

# EcoStruxure Building Operation

## Galaxy Dimension SmartDriver

### Installation & User Guide

October 2023



**Prepared By:**

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# 1 Functional Overview

The Galaxy Dimension SmartDriver provides an interface between Schneider Electric EcoStruxure and the Honeywell Galaxy Dimension Security system.

This allows the user to set, unset, part-set and reset groups, reset the panel, monitor alarm conditions of circuits, and monitor set and alarm conditions of groups from an EcoStruxure Workstation.

## 2 Restrictions & Limitations

### 2.1 Supported systems

The SmartDriver only supports the following Galaxy Panels

Manufacturer	Model	Version
Honeywell - Galaxy	Dimension Galaxy 48 with on board Rio/RS232 port	V6.7
Honeywell - Galaxy	Dimension Galaxy 96 with on board Rio/RS232 port	V6.7

### 2.2 Implementation Considerations

The connection to the Galaxy Dimension panel uses an RS-232 connection. Therefore, consideration should be made to use an RS-485 to RS-232 converter between the Schneider Electric AS-P and the Galaxy Dimension Panel. This converter is required to have **galvanic isolation** built into it to block any ground plane differences affecting data signal quality.

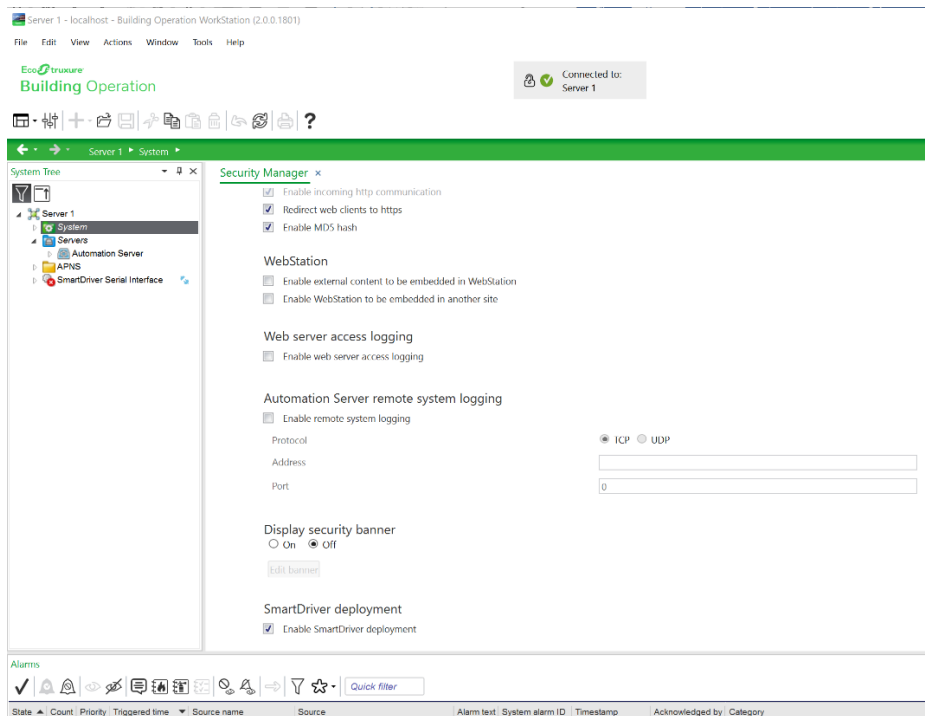
# 3 Installation

The following steps are required for a successful connection to the Galaxy Dimension panel:

## 3.1 Enable the SmartDriver in EcoStruxure

Please note that whilst SmartDrivers are not currently licensed, there is a setting in the Security Manager of the Control Panel that must be set to enable SmartDrivers to function.

Go to Control Panel -> Security Manager and scroll to the bottom of the page to SmartDriver deployment and ensure that the Enable SmartDriver deployment check box is checked.



## 3.2 Connection of AS-P to Galaxy Panel using an isolating RS-232/RS-485 converter.

The Galaxy Dimension panel uses a RS-232 port to communicate to the SmartDriver. The communication ports on the AS-P are RS-485 only. Therefore, a RS-485/RS-232 converter must be used for the connection between the AS-P and the Galaxy Dimension panel. The converter should be of the **galvanic isolating** type to ensure the integrity of the data between the two systems. The connection is very simple, just connect the Ground, TX and RX pins from the Galaxy Panel to the RS-232 side of the converter. The RS-485 side of the converter is just a two-wire connection to either ComA or ComB of the AS-P.

**Note: The TX and RX connection MUST be crossed between the Galaxy Panel and RS-485/RS-232 converter i.e. TX to RXD and RX to TXD.**

**Note: A good connection will see a GREEN LED light on Galaxy Panel. No light, check connections.**

## 4 Configuration & Settings

The following steps are required for a successful configuration of the Galaxy Dimension panel and Galaxy Dimension SmartDriver.

### 4.1 Set the Galaxy Dimension SIA level in the panel

It is essential that the “Internal RS-232” port of the Galaxy Dimension panel is configured for **SIA Level4** and that the SIA log-on password is set to the default.

If the panel has had a factory reset (Power off/on with the battery isolation care in place resulting in all factory defaults) then unless the SIA password has been deliberately changed then it should not be an issue.

The SIA level can be set as follows:

1. In Engineer Mode access the Menu Item 56 – Communications.
2. Navigate to 6 – Internal RS-232.
3. Navigate to 1 – Mode and set it to Direct.
4. Navigate to 2 – Format and then select SIA and set it to Level 4.

NOTE: Further configuration

5. At this point you should see an event type (the first one is PA Duress). Set all event types to disabled. There should be around 20 event types.
6. Access the Menu Item 63 – Options
7. Navigate to 1 – Groups
8. Enable Group Mode

### 4.2 Load the Galaxy Dimension SmartDriver into EcoStruxure

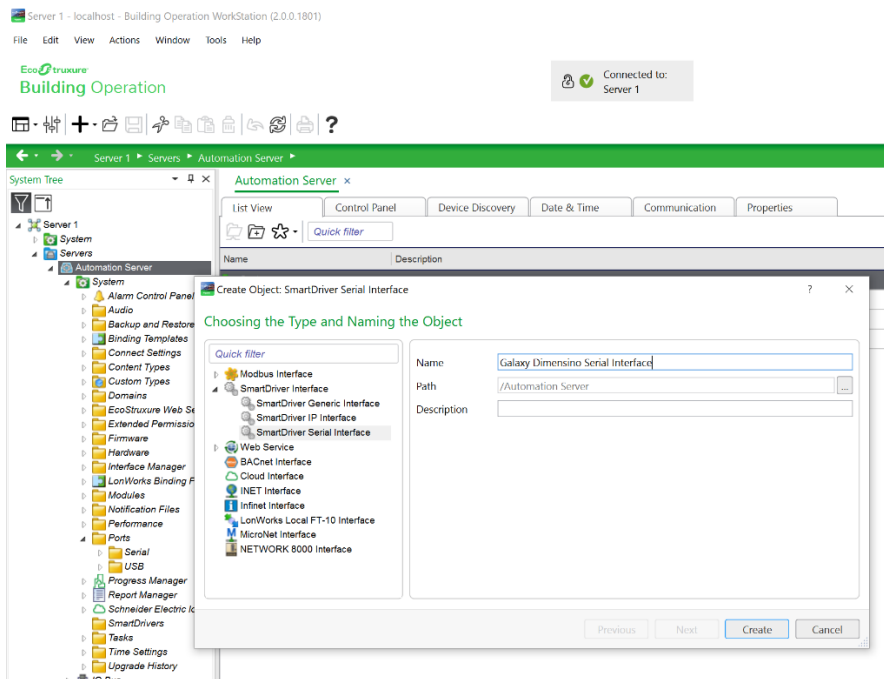
The SmartDriver is loaded by selecting the SmartDriver folder from the Automation Server System folder.

