



DOMOSAPIENS AMBIENT LIGHT MONITOR DRIVER

This driver enables you to leverage the ambient light sensors included with newer (GEN3) Control4 keypads, dimmers and switches.

Specifically, the following functions are available:

- Monitoring ambient light using a Control4 keypad/dimmer/switch device with an ambient light sensor
- The ability to set the limits of three flexible ambient lighting zones: 'Dark', 'Medium' and 'Bright'
- Output contacts and event triggers are available based on the current ambient lighting zone
- Programming events are available based on the current ambient lighting zone
- The ability to ignore rapid ambient lighting transitions by using a 'Transition Delay'
- The ability to disable the output contacts and events if one or more specific lights/televisions/projectors are On
- ****NEW**** The ability to force the Output (Source) AMBIENT_LEVEL to manually control LED intensity of connected Control4 devices.

VERY IMPORTANT NOTE: using this driver could potentially cause increased ZigBee traffic as connected keypads report on their Ambient Light Level. The driver does not control when connected devices send ZigBee messages to report Ambient Light levels. You should therefore avoid using too many instances of this driver in your project (3 to 6 instances could be a maximum). Use only the minimum number required for your primary objective(s), such as detecting daylight, for example, in one or a few key areas of the house. In this case, one instance of this driver could be enough, connected to a strategically located keypad. Extensive reporting is available from this driver to evaluate the impacts and help monitor your installation.

INSTRUCTIONS

- Use the free trial period or activate the driver at any time by assigning to this project the license you purchased from the DriverCentral website (requires the DriverCentral cloud driver).
- ****NEW**** Connect the driver's Input (Follower) AMBIENT_LEVEL binding to a compatible Control4 device. The driver's Output (Source) AMBIENT_LEVEL binding will normally mirror the information received on the Input binding. You may however force the Output AMBIENT_LEVEL to a specific value (0-255) in order to manually control the LED level of specific compatible Control4 devices. A programming command is provided for this purpose and a separate programming command is provided for re-establish mirroring. **NOTE:** if you only wish to use this driver to force the Output AMBIENT_LEVEL, you do not need to connect its AMBIENT_LEVEL input.
- After observing the characteristics (Ambient Light Level) of your connected sensor based on various lighting conditions (outdoor, room light, etc.), determine your strategy for using this driver as well as the appropriate values for the Bright and Dark zone thresholds (the Medium zone is de facto defined). Use the Action 'Print Weekly Level Report' as required.

- The default Minimum Zone Transition Delay is generally appropriate. Adjust as required.
- Optionally select Disabling Light Sources, as a light source being turned On near the light sensor may interfere with the logic you have selected. Televisions and projectors may also be selected.
- Optionally connect the driver's output Contact Sensors to other driver(s) where they may serve as triggers.
- **Programming Note:** the variable CURRENT_ZONE may be 'DARK', 'MEDIUM', 'BRIGHT' or 'DISABLED'. It is set to 'NONE' when the sensor is disconnected from the driver. Also monitor the variable 'CURRENTLY_DISABLED'. The AMBIENT_LEVEL variable is always kept up to date.
- To help in determining the Zone thresholds, the driver accumulates statistics for the last 7 full days. This is available with the Action '*Print Weekly Level Report*'. Statistics are presented by hour and include the minimum and maximum ambient light levels measured during the period with the weighted average, as well as separate readings when any Disabling Light Source (DLS) is On. Since V10.1.0, printing the report no longer clears the weekly log.
- To help in evaluating the impact of Ambient Light ZigBee messages sent by keypads/dimmers/switches connected to instances of this driver, run the Action '*Print ZigBee Report*'. If you find hours where the total message frequency is one per 5 seconds or less, then you likely have too many instances of this driver and it could have an adverse effect on your ZigBee mesh. It is then **strongly recommended** to reduce the number of instances of this driver.

PROPERTIES

- **Cloud Status** displays the status of the DriverCentral license or trial.
- **Automatic Updates** may be set to yes to allow for DriverCentral updates.
- **Driver Version** displays the version of this driver.
- **Debug Mode** turns Debug Mode Off or On (with output to the Lua Output window).
- **Debug Duration in Minutes** sets the duration of Debug On.
- **Driver Information** displays various status messages about the driver.
- **Threshold for Bright Zone (at or above)** allows you to select the minimum ambient light level which would define the zone as 'Bright'. This value may be from 100 to 255.
- **Threshold for Dark Zone (at or below)** allows you to select the maximum ambient light level which would define the zone as 'Dark'. This value may be from 1 to 120. The 'Medium' zone is thus defined de facto as between the 'Dark' and 'Bright' thresholds.

- **Minimum Zone Transition Delay** is analogous to a Debounce delay and is used to prevent rapid transitions between zones when the ambient light level hovers around one of the two thresholds. The default value of 1 minute should be appropriate for most applications.
- **Disabling Light Sources** is optional and allows you to designate specific light(s) which, when turned On, will disable this driver. In other words, they will prevent zone events from being triggered, output Contact Sensors from being activated and will set the Variable CURRENT_ZONE to 'DISABLED'. This may be used if your logic is based on outdoor light being monitored by the light sensor, that logic being of course disturbed if a light is turned On in the room.
- **Disabling Light Effect** specifies what happens when a Disabling Light is turned On. One effect causes all output Contact Sensors to be turned Off. This may be pertinent depending how output Contact Sensors are used in Programming or by another driver. Another effect causes the CURRENT_ZONE variable to remain active even if the Disabling Light is turned On (otherwise, it retains its most recent not disabled value). The AMBIENT_LEVEL variable is always kept up to date.
- **Zone Status Contacts are** allows you to determine the default (unused) state of the output Contact Sensors. The option to cascade uplevel means that a lower-level contact will remain active when a higher-level contact is activated. For example, if the current zone is Dark, only the Dark Zone contact would be active. If the current level moves to Medium, both the Dark Zone and Medium Zone contacts would be active. Similarly, if the current level moves to Bright, all three contacts would be active.
- **Current Ambient Light Level** displays the value currently read from the AMBIENT_LEVEL connection (scale of 0-255), as well as the current zone.
- **** NEW ** Current Output (Source)** displays the current behavior of the AMBIENT_LEVEL Output (Source) connection. If a programming command is used to Set the Source to a specific value, mirroring of the Input (Follower) is stopped until a programming command is used to re-establish mirroring.

SUPPORT

For support on this driver please go to <https://help.drivercentral.io/>. Give a detailed description of the problem and also include the version number of the driver and the version of Control4 OS that you are using.

AUTO UPDATE

This driver is updated with fixes and new features from time to time. To ensure your project uses the latest version, set the Automatic Updates property of the driver to On.

CHANGELOG

10.0.0 April 19, 2020	Initial Release
10.1.0 May 10, 2020	Added passthrough connection for C4 thermostat and weekly data now kept after report

10.2.0	September 5, 2020	Licensing update
10.3.1	January 1, 2021	New Disabling Light Effect property, improved handling of transition and events, issues fixed
10.4.0	August 4, 2021	Also supports input via CMD in addition to PROXY, connections renamed for compatibility with OS 3.2.2
11.0.0	August 1, 2022	Added command to override LEVEL on Output (Source) connection