



A Sierra Monitor Company

**Driver Manual**  
**(Supplement to the FieldServer Instruction Manual)**

**FS-8700-43 Vesda**

**APPLICABILITY & EFFECTIVITY**

**Effective for all systems manufactured after January 2012**

Driver Version: 1.03  
Document Revision: 2

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## 1 VESDA DESCRIPTION

The VESDA driver allows the FieldServer to transfer data to and from devices over RS-232 using VESDA protocol. The FieldServer can emulate a VESDA Client.

The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer.

## 2 DRIVER SCOPE OF SUPPLY

### 2.1 Supplied by FieldServer Technologies for this Driver

FieldServer Technologies PART #	Description
FS-8915-10	UTP cable (7 foot) for RS-232 use
FS-8917-03	RJ45 to DB9M connector adapter

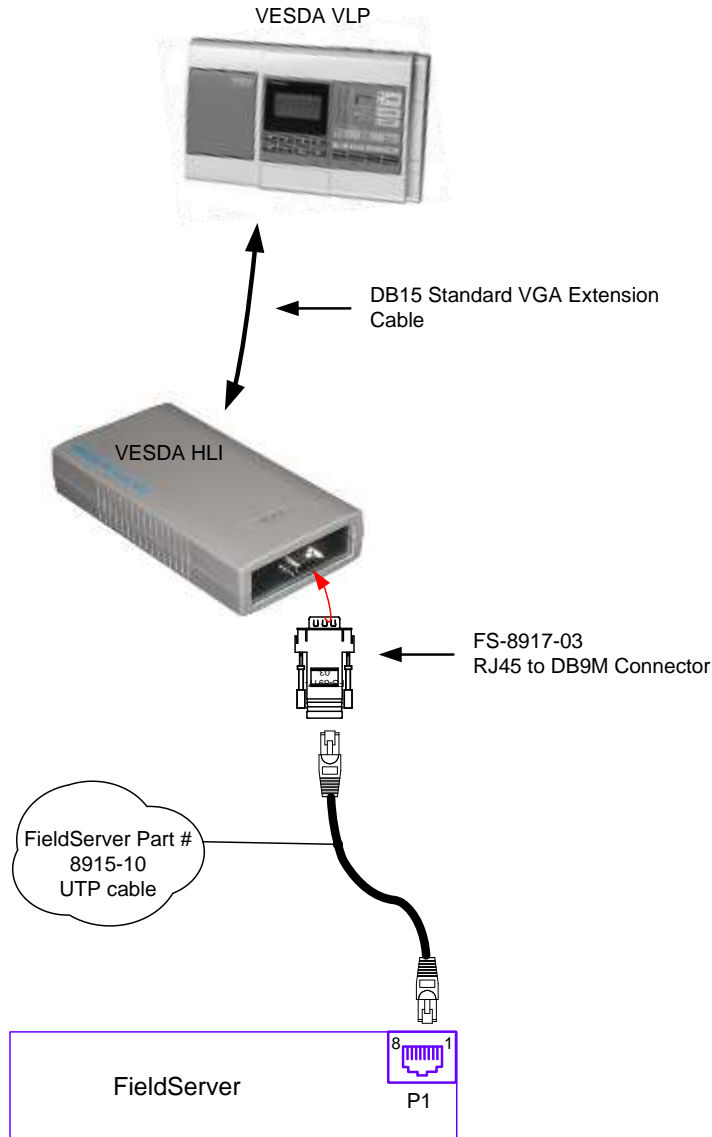
### 2.2 Provided by Supplier of 3<sup>rd</sup> Party Technology

Part #	Description
	VESDA VLP
	VESDA HL1
	DB15 Standard VGA Extension Cable

### 3 HARDWARE CONNECTIONS

The FieldServer is connected to the Vesda as shown in connection drawing.

Configure the Vesda according to manufacturer’s instructions



**FS-8917-03 Pinouts**

FS Function	RJ45 Pin#	DB9M Pin#	Color
RX	1	2	White
CTS	2	8	Brown
DSR	3	6	Yellow
GND	4	5	Green
DTR	6	4	Black
RTS	7	7	Orange
TX	8	3	Blue

**4 DATA ARRAY PARAMETERS**

Data Arrays are “protocol neutral” data buffers for storage of data to be passed between protocols. It is necessary to declare the data format of each of the Data Arrays to facilitate correct storage of the relevant data.