1. <right click> on the SmartDrivers folder and create a new Driver.
2. Enter a suitable name and <left click> next.
3. Browse to the Galaxy\_XX.sdrv file to load the driver.

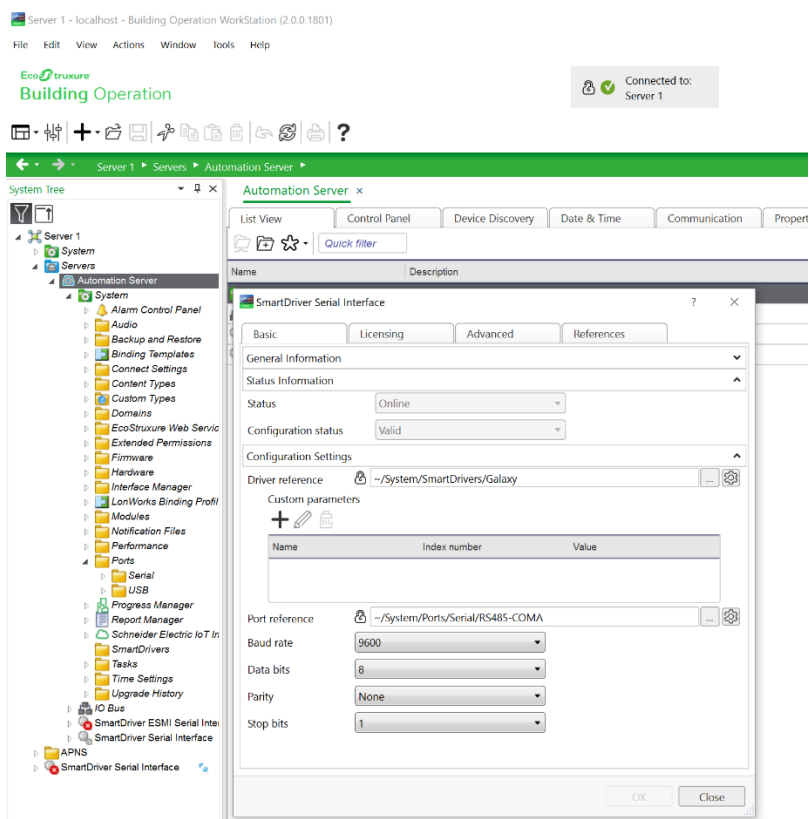


## 4.3 Create and configure the Galaxy Dimension SmartDriver Interface, Device and Points

<right click> on the Server object where the SmartDriver is required and select SmartDriver Serial Interface from the list of Interface types.



1. <left click> the Create button and enter a suitable name.
2. <right click and select properties> on the newly created interface.  
Configure the Interface as shown below.
  - For the Port reference, browse to the required Port in the Server Port folder.
  - Set the Baud rate, Data bits, Parity and Stop bits as shown below.
  - For the Driver reference, browse to the SmartDriver loaded in step 1 above.

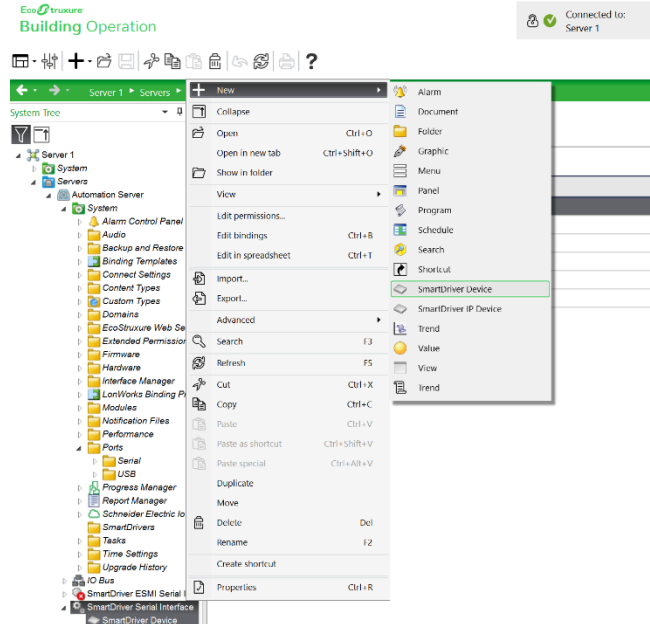


The Port Reference should be set to which ever port the panel and converted are physically connected to on the AS-P.

- Baud rate should be set to 9600.
- Data bits should be set to 8.
- Parity should be set to None.
- Stop bits should be set to 1.

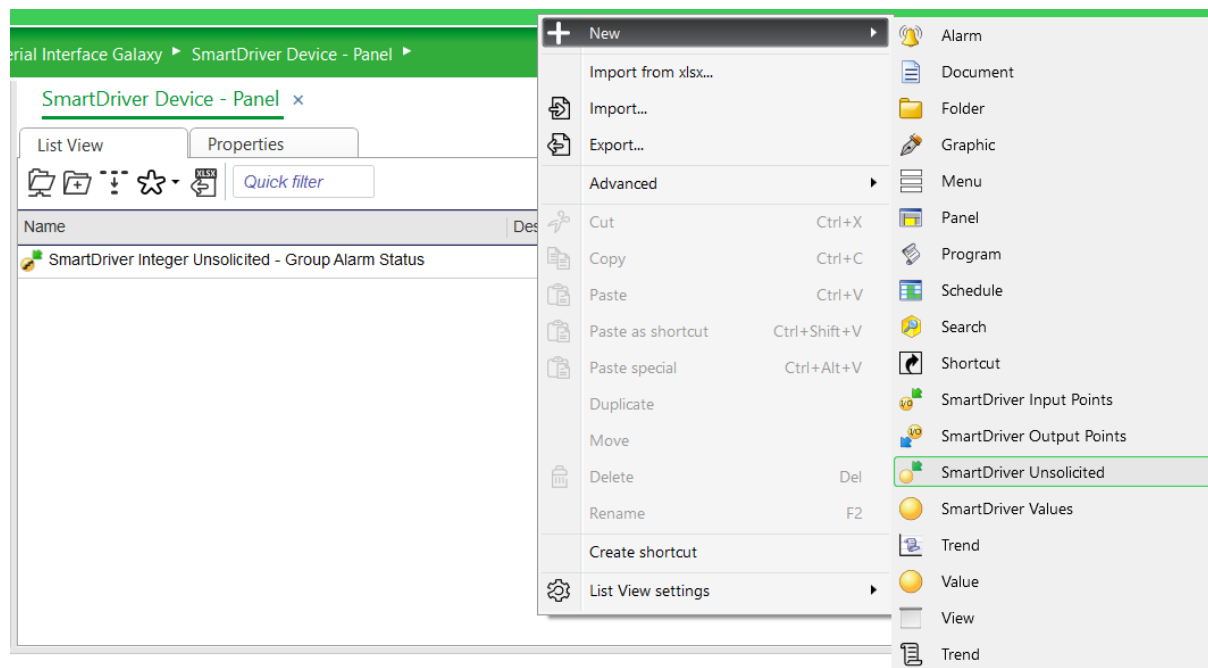
## 4.4 Create the Galaxy Dimension SmartDriver Device

