



---

A Sierra Monitor Company

**Driver Manual**  
(Supplement to the FieldServer Instruction Manual)  
**FS-8700-88 Envirotronics SystemsPlus**

**APPLICABILITY & EFFECTIVITY**

**Effective for all systems manufactured after May 1, 2001**

<b>Driver Version:</b>	<b>1.02</b>
<b>Document Revision:</b>	<b>6</b>

## TABLE OF CONTENTS

<b>1.</b>	<b>ENVIROTRONICS SYSTEMSPLUS DESCRIPTION</b> .....	<b>5</b>
<b>2.</b>	<b>DRIVER SCOPE OF SUPPLY</b> .....	<b>6</b>
2.1.	Supplied by FieldServer Technologies for this driver .....	6
<b>3.</b>	<b>HARDWARE CONNECTIONS</b> .....	<b>7</b>
<b>4.</b>	<b>CONFIGURING THE FIELDSEVER AS A ENVIROTRONICS SYSTEMSPLUS CLIENT</b>	<b>8</b>
4.1.	Data Arrays/Descriptors .....	8
4.2.	Client Side Connection Descriptions .....	9
4.3.	Client Side Node Descriptors .....	9
4.4.	Client Side Map Descriptors.....	10
4.4.1.	<i>FieldServer Related Map Descriptor Parameters</i> .....	10
4.4.2.	<i>Driver Related Map Descriptor Parameters</i> .....	10
4.4.3.	<i>Timing Parameters</i> .....	10
4.4.4.	<i>Map Descriptor Example 1 - read event event_num</i> .....	11
4.4.5.	<i>Map Descriptor Example 2 - set event event_num = Boolean</i> .....	11
4.4.6.	<i>Map Descriptor Example 3 - read aux. aux_num</i> .....	11
4.4.7.	<i>Map Descriptor Example 4 - set aux. aux_num = Boolean</i> .....	11
4.4.8.	<i>Map Descriptor Example 5 - read setpoint channel</i> .....	12
4.4.9.	<i>Map Descriptor Example 6 - set setpoint channel = value</i> .....	12
4.4.10.	<i>Map Descriptor Example 7 - read pv channel</i> .....	12
4.4.11.	<i>Map Descriptor Example 8 - read deviation channel</i> .....	12
4.4.12.	<i>Map Descriptor Example 9 - read initial setpoint channel</i> .....	13
4.4.13.	<i>Map Descriptor Example 10 - set initial setpoint channel = value</i> .....	13
4.4.14.	<i>Map Descriptor Example 11 - read program status</i> .....	13
4.4.15.	<i>Map Descriptor Example 12 - read remaining step cycles</i> .....	14
4.4.16.	<i>Map Descriptor Example 13 - read selected program</i> .....	14
4.4.17.	<i>Map Descriptor Example 14 - read step number</i> .....	14
4.4.18.	<i>Map Descriptor Example 15 - read step time</i> .....	14
4.4.19.	<i>Map Descriptor Example 16 - read remaining step time</i> .....	15
4.4.20.	<i>Map Descriptor Example 17 -read start step</i> .....	15
4.4.21.	<i>Map Descriptor Example 18 - set start step = step_num</i> .....	15
4.4.22.	<i>Map Descriptor Example 19 - read start time enabled</i> .....	15
4.4.23.	<i>Map Descriptor Example 20 - set start time enabled = Boolean</i> .....	16
4.4.24.	<i>Map Descriptor Example 21 - read stop time enabled</i> .....	16
4.4.25.	<i>Map Descriptor Example 22 - set stop time enabled = Boolean</i> .....	16
4.4.26.	<i>Map Descriptor Example 23 - read start time</i> .....	17
4.4.27.	<i>Map Descriptor Example 24 - read stop time</i> .....	17
4.4.28.	<i>Map Descriptor Example 25 - read audible alarm</i> .....	17
4.4.29.	<i>Map Descriptor Example 26 - set audible alarm = Boolean</i> .....	18
4.4.30.	<i>Map descriptor Example 27 - read software version</i> .....	18
4.4.31.	<i>Map Descriptor Example 28 - read events</i> .....	18
4.4.32.	<i>Map Descriptor Example 29 - read auxs</i> .....	19
4.4.33.	<i>Map Descriptor Example 30 - read alarm status alarm</i> .....	19
4.4.34.	<i>Map Descriptor Example 31 - emergency stop</i> .....	19
4.4.35.	<i>Map Descriptor Example 32 - hold program</i> .....	20
4.4.36.	<i>Map Descriptor Example 33 - resume program</i> .....	20
4.4.37.	<i>Map Descriptor Example 34 - start program</i> .....	20
4.4.38.	<i>Map Descriptor Example 35 - start system</i> .....	20

4.4.39.	Map Descriptor Example 36 - stop program .....	21
4.4.40.	Map Descriptor Example 37 - stop system .....	21
4.4.41.	Map Descriptor Example 38 - alarm reset.....	21
4.4.42.	Map Descriptor Example 39 - alarm acknowledge.....	21
4.4.43.	Map Descriptor Example 40 - edit alarms.....	22
4.4.44.	Map Descriptor Example 41 - set circulators = Boolean .....	22
4.4.45.	Map Descriptor Example 42 - set lights = Boolean .....	22
4.4.46.	Map Descriptor Example 43 - select program program_num.....	22
4.4.47.	Map Descriptor Example 44 - use keypad = Boolean .....	23
4.4.48.	Map Descriptor Example 45 - edit program program_num .....	23
4.4.49.	Map Descriptor Example 46 - edit step step_num .....	23
4.4.50.	Map Descriptor Example 47 - edit analog channel.....	23
4.4.51.	Map Descriptor Example 48 - edit fuzzy channel.....	24
4.4.52.	Map Descriptor Example 49 - edit remove step .....	24
4.4.53.	Map Descriptor Example 50 - edit insert step .....	24
4.4.54.	Map Descriptor Example 51 - edit add step.....	24
4.4.55.	Map Descriptor Example 52 - edit clear program.....	25
4.4.56.	Map Descriptor Example 53 - use emulator mode .....	25
4.4.57.	Map Descriptor Example 54 - end edit mode.....	25
4.4.58.	Map Descriptor Example 55 - edit set cycles = num_cycles .....	25
4.4.59.	Map Descriptor Example 56 - edit set next = next_step_num.....	26
4.4.60.	Map Descriptor Example 57 - edit set analog min. = value .....	26
4.4.61.	Map Descriptor Example 58 - edit set analog max. = value .....	26
4.4.62.	Map Descriptor Example 59 - edit set analog type = number.....	26
4.4.63.	Map Descriptor Example 60 - edit set engineering min. = value .....	27
4.4.64.	Map Descriptor Example 61 - edit set engineering max. = value .....	27
4.4.65.	Map Descriptor Example 62 - edit set analog address = number.....	27
4.4.66.	Map Descriptor Example 63 - edit set units = number .....	27
4.4.67.	Map Descriptor Example 64 - edit set fuzzy heat cycles time = value.....	28
4.4.68.	Map Descriptor Example 65 - edit set fuzzy cool cycles time = value .....	28
4.4.69.	Map Descriptor Example 66 - edit set fuzzy heat sensitivity = value .....	28
4.4.70.	Map Descriptor Example 67- edit set fuzzy cool sensitivity = value .....	28
4.4.71.	Map Descriptor Example 68 - edit set fuzzy heat max. power = value .....	29
4.4.72.	Map Descriptor Example 69 - edit set fuzzy cool max. power = value.....	29
4.4.73.	Map Descriptor Example 70 - edit set fuzzy heat min. time = value .....	29
4.4.74.	Map Descriptor Example 71 - edit set fuzzy cool min. time = value .....	29
4.4.75.	Map Descriptor Example 72 - edit set fuzzy heat stage delay = value .....	30
4.4.76.	Map Descriptor Example 73 - edit set fuzzy cool stage delay = value.....	30
4.4.77.	Map Descriptor Example 74 - edit set fuzzy dead band = value .....	30
4.4.78.	Map Descriptor Example 75 - edit set duration = hour:minute:second .....	31
4.4.79.	Map Descriptor Example 76 - set start time = month/day hour:minute.....	31
4.4.80.	Map Descriptor Example 77 - set stop time = month/day hour:minute .....	32
4.4.81.	Map Descriptor Example 78 - set date = month / day / year .....	32
4.4.82.	Map Descriptor Example 79 - set time = hour:minute:second.....	33
4.4.83.	Map Descriptor Example 80 - edit set setpoint channel = value.....	33
4.4.84.	Map Descriptor Example 80 - edit set gsoak channel = value.....	34
4.4.85.	Map Descriptor Example 81 - edit set gsoak enabled channel = Boolean.....	34
4.4.86.	Map Descriptor Example 82 - edit set events = event_list.....	35
4.4.87.	Map Descriptor Example 83 - edit set auxs = aux_list .....	35
4.4.88.	Map Descriptor Example 84 - edit read program .....	36
4.4.89.	Map Descriptor Example 85 - edit read step.....	36

