



## Modbus High Level Interface (HLI)

The VESDA Wall-mounted ModBus High Level Interface (HLI) links your VESDAnet<sup>1</sup> with PC software monitoring tools, Building Management Systems (BMSs) or Fire Alarm Control Panels (FACPs), otherwise known as 'host', that support the ModBus protocol.

There are two models available:

- Wall-mounted ModBus HLI Type 1 (VHX-1400) which echoes each character received on the RS232 link back to the host together with reply message.
- Wall-mounted ModBus HLI Type 2 (VHX-1410) which has the echoing function disabled.

### Description

One ModBus HLI is used to interface to a VESDAnet. Modbus HLI supports up to a maximum of 40 VESDA detectors on a VESDAnet. The Modbus HLI supports VESDAnet detector zone numbers between 1 to 200. The Modbus HLI divides up the address range into to 7 logical networks. For example the first 30 addresses are considered in network 1, addresses between 31 to 60 are in network 2 and so on.

### Smoke and Alarm Levels

The Smoke Level is reported relative to the Fire Alarm threshold where the full scale is 20. For example, if the Fire Alarm threshold is 0.5 %obs/m, a level of 0.1%obs/m is reported as 4. In other words, the Actual Smoke level = (Reported smoke value \* Fire Threshold) / 20.

The Fire Alarm threshold is reported as the relative sensitivity to 1 %obs/m as follows:

Fire Threshold (%obs/m)	Reported Level
2	50
1	100
0.1	1000
0.02	5000

### Faults

All VESDAnet faults are mapped on one or more of the Modbus HLI faults which are listed below

- Head Fault
- Head Fault (Battery and Mains)
- Head Fault (Scanner<sup>2</sup>), and
- Flow Fault

VESDAnet faults categorised as network faults are mapped onto all zones, whereas zone faults are mapped onto that particular zone.

## Features

- Direct access and monitoring of your VESDAnet system.
- Seamless data transfer.
- Easily configured using Xtralis configuring and monitoring software packages.

## Listings/Approvals

VESDA HLIs are recommended for monitoring only. They are not approved for use as a primary reporting device.

## Information available using the VESDA Modbus HLI

- Detector Type (VLP, VLS, VLC, VLF).
- Fault Status (Head, Battery and Mains, Flow, Scanner<sup>2</sup>).
- Detector Alarm State (Alert, Action, Fire).
- Smoke Level
- Smoke Bargraph Level
- Detector Alarm thresholds (Alert, Action, Fire)
- Reset Detector
- Isolate Detector
- Start Scan Test<sup>2</sup>

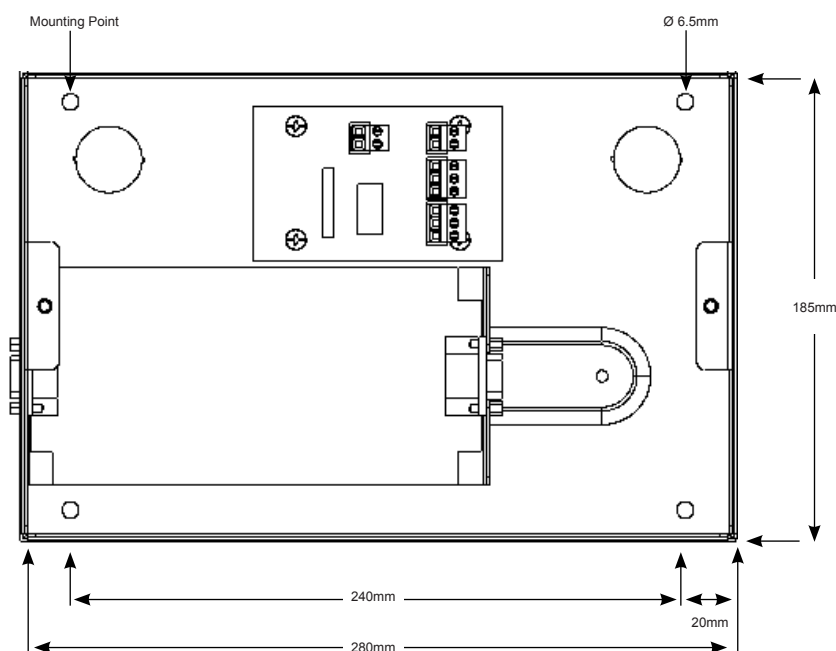
<sup>1</sup>VESDAnet is a propriety communications protocol allowing your VESDA range of smoke detectors, displays, programmers and remote units (collectively known as devices) to communicate with each other on the one network. VESDAnet is a fault tolerant bi-directional protocol. This means that if one direction of communication fails, then your VESDAnet messages are transmitted in the opposite direction.

<sup>2</sup>VLS only

# VESDA ModBus HLI™ by Xtralis

Wall-mounted  
VHX-1400 or VHX-1410

## Dimensions



## Specifications

**Power Consumption:**  
1.68 W (Quiescent)

**Supply Voltage:**  
24 VDC

**Current Consumption:**  
70 mA (Quiescent)

**Dimensions:**  
280 mm x 185 mm x 55 mm  
(11.0 in. x 7.3 in. x 2.2 in. approx.)

**Weight:**  
1.0 kg (2.2 lbs)

**Supplied With:**  
VESDALink RS-232 9-way serial cable  
(male-female).

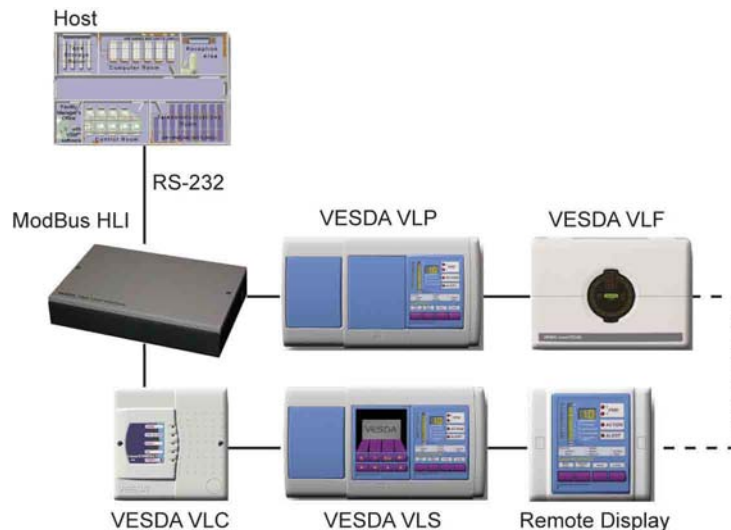
**Number of Detectors Supported:**  
Up to 200 VESDA Devices (includes max 40  
detectors and remaining VESDA ancillary  
devices)

**Modem Support:**  
Modem support is not available

## Product Warranty

2 years

## Example VESDAnet system with ModBus HLI



## Ordering Information

### Product

ModBus HLI - Type 1  
ModBus HLI - Type 2  
VESDALink RS-232 9-way serial cable

### Part number

VHX-1400  
VHX-1410  
VSP-509 (Spare part)

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