In the hierarchy, a SmartDriver Device must exist below the interface that has just been created. As the AS-P interfaces to only one panel, this device acts as just a place holder for points that are created for the panel. The SmartDriver Device does not require any configuration.

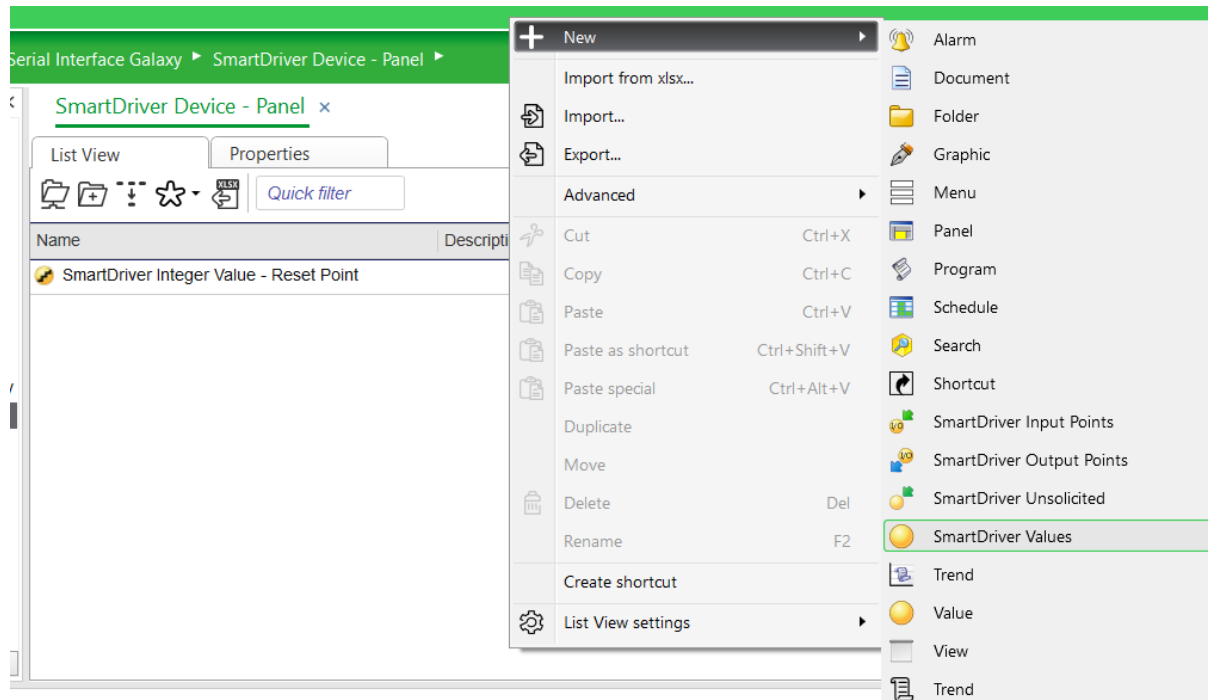


## 4.5 Create and Configure the Galaxy Dimension SmartDriver Points

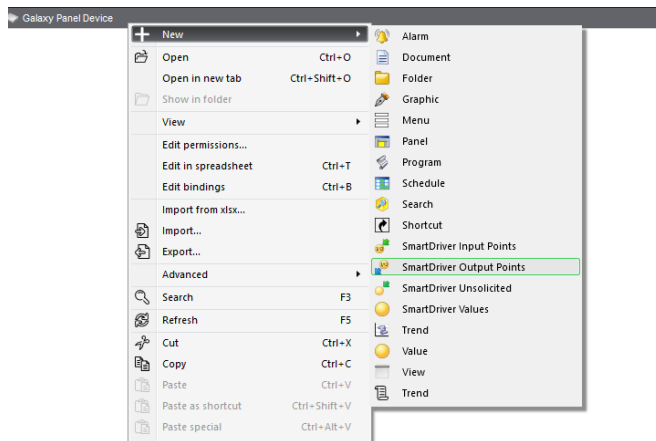
Any Status values that are read from the Galaxy Dimension panel, are stored in EcoStruxure SmartDriver Unsolicited Integer Points.



Any Commands that are sent by the user to the Galaxy Dimension panel, are represented by EcoStruxure SmartDriver Values Integer.



Any Command values that are sent to the Galaxy Dimension panel from an EcoStruxure for Building Operation Schedule binding, are represented by EcoStruxure SmartDriver Output Point Integer.



Parameters are used to identify the points. The parameters are entered as a **comma separated list** of values within the **address** field of the point.

The SmartDriver constantly polls the Galaxy Dimension panel for the alarm, set and unset states of groups, the alarm states of input circuits and the state of output circuits.

It also monitors any command values set by the EcoStruxure user such as global reset of the Galaxy Dimension panel and sends the corresponding message to the panel.

#### 4.5.1 Status Point: Group Set

**Parameter 1:** 1 (This is a group set status point)

**Parameter 2:** 1 (This point represents the set status of group 1)

**Example:**

EcoStruxure Name: Group1 Set Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 1,1

**Usage:**

This point represents the set status of a group (in this example – group 1). The following values reflect the possible set states of a group:

0 – Group is unset.

1 – Group is set.

2 – Group is part set.

#### 4.5.2 Status Point: Group Alarm

**Parameter 1:** 2 (This is a group alarm status point.)

**Parameter 2:** 1 (This point represents the alarm status of group 1)

**Example:**

EcoStruxure Name: Group1 Alarm Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 2,1

**Usage:**

This point represents the alarm status of group 1. The following values reflect the possible alarm states of a group:

0 – Group is normal.

1 – Group is in alarm.

2 – Reset required.

#### 4.5.3 Status Point: Output

**Parameter 1:** 3 (This is an output status point)

**Parameter 2:** 1 (This point represents the status of output circuit 1)

**Example:**

EcoStruxure Name: Output1 Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 3,1

**Usage:**

This point reflects the status of output circuit 1. The following values reflect the possible states of an output circuit:

0 – Output is on.