4.4.90.	Map Descriptor Example 86 - edit read number steps.....	36
4.4.91.	Map Descriptor Example 87 - edit read duration.....	37
4.4.92.	Map Descriptor Example 88 - edit read events.....	37
4.4.93.	Map Descriptor Example 89 - edit read aux.....	38
4.4.94.	Map Descriptor Example 90 - edit read cycles.....	38
4.4.95.	Map Descriptor Example 91 - edit read next.....	39
4.4.96.	Map Descriptor Example 92 - edit read analog min. ....	39
4.4.97.	Map Descriptor Example 93 - edit read analog max. ....	39
4.4.98.	Map Descriptor Example 94 - edit read analog type .....	40
4.4.99.	Map Descriptor Example 95 - edit read engineering min. ....	40
4.4.100.	Map Descriptor Example 96 - edit read engineering max. ....	40
4.4.101.	Map Descriptor Example 97 - edit read analog address.....	41
4.4.102.	Map Descriptor Example 98 - edit read units.....	41
4.4.103.	Map Descriptor Example 99 - edit read fuzzy heat cycle time.....	41
4.4.104.	Map Descriptor Example 100 - edit read fuzzy cool cycle time.....	42
4.4.105.	Map Descriptor Example 101 - edit read fuzzy heat sensitivity.....	42
4.4.106.	Map Descriptor Example 102 - edit read fuzzy cool sensitivity .....	42
4.4.107.	Map Descriptor Example 103 - edit read fuzzy heat max. power.....	43
4.4.108.	Map Descriptor Example 104 - edit read fuzzy cool max. power .....	43
4.4.109.	Map Descriptor Example 105 - edit read fuzzy heat min. time.....	43
4.4.110.	Map Descriptor Example 106 - edit read fuzzy cool min. time .....	44
4.4.111.	Map Descriptor Example 107 - edit read fuzzy heat stage delay.....	44
4.4.112.	Map Descriptor Example 108 - edit read fuzzy cool stage delay.....	44
4.4.113.	Map Descriptor Example 109 - edit read fuzzy dead band .....	45
4.4.114.	Map Descriptor Example 110 - read alarm log .....	45
4.4.115.	Map Descriptor Example 111 - edit read setpoint channel.....	45
4.4.116.	Map Descriptor Example 112 - edit read gsoak enabled channel.....	46
4.4.117.	Map Descriptor Example 113 - edit read gsoak channel.....	46
4.4.118.	Map Descriptor Example 114 - edit read scan alarm.....	46
4.4.119.	Map Descriptor Example 115 - edit set scan alarm = Boolean.....	47
<b>APPENDIX A.</b>	<b>PARAMETER TABLES .....</b>	<b>48</b>
Appendix A.1.	System plus data types.....	48
Appendix A.2.	Legal System PlusCommands.....	48

## 1. Envirotronics SystemsPlus Description

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

### Max Nodes Supported

FieldServer Mode	Nodes	Comments
Client	1	Only 1 Client node per port allowed

The Envirotronics SystemsPlus driver allows for direct interfacing to a SystemsPlus Programmer/Controller device. The driver acts as a Client to the device and can be used to read and set system parameters for status monitoring and control purposes. Combined with other protocol drivers on a FieldServer such as BACNet, complete SystemsPlus monitoring and control is made possible via control systems such as Scada.

The driver is not available as a Server since a FieldServer cannot fully emulate a SystemsPlus device's interfaces. Any existing Server drivers are for FieldServer testing purposes only.

## 2. Driver Scope of Supply

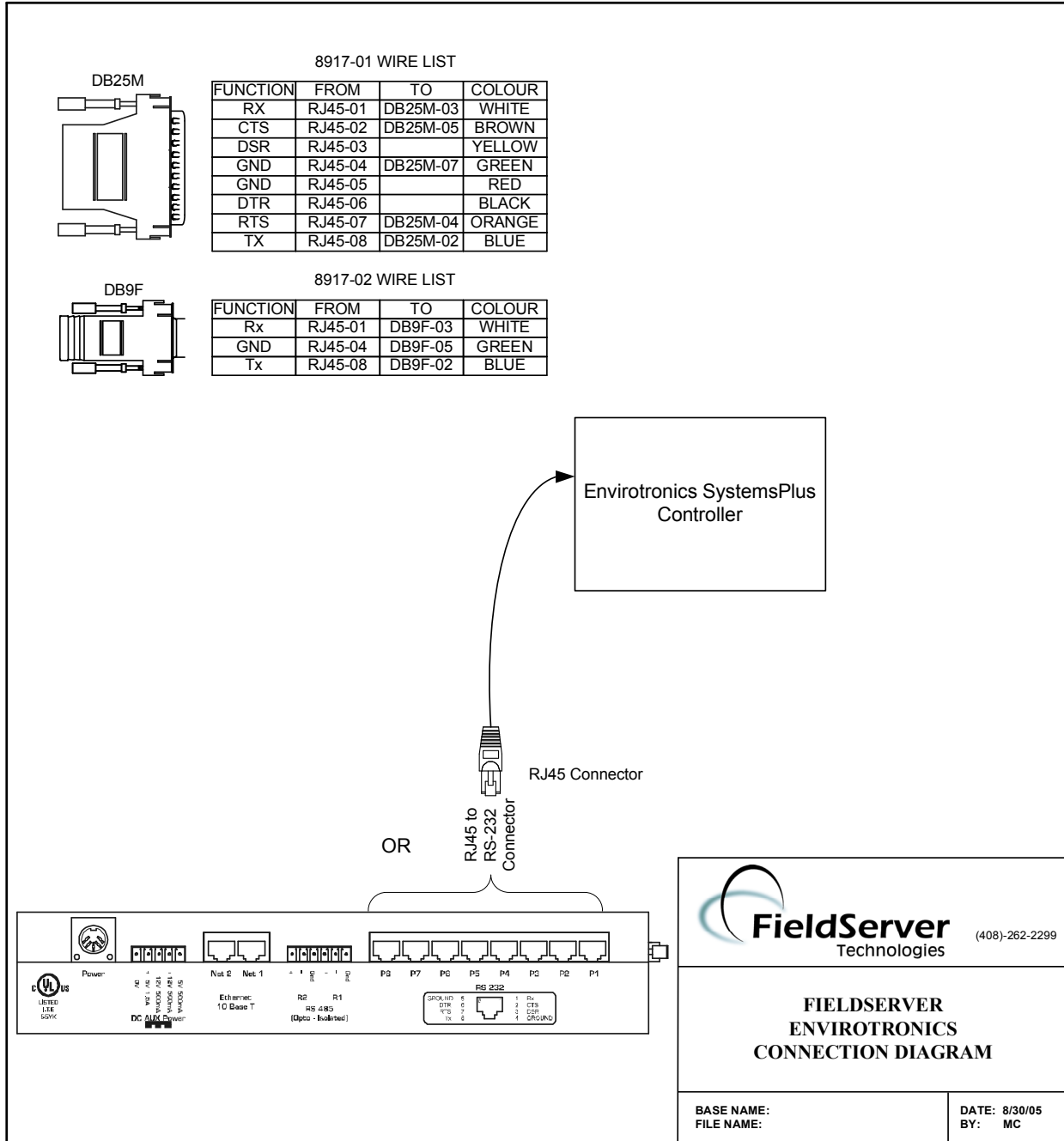
### 2.1. Supplied by FieldServer Technologies for this driver

