### Bolt Luminaire DMX Control Protocol *

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| 9    | Full Speed Control | Indexed |
|      |                   | 0 15 0% 6% 00h 0Fh |
|      | Forward Spin      | 16 31 6% 12% 10h 1Fh |
|      | Reverse Spin      | 32 47 13% 18% 20h 2Fh |
|      | Continuous        | 48 63 19% 25% 30h 3Fh |
|      | Slow Scan         | 64 79 25% 31% 40h 4Fh |
|      | Fast Scan         | 80 95 31% 37% 50h 5Fh |
|      | Random            | 96 111 38% 44% 60h 6Fh |
|      | Blink             | 112 127 44% 50% 70h 7Fh |
|      | Indexed, Scan & Blink modes |  |
|      | Position 1 (Open) | 0 15 0% 6% 00h 0Fh |
|      | Position 2 (Psy-Dye) | 16 47 6% 18% 10h 2Fh |
|      | Position 3 (Gatlin Red) | 48 79 19% 31% 30h 4Fh |
|      | Position 4 (Techno Wedge) | 80 111 31% 44% 50h 6Fh |
|      | Position 5 (Instars) | 112 143 31% 44% 60h 8Fh |
|      | Position 6 (Paper Stack) | 144 159 56% 62% 70h 9Fh |
|      | Position 7 (Framed) | 176 207 63% 75% B0h BFh |
|      | Position 8 (Framed) | 208 223 82% 87% D0h DFh |
|      | Position 1 (Open) | 224 255 88% 100% E0h FFh |
|      | Blink | 240 255 94% 100% F0h FFh |

| 10   | Slowest to fastest | Full Speed Control | Indexed |
|      |                   |                   | 0 15 0% 6% 00h 0Fh |
|      | Rotate Stop       | Reverse Rotate    | 16 31 6% 12% 10h 1Fh |
|      |                   | Blink             | 32 47 13% 18% 20h 2Fh |
|      | Reserve           | 48 63 19% 25% 30h 3Fh |
|      | Forward Animate Rotate | 64 79 25% 31% 40h 4Fh |
|      | Reverse Animate Rotate | 80 95 31% 37% 50h 5Fh |
|      | Reserved          | 96 127 38% 50% 60h 7Fh |
|      | Indexed, Scan & Blink modes |  |
|      | Position 1 (Open) | 0 15 0% 6% 00h 0Fh |
|      | Position 2 (Psy-Dye) | 16 47 6% 18% 10h 2Fh |
|      | Position 3 (Gatlin Red) | 48 79 19% 31% 30h 4Fh |
|      | Position 4 (Techno Wedge) | 80 111 31% 44% 50h 6Fh |
|      | Position 5 (Instars) | 112 143 31% 44% 60h 8Fh |
|      | Position 6 (Paper Stack) | 144 159 56% 62% 70h 9Fh |
|      | Position 7 (Framed) | 176 207 63% 75% B0h BFh |
|      | Position 8 (Framed) | 208 223 82% 87% D0h DFh |
|      | Position 1 (Open) | 224 255 88% 100% E0h FFh |
|      | Blink | 240 255 94% 100% F0h FFh |

| 11   | Reverse Rotate    | Indexed |
|      |                   | 0 15 0% 6% 00h 0Fh |
|      | Forward Animate Rotate | 16 31 6% 12% 10h 1Fh |
|      | Reverse Animate Rotate | 32 47 13% 18% 20h 2Fh |
|      | Blink             | 48 63 19% 25% 30h 3Fh |
|      | Forward Animate Rotate | 64 79 25% 31% 40h 4Fh |
|      | Reverse Animate Rotate | 80 95 31% 37% 50h 5Fh |
|      | Reserved          | 96 127 38% 50% 60h 7Fh |
|      | Indexed, Scan & Blink modes |  |
### Rotating Gobo

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**Forward/Reverse/Forward Strobe/Reverse Strobe Rotate Modes**

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### Focus

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### Iris

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### Shutter

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### Dim High

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<td>17</td>
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<td>On 100% in Standard Protocol</td>
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### Dim Low

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<td>Dim Fine in Enhanced Protocol</td>
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### Mspeed

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<tr>
<td>18</td>
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<td>Longest (252.7 seconds)</td>
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<td>Shortest (0.15 seconds)</td>
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### Macro

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<td>Tilt Sweep, small to large</td>
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<td>Counterclockwise Circle, small to large</td>
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<td>Reserved. Macro off</td>
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### Control

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<tr>
<td>20</td>
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<td>Control</td>
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<td>Safe (normal operation)</td>
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<td>Pan &amp; Tilt Mspeed Off</td>
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<td>Display Off (send 20 packets)</td>
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<td>Display On (send 20 packets)</td>
</tr>
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<td>Home All (send 20 packets)</td>
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<td>Shutdown (send 80 packets)</td>
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**NOTES**

- **Note 1** Dim Low is only used in Standard Protocol.
- **Note 2** The pan and tilt coarse channels set the center position of the position macro. The Mspeed channel is used to control the speed of the macros.
  0-4 Default speed of 2.5 seconds.
  5-255 Minimum speed of 1/2 second with a maximum of 25 seconds.
  With the Mspeed set at the default value of DMX 0-4 all internal effects complete moves at approx. 2.5 seconds.
  This provides a pleasing look for customers not wanting the additional variation given by using the Mspeed channel.
  With Mspeed set between DMX 5-255 all internal effects complete moves at selected Mspeed time (up to 25 secs).
  Those fixture types that support On Board Programming also support the Internal Effects as part of the On Board programming features. The Internal Effects will operate as an additional programming parameter labeled MACR.
- **Note 3** Control channel should return to Safe after issuing of the desired command.

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