1 – Output is off.

N.B. Parameter 2 (the output circuit number) should be entered in the 3-digit format i.e. 1 – 256, to convert from the 4-digit circuit number to the 3-digit number use the table provided in Appendix 5.2

Note: A connection/device need to be wired to output circuit (physical connection) for this point to work.

#### 4.5.4 Status Point: Input Circuit (Zone) Open/Closed

**Parameter 1:** 4 (This is an input circuit open/closed status point.)

**Parameter 2:** 1 (This point represents the open/closed status of Input Circuit 1.)

**Example:**

EcoStruxure Name: Zone1 Open Closed Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 4,1

**Usage:**

This point reflects the open/closed status of input circuit 1. The following values reflect the possible open/closed states of an input circuit:

0 – The circuit is low, high, or closed.

1 – The circuit's State is tampered (open circuit), tampered (short circuit), or open.

N.B. Parameter 2 (the input circuit number) should be entered in the 3-digit format i.e. 1 – 512, to convert from the 4-digit circuit number to the 3-digit number use the table provided in Appendix 5.1

#### 4.5.5 Status Point: Input Circuit (Zone) Alarm

**Parameter 1:** 5 (This is an input circuit alarm status point.)

**Parameter 2:** 1 (This point represents the alarm status of input Circuit 1.)

**Parameter 3:** 1 (This input circuit is located within group 1)

**Example:**

EcoStruxure Name: Zone1 Alarm Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 5,1,1

**Usage:**

This point reflects the alarm status of input circuit 1. The following values reflect the possible alarm states of an input Circuit:

0 – circuit is normal.

1 – Circuit is in alarm.

N.B. Parameter 2 (the input circuit number) should be entered in the 3-digit format i.e. 1 – 512, to convert from the 4-digit circuit number to the 3-digit number use the table provided in Appendix 5.1

#### 4.5.6 Status Point: Omit/UnOmit Zone

**Parameter 1:** 12 (This is an Omit/UnOmit zone status point)

**Parameter 2:** 1-512 (This is the 3-digit zone number)

**Parameter 3:** 1001-4158 (This is the 4-digit zone number)

**Example:**

EcoStruxure Name: Zone1 Omit UnOmit Status

EcoStruxure Type: SmartDriver Unsolicited Integer

EcoStruxure Address: 12,1,1001

**Usage:**

This point reflects the omit/unomit status of the zone:

0 – Zone is UnOmitted

1 – Zone is Omitted

**Command Points** allow the user to send values to the Galaxy Dimension panel which in turn will execute an action. Since events are switched off (see Appendix 5.3.2) the Smart Driver does not get an acknowledgment that a command has been received. So, the command point value is not updated in EBO. To get an update to date status of a command point simply right click on the point in EBO and select properties, this will generate a manual request through the SmartDriver to the Galaxy Dimension panel for the point's status. This is a feature of the system and is unlikely to change.

#### 4.5.7 Command Point: Set/Unset/Part Set/Abort Set/Force Set Group

**Parameter 1:** 6 (This is a set/unset group command point.)

**Parameter 2:** 1 (This point is used to set/unset group 1.)

**Example:**

EcoStruxure Name: Set Unset Group1 Command

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 6,1

**Usage:**

This point is used to control the set status of group 1. The set /unset status of a group can be controlled by assigning the following values to this point:

- 1 – Set this group.
- 2 – Unset this group.
- 3 – Part set this group.
- 4 – Abort setting of this group.
- 5 – Force setting of this group.

#### 4.5.8 Command Point: Set/Unset/Part Set/Abort Set/Force Set All Groups

**Parameter 1:** 7 (This is a set/unset all groups command point.)

**Example:**

EcoStruxure Name: Set Unset All Groups Command

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 7

**Usage:**

This point is used to control the set status of all groups within the Galaxy Dimension panel. The set /unset status of all groups can be controlled by assigning the following values to this point:

- 1 – Set all groups.
- 2 – Unset all groups.
- 3 – Part set all groups.
- 4 – Abort setting of all groups.
- 5 – Force setting of all groups.

#### 4.5.9 Command Point: Reset Panel

**Parameter 1:** 8 (This is a reset panel command point.)

**Example:**

EcoStruxure Name: Reset Panel Command

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 8

**Usage:**

This point is used to reset the Galaxy Dimension panel. Setting this point to a value of 1 triggers the reset function.

#### 4.5.10 Command Point: Reset Group

**Parameter 1:** 9 (This is a reset group command point.)

**Parameter 2:** 1 (This point is being used to reset group 1 so parameter 2 is set to 1.)

**Example:**

EcoStruxure Name: Reset Group1 Command

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 9,1

**Usage:**

This point is used to reset a particular group in the Galaxy Dimension panel. (In this case, group 1). Setting this point to a value of 1 triggers the reset group function.

#### 4.5.11 Command Point: Omit/UnOmit Zone

**Parameter 1:** 11 (This is a Omit/UnOmit zone command point)

**Parameter 2:** 1-512 (This is the 3-digit zone number)

**Parameter 3:** 1001-4158 (This is the 4-digit zone number)

**Example:**

EcoStruxure Name: Omit UnOmit Zone1 Command

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 11,1,1001

**Usage:**

This point is used to temporarily disable a detection zone from the system.

The omit/unomit can be controlled by assigning the following values to this point:

1 - Omit Zone

2 – UnOmit Zone

#### 4.5.12 Command Point: Control Point (IMPORTANT)

**Parameter 1:** 999 (This is a control point to enable the SmartDriver communication)

**Example:**

EcoStruxure Name: Control Point

EcoStruxure Type: SmartDriver Value Integer

EcoStruxure Address: 999

**Usage:**

This point is to be used when the SmartDriver Device (Panel) within EBO has been setup. Adding this command point triggers the Galaxy SmartDriver to start transmitting and receiving messages from the Galaxy Dimension panel. Note, no value is required, just the definition/existence in panel.

Schedule Command points – Available in version 1.0.0.7 and later.

#### 4.5.13 Schedule bound Command Point: Set/Unset/Part Set/Abort Set/Force Set Group

**Parameter 1:** 36 (This is a set/unset group command point.)

**Parameter 2:** 1 (This point is used to set/unset group 1.)

**Example:**

EcoStruxure Name: Set Unset Group1 Command

EcoStruxure Type: SmartDriver Output Point Integer

EcoStruxure Address: 36,1

**Usage:**

This point is used to control the set status of group 1. The set /unset status of a group can be controlled by assigning the following schedule bound values to this point:

1 – Set this group.

2 – Unset this group.



- 3 – Part set this group.
- 4 – Abort setting of this group.
- 5 – Force setting of this group.