FieldServer Technologies PART #	Description
FS-8915-10	UTP cable (7 foot) for RS-232 use
FS-8917-02	RJ45 to DB9F connector adapter
FS-8917-01	RJ45 to DB25M connection adapter
FS-8700-88	Driver Manual.

### 3. Hardware Connections

The FieldServer is connected to the SystemsPlus Controller as shown below.

Configure the SystemsPlus Controller according to manufacturer's instructions.



**Note:**

- The SystemsPlus Controller MUST be set to COMMAND MODE using the manufacturer's software before connecting the FieldServer.
- The SystemsPlus Controller's "Command End of Line" setting MUST be set to "CR". Using the manufacturer's software to do this setting before connecting the FieldServer

#### 4. Configuring the FieldServer as a Envirotronics SystemsPlus Client

For a detailed discussion on FieldServer configuration, please refer to the FieldServer instruction 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 an Envirotronics SystemsPlus Server.

##### 4.1. Data Arrays/Descriptors

The configuration file tells the FieldServer about its interfaces, and the routing of data required. In order to enable the FieldServer for Envirotronics SystemsPlus 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.

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.	Float, Bit, UInt16, SInt16, Packed_Bit, Byte, Packed_Byte, Swapped_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
Event_States,	bit,	10



**4.2. Client Side Connection Descriptions**

Section Title		
Connections		
Column Title	Function	Legal Values
Port	Specify which port the device is connected to the FieldServer	P1-P8 <sup>1</sup>
Protocol	Specify protocol used	SystemsPlus
Baud*	Specify baud rate	300 – 19200, standard baud rates only
Parity*	Specify parity	Even, Odd, <b>None</b>
Data_Bits*	Specify data bits	7, <b>8</b>
Stop_Bits*	Specify stop bits	<b>1</b> , 2
Handshaking*	Specify hardware handshaking	RTS, RTS/CTS, <b>None</b>
Poll_Delay*	Time between internal polls	0-32000 seconds, <b>1 second</b>

**Example**

```
// Client Side Connections

Connections
Port, Protocol, Baud, Parity, Handshaking, Poll_Delay
P1, SystemsPlus, 19200, None, None, 0.100s
```

**4.3. 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	SystemsPlus
Port	Specify which port the device is connected to the FieldServer	P1-P8 <sup>1</sup>

**Example**

```
// Client Side Nodes

Nodes
Node_Name, Protocol, Port
SYSPLUS_01, SystemsPlus, P1
```

<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.

#### 4.4. Client Side Map Descriptors

##### 4.4.1. 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	One of the Data Array names from "Data Array" section above
Data_Array_Offset	Starting location in Data Array	0 to maximum specified in "Data Array" section above
Function	Function of Client Map Descriptor	RDBC, WRBC, WRBX, AWT, ART <sup>2</sup>

##### 4.4.2. 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
SysPlus_Data_Type	Specifies a SystemsPlus data type this mapdesc will use	Refer to Appendix A.1
SysPlus_Alarm_Name	A SystemsPlus alarm name	Any four character alarm name
SysPlus_Cmd	Specifies a SystemsPlus command this mapdesc will use	Refer to Appendix A.2
Store_Data_Array_Name	Name of the data array where data must be stored	Any data array name
Store_Data_Array_Offset	Offset where data must be stored	0 to maximum offset into store data array
Par_Data_Array_Name	Name of the data array that will contain parameters needed by this mapdesc	Any data array name
Par_Data_Array_Offset	Offset where parameters will be located	0 to maximum offset into parameter data array
Address	Starting address	0 to value allowed for the specific mapdesc
Length	Length of Map Descriptor	1 to value allowed for the specific mapdesc

##### 4.4.3. Timing Parameters

Column Title	Function	Legal Values
Scan_Interval	Rate at which data is polled	≥0.001s

<sup>2</sup> The new ART function stands for "Active Read on Trigger" and is used to effect a single data read per trigger. Please refer to the Map Descriptor examples for using this function.

**4.4.4. Map Descriptor Example 1 - read event *event\_num***

```
// Client Side Map Descriptors
```

Map Descriptors								
Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length
Event_States_00,	0s,	Event_States,	0,	rdbc,	SYSPLUS_01,	Event,	0,	1

The *event\_num* is specified by the “Address” field. The state of the event will be stored as 1 for “ON” or 0 for “OFF”.

**4.4.5. Map Descriptor Example 2 - set event *event\_num* = Boolean**

```
// Client Side Map Descriptors
```

Map Descriptors								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length	
Event_States_00,	Event_States_0,	0,	awt,	SYSPLUS_01,	Event,	0,	1	

The *event\_num* is specified by the “Address” field. The *Boolean* state of the event is retrieved from the value written into *Data\_Array\_Name* at *Data\_Array\_Offset*. Use a value of 1 for “ON” and a value of 0 for “OFF”.

