PHILIPS



# DyNet Opcodes

PHILIPS dynalite

Below is a listing of some common DyNet Opcodes, for use by integration programmers wanting to connect to a Dynalite system:

**Interface**
Use RS485, 9600, 8 bit data, 1 start bit, 1 stop bit, no parity. Idle between Bytes to be < 1ms. Delay between Packets to be > 10ms.

**Logical Message Protocol**
8Byte packet, Checksum = Negative 8 bit 2's complement sum of Bytes 1-7. All numbers in hexadecimal:

**Select Current Preset**
Byte 0: 1C hex
Byte 1: Area
Byte 2: Fade Rate low Byte (usually 100)
Byte 3: Preset: 0 = P1, 1 = P2, 2 = P3, 3 = P4, A = P5, B = P6, C = P7, D = P8
Byte 4: Fade Rate high Byte (usually 0)
Byte 5: Preset Bank: 0 = P1 – P8, 1 = P9 – P16, 2 = P17 – P24 etc.
Byte 6: Join
Byte 7: Checksum
Example: Select Preset 4 in Area 1:
[1C] [01] [20] [03] [00] [00] [FF] [C1]

**Set to Off**
Byte 0 1C hex
Byte 1 Area
Byte 2 Fade Rate low Byte (usually 100)
Byte 3 4
Byte 4 Fade Rate high Byte (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Turn Area 1 Off:
[1C] [03] [0A] [04] [00] [00] [FF] [D4]

**Decrement Level (sent to dimmers)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Fade Rate low Byte (usually 100)
Byte 3 5
Byte 4 Fade Rate high Byte (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Decrease the level of Area 3:
[1C] [03] [1F] [05] [00] [00] [FF] [BE]

**Increment Level (sent to dimmers)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Fade Rate low Byte (usually 100)
Byte 3 6
Byte 4 Fade Rate high Byte (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Decrease the level of Area 3:
[1C] [03] [1F] [06] [00] [00] [FF] [BD]

**Save Current Preset**
Byte 0 - 1C
Byte 1 - Area
Byte 2 - Not used
Byte 3 - Opcode $66
Byte 4 - Not used
Byte 5 - Not used
Byte 6 - Join or Domain
Byte 7 - Checksum
Example: Save Current Preset in Area 1:
[1C] [01] [00] [66] [00] [00] [FF] [7E]

**Restore Saved Preset**

Byte 0 - 1C
Byte 1 - Area
Byte 2 - Fade - low Byte
Byte 3 - Opcode 67
Byte 4 - Fade - high Byte
Byte 5 - Not used
Byte 6 - Join or Domain
Byte 7 - Checksum
Example: Restore Saved Preset in Area 1:
[1C] [01] [FA] [67] [00] [00] [FF] [83]

**Preset Offset**
Byte 0 - 1C
Byte 1 - Area
Byte 2 - Data - Offset value plus Bit 8 set, to distinguish Preset Offset from Swap Bank
Byte 3 - Opcode $64
Byte 4 - Not used
Byte 5 - Not used
Byte 6 - Join or Domain
Byte 7 - Checksum
Example: Preset Offset of 15 in Area 1:
[1C] [01] [8F] [64] [00] [00] [FF] [F1]

**Reset Preset**
Byte 0 - 1C
Byte 1 - Area
Byte 2 - Fade - low Byte
Byte 3 - Opcode $0F
Byte 4 - Fade - high Byte
Byte 5 - Not used
Byte 6 - Join or Domain
Byte 7 - Checksum
Example: Reset Preset in Area 1 over 5 seconds:
[1C] [01] [FA] [0F] [00] [00] [FF] [DB]

**Area Linking**
The Base Area acts like an Area 0 for all Channels that have that Base Area defined, and is useful as a global control for a block of Areas. The following is for the 24 Areas directly above the Base Area, as used by the Set Area Links and Clear Area Links messages:
Byte 2 Bit 7 is the 1st Area, and Bit 0 is 8th
Byte 4 Bit 7 is the 9th, and Bit 0 is the 16th
Byte 5 Bit 7 is the 17th, and Bit 0 is the 24th

**Set Area Links:**
Byte 0 - 1C
Byte 1 - Area
Byte 2 - Data - Areas to Link
Byte 3 - Opcode $20
Byte 4 - Data - Areas to Link
Byte 5 - Data - Areas to Link
Byte 6 - Join
Byte 7 - Checksum
Example: Link Areas 4 & 5 (assumes Base Area = 3):
[1C] [04] [80] [20] [00] [00] [FF] [C0]

**Clear Area Links**
Byte 0 - 1C
Byte 1 - Area
Byte 2 - Data - Areas to Unlink
Byte 3 - Opcode $21
Byte 4 - Data - Areas to Unlink
Byte 5 - Data - Areas to Unlink
Byte 6 - Join
Byte 7 - Checksum
Example: Separate Areas 4 & 5 (assumes Base Area = 3):
[1C] [04] [80] [21] [00] [00] [FF] [C0]

**Un Panic**
Clears panic condition (Unlocks Smart Panels & restores previous dimmer Preset)
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused(usually 0)
Byte 3 18 hex
Byte 4 Unused(usually 0)
Byte 5 Unused(usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Restore normal operation in Area 2:
[1C] [02] [F0] [18] [00] [00] [FF] [DB]

