Driver Manual

FS-8700-43 Vesda

APPLICABILITY & EFFECTIVITY
Effective for all systems manufactured after June 2023.

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Contents

1   Description

The VESDA driver allows the FieldServer to read data from VESDA LaserPLUS controllers (FAS or FD type) via the VESDA High Level Interface (HLI) communications module, using RS-232. The FieldServer can be used only as a Client with this driver and operates in the HLI Master/Slave mode.

FieldServer Mode	Nodes	Comments
Client	1	1 HLI can be connected to each RS-232 port
Server	nil	Not applicable

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   Provided by the Supplier of 3rd Party Equipment

2.1.1   Required 3rd Party Hardware

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

3   Hardware Connections

The FieldServer RS-232 port 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_Format	Provide data format. Each Data Array can only take on one format.	Float, Bit, Byte, Uint16, Uint32, Sint16, Sint32
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.	1-10000

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   Client Side Configuration

For detailed information on FieldServer configuration, 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).
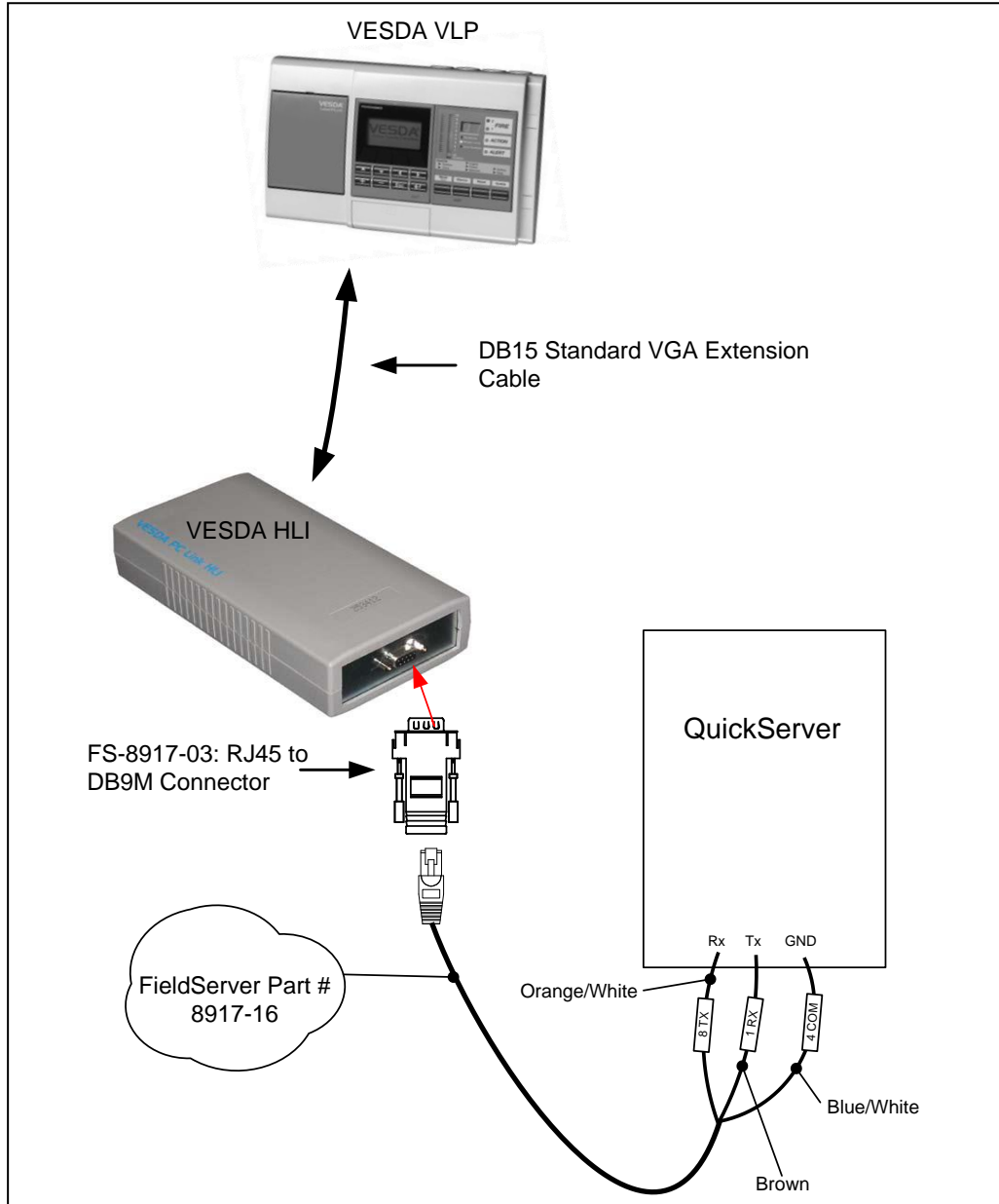
This section documents and describes the parameters necessary for configuring the FieldServer to communicate with a Vesda Server.