**4.4.6. Map Descriptor Example 3 - read aux. *aux\_num***

```
// Client Side Map Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length
Aux_States_00,	0s,	Aux_States,	0,	rdbc,	SYSPLUS_01,	Aux,	0,	1

The *aux\_num* is specified by the “Address” field. The state of the aux will be stored as 1 for “ON” or 0 for “OFF”.

**4.4.7. Map Descriptor Example 4 - set aux. *aux\_num* = Boolean**

```
// Client Side Map Descriptors
```

Map Descriptors								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length	
Aux_States_00,	Aux_States_0,	0,	awt,	SYSPLUS_01,	Aux,	0,	1	

The *aux\_num* is specified by the “Address” field. The *Boolean* state of the aux is retrieved from the value written into *Data\_Array\_Name* at *Data\_Array\_Offset*. Use a value of 1 for “ON” and a value of 0 for “OFF”.

**4.4.8. Map Descriptor Example 5 - read setpoint *channel***

```
// Client Side Map Descriptors
```

Map_Descriptor_Name	Scan_Interval	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Data_Type	Address	Length
Setpoints_00,	0s,	Setpoints,	0,	rdbc,	SYSPLUS_01,	Setpoint,	0,	1

The *channel* is specified by the “Address” field.

**4.4.9. Map Descriptor Example 6 - set setpoint *channel* = *value***

```
// Client Side Map Descriptors
```

Map_Descriptor_Name	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Data_Type	Address	Length
Setpoints_00,	Setpoints_0,	0,	awt,	SYSPLUS_01,	Setpoint,	0,	1

The *channel* is specified by the “Address” field. *value* is retrieved from the value written into Data\_Array\_Name at Data\_Array\_Offset.

**4.4.10. Map Descriptor Example 7 - read pv *channel***

```
// Client Side Map Descriptors
```

Map_Descriptor_Name	Scan_Interval	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Data_Type	Address	Length
Pvs_00,	0s,	Pvs,	0,	rdbc,	SYSPLUS_01,	Pv,	0,	1

The *channel* is specified by the “Address” field.

**4.4.11. Map Descriptor Example 8 - read deviation *channel***

```
// Client Side Map Descriptors
```

Map_Descriptor_Name	Scan_Interval	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Data_Type	Address	Length
Deviation_00,	0s,	Deviations,	0,	rdbc,	SYSPLUS_01,	Deviation,	0,	1

The *channel* is specified by the “Address” field.

**4.4.12. Map Descriptor Example 9 - read initial setpoint *channel***

```
// Client Side Map Descriptors
```

Map Descriptors	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length
Map_Descriptor_Name,	0s,	Init_Setpoint,	0,	rdbc,	SYSPLUS_01,	Init_Setpoint,	0,	1
Init_Setpoint_00,								

The *channel* is specified by the "Address" field.

**4.4.13. Map Descriptor Example 10 - set initial setpoint *channel* = *value***

```
// Client Side Map Descriptors
```

Map Descriptors	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Address,	Length
Map_Descriptor_Name,	Init_Setpoint_0,	0,	awt,	SYSPLUS_01,	Init_Setpoint,	0,	1
Init_Setpoint_00,							

The *channel* is specified by the "Address" field; *value* is retrieved from the value written into Data\_Array\_Name at Data\_Array\_Offset.

**4.4.14. Map Descriptor Example 11 - read program status**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name,	0s,	Prog_Status,	0,	rdbc,	SYSPLUS_01,	Prog_Status,	1
Prg_Sts,							

The program status will be stored to Data\_Array\_Name at Data\_Array\_Offset with one of the following possible values:

<b>Program Status</b>	<b>VALUE</b>
Undefined	0
Timed Start	1
Alarm Hold	2
Hold	3
Run	4
Timed Stop	5
Stop	6

**4.4.15. Map Descriptor Example 12 - read remaining step cycles**

```
// Client Side Map Descriptors
```

Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Rm_Stp_Cy,	0s,	Rem_Stepcycles,	0,	rdbc,	SYSPLUS_01,	Rem_Step_Cyc,	1

**4.4.16. Map Descriptor Example 13 - read selected program**

```
// Client Side Map Descriptors
```

Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Sel_Prog,	0s,	Selected_Prog,	0,	rdbc,	SYSPLUS_01,	Selected_Prog,	1

**4.4.17. Map Descriptor Example 14 - read step number**

```
// Client Side Map Descriptors
```

Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Step_Number,	0s,	Step_Number,	0,	rdbc,	SYSPLUS_01,	Step_Number,	1

**4.4.18. Map Descriptor Example 15 - read step time**

```
// Client Side Map Descriptors
```

Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Step_Time,	0s,	Step_Time,	0,	rdbc,	SYSPLUS_01,	Step_Time,	3

The retrieved step time will be stored as follows in Data\_Array\_Name:

Offset from Data_Array_Offset	Description
0	Hour
1	Minute
2	Second

**4.4.19. Map Descriptor Example 16 - read remaining step time**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Rm_Stp_Tm,	0s,	Data_Array_Name, Rem_StepTime,	0,	rdbc,	Node_Name, SYSPLUS_01,	SysPlus_Data_Type, Rem_Step_Tim,	3

The retrieved remaining step time will be stored as follows in Data\_Array\_Name:

Offset from Data_Array_Offset	Description
0	Hour
1	Minute
2	Second

**4.4.20. Map Descriptor Example 17 -read start step**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Start_Step,	0s,	Data_Array_Name, Start_Step,	0,	rdbc,	Node_Name, SYSPLUS_01,	SysPlus_Data_Type, Start_Step,	1

**4.4.21. Map Descriptor Example 18 - set start step = *step\_num***

```
// Client Side Map Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Start_Step,	Data_Array_Name, Start_Step_0,	0,	wrbx,	Node_Name, SYSPLUS_01,	SysPlus_Data_Type, Start_Step,	1

The *step\_num* must be written into Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.22. Map Descriptor Example 19 - read start time enabled**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Start_Time_Ena,	0s,	Data_Array_Name, Start_Time_Ena,	0,	rdbc,	Node_Name, SYSPLUS_01,	SysPlus_Data_Type, Start_Time_Ena,	1

The start time enabled status will be stored as 1 for “Enabled” or 0 for “Disabled” in Data\_Array\_Name at Data\_Array\_Offset.

**4.4.23. Map Descriptor Example 20 - set start time enabled = *Boolean***

```
// Client Side Map Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name,	Start_Time_Ena_0,	0,	wrbx,	SYSPLUS_01,	Start_Time_Ena,	1

A *Boolean* value of 1 for “Enabled” or 0 for “Disabled” must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.24. Map Descriptor Example 21 - read stop time enabled**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name,	0s,	Stop_Time_Ena,	0,	rdbc,	SYSPLUS_01,	Stop_Time_Ena,	1

The stop time enabled status will be stored as 1 for “Enabled” or 0 for “Disabled” in Data\_Array\_Name at Data\_Array\_Offset.

**4.4.25. Map Descriptor Example 22 - set stop time enabled = *Boolean***

```
// Client Side Map Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name,	Stop_Time_Ena_0,	0,	wrbx,	SYSPLUS_01,	Stop_Time_Ena,	1

A *Boolean* value of 1 for “Enabled” or 0 for “Disabled” must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.



