

Neets Control – QueBec

Installation Manual



Neets



Foreword

The purpose of this document is to describe how to install and configure the Neets Control – QueBec II and Neets Control – QueBec III.

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CHANGES - Neets reserve the right to change the specification and functions of this product without any notice.

Questions, AFTER reading this manual, can be addressed to your local distributor or:

Neets A/S
Langballe 4
8700 Horsens
Denmark

by E-Mail: Support@Neets.dk
or you may use our contact form at www.neets.dk

Revision list

This document (no: 306-0012-001-006) has the following revision changes:

Author: Date	Description	Pages	Rev
MH: 09-09-2014	First release.	All	1.00
TBB: 29-06-2015	Change of HDMI signal sense description.	4, 7	2.00
MH: 19-08-2015	New design according to Neets design guide	All	3.00

Important Safety Instructions

Caution:

Read these instructions:

Read and understand all safety and operating instructions before using the equipment.

Keep these Instructions:

The safety instructions should be kept for future reference.

Heed all Warnings:

Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments:

Do not use tools or attachments that are not recommended, because they may be hazardous

Warning!:

- This equipment should be operated only from the included power supply.
- To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).
- Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.
- Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards. Contact your local Neets reseller or distributor.
- If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.
- Do not use this equipment near water.
- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids.
- Unplug the product before cleaning. Clean only with a dry cloth and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

FCC Class A Notice:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.



The lightning bolt triangle is used to alert the user to the presence of uninsulated "dangerous voltages" within the unit's chassis that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The exclamation point triangle is used to alert the user to presence of important operating and service instructions in the literature accompanying the product.

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Description

Neets Control – QueBec II and Neets Control – QueBec III are small, but intelligent control systems with no buttons or switches for user control. Operation is simple and automatic.

With Neets Control – QueBec II and QueBec III anyone can start up a presentation without advance preparation - just connect your computer, and you are ready to begin! When you connect either a VGA or HDMI cable from the PC to the Neets Control – QueBec, the unit automatically determines which source the PC is connected to and starts the presentation. When you are finished with your presentation and remove the cable from the computer, the projector turns off and the screen lifts. The same procedure applies for a monitor, touchscreen or other connected AV-equipment.

Neets Control – QueBec II and QueBec III are perfect for classrooms or small meeting rooms and are easily installed by the technician.