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: In the following tables, * indicates an optional parameter and bold legal values are 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-P2, R1-R2[1]
Baud*	Specify baud rate.[2]	110 – 115200, standard baud rates only; **9600**
Parity*	Specify parity.	**None**
Data_Bits*	Specify data bits.	**8**
Stop_Bits*	Specify stop bits.	**1**
Timeout*	Specify time allowed between poll and responses.	≤10s, **2s**
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, **0.5s**

Example

```
//   Client Side Connections
//
Connections
Port            , Baud    , Data_bits   , Stop_bits   , Parity    , Timeout    , IC_Timeout
P1              , 9600    , 8           , 1           , None      , 10.0s      , 1.0s
```

---

[1] Not all ports shown are necessarily supported by the hardware. Consult the appropriate Instruction manual for details of the ports available on specific hardware.
[2] Most Vesda Panels are configured for Baud 19200.

5.2 Client Side Node Descriptors

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-P2, R1-R2[3]
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 Specific 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 from **Section 4**; Must be of type BIT
Data_Array_Offset	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

---

[3] 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 "Client Node Descriptor" above
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, **0**
Zone*	The zone number.	0-255, **0**
Sector*	The sector number.	1-255 or **0** 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**, **-**

5.4 Map Descriptor Example

Map_Descriptors					
Map_Descriptor_Name	, Data_Array_Name	, Data_Array_Offset	, Function	, Data_Type	, Node_Name
set_op_vesda_hli	, set_op	, 0	, Wrbc	, Dig_output	, VESDA_HLI

, Address	, Length	, Command	, Network	, Zone	, Sector
, 0	, 8	, 1	, 0	, 255	, -

Map_Descriptors							
Map_Descriptor_Name	, Zone	, Sector	, Node_Name	, Function	, DA_Bit_Name	, DA_Float_Name	, DA_Bit_offset
rd_vesda_01_1	, 0	, 128	, VESDA_HLI	, rdbc	, VESDA01_1_	, VESDA01_1_f	, 0
rd_vesda_01_2	, 0	, 64	, VESDA_HLI	, rdbc	, VESDA01_2_b	, VESDA01_2_f	, 0
rd_vesda_01_3	, 0	, 32	, VESDA_HLI	, rdbc	, VESDA01_3_b	, VESDA01_3_f	, 0
rd_vesda_01_4	, 0	, 16	, VESDA_HLI	, rdbc	, VESDA01_4_b	, VESDA01_4_f	, 0

, DA_Float_offset	, Data_Array_Offset	, Data_Type	, Command	, Network	, Address	, Length
, 0	, 0	, Dig_input	, 10	, 0	, 0	, 32
, 0	, 0	, Dig_input	, 10	, 0	, 0	, 32
, 0	, 0	, Dig_input	, 10	, 0	, 0	, 32
, 0	, 0	, Dig_input	, 10	, 0	, 0	, 32

