B.E.G. DCA for Detectors and Sensors

ETS6 app (DCA) for B.E.G. KNX presence detectors – version 1.3

This ETS app shows the parameter pages “Light measurement” and “Logic” graphically. It edits the same parameters as the ETS parameter pages; both can be used in parallel. The app only shows the functions that the application of the selected device provides. If the device has both functions, they are shown as tabs.

General operation

1. Select exactly one device in ETS and open the app “B.E.G. DCA for Detectors and Sensors”.
2. Change values. Confirm entries in text fields with **Enter**, discard them with **Esc**.
3. **Apply** writes the changes to the project. **Discard** reverts all changes of the tab that have not been applied yet. An apply can be undone in ETS with “Undo” as a single step.
4. Then download the application to the device as usual.

Fields that cannot be changed on the parameter page are shown greyed out. As in ETS, which fields are shown depends on the application of the device and the selected settings. The tooltip of an input field shows the permitted value range.

Light measurement

Reflection factor

The detector measures the light reflected from the work surface at the ceiling. The ratio between the light value at the ceiling and the light value on the work surface is the reflection factor. The default setting of 100 lux (ceiling) to 300 lux (work surface), i.e. 1:3, is suitable for most rooms.

3 steps to light measurement

1. **Send the measured light value to the bus:** disable “Adaptation ... using external measured values”, set the operation mode to “Regulation mode” (page “Detector configuration” or “Settings”) and the brightness set value to 2000 lux (page “Set values brightness”) so that the lighting is controlled to full output. Enable “Send brightness value” (e.g. cyclically) and program the device. Read the value of the brightness object in the group monitor – this is the “measured value ceiling”. The app shows the operation mode and the set value directly in the “Step 1” box.
2. **Determine the light values on the work surface:** place a luxmeter on the work surface. Mixed light: measure with the lighting switched on and daylight present. Artificial light and daylight: measure once with the blinds closed and the artificial light on, and once with the blinds open and the artificial light off.
3. **Enter the light values:** select the operating mode and enter the values at the detector (ceiling) and at the table (work surface). The reflection factor is shown immediately.

> **Important:** After the light measurement, set the brightness set value back to the value intended for the installation, then download the application to the device.

Constant light control is typically slow: it can take up to 15 minutes until the lighting has settled. Only measure then.

BA detectors always use mixed light; there is no adaptation of the measured value. The app hides the selection and shows the steps without “deactivate the adjustment” and without artificial light and daylight.

If a measured value exceeds the permitted range, both values can be divided by 10 (e.g. 170 / 2740 lux → 17 / 274); the ratio remains the same.

Brightness sources

Source	Meaning
Light sensor 1	On detectors with 2 light sensors in the outer ring of the detector, on detectors with one light sensor behind the lens.
Light sensor 2	Only on detectors with 2 light sensors: behind the lens.
Brightness communication object	Light value of another detector (slave). It must be calibrated as well.

With “Use of the smallest measured light value” the smallest value of the selected sources is used instead of a weighted average (e.g. rooms with windows on two sides).

Logic

The devices have 2 logic blocks (L1, L2) with 3 inputs each; input 3 can be added (“Use input”).

1. Select the block on the left and enable it.
2. Set the inputs (yellow), the logic gate (grey) and the output (blue) in the block diagram. Active inputs are connected to the gate by a blue line.

Area	Settings
Gate	OR, AND, XOR, NOR, NAND, XNOR
Inputs	Object type, value after bus voltage recovery, threshold for logical 0 and 1 (≤/≥ value)
Output	Object type, send condition, send on bus voltage recovery, values for 0 and 1

Supported applications

Application	Devices (excerpt)	Functions
2104-30	PBM-KNXs-DX-4W	Logic
2720-71	PD Gen 7.1 DX (e.g. PD2N, PD4N, PD9, PD11, Indoor, RC-plus next N, PICO)	Light measurement, logic
2721-71	PD2N/PD4N/PD11/Indoor/PICO KNXs-ST	Light measurement

2722-71	PD2N/PD4N KNXs-BA	Light measurement
2723-71	Aleum Glow WB/AD KNXs	Light measurement, logic
2730-71	PD2N-KNXs-OCCULOG-DX	Light measurement, logic
2740-71	PD2N-RF-KNXs-DX	Light measurement, logic