**4.4.26. Map Descriptor Example 23 - read start time**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Start_Time,	0s,	Data_Array_Name, Start_Time,	0,	rdbc,	SYSPLUS_01,	SysPlus_Data_Type, Start_Time,	4

The retrieved start time will be stored as follows in Data\_Array\_Name:

Offset from Data_Array_Offset	Description
0	Month
1	Day
2	Hour
3	Minute

**4.4.27. Map Descriptor Example 24 - read stop time**

```
// Client Side Map Descriptor
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Stop_Time,	0s,	Data_Array_Name, Stop_Time,	0,	rdbc,	SYSPLUS_01,	SysPlus_Data_Type, Stop_Time,	4

The retrieved stop time will be stored as follows in Data\_Array\_Name:

Offset from Data_Array_Offset	Description
0	<b>Month</b>
1	Day
2	Hour
3	Minute

**4.4.28. Map Descriptor Example 25 - read audible alarm**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Map_Descriptor_Name, Audible_Alarm,	0s,	Data_Array_Name, Audible_Alarm,	0,	rdbc,	SYSPLUS_01,	SysPlus_Data_Type, Audible_Alarm,	1

The status of the audible alarm will be stored as 1 for “on” or 0 for “off” in Data\_Array\_Name at Data\_Array\_Offset.

**4.4.29. Map Descriptor Example 26 - set audible alarm = Boolean**

```
// Client Side Map Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Audible_Alarm,	Audible_Alarm_0,	0,	wrbx,	SYSPLUS_01,	Audible_Alarm,	1	

A *Boolean* value of 1 for “on” or 0 for “off” must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.30. Map descriptor Example 27 - read software version**

```
// Client Side Map Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
Sw_Version,	0s,	Sw_Version,	0,	rdbc,	SYSPLUS_01,	Sw_Version,	1	

**4.4.31. Map Descriptor Example 28 - read events**

```
// Client Side Map Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
All_Event_States,	0s,	All_Event_States,	0,	rdbc,	SYSPLUS_01,	All_Events,	10	

The retrieved event states will be stored as follows in Data\_Array\_Name:  
 ( A value of 1 will be stored for “on” or 0 for “off” )

Offset from Data_Array_Offset	Description
0	Event_0 state
1	Event_1 state
2	Event_2 state
..	..
9	Event_9 state

**4.4.32. Map Descriptor Example 29 - read aux**

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	Length
All_Aux_States,	0s,	All_Aux_States,	0,	rdbc,	SYSPLUS_01,	All_Auxs,	10

The retrieved aux states will be stored as follows in Data\_Array\_Name: (A value of 1 will be stored for “on” or 0 for “off”)

Offset from Data_Array_Offset	Description
0	Aux_0 state
1	Aux_1 state
2	Aux_2 state
..	..
9	Aux_9 state

**4.4.33. Map Descriptor Example 30 - read alarm status *alarm***

```
// Client Side Map Descriptors
```

Map Descriptor	Scan_Interval,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Data_Type,	SysPlus_Alarm_Name,	Length
Alarm_Sts_00,	0s,	Alarm_Statuses,	0,	rdbc,	SYSPLUS_01,	Alarm,	volt,	1

*alarm* is specified by the name under SysPlus\_Alarm\_Name. The status of the *alarm* will be stored as 1 for “OK” or 0 for “FAIL” in Data\_Array\_Name at Data\_Array\_Offset.

**4.4.34. Map Descriptor Example 31 - emergency stop**

```
// Client Side Map Descriptors
```

Map Descriptors	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Emergency_Stop,	ProgSysControl,	0,	wrbx,	SYSPLUS_01,	Emergency_Stop,	1

Trigger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.35. Map Descriptor Example 32 - hold program**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Hold_Program,	ProgSysControl,	1,	wrbx,	SYSPLUS_01,	Hold_Program,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.36. Map Descriptor Example 33 - resume program**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Resume_Program,	ProgSysControl,	2,	wrbx,	SYSPLUS_01,	Resume_Program,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.37. Map Descriptor Example 34 - start program**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Start_Program,	ProgSysControl,	3,	wrbx,	SYSPLUS_01,	Start_Program,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.38. Map Descriptor Example 35 - start system**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Start_System,	ProgSysControl,	4,	wrbx,	SYSPLUS_01,	Start_System,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.39. Map Descriptor Example 36 - stop program**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Stop_Program,	ProgSysControl,	5,	wrbx,	SYSPLUS_01,	Stop_Program,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.40. Map Descriptor Example 37 - stop system**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Stop_System,	ProgSysControl,	6,	wrbx,	SYSPLUS_01,	Stop_System,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.41. Map Descriptor Example 38 - alarm reset**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Alarm_Reset,	AlarmControl,	0,	wrbx,	SYSPLUS_01,	Alarm_Reset,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.42. Map Descriptor Example 39 - alarm acknowledge**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Map_Descriptor_Name, Alarm_Ack,	AlarmControl,	1,	wrbx,	SYSPLUS_01,	Alarm_Ack,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.43. Map Descriptor Example 40 - edit alarms**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Edit_Alarms,	Edit_Alarms,	0,	wrbx,	SYSPLUS_01,	Ed_Alarms,	1

Triggger this command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

**4.4.44. Map Descriptor Example 41 - set circulators = Boolean**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Set_Circs,	ManualControl,	0,	wrbx,	SYSPLUS_01,	Set_Circs,	1

Write a value of 1 for “on” or 0 for “off” to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.45. Map Descriptor Example 42 - set lights = Boolean**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Set_Lights,	ManualControl,	1,	wrbx,	SYSPLUS_01,	Set_Lights,	1

Write a value of 1 for “on” or 0 for “off” to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.46. Map Descriptor Example 43 - select program program\_num**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Select_Program,	Program_Num,	0,	wrbx,	SYSPLUS_01,	Select_Prog,	1

A *program\_num* value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.47. Map Descriptor Example 44 - use keypad = Boolean**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Use_Keypad,	Use_Keypad,	0,	wrbx,	SYSPLUS_01,	Use_Keypad,	1

A *Boolean* value of 1 for “true” or 0 for “false” must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.48. Map Descriptor Example 45 - edit program program\_num**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Program,	Ed_Program,	0,	wrbx,	SYSPLUS_01,	Ed_Program,	1

A *program\_num* value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.49. Map Descriptor Example 46 - edit step step\_num**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Step,	Ed_Step,	0,	wrbx,	SYSPLUS_01,	Ed_Step,	1

A *step\_num* value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.50. Map Descriptor Example 47 - edit analog channel**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Analog,	Ed_Analog,	0,	wrbx,	SYSPLUS_01,	Ed_Analog,	1

A *channel* value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.51. Map Descriptor Example 48 - edit fuzzy channel**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Fuzzy,	Ed_Fuzzy,	0,	wrbx,	SYSPLUS_01,	Ed_Fuzzy,	1

A *channel* value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.52. Map Descriptor Example 49 - edit remove step**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Remove_Step,	Ed_Remove_Step,	0,	wrbx,	SYSPLUS_01,	Ed_Remove_Step,	1

Any value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.53. Map Descriptor Example 50 - edit insert step**

Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Insert_Step,	Ed_Insert_Step,	0,	wrbx,	SYSPLUS_01,	Ed_Insert_Step,	1

Any value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.54. Map Descriptor Example 51 - edit add step**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Add_Step,	Ed_Add_Step,	0,	wrbx,	SYSPLUS_01,	Ed_Add_Step,	1

Any value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.



**4.4.55. Map Descriptor Example 52 - edit clear program**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Clr_Program,	Ed_Clr_Program,	0,	wrbx,	SYSPLUS_01,	Ed_Clr_Program,	1

Any value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.56. Map Descriptor Example 53 - use emulator mode**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Use_Emu_Mode,	Misc_Cmds,	0,	wrbx,	SYSPLUS_01,	Use_Emu_Mode,	1

A value of 1 to use emulator mode or a value of 0 to return to command mode must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command. Note that all driver RDBC function Map Descriptors are stopped when entering emulator mode. Map Descriptors will resume polling when returning to command mode.