#### 4.5.14 Schedule bound Command Point: Set/Unset/Part Set/Abort Set/Force Set All Groups

**Parameter 1:** 37 (This is a set/unset all groups command point.)

**Example:**

EcoStruxure Name: Set Unset All Groups Command  
EcoStruxure Type: SmartDriver Output Point Integer  
EcoStruxure Address: 37

**Usage:**

This point is used to control the set status of all groups within the Galaxy Dimension panel. The set /unset status of all groups can be controlled by assigning the following schedule bound values to this point:

- 1 – Set all groups.
- 2 – Unset all groups.
- 3 – Part set all groups.
- 4 – Abort setting of all groups.
- 5 – Force setting of all groups.

#### 4.5.15 Schedule bound Command Point: Reset Panel

**Parameter 1:** 38 (This is a reset panel command point.)

**Example:**

EcoStruxure Name: Reset Panel Command  
EcoStruxure Type: SmartDriver Output Point Integer  
EcoStruxure Address: 38

**Usage:**

This point is used to reset the Galaxy Dimension panel. Setting this point to a value of 1 triggers the reset function.

#### 4.5.16 Schedule bound Command Point: Reset Group

**Parameter 1:** 39 (This is a reset group command point.)

**Parameter 2:** 1 (This point is being used to reset group 1 so parameter 2 is set to 1.)

**Example:**

EcoStruxure Name: Reset Group1 Command  
EcoStruxure Type: SmartDriver Value Integer  
EcoStruxure Address: 39,1

**Usage:**

This point is used to reset a particular group in the Galaxy Dimension panel. (In this case, group 1). Setting this point to a value of 1 triggers the reset group function.

#### 4.5.17 Schedule bound Command Point: Omit/UnOmit Zone

**Parameter 1:** 41 (This is a Omit/UnOmit zone command point)

**Parameter 2:** 1-512 (This is the 3-digit zone number)

**Parameter 3:** 1001-4158 (This is the 4-digit zone number)

**Example:**

EcoStruxure Name: Omit UnOmit Zone1 Command  
EcoStruxure Type: SmartDriver Output Point Integer  
EcoStruxure Address: 41,1,1001

**Usage:**

This point is used to temporarily disable a detection zone from the system.  
The omit/unomit can be controlled by assigning the following values to this point:  
1 - Omit Zone  
2 – UnOmit Zone

# 5 Appendix

## 5.1 Converting from 4-digit to 3-digit circuit numbers

<b>Galaxy Dimension XDriver Zone Number Conversion Chart</b>
--

3 Digit Zone Number:	4 Digit Zone Number:	Line Number:	RIO Number:	Zone Number on the RIO:
1	1001	1	0	1
2	1002	1	0	2
3	1003	1	0	3
4	1004	1	0	4
5	1005	1	0	5
6	1006	1	0	6
7	1007	1	0	7
8	1008	1	0	8
9	1011	1	1	1
10	1012	1	1	2
11	1013	1	1	3
12	1014	1	1	4
13	1015	1	1	5
14	1016	1	1	6
15	1017	1	1	7
16	1018	1	1	8
17	1021	1	2	1
18	1022	1	2	2
19	1023	1	2	3

20	1024	1	2	4
21	1025	1	2	5
22	1026	1	2	6
23	1027	1	2	7
24	1028	1	2	8
25	1031	1	3	1
26	1032	1	3	2
27	1033	1	3	3
28	1034	1	3	4
29	1035	1	3	5
30	1036	1	3	6
31	1037	1	3	7
32	1038	1	3	8
33	1041	1	4	1
34	1042	1	4	2
35	1043	1	4	3
36	1044	1	4	4
37	1045	1	4	5
38	1046	1	4	6
39	1047	1	4	7
40	1048	1	4	8
41	1051	1	5	1
42	1052	1	5	2
43	1053	1	5	3
44	1054	1	5	4
45	1055	1	5	5
46	1056	1	5	6
47	1057	1	5	7
48	1058	1	5	8

49	1061	1	6	1
50	1062	1	6	2
51	1063	1	6	3
52	1064	1	6	4
53	1065	1	6	5
54	1066	1	6	6
55	1067	1	6	7
56	1068	1	6	8
57	1071	1	7	1
58	1072	1	7	2
59	1073	1	7	3
60	1074	1	7	4
61	1075	1	7	5
62	1076	1	7	6
63	1077	1	7	7
64	1078	1	7	8
65	1081	1	8	1
66	1082	1	8	2
67	1083	1	8	3
68	1084	1	8	4
69	1085	1	8	5
70	1086	1	8	6
71	1087	1	8	7
72	1088	1	8	8
73	1091	1	9	1
74	1092	1	9	2
75	1093	1	9	3
76	1094	1	9	4
77	1095	1	9	5

78	1096	1	9	6
79	1097	1	9	7
80	1098	1	9	8
81	1101	1	10	1
82	1102	1	10	2
83	1103	1	10	3
84	1104	1	10	4
85	1105	1	10	5
86	1106	1	10	6
87	1107	1	10	7
88	1108	1	10	8
89	1111	1	11	1
90	1112	1	11	2
91	1113	1	11	3
92	1114	1	11	4
93	1115	1	11	5
94	1116	1	11	6
95	1117	1	11	7
96	1118	1	11	8
97	1121	1	12	1
98	1122	1	12	2
99	1123	1	12	3
100	1124	1	12	4
101	1125	1	12	5
102	1126	1	12	6
103	1127	1	12	7
104	1128	1	12	8
105	1131	1	13	1
106	1132	1	13	2

107	1133	1	13	3
108	1134	1	13	4
109	1135	1	13	5
110	1136	1	13	6
111	1137	1	13	7
112	1138	1	13	8
113	1141	1	14	1
114	1142	1	14	2
115	1143	1	14	3
116	1144	1	14	4
117	1145	1	14	5
118	1146	1	14	6
119	1147	1	14	7
120	1148	1	14	8
121	1151	1	15	1
122	1152	1	15	2
123	1153	1	15	3
124	1154	1	15	4
125	1155	1	15	5
126	1156	1	15	6
127	1157	1	15	7
128	1158	1	15	8
129	2001	2	0	1
130	2002	2	0	2
131	2003	2	0	3
132	2004	2	0	4
133	2005	2	0	5
134	2006	2	0	6
135	2007	2	0	7

136	2008	2	0	8
137	2011	2	1	1
138	2012	2	1	2
139	2013	2	1	3
140	2014	2	1	4
141	2015	2	1	5
142	2016	2	1	6
143	2017	2	1	7
144	2018	2	1	8
145	2021	2	2	1
146	2022	2	2	2
147	2023	2	2	3
148	2024	2	2	4
149	2025	2	2	5
150	2026	2	2	6
151	2027	2	2	7
152	2028	2	2	8
153	2031	2	3	1
154	2032	2	3	2
155	2033	2	3	3
156	2034	2	3	4
157	2035	2	3	5
158	2036	2	3	6
159	2037	2	3	7
160	2038	2	3	8
161	2041	2	4	1
162	2042	2	4	2
163	2043	2	4	3
164	2044	2	4	4



