

## UPB - (Individual Lighting Loads and Links)

**UPB** is a form of Powerline Communications "PLC" technology for communicating to light switches and scene switches. A UPB Communications Interface Module "CIM" is required for interfacing with the ELK-M1XSP, and then into the M1 line of controls. The M1XSP supports 192 UPB individual addresses (dimmers, switches) and 64 UPB Links (scenes).

Integration with the M1 is accomplished by "mapping" the UPB addresses and operation to M1 Lighting devices. For example: UPB individual addresses 1-192 are mapped to M1 Lighting devices 1-192. UPB Links 1-64 are mapped to M1 Lighting devices 193-256. NOTE: Links require M1XSP firmware version 1.0.14 or higher. The chart on the next page shows the M1 Lighting devices and their corresponding UPB device mapping.

### Components required for UPB integration:

- An ELK-M1 or ELK-M1EZ8 Controller.
- One (1) ELK-M1XSP Serial Port Expander. NOTE: Firmware updates may be downloaded from the ELK M1 Dealer Web site.
- One (1) UPB Computer Interface Module "CIM".
- One or more UPB Lighting devices.

### Limitations:

UPB modules will not send their recent status changes in response to link commands. Therefore, the status displayed by the M1 Controller may not always match the true status of UPB devices if they have been controlled by a Link command.

### Setting up the M1XSP and the M1 to communicate with UPB

1. Install the ELK-M1XSP per the instructions on page 3. Be sure to enroll the device into the M1.
2. Connect the female end of the supplied 9-pin serial cable to the M1XSP and the male end to the UPB Computer Interface Module "CIM".
3. Set the **MODE** Jumpers on the M1XSP as follows: **S4\*="1" (UP), S5="1" (UP), S6="1" (UP), S7="0" (DN), S8="1" (UP)**.  
NOTE: Some units do not have jumper S4.
4. Set the M1XSP Jumper **JP3="232"**. Set **JP5** to **ON**. The position of BAUD jumpers S1,S2,S3 does not matter.
5. Power up all the devices.
6. Using the ElkRP software, open the "Globals" folder. Then go to the "G29-G42 Special" tab and program the same unique UPB NETWORK ID into the M1 that is stored in the UPB switches. **DO NOT USE NETWORK ID 0 OR 255 AS THESE ID HAVE SPECIAL PURPOSE RESERVED BY UPB.**
7. Using the ElkRP software, open the "Automation/Lighting" folder and program the M1 Lighting device attributes. Only the specific devices to be used for UPB need to be programmed. For individual addresses program M1 Lighting devices: **1-192 "Format=Serial Expander" and "Type= Dimmer" (Type may also be programmed as "On/Off Switch" if the device isn't dimmable)**. For the link addresses program M1 Lighting devices: **193-256 as "Format= Serial Expander", "Type=On/Off Switch"**.

When a M1 Light device is activated from a rule or from the M1 Keypad "Automation" menu, the corresponding device command will be sent from the M1XSP to the UPB CIM.

### Programming the UPB devices:

Use the UPB UPStart Software to program the UPB modules with an address, network ID, and any other options. In order to receive "Load Status" changes from the UPB devices, make sure to program their option bit "Transmit Changes".

**IMPORTANT: The same unique UPB NETWORK ID programmed and stored in the UPB switches must also be programmed into the M1 using the ElkRP software. DO NOT USE NETWORK ID 0 or Network ID 255.** Refer to the ElkRP software, "Globals" folder, "G29-G42 Special" tab.

UPB - (continued)