**4.4.57. Map Descriptor Example 54 - end edit mode**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, End_Edit_Mode,	Misc_Cmds,	1,	wrbx,	SYSPLUS_01,	End_Edit_Mode,	1

Any value must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.58. Map Descriptor Example 55 - edit set cycles = num\_cycles**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Cycles,	Ed_Cycles,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Cycles,	1

A value of num\_cycles must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.59. Map Descriptor Example 56 - edit set next = *next\_step\_num***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Next,	Ed_Next,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Next,	1

A value of *next\_step\_num* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.60. Map Descriptor Example 57 - edit set analog min. = *value***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Ana_Min,	Ed_Set_Ana_Min,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Ana_Min,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.61. Map Descriptor Example 58 - edit set analog max. = *value***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Ana_Max,	Ed_Set_Ana_Max,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Ana_Max,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.62. Map Descriptor Example 59 - edit set analog type = *number***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Ana_Type,	Ed_Set_Ana_Type,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Ana_Type,	1

A value of *number* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.63. Map Descriptor Example 60 - edit set engineering min. = *value***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Eng_Min,	Ed_Set_Eng_Min,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Eng_Min,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.64. Map Descriptor Example 61 - edit set engineering max. = *value***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Eng_Max,	Ed_Set_Eng_Max,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Eng_Max,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.65. Map Descriptor Example 62 - edit set analog address = *number***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Ana_Addr,	Ed_Set_Ana_Addr,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Ana_Addr,	1

A value of *number* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.66. Map Descriptor Example 63 - edit set units = *number***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Units,	Ed_Set_Units,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Units,	1

A value of *number* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.67. Map Descriptor Example 64 - edit set fuzzy heat cycles time = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_Hct,	Ed_Set_Fuz_Hct,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_Hct,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.68. Map Descriptor Example 65 - edit set fuzzy cool cycles time = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_Cct,	Ed_Set_Fuz_Cct,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_Cct,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.69. Map Descriptor Example 66 - edit set fuzzy heat sensitivity = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_HSens,	Ed_Set_Fuz_HSens,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_HSens,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.70. Map Descriptor Example 67- edit set fuzzy cool sensitivity = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_CSens,	Ed_Set_Fuz_CSens,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_CSens,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.71. Map Descriptor Example 68 - edit set fuzzy heat max. power = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_HMPwr,	Ed_Set_Fuz_HMPwr,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_HMPwr,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.72. Map Descriptor Example 69 - edit set fuzzy cool max. power = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_CMPwr,	Ed_Set_Fuz_CMPwr,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_CMPwr,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.73. Map Descriptor Example 70 - edit set fuzzy heat min. time = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_HMTim,	Ed_Set_Fuz_HMTim,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_HMTim,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.74. Map Descriptor Example 71 - edit set fuzzy cool min. time = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Length
Map_Descriptor_Name, Ed_Set_Fuz_CMTim,	Ed_Set_Fuz_CMTim,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_CMTim,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.75. Map Descriptor Example 72 - edit set fuzzy heat stage delay = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Set_Fuz_HSDly,	Ed_Set_Fuz_HSDly,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_HSDly,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.76. Map Descriptor Example 73 - edit set fuzzy cool stage delay = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Set_Fuz_CSDly,	Ed_Set_Fuz_CSDly,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_CSDly,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.77. Map Descriptor Example 74 - edit set fuzzy dead band = value**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Length
Ed_Set_Fuz_Deadb,	Ed_Set_Fuz_Deadb,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Fuz_Deadb,	1

A value of *value* must be written to Data\_Array\_Name at Data\_Array\_Offset to trigger this command.

**4.4.78. Map Descriptor Example 75 - edit set duration = *hour:minute:second***

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Par_Data_Array_Name,	Par_Data_Array_Offset,	Length
Ed_Set_Duration,	Par_Bit_Triggers,	0,	awt,	SYSPLUS_01,	Ed_Set_Duration,	Ed_Set_Duration,	0,	1

This command is used by first writing the parameter data (*hour:minute:second*) and then triggering the command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Hour
1	Minute
2	Second

**4.4.79. Map Descriptor Example 76 - set start time = *month/day hour:minute***

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Par_Data_Array_Name,	Par_Data_Array_Offset,	Length
Set_Start_Time,	Par_Bit_Triggers,	1,	awt,	SYSPLUS_01,	Set_Start_Time,	Set_Start_Time,	0,	1

This command is used by first writing the parameter data and then triggering the command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Month
1	Day
2	Hour
3	Minute

**4.4.80. Map Descriptor Example 77 - set stop time = month/day hour:minute**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Set_Stop_Time	Par_Bit_Triggers	2	awt	SYSPLUS_01	Set_Stop_Time	Set_Stop_Time	0	1

This command is used by first writing the parameter data and then triggering the command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Month
1	Day
2	Hour
3	Minute

**4.4.81. Map Descriptor Example 78 - set date = month / day / year**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Set_Date	Par_Bit_Triggers	3	awt	SYSPLUS_01	Set_Date	Set_Date	0	1

This command is used by first writing the parameter data and then triggering the command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Month
1	Day
2	Year



**4.4.82. Map Descriptor Example 79 - set time = *hour:minute:second***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Set_Time	Par_Bit_Trigger	4	awt	SYSPLUS_01	Set_Time	Set_Time	0	1

This command is used by first writing the parameter data and then triggering the command by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Hour
1	Minute
2	Second

**4.4.83. Map Descriptor Example 80 - edit set setpoint *channel = value***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Ed_Set_Setpoint	Par_Val_Trigger	0	awt	SYSPLUS_01	Ed_Set_Setpoint	Ed_Set_Setpoint	0	1

This command is used by first writing the parameter data *value* and then triggering the command by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Value

**4.4.84. Map Descriptor Example 80 - edit set gsoak *channel = value***

```
// Client Side Mao Descriptors
Map Descriptor
Map_Descriptor_Name, Data_Array_Name, Data_Array_Offset, Function, Node_Name, SysPlus_Cmd, Par_Data_Array_Name, Par_Data_Array_Offset, Length
Ed_Set_Gsoak, Par_Val_Trigger, 1, awt, SYSPLUS_01, Ed_Set_Gsoak, Ed_Set_Gsoak, 0, 1
```

This command is used by first writing the parameter data *value* and then triggering the command by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Value

**4.4.85. Map Descriptor Example 81 - edit set gsoak enabled *channel = Boolean***

```
// Client Side Mao Descriptors
Map Descriptor
Map_Descriptor_Name, Data_Array_Name, Data_Array_Offset, Function, Node_Name, SysPlus_Cmd, Par_Data_Array_Name, Par_Data_Array_Offset, Length
Ed_Set_Gs_Ena, Par_Val_Trigger, 2, awt, SYSPLUS_01, Ed_Set_Gsoak_Ena, Ed_Set_Gs_Ena, 0, 1
```

This command is used by first writing the parameter data *Boolean* and then triggering the command by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

Parameter data setup:

Offset from par_data_array_offset	Description
0	Boolean

**4.4.86. Map Descriptor Example 82 - edit set events = *event\_list***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Map_Descriptor_Name, Ed_Set_Events,	Data_Array_Name, Par_Val_Trigger,	3,	awt,	SYSPLUS_01,	Ed_Set_Events,	Ed_Set_Events,	0,	10

This command is used by first writing the parameter data *event\_list* and then triggering the command by writing the number of events to Data\_Array\_Name at Data\_Array\_Offset.

**Note:** Only consecutive events can be set ( eg. to set event9, all 10 events must be set and 10 written to Data\_Array\_Name ).

