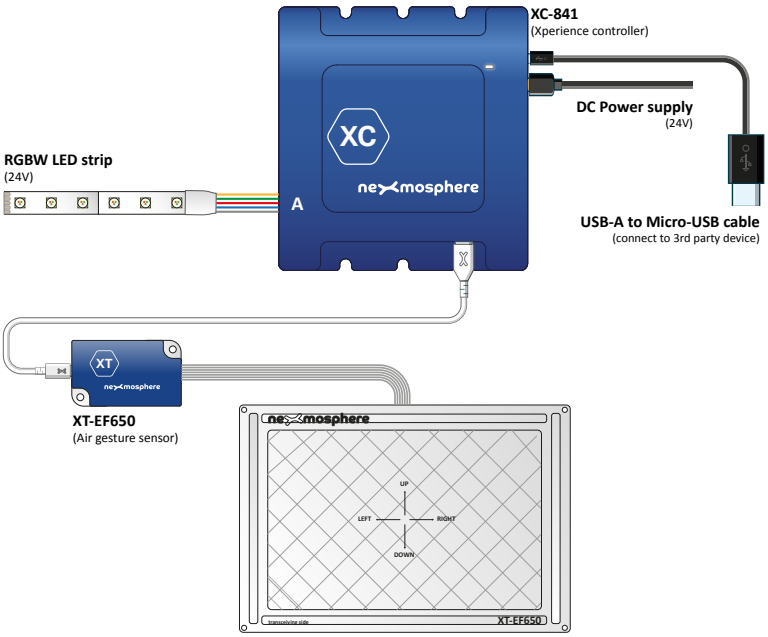
Xperience platform

All of Nexmosphere's controllers are built on the same platform principles. If this is your first time using a Nexmosphere controller, we recommend to first read https://nexmosphere.com/technology/xperience-platform/ to learn the basics about our platform and its terminology.

XT-EF650 Engineering Sample with XC-841 controller

The XT-EF650 sensor is able to detect an "AirTouch" and "AirGesture" within the detection field of the sensor. For a demonstration on how the sensor works, please see our demovideo (youtube). The XT-EF650 Engineering sample set consists out of the following products:



Hardware setup

1. Connect the XT-EF650 to the XC-841 controller to X-talk interface 001 as indicated on the connection schematic. Make sure the XT-EF650 is placed on a non-metal surface and avoid moving the XT-EF650 after power-up.
2. Connect the RGBW LED strip to RGBW output "A" as indicated on the connection schematic.
3. Connect the 24VDC power supply to the DC power input connector.
4. Connect the micro-USB cable to a 3rd party device (e.g. BrightSign player or PC).*
5. Wait until the white status LED stops blinking. This lasts about 5 seconds.

**When using a BrightSign player, make sure the BrightSign is powered-up after connecting the micro-USB cable.*

Software setup for testing (Terminal)

Typically, the XC-841 controller is connected to a 3rd party device, such as a Digital Signage Player, on which CMS software is installed that has built-in functionality for sending and receiving Serial Events. However, if you want to do a first test on a PC or Mac, follow the instructions below:

1. Download a terminal program. For example Termite or Hercules or SerialTools.
2. Open the Terminal program and go to settings. Choose the COM port on which the XC-841 controller enumerated*. In most cases this is the highest available number in the COM port drop-down setting.
3. Set the COM port settings to the following values

Baudrate	115200	**Flow Control**	None
Parity	None	**EOL**	CR+LF
Data	Bits 8	**Protocol**	ASCII
Stop	Bits 1		

4. Set the COM port to "Open". **The controller is now ready for use.**
5. When sending consecutive API serial commands to the XC-841 controller, place a 50mS delay between each command.

**In case the XC-841 controller is not recognized as a COM port by the 3rd party device, a driver (Prolific PL2303) can be downloaded here.*

Nexmosphere
High Tech Campus 10 (Mμ building)
5656 AE Eindhoven • The Netherlands
T +31 40 240 7070
E support@nexmosphere.com

XT-EF650 Air Gesture Sensor (Engineering Sample)

The XT-EF650 Air Gesture sensor is able to detect AirTouch and AirGestures. When connected to X-talk interface 001 of the XC-841 Xperience controller, this will result in the following API serial commands:

AirTouch detected	**X001B[Ts=AIRTOUCH]**
Touch detected	**X001B[Ts=TOUCH]**
Idle / No (Air)touch detected	**X001B[Ts=IDLE]**
Swipe Left detected	**X001B[Sd=LEFT]**
Swipe Right detected	**X001B[Sd=RIGHT]**
Swipe Up detected	**X001B[Sd=UP]**
Swipe Down detected	**X001B[Sd=DOWN]**

In order to **activate or deactive** either **AirTouch or AirGesture detection**, send one of the following settings from the 3rd party device to the XC-841 controller:

Deactivate AirGesture detection	`X001S[5:1]`	Activate AirGesture detection (def)	`X001S[5:2]`
Deactivate (Air)Touch detection	`X001S[7:1]`	Activate (Air)Touch detection (def)	`X001S[7:2]`

The **sensitivity / range** of the **AirTouch and Touch** feature can be adjusted via the following settings:

AirTouch senstivity	`X001S[11:X]`	X = value between 2-100 Default value = 5 *the higher the value, the lower the sensitivity / range*
Touch senstivity	`X001S[16:X]`	X = value between 1-100 Default value = 20 *the higher the value, the lower the sensitivity / range*

When an AirTouch is detected, the sensor checks for a short period of time if an AirGesture is detected as well. This avoids that both an AirTouch and AirGesture API-command is send during an AirGesture event. The duration for which the system checks for AirGestures - and the AirTouch trigger is delayed - is adjustable using the settings below:

AirTouch trigger delay *(AirGesture check period)*	`X001S[13:X]`	X = value between 1-100 Default value = 40 *the higher the value, the longer the AirTouch trigger delay*

RGBW LED control examples

To control the RGBW LED strip connected to RGBW channel . Send one of the following API example commands from the 3rd party device to the XC-841 controller:

Set the LED strip connected to RGBW channel **A** to color **0** (default white*) at **80**% brightness with **0.5** seconds ramp time:

`G111B[A 0 80 5]`

Set the LED strip connected to RGBW channel **A** to color **3** (default blue*) at **100**% brightness with **1.2** seconds ramp time:

`G111B[A 3 100 12]`

Set the LED strip connected to RGBW channel **A** to pulse between two ramps. Ramp1: Color **2** (default green*) at **100**% with **1.0** seconds ramp time. Ramp 2: Color **2** (default green*) at **5**% with **0.5** seconds ramp time.

`G111B[A 2 100 10 2 5 5]`

When using Intuiface to control the XC-841, replace the space characters with underscores. For example: **G111B[A_0_80_5]*

XC-841 Xperience controller

For more information on the XC-841 Xperience controller, please see Quick Start Guide | XC-841 Xperience controller.

API

For more info on Nexmosphere's API, please see our API Manual.

Nexmosphere
High Tech Campus 10 (Mμ building)
5656 AE Eindhoven • The Netherlands
T +31 40 240 7070
E support@nexmosphere.com