165	2045	2	4	5
166	2046	2	4	6
167	2047	2	4	7
168	2048	2	4	8
169	2051	2	5	1
170	2052	2	5	2
171	2053	2	5	3
172	2054	2	5	4
173	2055	2	5	5
174	2056	2	5	6
175	2057	2	5	7
176	2058	2	5	8
177	2061	2	6	1
178	2062	2	6	2
179	2063	2	6	3
180	2064	2	6	4
181	2065	2	6	5
182	2066	2	6	6
183	2067	2	6	7
184	2068	2	6	8
185	2071	2	7	1
186	2072	2	7	2
187	2073	2	7	3
188	2074	2	7	4
189	2075	2	7	5
190	2076	2	7	6
191	2077	2	7	7
192	2078	2	7	8
193	2081	2	8	1

194	2082	2	8	2
195	2083	2	8	3
196	2084	2	8	4
197	2085	2	8	5
198	2086	2	8	6
199	2087	2	8	7
200	2088	2	8	8
201	2091	2	9	1
202	2092	2	9	2
203	2093	2	9	3
204	2094	2	9	4
205	2095	2	9	5
206	2096	2	9	6
207	2097	2	9	7
208	2098	2	9	8
209	2101	2	10	1
210	2102	2	10	2
211	2103	2	10	3
212	2104	2	10	4
213	2105	2	10	5
214	2106	2	10	6
215	2107	2	10	7
216	2108	2	10	8
217	2111	2	11	1
218	2112	2	11	2
219	2113	2	11	3
220	2114	2	11	4
221	2115	2	11	5
222	2116	2	11	6

223	2117	2	11	7
224	2118	2	11	8
225	2121	2	12	1
226	2122	2	12	2
227	2123	2	12	3
228	2124	2	12	4
229	2125	2	12	5
230	2126	2	12	6
231	2127	2	12	7
232	2128	2	12	8
233	2131	2	13	1
234	2132	2	13	2
235	2133	2	13	3
236	2134	2	13	4
237	2135	2	13	5
238	2136	2	13	6
239	2137	2	13	7
240	2138	2	13	8
241	2141	2	14	1
242	2142	2	14	2
243	2143	2	14	3
244	2144	2	14	4
245	2145	2	14	5
246	2146	2	14	6
247	2147	2	14	7
248	2148	2	14	8
249	2151	2	15	1
250	2152	2	15	2
251	2153	2	15	3

252	2154	2	15	4
253	2155	2	15	5
254	2156	2	15	6
255	2157	2	15	7
256	2158	2	15	8
257	3001	3	0	1
258	3002	3	0	2
259	3003	3	0	3
260	3004	3	0	4
261	3005	3	0	5
262	3006	3	0	6
263	3007	3	0	7
264	3008	3	0	8
265	3011	3	1	1
266	3012	3	1	2
267	3013	3	1	3
268	3014	3	1	4
269	3015	3	1	5
270	3016	3	1	6
271	3017	3	1	7
272	3018	3	1	8
273	3021	3	2	1
274	3022	3	2	2
275	3023	3	2	3
276	3024	3	2	4
277	3025	3	2	5
278	3026	3	2	6
279	3027	3	2	7
280	3028	3	2	8

281	3031	3	3	1
282	3032	3	3	2
283	3033	3	3	3
284	3034	3	3	4
285	3035	3	3	5
286	3036	3	3	6
287	3037	3	3	7
288	3038	3	3	8
289	3041	3	4	1
290	3042	3	4	2
291	3043	3	4	3
292	3044	3	4	4
293	3045	3	4	5
294	3046	3	4	6
295	3047	3	4	7
296	3048	3	4	8
297	3051	3	5	1
298	3052	3	5	2
299	3053	3	5	3
300	3054	3	5	4
301	3055	3	5	5
302	3056	3	5	6
303	3057	3	5	7
304	3058	3	5	8
305	3061	3	6	1
306	3062	3	6	2
307	3063	3	6	3
308	3064	3	6	4
309	3065	3	6	5

310	3066	3	6	6
311	3067	3	6	7
312	3068	3	6	8
313	3071	3	7	1
314	3072	3	7	2
315	3073	3	7	3
316	3074	3	7	4
317	3075	3	7	5
318	3076	3	7	6
319	3077	3	7	7
320	3078	3	7	8
321	3081	3	8	1
322	3082	3	8	2
323	3083	3	8	3
324	3084	3	8	4
325	3085	3	8	5
326	3086	3	8	6
327	3087	3	8	7
328	3088	3	8	8
329	3091	3	9	1
330	3092	3	9	2
331	3093	3	9	3
332	3094	3	9	4
333	3095	3	9	5
334	3096	3	9	6
335	3097	3	9	7
336	3098	3	9	8
337	3101	3	10	1
338	3102	3	10	2

339	3103	3	10	3
340	3104	3	10	4
341	3105	3	10	5
342	3106	3	10	6
343	3107	3	10	7
344	3108	3	10	8
345	3111	3	11	1
346	3112	3	11	2
347	3113	3	11	3
348	3114	3	11	4
349	3115	3	11	5
350	3116	3	11	6
351	3117	3	11	7
352	3118	3	11	8
353	3121	3	12	1
354	3122	3	12	2
355	3123	3	12	3
356	3124	3	12	4
357	3125	3	12	5
358	3126	3	12	6
359	3127	3	12	7
360	3128	3	12	8
361	3131	3	13	1
362	3132	3	13	2
363	3133	3	13	3
364	3134	3	13	4
365	3135	3	13	5
366	3136	3	13	6
367	3137	3	13	7

368	3138	3	13	8
369	3141	3	14	1
370	3142	3	14	2
371	3143	3	14	3
372	3144	3	14	4
373	3145	3	14	5
374	3146	3	14	6
375	3147	3	14	7
376	3148	3	14	8
377	3151	3	15	1
378	3152	3	15	2
379	3153	3	15	3
380	3154	3	15	4
381	3155	3	15	5
382	3156	3	15	6
383	3157	3	15	7
384	3158	3	15	8
385	4001	4	0	1
386	4002	4	0	2
387	4003	4	0	3
388	4004	4	0	4
389	4005	4	0	5
390	4006	4	0	6
391	4007	4	0	7
392	4008	4	0	8
393	4011	4	1	1
394	4012	4	1	2
395	4013	4	1	3
396	4014	4	1	4



397	4015	4	1	5
398	4016	4	1	6
399	4017	4	1	7
400	4018	4	1	8
401	4021	4	2	1
402	4022	4	2	2
403	4023	4	2	3
404	4024	4	2	4
405	4025	4	2	5
406	4026	4	2	6
407	4027	4	2	7
408	4028	4	2	8
409	4031	4	3	1
410	4032	4	3	2
411	4033	4	3	3
412	4034	4	3	4
413	4035	4	3	5
414	4036	4	3	6
415	4037	4	3	7
416	4038	4	3	8
417	4041	4	4	1
418	4042	4	4	2
419	4043	4	4	3
420	4044	4	4	4
421	4045	4	4	5
422	4046	4	4	6
423	4047	4	4	7
424	4048	4	4	8
425	4051	4	5	1