6   Useful Features

6.1   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:

6.1.1   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

6.1.2   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 **6.1.1**
Function	Function of Client Map Descriptor.	Wrbc, 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.	1-16 (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**

6.1.3   Example

```
Map_Descriptors
Map_Descriptor_Name   , Data_Array_Name   , Function   , Data_Type   , Node_Name   , Address
set_op_vesda_hli          , set_op                  , Wrbc        , Dig_Output   , VESDA_HLI    , 0
```

```
, Length   , Command   , Network   , Zone   , Sector
, 8            , 1                 , 0             , 0          , 0
```

6.2 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:

6.2.1 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

6.2.2 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 6.2.1**
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**

6.2.3 Data Block Description

NOTE: The Bit value 1 indicates TRUE; 0 indicates FALSE.

Bit Offset	Function	Bit Offset	Function
0	Other Zone Info	8	Fault Power
1	Scanning	9	Fault Urgent
2	Autolearning	10	Fault Zone
3	Normalizing	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

Example

```
Map_Descriptors
Map_Descriptor_Name    , Data_Array_Name    , Function    , Data_Type    , Node_Name    , Address
Get_zone_sb            , zone_inp           , Rdbc        , Dig_Input     , VESDA_HLI    , 0

, Length    , Command    , Network    , Zone    , Sector
, 16        , 4          , 0          , 0       , 0
```

6.3 Vesda Mapping Format for Command 6 (Remote Input)

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

6.3.1 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

6.3.2 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 6.3.1**
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**

6.3.3 Data Block Description

NOTE: The Bit value 1 indicates TRUE; 0 indicates FALSE.

NOTE: Only 1 of the 8 bits may be set in one command.

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

Example

```
Map_Descriptors
Map_Descriptor_Name   , Data_Array_Name   , Function   , Data_Type    , Node_Name   , Address
Rem_inp_sb            , rem_inp           , Wrbc       , Dig_Output   , VESDA_HLI   , 0
```

```
, Length   , Command   , Network   , Zone   , Sector
, 8        , 6         , 0         , 0      , 0
```

6.4   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:

6.4.1   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

6.4.2   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)

6.4.3   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 **Section 6.4.1**
DA_Bit_Offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as **Section** specified in **6.4.1**
DA_Float_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 2 name defined in **Section 6.4.2**
DA_Float_Offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as **Section** specified in **6.4.1**

6.4.4   Data Block 1 Description

NOTE: The Bit value 1 indicates TRUE; 0 indicates FALSE.

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

Bit Offset	Function
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

6.4.5   Data Block 2 Description

Float Offset	Function
0	Average Smoke Level (Sector must be set to zero)

Example

```
//   Client Side Map Descriptors


Map_Descriptors
Map_Descriptor_Name    , Zone   , Sector   , Network   , Command    , Node_Name   , Function   , DA_Bit_Name
rd_vesda_01_1          , 0      , 128      , 0         , 10         , VESDA_HLI   , Rdbc       , VESDA01_1_b
rd_vesda_01_2          , 0      , 64       , 0         , 10         , VESDA_HLI   , Rdbc       , VESDA01_2_b
rd_vesda_01_3          , 0      , 32       , 0         , 10         , VESDA_HLI   , Rdbc       , VESDA01_3_b
rd_vesda_01_4          , 0      , 16       , 0         , 10         , VESDA_HLI   , Rdbc       , VESDA01_4_b


rd_vesda_01_1          , 1      , -        , -         , 10         , VESDA_HLI   , Rdbc       , VESDA01_1_b
```

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

```
, DA_Float_Name   , DA_Bit_offset   , DA_Float_offset   , Data_Array_Location   , Data_type   , Address   , Length
, VESDA01_1_f     , 0               , 0                 , 0                     , Dig_Input   , 0         , 32
, VESDA01_2_f     , 0               , 0                 , 0                     , Dig_Input   , 0         , 32
, VESDA01_3_f     , 0               , 0                 , 0                     , Dig_Input   , 0         , 32
, VESDA01_4_f     , 0               , 0                 , 0                     , Dig_Input   , 0         , 32


, VESDA01_1_f     , 0               , 0                 , 0                     , Dig_Input   , 0         , 32
```

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

6.5 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:

6.5.1 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

6.5.2 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 **Section 6.5.1**
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**

6.5.3 Data Block Description

NOTE: The Byte value 1 indicates TRUE; 0 indicates FALSE.