Section Title			
Data_Arrays	Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array		Up to 15 alphanumeric characters
Data_Array_Format	Provide data format. Each Data Array can only take on one format.		Bit, Float, Byte
Data_Array_Length	Number of Data Objects. Must be larger than the data storage area required by the Map Descriptors for the data being placed in this array.		1-10, 000

**Example**

```
// Data Arrays
Data_Arrays
Data_Array_Name, , Data_Format, , Data_Array_Length
Set_Op, , Bit, , 32
VESDA01_1_f, , Float, , 32
VESDA01_1_b, , Bit, , 32
VESDA01_2_f, , Float, , 32
VESDA01_2_b, , Bit, , 32
VESDA01_3_f, , Float, , 32
VESDA01_3_b, , Bit, , 32
VESDA01_4_f, , Float, , 32
VESDA01_4_b, , Bit, , 32
```

## 5 CONFIGURING THE FIELDSEVER AS A VESDA CLIENT

For a detailed discussion on FieldServer configuration, please refer to the FieldServer Configuration Manual. The information that follows describes how to expand upon the factory defaults provided in the configuration files included with the FieldServer (See “.csv” sample files provided with the FieldServer).

This section documents and describes the parameters necessary for configuring the FieldServer to communicate with a Vesda Server.

The configuration file tells the FieldServer about its interfaces, and the routing of data required. In order to enable the FieldServer for Vesda communications, the driver independent FieldServer buffers need to be declared in the “Data Arrays” section, the destination device addresses need to be declared in the “Client Side Nodes” section, and the data required from the servers needs to be mapped in the “Client Side Map Descriptors” section. Details on how to do this can be found below.

Note that in the tables, \* indicates an optional parameter, with the bold legal value being the default.

### 5.1 Client Side Connection Parameters

Section Title		
Connections		
Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer	P1-P8, R1-R2 <sup>1</sup>
Baud*	Specify baud rate <sup>2</sup>	110 – 115200, standard baud rates only. <b>9600</b>
Parity*	Specify parity	<b>None</b>
Data_Bits*	Specify data bits	<b>8</b>
Stop_Bits*	Specify stop bits	<b>1</b>
Timeout*	Specify time allowed between poll and responses.	≤10s, <b>2s</b>
IC_timeout*	This parameter monitors the time between characters in a response. If the time exceeds the IC_Timeout the response is discarded and considered a timeout.	0-1.0s, <b>0.5s</b>

**Example:**

```

// Client Side Connections
//
Connections
Port          , Baud    , Data_bits  , Stop_bits  , Parity    , Timeout   , IC_Timeout
P1            , 19200  , 8          , 1          , None     , 10.0s    , 1.0s
```

<sup>1</sup> Not all ports shown are necessarily supported by the hardware. Consult the appropriate Instruction manual for details of the ports available on specific hardware.

<sup>2</sup> Most Vesda Panels are configured for Baud 19200.

## 5.2 Client Side Node Parameters

Section Title		
Nodes		
Column Title	Function	Legal Values
Node_Name	Provide name for Node	Up to 32 alphanumeric characters
Protocol	Specify protocol used	VESDA
Port	Specify which port the device is connected to the FieldServer	P1-P8, R1-R2 <sup>3</sup>
Timeout*	Specify time allowed between poll and responses.	≤10s, 2s

### Example:

```
// Client Side Nodes

Nodes
Node_Name , Protocol , Port , Timeout
VESDA_HLI , VESDA , P1 , 10.0s
```

## 5.3 Client Side Map Descriptor Parameters

### 5.3.1 FieldServer Related Map Descriptor Parameters

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer. Only used for commands 1,4,6,12.	One of the Data Array names specified in Section 4. Must be of type BIT
Data_Array_Location	Starting location in Data Array	0 to (Data_Array_Length -1) as specified in Section 4.
Function	Function of Client Map Descriptor. A Command is a write, and a Response is a read	Rdbc, Wrbc, Wrbx, Awt

<sup>3</sup> Not all ports shown are necessarily supported by the hardware. Consult the appropriate Instruction manual for details of the ports available on specific hardware.