| M1 Lighting Devices Mapped to UPB |                 |           |                    |                 |            |                    |                 |            |                    |                 | The PLC column is for reference only. |
|-----------------------------------|-----------------|-----------|--------------------|-----------------|------------|--------------------|-----------------|------------|--------------------|-----------------|---------------------------------------|
| ELK Light Device #                | PLC (X-10) Ref. | UPB       | ELK Light Device # | PLC (X-10) Ref. | UPB        | ELK Light Device # | PLC (X-10) Ref. | UPB        | ELK Light Device # | PLC (X-10) Ref. | UPB                                   |
| 1                                 | A01             | Switch 1  | 65                 | E01             | Switch 65  | 129                | I01             | Switch 129 | 193                | M01             | Link (Scene) 01                       |
| 2                                 | A02             | Switch 2  | 66                 | E02             | Switch 66  | 130                | I02             | Switch 130 | 194                | M02             | Link (Scene) 02                       |
| 3                                 | A03             | Switch 3  | 67                 | E03             | Switch 67  | 131                | I03             | Switch 131 | 195                | M03             | Link (Scene) 03                       |
| 4                                 | A04             | Switch 4  | 68                 | E04             | Switch 68  | 132                | I04             | Switch 132 | 196                | M04             | Link (Scene) 04                       |
| 5                                 | A05             | Switch 5  | 69                 | E05             | Switch 69  | 133                | I05             | Switch 133 | 197                | M05             | Link (Scene) 05                       |
| 6                                 | A06             | Switch 6  | 70                 | E06             | Switch 70  | 134                | I06             | Switch 134 | 198                | M06             | Link (Scene) 06                       |
| 7                                 | A07             | Switch 7  | 71                 | E07             | Switch 71  | 135                | I07             | Switch 135 | 199                | M07             | Link (Scene) 07                       |
| 8                                 | A08             | Switch 8  | 72                 | E08             | Switch 72  | 136                | I08             | Switch 136 | 200                | M08             | Link (Scene) 08                       |
| 9                                 | A09             | Switch 9  | 73                 | E09             | Switch 73  | 137                | I09             | Switch 137 | 201                | M09             | Link (Scene) 09                       |
| 10                                | A10             | Switch 10 | 74                 | E10             | Switch 74  | 138                | I10             | Switch 138 | 202                | M10             | Link (Scene) 10                       |
| 11                                | A11             | Switch 11 | 75                 | E11             | Switch 75  | 139                | I11             | Switch 139 | 203                | M11             | Link (Scene) 11                       |
| 12                                | A12             | Switch 12 | 76                 | E12             | Switch 76  | 140                | I12             | Switch 140 | 204                | M12             | Link (Scene) 12                       |
| 13                                | A13             | Switch 13 | 77                 | E13             | Switch 77  | 141                | I13             | Switch 141 | 205                | M13             | Link (Scene) 13                       |
| 14                                | A14             | Switch 14 | 78                 | E14             | Switch 78  | 142                | I14             | Switch 142 | 206                | M14             | Link (Scene) 14                       |
| 15                                | A15             | Switch 15 | 79                 | E15             | Switch 79  | 143                | I15             | Switch 143 | 207                | M15             | Link (Scene) 15                       |
| 16                                | A16             | Switch 16 | 80                 | E16             | Switch 80  | 144                | I16             | Switch 144 | 208                | M16             | Link (Scene) 16                       |
| 17                                | B01             | Switch 17 | 81                 | F01             | Switch 81  | 145                | J01             | Switch 145 | 209                | N01             | Link (Scene) 17                       |
| 18                                | B02             | Switch 18 | 82                 | F02             | Switch 82  | 146                | J02             | Switch 146 | 210                | N02             | Link (Scene) 18                       |
| 19                                | B03             | Switch 19 | 83                 | F03             | Switch 83  | 147                | J03             | Switch 147 | 211                | N03             | Link (Scene) 19                       |
| 20                                | B04             | Switch 20 | 84                 | F04             | Switch 84  | 148                | J04             | Switch 148 | 212                | N04             | Link (Scene) 20                       |
| 21                                | B05             | Switch 21 | 85                 | F05             | Switch 85  | 149                | J05             | Switch 149 | 213                | N05             | Link (Scene) 21                       |
| 22                                | B06             | Switch 22 | 86                 | F06             | Switch 86  | 150                | J06             | Switch 150 | 214                | N06             | Link (Scene) 22                       |
| 23                                | B07             | Switch 23 | 87                 | F07             | Switch 87  | 151                | J07             | Switch 151 | 215                | N07             | Link (Scene) 23                       |
| 24                                | B08             | Switch 24 | 88                 | F08             | Switch 88  | 152                | J08             | Switch 152 | 216                | N08             | Link (Scene) 24                       |
| 25                                | B09             | Switch 25 | 89                 | F09             | Switch 89  | 153                | J09             | Switch 153 | 217                | N09             | Link (Scene) 25                       |
| 26                                | B10             | Switch 26 | 90                 | F10             | Switch 90  | 154                | J10             | Switch 154 | 218                | N10             | Link (Scene) 26                       |
| 27                                | B11             | Switch 27 | 91                 | F11             | Switch 91  | 155                | J11             | Switch 155 | 219                | N11             | Link (Scene) 27                       |
| 28                                | B12             | Switch 28 | 92                 | F12             | Switch 92  | 156                | J12             | Switch 156 | 220                | N12             | Link (Scene) 28                       |
| 29                                | B13             | Switch 29 | 93                 | F13             | Switch 93  | 157                | J13             | Switch 157 | 221                | N13             | Link (Scene) 29                       |
| 30                                | B14             | Switch 30 | 94                 | F14             | Switch 94  | 158                | J14             | Switch 158 | 222                | N14             | Link (Scene) 30                       |
| 31                                | B15             | Switch 31 | 95                 | F15             | Switch 95  | 159                | J15             | Switch 159 | 223                | N15             | Link (Scene) 31                       |