Parameter data setup: (Use a value of 1 for “on” or a value of 0 for “off” per event)

Offset from par_data_array_offset	Description
0	Event0
..	..
9	Event9

**4.4.87. Map Descriptor Example 83 - edit set auxs = *aux\_list***

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Par_Data_Array_Name	Par_Data_Array_Offset	Length
Map_Descriptor_Name, Ed_Set_Auxs,	Data_Array_Name, Par_Val_Trigger,	4,	awt,	SYSPLUS_01,	Ed_Set_Auxs,	Ed_Set_Auxs,	0,	10

This command is used by first writing the parameter data *aux\_list* and then triggering the command by writing the number of auxs to Data\_Array\_Name at Data\_Array\_Offset. **Note:** Only consecutive auxs can be set ( eg. to set aux1, all auxs from 0 to 1 must be set and 2 written to Data\_Array\_Name ).

Parameter data setup: (Use a value of 1 for “on” or a value of 0 for “off” per aux)

Offset from par_data_array_offset	Description
0	Aux0
..	..
9	Aux9

**4.4.88. Map Descriptor Example 84 - edit read program**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Program,	Rd_Triggers,	0,	art,	SYSPLUS_01,	Ed_Rd_Program,	Ed_Rd_Program,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Program number

**4.4.89. Map Descriptor Example 85 - edit read step**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Step,	Rd_Triggers,	1,	art,	SYSPLUS_01,	Ed_Rd_Step,	Ed_Rd_Step,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Step number

**4.4.90. Map Descriptor Example 86 - edit read number steps**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Num_Steps,	Rd_Triggers,	2,	art,	SYSPLUS_01,	Ed_Rd_Num_Steps,	Ed_Rd_Num_Steps,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Number of steps

**4.4.91. Map Descriptor Example 87 - edit read duration**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Duration	Rd_Triggers	3	art	SYSPLUS_01	Ed_Rd_Duration	Ed_Rd_Duration	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Duration

**4.4.92. Map Descriptor Example 88 - edit read events**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Events	Rd_Triggers	4	art	SYSPLUS_01	Ed_Rd_Events	Ed_Rd_Events	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Event0 status
..	..
9	Event9 status

**4.4.93. Map Descriptor Example 89 - edit read aux.**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Aux,	Rd_Triggers,	5,	art,	SYSPLUS_01,	Ed_Rd_Aux,	Ed_Rd_Aux,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Aux0 status
..	..
9	Aux9 status

**4.4.94. Map Descriptor Example 90 - edit read cycles**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Cycles,	Rd_Triggers,	6,	art,	SYSPLUS_01,	Ed_Rd_Cycles,	Ed_Rd_Cycles,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Number of cycles

**4.4.95. Map Descriptor Example 91 - edit read next**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Map_Descriptor_Name, Ed_Rd_Next,	Data_Array_Name, Rd_Triggers,	7,	art,	Node_Name, SYSPLUS_01,	SysPlus_Cmd, Ed_Rd_Next,	Store_Data_Array_Name, Ed_Rd_Next,	Store_Data_Array_Offset, 0,	Length 1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Next

**4.4.96. Map Descriptor Example 92 - edit read analog min.**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Map_Descriptor_Name, Ed_Rd_Ana_Min,	Data_Array_Name, Rd_Triggers,	8,	art,	Node_Name, SYSPLUS_01,	SysPlus_Cmd, Ed_Rd_Ana_Min,	Store_Data_Array_Name, Ed_Rd_Ana_Min,	Store_Data_Array_Offset, 0,	Length 1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Min analog value

**4.4.97. Map Descriptor Example 93 - edit read analog max.**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Map_Descriptor_Name, Ed_Rd_Ana_Max,	Data_Array_Name, Rd_Triggers,	9,	art,	Node_Name, SYSPLUS_01,	SysPlus_Cmd, Ed_Rd_Ana_Max,	Store_Data_Array_Name, Ed_Rd_Ana_Max,	Store_Data_Array_Offset, 0,	Length 1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Max analog value

**4.4.98. Map Descriptor Example 94 - edit read analog type**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Ana_Type,	Rd_Triggers,	10,	art,	SYSPLUS_01,	Ed_Rd_Ana_Type,	Ed_Rd_Ana_Type,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Analog type

**4.4.99. Map Descriptor Example 95 - edit read engineering min.**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Eng_Min,	Rd_Triggers,	11,	art,	SYSPLUS_01,	Ed_Rd_Eng_Min,	Ed_Rd_Eng_Min,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Min engineering value

**4.4.100. Map Descriptor Example 96 - edit read engineering max.**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Eng_Max,	Rd_Triggers,	12,	art,	SYSPLUS_01,	Ed_Rd_Eng_Max,	Ed_Rd_Eng_Max,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Max engineering value



**4.4.101. Map Descriptor Example 97 - edit read analog address**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Ana_Addr	Rd_Triggers	13	art	SYSPLUS_01	Ed_Rd_Ana_Addr	Ed_Rd_Ana_Addr	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Analog address

**4.4.102. Map Descriptor Example 98 - edit read units**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Units	Rd_Triggers	14	art	SYSPLUS_01	Ed_Rd_Units	Ed_Rd_Units	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Units value

**4.4.103. Map Descriptor Example 99 - edit read fuzzy heat cycle time**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Fuz_Hct	Rd_Triggers	15	art	SYSPLUS_01	Ed_Rd_Fuz_Hct	Ed_Rd_Fuz_Hct	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Heat cycle time

**4.4.104. Map Descriptor Example 100 - edit read fuzzy cool cycle time**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Fuz_Cct	Rd_Triggers	16	art	SYSPLUS_01	Ed_Rd_Fuz_Cct	Ed_Rd_Fuz_Cct	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Cool cycle time

**4.4.105. Map Descriptor Example 101 - edit read fuzzy heat sensitivity**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Fuz_HSens	Rd_Triggers	17	art	SYSPLUS_01	Ed_Rd_Fuz_HSens	Ed_Rd_Fuz_HSens	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Heat sensitivity

**4.4.106. Map Descriptor Example 102 - edit read fuzzy cool sensitivity**

```
// Client Side Mao Descriptors
```

Map Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	Store_Data_Array_Name	Store_Data_Array_Offset	Length
Ed_Rd_Fuz_CSens	Rd_Triggers	18	art	SYSPLUS_01	Ed_Rd_Fuz_CSens	Ed_Rd_Fuz_CSens	0	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Cool sensitivity

**4.4.107. Map Descriptor Example 103 - edit read fuzzy heat max. power**

```
// Client Side Mao Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_HMPwr,	Rd_Triggers,	19,	art,	SYSPLUS_01,	Ed_Rd_Fuz_HMPwr,	Ed_Rd_Fuz_HMPwr,	0,	1	

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Max heat power

**4.4.108. Map Descriptor Example 104 - edit read fuzzy cool max. power**

```
// Client Side Mao Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_CMPwr,	Rd_Triggers,	20,	art,	SYSPLUS_01,	Ed_Rd_Fuz_CMPwr,	Ed_Rd_Fuz_CMPwr,	0,	1	

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Max cool power

**4.4.109. Map Descriptor Example 105 - edit read fuzzy heat min. time**

```
// Client Side Mao Descriptors
```

Map Descriptor	Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_HMTim,	Rd_Triggers,	21,	art,	SYSPLUS_01,	Ed_Rd_Fuz_HMTim,	Ed_Rd_Fuz_HMTim,	0,	1	

