float
Alert Occurred	AL	Obj\NoYes
Action Occurred	AC	Obj\NoYes
Fire Occurred	FR	Obj\NoYes
Super Fire Occurred	SF	Obj\NoYes
Isolate Occurred	I	Obj\NoYes
OK	OK	Obj\NoYes
System Fault	SY	Obj\NoYes
Zone Fault	Z	Obj\NoYes
Urgent Fault	U	Obj\NoYes
Power Fault	P	Obj\NoYes
Network Fault	NT	Obj\NoYes
Airflow Fault	AI	Obj\NoYes
Filter Fault	FL	Obj\NoYes

Pipe

Object Type: [Vesda v11\Pipe]

A zone pipe contains the following objects:

Description	Reference	Type
Airflow Percentage Percentage of normalised operating airflow. 100% is the normalised operating air flow	AP	Obj\Num: 0…200
State	S	Obj\Enum; Values: 0=Not in use, 1=In use

Driver Versions

Version	Build Date	Details
1.0	07/07/2000	Driver released
1.1	05/07/2007	Added Fault ID (FIDx) object
1.1	25/04/2012	Released for Commander v2
1.1	05/12/2019	Updated basecode, tidy and update documentation

Next Steps…

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

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