| 32                                | B16             | Switch 32 | 96                 | F16             | Switch 96  | 160                | J16             | Switch 160 | 224                | N16             | Link (Scene) 32                       |
| 33                                | C01             | Switch 33 | 97                 | G01             | Switch 97  | 161                | K01             | Switch 161 | 225                | O01             | Link (Scene) 33                       |
| 34                                | C02             | Switch 34 | 98                 | G02             | Switch 98  | 162                | K02             | Switch 162 | 226                | O02             | Link (Scene) 34                       |
| 35                                | C03             | Switch 35 | 99                 | G03             | Switch 99  | 163                | K03             | Switch 163 | 227                | O03             | Link (Scene) 35                       |
| 36                                | C04             | Switch 36 | 100                | G04             | Switch 100 | 164                | K04             | Switch 164 | 228                | O04             | Link (Scene) 36                       |
| 37                                | C05             | Switch 37 | 101                | G05             | Switch 101 | 165                | K05             | Switch 165 | 229                | O05             | Link (Scene) 37                       |
| 38                                | C06             | Switch 38 | 102                | G06             | Switch 102 | 166                | K06             | Switch 166 | 230                | O06             | Link (Scene) 38                       |
| 39                                | C07             | Switch 39 | 103                | G07             | Switch 103 | 167                | K07             | Switch 167 | 231                | O07             | Link (Scene) 39                       |
| 40                                | C08             | Switch 40 | 104                | G08             | Switch 104 | 168                | K08             | Switch 168 | 232                | O08             | Link (Scene) 40                       |
| 41                                | C09             | Switch 41 | 105                | G09             | Switch 105 | 169                | K09             | Switch 169 | 233                | O09             | Link (Scene) 41                       |
| 42                                | C10             | Switch 42 | 106                | G10             | Switch 106 | 170                | K10             | Switch 170 | 234                | O10             | Link (Scene) 42                       |
| 43                                | C11             | Switch 43 | 107                | G11             | Switch 107 | 171                | K11             | Switch 171 | 235                | O11             | Link (Scene) 43                       |
| 44                                | C12             | Switch 44 | 108                | G12             | Switch 108 | 172                | K12             | Switch 172 | 236                | O12             | Link (Scene) 44                       |
| 45                                | C13             | Switch 45 | 109                | G13             | Switch 109 | 173                | K13             | Switch 173 | 237                | O13             | Link (Scene) 45                       |
| 46                                | C14             | Switch 46 | 110                | G14             | Switch 110 | 174                | K14             | Switch 174 | 238                | O14             | Link (Scene) 46                       |
| 47                                | C15             | Switch 47 | 111                | G15             | Switch 111 | 175                | K15             | Switch 175 | 239                | O15             | Link (Scene) 47                       |
| 48                                | C16             | Switch 48 | 112                | G16             | Switch 112 | 176                | K16             | Switch 176 | 240                | O16             | Link (Scene) 48                       |
| 49                                | D01             | Switch 49 | 113                | H01             | Switch 113 | 177                | L01             | Switch 177 | 241                | P01             | Link (Scene) 49                       |
| 50                                | D02             | Switch 50 | 114                | H02             | Switch 114 | 178                | L02             | Switch 178 | 242                | P02             | Link (Scene) 50                       |
| 51                                | D03             | Switch 51 | 115                | H03             | Switch 115 | 179                | L03             | Switch 179 | 243                | P03             | Link (Scene) 51                       |
| 52                                | D04             | Switch 52 | 116                | H04             | Switch 116 | 180                | L04             | Switch 180 | 244                | P04             | Link (Scene) 52                       |
| 53                                | D05             | Switch 53 | 117                | H05             | Switch 117 | 181                | L05             | Switch 181 | 245                | P05             | Link (Scene) 53                       |
| 54                                | D06             | Switch 54 | 118                | H06             | Switch 118 | 182                | L06             | Switch 182 | 246                | P06             | Link (Scene) 54                       |
| 55                                | D07             | Switch 55 | 119                | H07             | Switch 119 | 183                | L07             | Switch 183 | 247                | P07             | Link (Scene) 55                       |
| 56                                | D08             | Switch 56 | 120                | H08             | Load 120   | 184                | L08             | Switch 184 | 248                | P08             | Link (Scene) 56                       |
| 57                                | D09             | Switch 57 | 121                | H09             | Load 121   | 185                | L09             | Switch 185 | 249                | P09             | Link (Scene) 57                       |
| 58                                | D10             | Switch 58 | 122                | H10             | Load 122   | 186                | L10             | Switch 186 | 250                | P10             | Link (Scene) 58                       |
| 59                                | D11             | Switch 59 | 123                | H11             | Load 123   | 187                | L11             | Switch 187 | 251                | P11             | Link (Scene) 59                       |
| 60                                | D12             | Switch 60 | 124                | H12             | Load 124   | 188                | L12             | Switch 188 | 252                | P12             | Link (Scene) 60                       |
| 61                                | D13             | Switch 61 | 125                | H13             | Load 125   | 189                | L13             | Switch 189 | 253                | P13             | Link (Scene) 61                       |
| 62                                | D14             | Switch 62 | 126                | H14             | Load 126   | 190                | L14             | Switch 190 | 254                | P14             | Link (Scene) 62                       |
| 63                                | D15             | Switch 63 | 127                | H15             | Load 127   | 191                | L15             | Switch 191 | 255                | P15             | Link (Scene) 63                       |
| 64                                | D16             | Switch 64 | 128                | H16             | Load 128   | 192                | L16             | Switch 192 | 256                | P16             | ** Link (Scene) 64 Alarm Flash        |

\*\* Link (Scene) 64: When this link is activated from the M1, the M1 will automatically send a special "flash" command. All devices are programmed to respond to Link 64 will immediately begin flashing until the link is de-activated (turned off) from the M1.