## 5.3.2 Driver Related Map Descriptor Parameters

Column Title	Function	Legal Values
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.1
Data_Type	Data type	Dig_input, Dig_output, -
Length	Length of Map Descriptor	1 to end of data block.
Address	Starting address of read block	The start bit number of the data of interest
Command	The command id as given in the notes.	1, 4, 6, 10, 12, 16, 27, 29
Network*	The network number	0-255, <b>0</b>
Zone*	The zone number	0-255, <b>0</b>
Sector*	The sector number	1-255 or <b>0</b> to read the average smoke level and highest alarms.
DA_Bit_Name*	Name of Data Array where data is to be stored in the FieldServer. Used for commands 10 and 16.	One of the Data Array names specified in Section 4. Must be of type BIT, -
DA_Bit_Offset*	Starting location in Data Array. Used for commands 10 and 16	0 to (Data_Array_Length -1) as specified in Section 4, -
DA_Float_Name*	Name of Data Array where data is to be stored in the FieldServer. Only used for command 10.	One of the Data Array names specified in Section 4. Must be of type FLOAT, -
DA_Float_Offset*	Starting location in Data Array. Only used for command 10	0 to (Data_Array_Length -1) as specified in Section 4, -
DA_Byte_Name*	Name of Data Array where data is to be stored in the FieldServer. Only used for command 16.	One of the Data Array names specified in Section 4. Must be of type BYTE, -
DA_Byte_offset*	Starting location in Data Array. Only used for command 16	0 to (Data_Array_Length -1) as specified in Section 4, -
DA_Parameters	Name of Data Array where data is to be stored in the FieldServer. Only used for command 29.	One of the Data Array names specified in Section 4. -
DA_Parameters_Offset	Starting location in Data Array. Only used for command 29	0 to (Data_Array_Length -1) as specified in Section 4, -

5.3.3 Map Descriptor Example

Map_Descriptors												
Map_Descriptor_Name	Data_Array_Name	Data_Array_Offset	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector	
set_op-vesda_hli	set_op	,0	,Wrbc	,Dig_output	VESDA_HLI	,0	,8	,1	,0	,255	,-	

Map_Descriptors														
Map_Descriptor_Name	Zone	Sector	Node_Name	Function	DA_Bit_Name	DA_Float_Name	DA_Bit_offset	DA_Float_offset	Data_Array_Offset	Data_Type	Command	Network	Address	Length
rd-vesda_01_1	,0	,128	,VESDA_HLI	,rdbc	,VESDA01_1_	,VESDA01_1_f	,0	,0	,0	,Dig_input	,10	,0	,0	,32
rd-vesda_01_2	,0	,64	,VESDA_HLI	,rdbc	,VESDA01_2_b	,VESDA01_2_f	,0	,0	,0	,Dig_input	,10	,0	,0	,32
rd-vesda_01_3	,0	,32	,VESDA_HLI	,rdbc	,VESDA01_3_b	,VESDA01_3_f	,0	,0	,0	,Dig_input	,10	,0	,0	,32
rd-vesda_01_4	,0	,16	,VESDA_HLI	,rdbc	,VESDA01_4_b	,VESDA01_4_f	,0	,0	,0	,Dig_input	,10	,0	,0	,32

Appendix A. Useful Features

Appendix A.1. VESDA mapping format for Command 1 (Set Operation)

This command is mandatory as it turns the VESDA system into a master slave relationship and is of type BIT. The content of the data is irrelevant. The format for the data is as follows:

Appendix A.1.1. Data Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BIT
Data_Array_Length	Number of Data Objects	8

Appendix A.1.2. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Appendix A.1.1
Function	Function of Client Map Descriptor.	Wrbc, Wrbcx
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_Output
Length	Length of Map Descriptor	1-16 (must not overflow the data array)
Address*	Starting address of read block	0-15, 0
Command	The command ID	1
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0

Appendix A.1.3. Example

```
Map_Descriptors
Map_Descriptor_Name , Data_Array_Name , Function , Data_Type , Node_Name , Address , Length , Command , Network , Zone , Sector
set_op-vesda_hli , set_op , Wrbc , Dig_Output , VESDA_HLI , 0 , 8 , 1 , 0 , 0 , 0
```

## Appendix A.2. VESDA mapping format for Command 4 (Zone Update)

This request returns the Current Zone Status in a BIT data array. The format for the data is as follows:

## Appendix A.2.1. Data Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BIT
Data_Array_Length	Number of Data Objects	1 - 16