**Panic**

Sets panic condition (Locks Smart Panels & selects dimmer Panic Preset)
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused(usually 0)
Byte 3 17 hex
Byte 4 Unused(usually 0)
Byte 5 Unused(usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Select Panic Mode in Area 2:
[1C] [02] [F0] [17] [00] [00] [FF] [DC]

**Request Channel Level (sent to dimmer)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 61 hex
Byte 4 Unused(usually 0)
Byte 5 Unused(usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Request Level of Channel 5 (Area 2):
[1C] [02] [04] [61] [00] [00] [FF] [7E]

**Report Channel Level (reply from dimmer)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 60 hex
Byte 4 Target LEVEL (01 = 100%, FF = 0%)
Byte 5 Current LEVEL (01 = 100%, FF = 0%)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Report that Channel 5 (Area 2) Target Level is 58% & Current Level is 58%:
[1C] [02] [04] [60] [70] [70] [FF] [9F]

**Start Fading To A Level (0.1 sec to 25.5 sec)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 71 hex
Byte 4 CHANNEL LEVEL (01 = 100%, FF = 0%)
Byte 5 Fade Rate (0.1 sec INTERVAL)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Area 2 Channel 3 Fade to 50% over 5 seconds:
[1C] [02] [02] [71] [82] [32] [FF] [BC]

**Start Fading to a Level (1 sec to 255 sec)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 72 hex
Byte 4 CHANNEL LEVEL (01 = 100%, FF = 0%)
Byte 5 Fade Rate (1 sec INTERVAL)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Area 2 Channel 3 Fade to 50% over 50 seconds:
[1C] [02] [02] [72] [82] [32] [FF] [BB]

**Start Fading to a Level (1 min to 22 min)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 73 hex
Byte 4 CHANNEL LEVEL (01 = 100%, FF = 0%)
Byte 5 Fade Rate (1 min INTERVAL, max of 22)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Area 2 Channel 3 Fade to 50% over 15 minutes:
[1C] [02] [02] [73] [82] [0f] [FF] [DD]

**Stop Fading**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 76 hex
Byte 4 Unused (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Area 4 Channel 6 Stop Fading:
[1C] [04] [05] [76] [00] [00] [FF] [66]

**Report Preset (reply from dimmers - response from 63 message)**

Byte 0 1C hex
Byte 1 AREA
Byte 2 PRESET NUMBER (0 origin)
Byte 3 62 hex
Byte 4 Unused(usually 0)
Byte 5 Unused(usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Area 4 is currently in Preset 6:
[1C] [04] [05] [62] [00] [00] [FF] [7A]

**Request Preset (sent to dimmers)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused(usually 0)
Byte 3 63 hex
Byte 4 Unused(usually 0)
Byte 5 Unused(usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Request Current Preset of Area 4:
[1C] [04] [00] [63] [00] [00] [FF] [7E]

**Start Fading to A Level (All Channels in an Area)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 LEVEL (01 = 100%, FF = 0%)
Byte 3 79 hex
Byte 4 Fade Rate low Byte (usually 100)
Byte 5 Fade Rate high Byte (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Fade Area 4 to 50% over 2 sec:
[1C] [04] [82] [79] [64] [00] [FF] [82]

**Stop Fading (All Channels In An Area)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused (usually 0)
Byte 3 7A hex
Byte 4 Unused (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Halt the Fade in Area 4 at the current level:
[1C] [04] [00] [7A] [00] [00] [FF] [67]

**Toggle Channel State(Preset • Off or Off • Preset)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 CHANNEL NUMBER (0 origin)
Byte 3 70 hex
Byte 4 UNUSED (usually 0)
Byte 5 UNUSED (usually 0)
Byte 6 TBAR (usually FF hex)
Byte 7 CHECKSUM
Example: Toggle Channel State of Area 4 CH8:
[1C] [07] [09] [70] [00] [00] [FF] [65]

**Program Toggle Preset (sent to dimmer)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Channel Number (0 origin)
Byte 3 7D hex
Byte 4 LEVEL
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Save the Level of Area 4 CH8 to the Toggle Preset:
[1C] [07] [09] [70] [00] [00] [FF] [65]

**Leave Program Mode - Saves light level to the current Preset (sent to dimmers)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused (usually 0)
Byte 3 8
Byte 4 Unused (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Save the Current Channel Levels of Area 4 to the Current Preset:
[1C] [04] [00] [08] [00] [00] [FF] [D9]

**Lock Control Panels (sent to dimmers with Keyboard inputs and Smart Panels)**

Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused (usually 0)
Byte 3 15
Byte 4 Unused (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Lock All Control Panels in Area 6:
[1C] [06] [00] [15] [00] [00] [FF] [CA]

**Unlock Control Panels (sent to dimmers with Keyboard inputs and Smart Panels)**
Byte 0 1C hex
Byte 1 AREA
Byte 2 Unused (usually 0)
Byte 3 15
Byte 4 Unused (usually 0)
Byte 5 Unused (usually 0)
Byte 6 Join (usually FF hex)
Byte 7 Checksum
Example: Lock All Control Panels in Area 6:
[1C] [06] [00] [16] [00] [00] [FF] [C9]

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