426	4052	4	5	2
427	4053	4	5	3
428	4054	4	5	4
429	4055	4	5	5
430	4056	4	5	6
431	4057	4	5	7
432	4058	4	5	8
433	4061	4	6	1
434	4062	4	6	2
435	4063	4	6	3
436	4064	4	6	4
437	4065	4	6	5
438	4066	4	6	6
439	4067	4	6	7
440	4068	4	6	8
441	4071	4	7	1
442	4072	4	7	2
443	4073	4	7	3
444	4074	4	7	4
445	4075	4	7	5
446	4076	4	7	6
447	4077	4	7	7
448	4078	4	7	8
449	4081	4	8	1
450	4082	4	8	2
451	4083	4	8	3
452	4084	4	8	4
453	4085	4	8	5
454	4086	4	8	6

455	4087	4	8	7
456	4088	4	8	8
457	4091	4	9	1
458	4092	4	9	2
459	4093	4	9	3
460	4094	4	9	4
461	4095	4	9	5
462	4096	4	9	6
463	4097	4	9	7
464	4098	4	9	8
465	4101	4	10	1
466	4102	4	10	2
467	4103	4	10	3
468	4104	4	10	4
469	4105	4	10	5
470	4106	4	10	6
471	4107	4	10	7
472	4108	4	10	8
473	4111	4	11	1
474	4112	4	11	2
475	4113	4	11	3
476	4114	4	11	4
477	4115	4	11	5
478	4116	4	11	6
479	4117	4	11	7
480	4118	4	11	8
481	4121	4	12	1
482	4122	4	12	2
483	4123	4	12	3

484	4124	4	12	4
485	4125	4	12	5
486	4126	4	12	6
487	4127	4	12	7
488	4128	4	12	8
489	4131	4	13	1
490	4132	4	13	2
491	4133	4	13	3
492	4134	4	13	4
493	4135	4	13	5
494	4136	4	13	6
495	4137	4	13	7
496	4138	4	13	8
497	4141	4	14	1
498	4142	4	14	2
499	4143	4	14	3
500	4144	4	14	4
501	4145	4	14	5
502	4146	4	14	6
503	4147	4	14	7
504	4148	4	14	8
505	4151	4	15	1
506	4152	4	15	2
507	4153	4	15	3
508	4154	4	15	4
509	4155	4	15	5
510	4156	4	15	6
511	4157	4	15	7
512	4158	4	15	8

## 5.2 Converting from 4-digit to 3-digit output numbers.

### Galaxy Dimension XDriver Output Number Conversion Chart

3 Digit Output Number:	4 Digit Output Number:	Line Number:	RIO Number:	Zone Number on the RIO:
1	1001	1	0	1
2	1002	1	0	2
3	1003	1	0	3
4	1004	1	0	4
5	1011	1	1	1
6	1012	1	1	2
7	1013	1	1	3
8	1014	1	1	4
9	1021	1	2	1
10	1022	1	2	2
11	1023	1	2	3
12	1024	1	2	4
13	1031	1	3	1
14	1032	1	3	2
15	1033	1	3	3
16	1034	1	3	4
17	1041	1	4	1
18	1042	1	4	2
19	1043	1	4	3
20	1044	1	4	4

21	1051	1	5	1
22	1052	1	5	2
23	1053	1	5	3
24	1054	1	5	4
25	1061	1	6	1
26	1062	1	6	2
27	1063	1	6	3
28	1064	1	6	4
29	1071	1	7	1
30	1072	1	7	2
31	1073	1	7	3
32	1074	1	7	4
33	1081	1	8	1
34	1082	1	8	2
35	1083	1	8	3
36	1084	1	8	4
37	1091	1	9	1
38	1092	1	9	2
39	1093	1	9	3
40	1094	1	9	4
41	1101	1	10	1
42	1102	1	10	2
43	1103	1	10	3
44	1104	1	10	4
45	1111	1	11	1
46	1112	1	11	2
47	1113	1	11	3
48	1114	1	11	4
49	1121	1	12	1

50	1122	1	12	2
51	1123	1	12	3
52	1124	1	12	4
53	1131	1	13	1
54	1132	1	13	2
55	1133	1	13	3
56	1134	1	13	4
57	1141	1	14	1
58	1142	1	14	2
59	1143	1	14	3
60	1144	1	14	4
61	1151	1	15	1
62	1152	1	15	2
63	1153	1	15	3
64	1154	1	15	4
65	2001	2	0	1
66	2002	2	0	2
67	2003	2	0	3
68	2004	2	0	4
69	2011	2	1	1
70	2012	2	1	2
71	2013	2	1	3
72	2014	2	1	4
73	2021	2	2	1
74	2022	2	2	2
75	2023	2	2	3
76	2024	2	2	4
77	2031	2	3	1
78	2032	2	3	2

79	2033	2	3	3
80	2034	2	3	4
81	2041	2	4	1
82	2042	2	4	2
83	2043	2	4	3
84	2044	2	4	4
85	2051	2	5	1
86	2052	2	5	2
87	2053	2	5	3
88	2054	2	5	4
89	2061	2	6	1
90	2062	2	6	2
91	2063	2	6	3
92	2064	2	6	4
93	2071	2	7	1
94	2072	2	7	2
95	2073	2	7	3
96	2074	2	7	4
97	2081	2	8	1
98	2082	2	8	2
99	2083	2	8	3
100	2084	2	8	4
101	2091	2	9	1
102	2092	2	9	2
103	2093	2	9	3
104	2094	2	9	4
105	2101	2	10	1
106	2102	2	10	2
107	2103	2	10	3



108	2104	2	10	4
109	2111	2	11	1
110	2112	2	11	2
111	2113	2	11	3
112	2114	2	11	4
113	2121	2	12	1
114	2122	2	12	2
115	2123	2	12	3
116	2124	2	12	4
117	2131	2	13	1
118	2132	2	13	2
119	2133	2	13	3
120	2134	2	13	4
121	2141	2	14	1
122	2142	2	14	2
123	2143	2	14	3
124	2144	2	14	4
125	2151	2	15	1
126	2152	2	15	2
127	2153	2	15	3
128	2154	2	15	4
129	3001	3	0	1
130	3002	3	0	2
131	3003	3	0	3
132	3004	3	0	4
133	3011	3	1	1
134	3012	3	1	2
135	3013	3	1	3
136	3014	3	1	4

137	3021	3	2	1
138	3022	3	2	2
139	3023	3	2	3
140	3024	3	2	4
141	3031	3	3	1
142	3032	3	3	2
143	3033	3	3	3
144	3034	3	3	4
145	3041	3	4	1
146	3042	3	4	2
147	3043	3	4	3
148	3044	3	4	4
149	3051	3	5	1
150	3052	3	5	2
151	3053	3	5	3
152	3054	3	5	4
153	3061	3	6	1
154	3062	3	6	2
155	3063	3	6	3
156	3064	3	6	4
157	3071	3	7	1
158	3072	3	7	2
159	3073	3	7	3
160	3074	3	7	4
161	3081	3	8	1
162	3082	3	8	2
163	3083	3	8	3
164	3084	3	8	4
165	3091	3	9	1