## Appendix A.2.2. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Section Appendix A.2.1
Data_Array_Location	Starting location in Data Array	0 -15
Function	Function of Client Map Descriptor.	Rdbc
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_input
Length	Length of Map Descriptor	1-16 (must not overflow the data array)
Address	Starting address of read block	0-15
Command	The command ID	4
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0

Appendix A.2.3. Data Block Description<sup>4</sup>

BIT offset	Function	BIT offset	Function
0	Other Zone Info	8	Fault Power
1	Scanning	9	Fault Urgent
2	Autolearning	10	Fault Zone
3	Normalising	11	Fault System
4	Isolated	12	Alarm Fire2
5	Fault Filter	13	Alarm Fire1
6	Fault Airflow	14	Alarm Action
7	Fault Network	15	Alarm Alert

<sup>4</sup> 1 indicates TRUE; 0 indicates FALSE

**Example**

Map_Descriptors										
Map_Descriptor_Name	Data_Array_Name	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector
Get_zone_sb	zone_inp	Rdbc	Dig_Input	VESDA_HLI	0	16	4	0	0	0

## Appendix A.3. VESDA mapping format for Command 6 (Remote Input)

This command sends the Remote Input in a BIT data array.

## Appendix A.3.1. Data Array

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 32 alphanumeric characters
Data_Format	Provides data format	BIT
Data_Array_Length	Number of Data Objects	1 - 8

## Appendix A.3.2. Client Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Section Appendix A.3.1
Data_Array_Location	Starting location in Data Array	0 -7
Function	Function of Client Map Descriptor.	Wrbx
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_output
Length	Length of Map Descriptor	1-8 (must not overflow the data array)
Address	Starting address of read block	0-7
Command	The command ID	6
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0

Appendix A.3.3. Data Block Description<sup>56</sup>

BIT offset	Function
0	Stop Test
1	Scan Start
2	Start Test
3	Silence
4	De-Isolate
5	Isolate
6	Reset
7	Reserved

<sup>5</sup> 1 indicates TRUE; 0 indicates FALSE

<sup>6</sup> ONLY 1 OF THE 8 BITS MAY BE SET IN ONE COMMAND

**Example**

Map_Descriptors										
Map_Descriptor_Name	Data_Array_Name	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector
Rem_inp_sb	rem_inp	Wrbc	Dig_Output	VESDA_HLI	0	8	6	0	0	0

## Appendix A.4. VESDA mapping format for command 10 (Update Display Status)

This request returns the Current Display Status in a split data array (2 data arrays of different type in one map descriptor). The format for the data is as follows:

## Appendix A.4.1. Data Arrays 1

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BIT
Data_Array_Length	Number of Data Objects	32

## Appendix A.4.2. Data Arrays 2

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	FLOAT
Data_Array_Length	Number of Data Objects	32 (only first position used)

## Appendix A.4.3. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Location	Starting location in Data Array	0-31
Function	Function of Client Map Descriptor	Rdbc
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_input
Length	Length of Map Descriptor	32
Address	Starting address of read block	0-31
Command	The command id	10
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0
DA_Bit_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 1 name defined in Appendix A.4.1
DA_Bit_Offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in Appendix A.4.1
DA_Float_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 2 name defined in Appendix A.4.2
DA_Float_Offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in Appendix A.4.1

Appendix A.4.4. Data Block 1 Description<sup>7</sup>

BIT offset	Function
0	Reserved Flash
1	Fault Filter Flash
2	Fault Airflow Flash
3	Fault Network Flash
4	Fault Power Flash
5	Fault Urgent Flash
6	Fault Zone Flash
7	Fault System Flash
8	OK Flash
9	Isolate Flash
10	Fault Minor Flash
11	Fault Major Flash
12	Alarm Fire2 Flash
13	Alarm Fire1 Flash
14	Alarm Action Flash
15	Alarm Alert Flash
16	Reserved
17	Fault Filter
18	Fault Airflow
19	Fault Network
20	Fault Power
21	Fault Urgent
22	Fault Zone
23	Fault System
24	OK
25	Isolate
26	Fault Minor
27	Fault Major
28	Alarm Fire2
29	Alarm Fire1
30	Alarm Action
31	Alarm Alert

## Appendix A.4.5. Data Block 2 Description

FLOAT offset	Function
0	Average Smoke Level (Sector must be set to zero)