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Min heat time

**4.4.110. Map Descriptor Example 106 - edit read fuzzy cool min. time**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_CMTim,	Rd_Triggers,	22,	art,	SYSPLUS_01,	Ed_Rd_Fuz_CMTim,	Ed_Rd_Fuz_CMTim,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Min cool time

**4.4.111. Map Descriptor Example 107 - edit read fuzzy heat stage delay**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_HSDly,	Rd_Triggers,	23,	art,	SYSPLUS_01,	Ed_Rd_Fuz_HSDly,	Ed_Rd_Fuz_HSDly,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Heat stage delay

**4.4.112. Map Descriptor Example 108 - edit read fuzzy cool stage delay**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_CSDly,	Rd_Triggers,	24,	art,	SYSPLUS_01,	Ed_Rd_Fuz_CSDly,	Ed_Rd_Fuz_CSDly,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Cool stage delay

**4.4.113. Map Descriptor Example 109 - edit read fuzzy dead band**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Fuz_Deadb,	Rd_Triggers,	25,	art,	SYSPLUS_01,	Ed_Rd_Fuz_Deadb,	Ed_Rd_Fuz_Deadb,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Dead band

**4.4.114. Map Descriptor Example 110 - read alarm log**

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Rd_Alarm_Log,	Rd_Triggers,	26,	art,	SYSPLUS_01,	Rd_Alarm_Log,	Rd_Alarm_Log,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	To be determined !

**4.4.115. Map Descriptor Example 111 - edit read setpoint *channel***

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Setpoint,	Rd_Par_Triggers,	0,	art,	SYSPLUS_01,	Ed_Rd_Setpoint,	Ed_Rd_Setpoint,	0,	1

This command is triggered by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Setpoint

**4.4.116. Map Descriptor Example 112 - edit read gsoak enabled *channel***

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Gsoak_Ena,	Rd_Par_Triggers,	1,	art,	SYSPLUS_01,	Ed_Rd_Gsoak_Ena,	Ed_Rd_Gsoak_Ena,	0,	1

This command is triggered by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows: ( A value of 1 is used for “true” or 0 for “false” )

Offset from Store_Data_Array_Offset	Description
0	Gsoak enabled

**4.4.117. Map Descriptor Example 113 - edit read gsoak *channel***

```
// Client Side Mao Descriptors
```

Map Descriptor								
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Gsoak,	Rd_Par_Triggers,	2,	art,	SYSPLUS_01,	Ed_Rd_Gsoak,	Ed_Rd_Gsoak,	0,	1

This command is triggered by writing *channel* to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows:

Offset from Store_Data_Array_Offset	Description
0	Gsoak value

**4.4.118. Map Descriptor Example 114 - edit read scan *alarm***

```
// Client Side Mao Descriptors
```

Map Descriptor									
Map_Descriptor_Name,	Data_Array_Name,	Data_Array_Offset,	Function,	Node_Name,	SysPlus_Cmd,	SysPlus_Alarm_Name,	Store_Data_Array_Name,	Store_Data_Array_Offset,	Length
Ed_Rd_Scan_00,	Scan_Alm_Trigs,	0,	art,	SYSPLUS_01,	Ed_Rd_Scan,	fire,	Ed_Rd_Scan,	0,	1

This command is triggered by writing any value to Data\_Array\_Name at Data\_Array\_Offset.

The retrieved data is stored as follows: ( A value of 1 is stored for “Fail” or 0 for “Normal” )

Offset from Store_Data_Array_Offset	Description
0	Alarm status

**4.4.119. Map Descriptor Example 115 - edit set scan alarm = Boolean**

```
// Client Side Mao Descriptors
```

Map_Descriptor	Data_Array_Name	Data_Array_Offset	Function	Node_Name	SysPlus_Cmd	SysPlus_Alarm_Name	Length
Ed_Set_Scan_00,	Set_Scan_Trig,	0,	wrbx,	SYSPLUS_01,	Ed_Set_Scan,	fire,	1

This command is triggered by writing a *Boolean* value to Data\_Array\_Name at Data\_Array\_Offset. A value of 1 is used for “true” or 0 for “false”.

## Appendix A. Parameter Tables

### Appendix A.1. System plus data types

Event	Aux	Setpoint
Pv	Deviation	Init_Setpoint
Prog_Status	Rem_Step_Cyc	Selected_Prog
Step_Number	Step_Time	Rem_Step_Tim
Start_Step	Start_Time_Ena	Stop_Time_Ena
Start_Time	Stop_Time	Audible_Alarm
Sw_Version	All_Events	All_Auxs
Alarm		

### Appendix A.2. Legal System PlusCommands

Ed_Rd_Program	Ed_Rd_Step	Ed_Rd_Num_Steps
Ed_Rd_Duration	Ed_Rd_Events	Ed_Rd_Aux
Ed_Rd_Cycles	Ed_Rd_Next	Ed_Rd_Ana_Min
Ed_Rd_Ana_Max	Ed_Rd_Ana_Type	Ed_Rd_Eng_Min
Ed_Rd_Eng_Max	Ed_Rd_Ana_Addr	Ed_Rd_Units
Ed_Rd_Fuz_Hct	Ed_Rd_Fuz_Cct	Ed_Rd_Fuz_HSens
Ed_Rd_Fuz_CSens	Ed_Rd_Fuz_HMPwr	Ed_Rd_Fuz_CMPwr
Ed_Rd_Fuz_HMTim	Ed_Rd_Fuz_CMTim	Ed_Rd_Fuz_HSDly
Ed_Rd_Fuz_CSDly	Ed_Rd_Fuz_Deadb	Rd_Alarm_Log
Ed_Rd_Setpoint	Ed_Rd_Gsoak_Ena	Ed_Rd_Gsoak
Ed_Rd_Scan	Emergency_Stop	Hold_Program
Resume_Program	Start_Program	Start_System
Stop_Program	Stop_System	Alarm_Reset
Alarm_Ack	Ed_Alarms	Set_Circs
Set_Lights	Select_Prog	Use_Keypad
Ed_Program	Ed_Step	Ed_Analog
Ed_Fuzzy	Ed_Remove_Step	Ed_Insert_Step
Ed_Add_Step	Ed_Clr_Program	Use_Emu_Mode
Ed_Set_Cycles	Ed_Set_Next	Ed_Set_Ana_Min
Ed_Set_Ana_Max	Ed_Set_Ana_Type	Ed_Set_Eng_Min
Ed_Set_Eng_Max	Ed_Set_Ana_Addr	Ed_Set_Units
Ed_Set_Fuz_Hct	Ed_Set_Fuz_Cct	Ed_Set_Fuz_HSens
Ed_Set_Fuz_CSens	Ed_Set_Fuz_HMPwr	Ed_Set_Fuz_CMPwr
Ed_Set_Fuz_HMTim	Ed_Set_Fuz_CMTim	Ed_Set_Fuz_HSDly
Ed_Set_Fuz_CSDly	Ed_Set_Fuz_Deadb	Ed_Set_Scan
Ed_Set_Duration	Set_Start_Time	Set_Stop_Time
Set_Date	Set_Time	Ed_Set_Setpoint
Ed_Set_Gsoak	Ed_Set_Gsoak_Ena	Ed_Set_Events
Ed_Set_Auxs	End_Edit_Mode	



THIS PAGE INTENTIONALLY LEFT BLANK