166	3092	3	9	2
167	3093	3	9	3
168	3094	3	9	4
169	3101	3	10	1
170	3102	3	10	2
171	3103	3	10	3
172	3104	3	10	4
173	3111	3	11	1
174	3112	3	11	2
175	3113	3	11	3
176	3114	3	11	4
177	3121	3	12	1
178	3122	3	12	2
179	3123	3	12	3
180	3124	3	12	4
181	3131	3	13	1
182	3132	3	13	2
183	3133	3	13	3
184	3134	3	13	4
185	3141	3	14	1
186	3142	3	14	2
187	3143	3	14	3
188	3144	3	14	4
189	3151	3	15	1
190	3152	3	15	2
191	3153	3	15	3
192	3154	3	15	4
193	4001	4	0	1
194	4002	4	0	2

195	4003	4	0	3
196	4004	4	0	4
197	4011	4	1	1
198	4012	4	1	2
199	4013	4	1	3
200	4014	4	1	4
201	4021	4	2	1
202	4022	4	2	2
203	4023	4	2	3
204	4024	4	2	4
205	4031	4	3	1
206	4032	4	3	2
207	4033	4	3	3
208	4034	4	3	4
209	4041	4	4	1
210	4042	4	4	2
211	4043	4	4	3
212	4044	4	4	4
213	4051	4	5	1
214	4052	4	5	2
215	4053	4	5	3
216	4054	4	5	4
217	4061	4	6	1
218	4062	4	6	2
219	4063	4	6	3
220	4064	4	6	4
221	4071	4	7	1
222	4072	4	7	2
223	4073	4	7	3

224	4074	4	7	4
225	4081	4	8	1
226	4082	4	8	2
227	4083	4	8	3
228	4084	4	8	4
229	4091	4	9	1
230	4092	4	9	2
231	4093	4	9	3
232	4094	4	9	4
233	4101	4	10	1
234	4102	4	10	2
235	4103	4	10	3
236	4104	4	10	4
237	4111	4	11	1
238	4112	4	11	2
239	4113	4	11	3
240	4114	4	11	4
241	4121	4	12	1
242	4122	4	12	2
243	4123	4	12	3
244	4124	4	12	4
245	4131	4	13	1
246	4132	4	13	2
247	4133	4	13	3
248	4134	4	13	4
249	4141	4	14	1
250	4142	4	14	2
251	4143	4	14	3
252	4144	4	14	4

253	4151	4	15	1
254	4152	4	15	2
255	4153	4	15	3
256	4154	4	15	4

## 5.3 Galaxy Configuration and Troubleshooting

### 5.3.1 SIA Configuration

The SIA level can be set as follows:

1. In Engineer Mode access the Menu Item 56 – Communications.
2. Navigate to 6 – Internal RS-232.
3. Navigate to 1 – Mode and set it to Direct.
4. Navigate to 2 – Format and then select SIA and set it to Level 4.

### 5.3.2 Set Events Types

Follow section 5.3.1 and from point 4 you should see an event type (the first on is PA Duress). Set all event types to disabled. There should be around 20 event types.

### 5.3.3 Set Group Mode

The Group Mode can be set as follows:

1. In Engineer Mode access the Menu Item 63 – Options
2. Navigate to 1 – Groups
3. Enable Group Mode

### 5.3.4 Common Problems

- If events are not disabled, then the Galaxy panel can generate serial data which crashes the Smart Driver
- If the installation company have changed the Remote Logon code, then the Smart Driver cannot logon to the panel and cannot communicate. The DEFAULT Remote Logon code is “543210”.
- If the user doesn’t create the Group Set Status (1,1) and Group Alarm Status (2,1) points, then the Input Circuit Alarm Status (5,1, 1) point will not work.
- Check that the onboard RIO switch is in its DEFAULT position. This means that both onboard RIOs are designated to be on line 1.

### 5.3.5 General Configuration and shortcuts

- Enable Engineering Mode, login to keypad using Account/Manager code (default “12345”), access Menu Item 48, then enter 1 – System Access, 1 – Engineer, ENABLE.
- Login Engineering Mode, login to keypad using code (default “112233”).
- To software reset the Galaxy Panel, enter Engineering mode, access Menu Item 51, then select 17 – Restart.

## 5.4 Previous Xdriver History

Previous logs of historical events with previous software solutions:

- GalaxyDimension\_2ndGen\_100001.xdr (4452) - 12/5/11

This version works and is tested with **Dimension Galaxy 24,48 with on board Rio/RS232 port**. The onboard RIO switch must be in its default position. The protocol changes had to be reverse engineered. It was found that when polling for input status, and input alarm status the responses had changed such that there were additional bytes inserted to represent the tamper status of each RIO, and to handle the onboard RIO switch which changes the RIO addresses of the onboard RIOs - see Galaxy panel installation manual. It was also found that the two polls which originally polled for 256 inputs each, now polled for 0-272, and 273-520. The input addresses only work correctly when the onboard RIO switch is in its default setting.

- GalaxyDimension\_2ndGen\_100002.xdr (829F) - 16/04/14

This version addresses an issue with param 2 being limited to 256, The fix was to use the saved value rather than the passed in param value.

## 5.5 SmartDriver Enhancements

- Enhanced logging, using the EBO logging level to increase the amount of information logged to the SmartDriver logfile.
- Logging has been added to the DoWrite function, so we now log the messages sent to the Galaxy panel
- SET\_GROUP\_COMMAND has been corrected so (2,1) and (5,1,1) points now work when (6,1) command point is set. Also note that the ZAS function has correct code to report the status of the zone as well as the group status.
- Offline reporting of communications status updated to remove continuous alarming of offline condition.
- Support added for Schedule binding to command points. (Available on build 1.0.0.7 onwards). Please note the new parameters for the SmartDriver Output points that can be bound to EcoStruxure Schedules.
- Fix added in build 1.0.0.14 to allow Group Commands to work with groups higher than group 9.
- Zone Omit statuses are updated in build 1.0.0.14 using Zone Omit groups rather than individual Zone omit statuses. This build gets the Zone Omit Statuses from the Galaxy panel as quickly as the panel can supply these status values.



## 6 References

Galaxy SIA Protocol REV 1.01.- Schneider Electric.pdf

Galaxy Dimension Quick Start Guide.pdf

Galaxy\_2\_user\_manual.pdf

# 7 Revision History

Doc Version	Date	Assembly File Details	Description	Author
0.0.0.0	24 <sup>th</sup> May 2018		Initial document creation	P. Rawlingson
0.0.0.1	8 <sup>th</sup> March 2021		Update to document	G. Le Lorrain
0.0.0.2	20 <sup>th</sup> April 2021		Added valued information around installation and configuration	G. Le Lorrain
0.0.0.3	24 March 2022		Updates to document	P. Rawlingson
0.0.0.4	Dec 2022		Added schedule binding information for commands	P. Rawlingson