<sup>7</sup> 1 indicates TRUE; 0 indicates FALSE

**Example**

```
// Client Side Map Descriptors

Map_Descriptors
Map_Descriptor_Name , Zone , Sector , Network , Command , Node_Name , Function , DA_Bit_Name , DA_Float_Name , DA_Bit_offset , DA_Float_offset , Data_Array_Location , Data_type , Address , Length
rd-vesda_01_1      , 0 , 128 , 0 , 10 , VESDA_HLI , Rdbc , VESDA01_1_b , VESDA01_1_f , 0 , 0 , 0 , Dig_Input , 0 , 32
rd-vesda_01_2      , 0 , 64 , 0 , 10 , VESDA_HLI , Rdbc , VESDA01_2_b , VESDA01_2_f , 0 , 0 , 0 , Dig_Input , 0 , 32
rd-vesda_01_3      , 0 , 32 , 0 , 10 , VESDA_HLI , Rdbc , VESDA01_3_b , VESDA01_3_f , 0 , 0 , 0 , Dig_Input , 0 , 32
rd-vesda_01_4      , 0 , 16 , 0 , 10 , VESDA_HLI , Rdbc , VESDA01_4_b , VESDA01_4_f , 0 , 0 , 0 , Dig_Input , 0 , 32
rd-vesda_01_1      , 1 , - , - , 10 , VESDA_HLI , Rdbc , VESDA01_1_b , VESDA01_1_f , 0 , 0 , 0 , Dig_Input , 0 , 32
```

Overall Smoke Level  
and Highest Alarms.  
(Sector must be zero)

Update Display Status:  
Note that the Sector is  
specified as a bitmask.  
For Sector 1 – Specify 128  
For Sector 2 – Specify 64  
For Sector 3 – Specify 32  
For Sector 4 – Specify 16

## Appendix A.5. VESDA mapping format for command 12 (Current Fault Status)

This command sends the Current Fault Status in a BYTE data array. The format for the data is as follows:

## Appendix A.5.1. Data Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BYTE
Data_Array_Length	Number of Data Objects	1 – 21

## Appendix A.5.2. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Appendix A.5.1
Data_Array_Location	Starting location in Data Array	0-20
Function	Function of Client Map Descriptor.	Rdbc
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_input
Length	Length of Map Descriptor	1-21 (must not overflow the data array)
Address	Starting address of read block	0-20
Command	The command id	12
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0

Appendix A.5.3. Data Block Description<sup>8</sup>

BYTE offset	Function
0	Number of faults
1 - 20	Fault list

<sup>8</sup> 1 indicates TRUE; 0 indicates FALSE

**Example**

Map_Descriptors										
Map_Descriptor_Name	Data_Array_Name	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector
Cfs_inp_sb	cfs_inp	Rdbc	Dig_Input	VESDA_HLI	0	21	12	0	0	0

## Appendix A.6. VESDA mapping format for command 16 (Update Airflow Status)

This request returns the Current Airflow Status in a split data array (2 data arrays of different type in one map descriptor). The format for the data is as follows:

## Appendix A.6.1. Data Arrays 1

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BIT
Data_Array_Length	Number of Data Objects	4

## Appendix A.6.2. Data Arrays 2

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	BYTE
Data_Array_Length	Number of Data Objects	4

## Appendix A.6.3. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Location	Starting location in Data Array	0
Function	Function of Client Map Descriptor	Rdbc
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	Dig_input
Length	Length of Map Descriptor	4
Address	Starting address of read block	0-3
Command	The command id	16
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0
DA_Bit_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 1 name defined in Appendix A.6.1
DA_Bit_offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in Appendix A.6.1
DA_Byte_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 2 name defined in Appendix A.6.2
DA_Byte_offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in Appendix A.6.1

Appendix A.6.4. Data Block 1 Description<sup>9</sup>

BIT offset	Function
0	Pipe1 status
1	Pipe2 status
2	Pipe3 status
3	Pipe4 status

## Appendix A.6.5. Data Block 2 Description

BYTE offset	Function
0	Airflow in pipe 1 as percentage of normalised pipe airflow.
1	Airflow in pipe 2 as percentage of normalised pipe airflow.
2	Airflow in pipe 3 as percentage of normalised pipe airflow.
3	Airflow in pipe 4 as percentage of normalised pipe airflow.