Byte Offset	Function
0	Number of faults
1 - 20	Fault list

Example

```
Map_Descriptors
Map_Descriptor_Name      , Data_Array_Name    , Function    , Data_Type    , Node_Name    , Address    , Length
Cfs_inp_sb               , cfs_inp            , Rdbc        , Dig_Input    , VESDA_HLI    , 0          , 21
```

```
, Command    , Network    , Zone    , Sector
, 12         , 0          , 0       , 0
```

6.6 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:

6.6.1 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

6.6.2 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

6.6.3 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 **Section 6.6.1**
DA_Bit_offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in **Section 6.6.1**
DA_Byte_Name	Name of Data Array where data is to be stored in the FieldServer.	Data Array 2 name defined in **Section 6.6.2**
DA_Byte_offset	Starting location in Data Array.	0 to (Data_Array_Length -1) as specified in **Section 6.6.1**

6.6.4 Data Block 1 Description

NOTE: The BIT value 1 indicates OPEN; 0 indicates CLOSE.

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

6.6.5 Data Block 2 Description

BYTE Offset	Function
0	Airflow in pipe 1 as percentage of normalized pipe airflow
1	Airflow in pipe 2 as percentage of normalized pipe airflow
2	Airflow in pipe 3 as percentage of normalized pipe airflow
3	Airflow in pipe 4 as percentage of normalized pipe airflow

Example

```
Map_Descriptors
Map_Descriptor_Name    , Data_Bit_Name   , DA_Byte_Name   , DA_Bit_Offset   , DA_Byte_Offset   , Data_Array_Location
Get_uas_sb             , uas_inp_bi      , uas_inp_by      , 0               , 0                , 0
```

```
, Function   , Data_Type   , Node_Name   , Address   , Length   , Command   , Network   , Zone   , Sector
, Rdbc       , Dig_Input   , VESDA_HLI   , 0         , 4        , 16        , 0         , 0      , 0
```

6.7 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:

6.7.1 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

6.7.2 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 **Section 6.7.1**
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
Read_Smoke_Thresh      , Rd_Smoke_Ths       , 0                      , Rdbc        , -            , VESDA_HLI
```

```
, Address    , Length    , Command    , Network    , Zone    , Sector
, 0          , 12        , 27         , 0          , 5       , 0
```

6.8   Vesda Mapping Format for Command 29 (Set Smoke Thresholds)

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

6.8.1   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

6.8.2   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 **Section 6.8.1**
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 **Section 6.8.1**
DA_Parameters_Offset*	Starting location in Data Array.	**0**

6.8.3   Data Block Description

NOTE: 1 indicates TRUE; 0 indicates FALSE.

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

Bit Offset	Function
6	Fire-1 Smoke Threshold Night
7	Fire-2 Smoke Threshold Night
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

Example

```
Map_Descriptors
Map_Descriptor_Name    , Data_Array_Name    , Data_Array_Location    , Function    , Data_Type    , Node_Name    , Address
Write_Smoke_Thresh     , Write_Triggers         , 0                                    , Awt          , -               , VESDA_HLI    , 0

, Length    , Command    , Network    , Zone    , Sector    , DA_Parameters    , DA_Parameters_Offset
, 1            , 29             , 0              , 5          , 0           , Write_Value         , 0
```

7   Troubleshooting

7.1   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.

7.2   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 **Section 6.4** for more information.