---

<sup>9</sup> 1 indicates OPEN; 0 indicates CLOSE

**Example**

Map_Descriptors														
Map_Descriptor_Name	Data_Bit_Name	DA_Byte_Name	DA_Bit_Offset	DA_Byte_Offset	Data_Array_Location	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector
Get_uas_sb	uas_inp_bi	uas_inp_by	0	0	0	Rdbc	Dig_Input	VESDA_HLI	0	4	16	0	0	0

## Appendix A.7. VESDA mapping format for command 27 (Get Overall Smoke Thresholds)

This request returns the Overall Smoke Thresholds in a FLOAT data array. The format for the data is as follows:

## Appendix A.7.1. Data Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	Float
Data_Array_Length	Number of Data Objects	12

## Appendix A.7.2. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Appendix A.7.1
Data_Array_Location	Starting location in Data Array	0
Function	Function of Client Map Descriptor.	Rdbc
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	-
Length	Length of Map Descriptor	12
Address	Starting address of read block	0
Command	The command ID	27
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0

**Example**

## Map\_Descriptors

Map_Descriptor_Name	Data_Array_Name	Data_Array_Location	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector
Read_Smoke_Thresh	Rd_Smoke_Ths	0	Rdbc	-	VESDA_HLI	0	12	27	0	5	0

Appendix A.8. VESDA mapping format for command 29 (Set Smoke Thresholds)

This command sets the Smoke Thresholds. The format for the data is as follows:

Appendix A.8.1. Data Arrays

Column Title	Function	Legal Values
Data_Array_Name	Provide name for Data Array	Up to 15 alphanumeric characters
Data_Format	Provides data format	Bit
Data_Array_Length	Number of Data Objects	1

Appendix A.8.2. Client Side Map Descriptors

Column Title	Function	Legal Values
Map_Descriptor_Name	Name of this Map Descriptor	Up to 32 alphanumeric characters
Data_Array_Name	Name of Data Array where data is to be stored in the FieldServer	Data_Array_Name defined in Appendix A.8.1
Data_Array_Location	Starting location in Data Array	0
Function	Function of Client Map Descriptor.	AWT
Node_Name	Name of Node to fetch data from	One of the Node names specified in Section 5.2.
Data_Type	Data type	-
Length	Length of Map Descriptor	1
Address	Starting address of read block	0
Command	The command ID	29
Network*	The network number	1-255, 0
Zone*	The zone number	1-255, 0
Sector*	The sector number	1-255, 0
DA_Parameters*	Name of Data Array where data is to be stored in the FieldServer.	Data Array Name defined in Appendix A.8.1
DA_Parameters_Offset*	Starting location in Data Array.	0

Appendix A.8.3. Data Block Description<sup>10</sup>

Bit offset	Function
0	Alert Smoke Threshold Day
1	Action Smoke Threshold Day
2	Fire-1 Smoke Threshold Day
3	Fire-2 Smoke Threshold Day
4	Alert Smoke Threshold Night
5	Action Smoke Threshold Night
6	Fire-1 Smoke Threshold Night
7	Fire-2 Smoke Threshold Night

Bit offset	Function
8	Sector Scanner for LaserScanner Sector 1
9	Sector Scanner for LaserScanner Sector 2
10	Sector Scanner for LaserScanner Sector 3
11	Sector Scanner for LaserScanner Sector 4

<sup>10</sup> 1 indicates TRUE; 0 indicates FALSE

**Example**

Map_Descriptors													
Map_Descriptor_Name	Data_Array_Name	Data_Array_Location	Function	Data_Type	Node_Name	Address	Length	Command	Network	Zone	Sector	DA_Parameters	DA_Parameters_Offset
Write_Smoke_Thresh	Write_Triggers	,0	,Awt	,-	,VESDA_HLI	,0	,1	,29	,0	,5	,0	,Write_Value	,0

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## Appendix B. Troubleshooting

### Appendix B.1. VESDA Panel start-up delay.

When the HLI is powered on the FieldServer will not be able to communicate with the Panel for 10 to 30 seconds. During this time the HLI starts up its application code and initializes various internal parameters.

### Appendix B.2. Reading Smoke Levels on the VESDA Panels

The Vesda panel only allows the driver to read the average Smoke Level on all the ports. Polling for individual sector smoke levels will always return a value of zero.

- Zone setup - If the zone on the Panel has not been configured the zone must be set to zero in the FieldServer configuration file.
- Sector setup - Setting the sector to zero will allow the driver to poll for the average smoke level.

Refer to Appendix A.4 for more information.