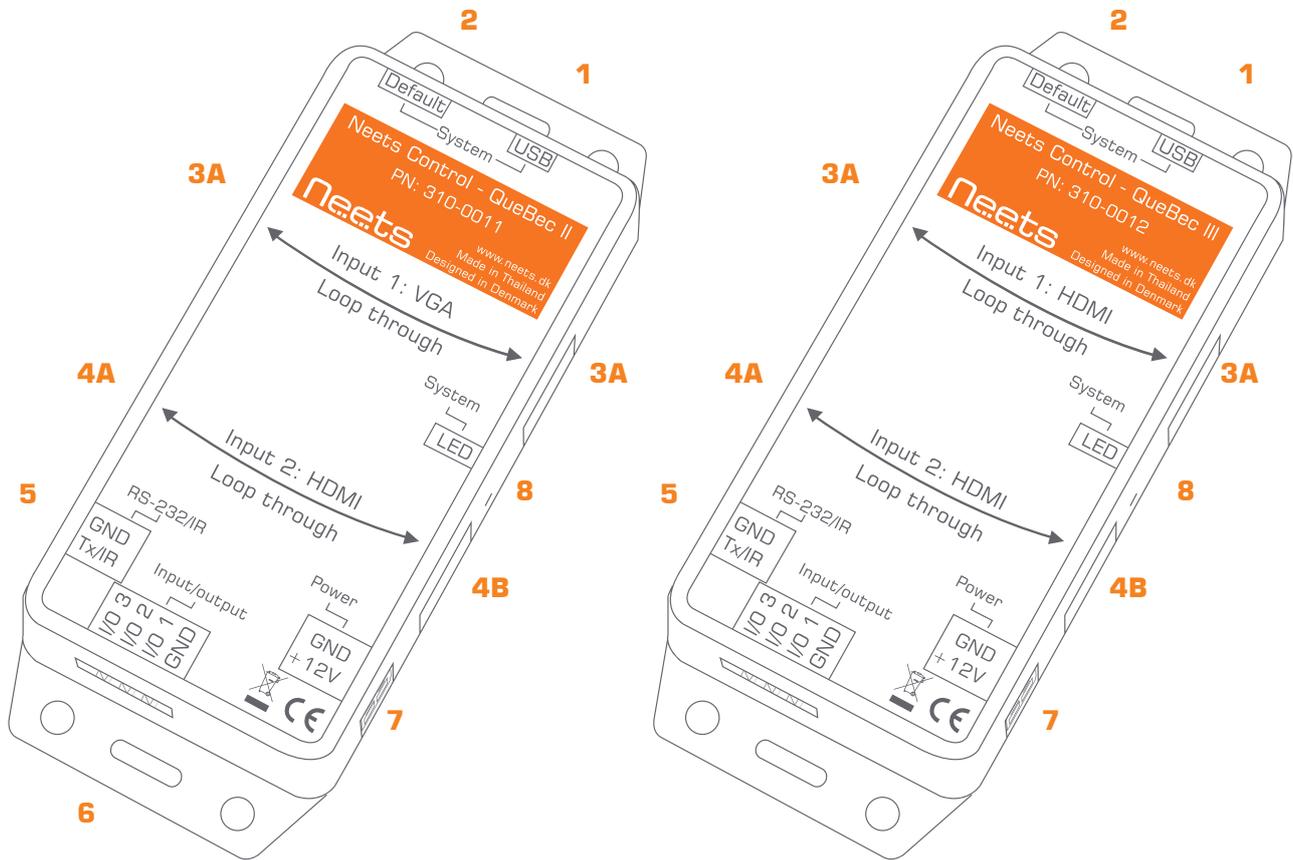


Description	Neets Control – QueBec II	Neets Control – QueBec III
HDMI loop through with signal sense	1	2
VGA loop through with signal sense	1	0
RS-232 / IR transmitter (controls 1 device)	1	1
I/O	3	3
Buttons	0	0
LED (Color: Red)	1	1
USB programming port	1	1
PIR sensor input	Yes	Yes
Light on/off	Yes	Yes
Room darkening	Yes	Yes
Screen up/down	Yes	Yes
Volume control	No	No

Connections and Controls

In this section, you will find information on how to connect and use the different ports.

System overview



Number:	Description
1	USB connector
2	System Default button
3A	Input 1 loop through (VGA in QueBec II, HDMI in QueBec III)
3B	Input 1 loop through (VGA in QueBec II, HDMI in QueBec III)
4A	Input 2 loop through connector
4B	Input 2 loop through connector
5	RS-232 / IR transmitter connector
6	Digital I/O connector
7	12V DC input connector
8	LED for status indication

System USB connector

The System USB connector is used to configure the QueBec using the Neets Project Designer software. During configuration the PC supplies the needed power to the QueBec via the USB port.

The USB port cannot control any devices, nor can it supply any power to external units.

The USB connector needed to connect to the QueBec is of the type USB Mini-B 5P. (A USB A to USB Mini-B 5P connector cable may be purchased online or at many retail stores).



System Default button

When the “Default” button is pressed and held during power on, the system will delete the current settings and restore the factory default settings. This method is only intended to be used, if the control system locks up and enters “Unexpected Error”.

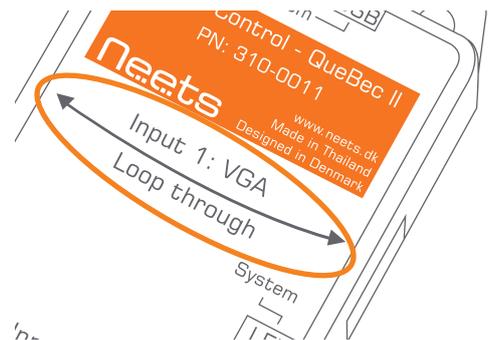


Input 1 Loop through

QueBec II only

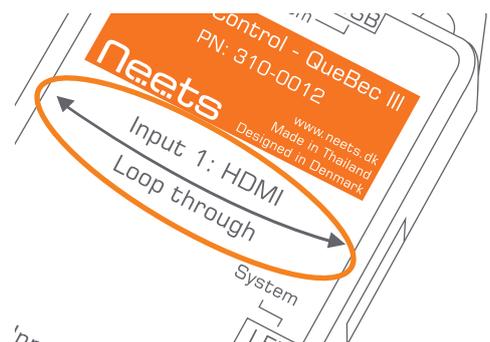
Input 1 Loop through is a VGA signal loop through connection that is used to detect an active signal transmission between a source (PC, video player etc.) and a display (projector, monitor etc.) The loop through does not modify the VGA signal content

The QueBec II uses the horizontal synchronization signal in the VGA signal to detect an active connection between the source and the display.



QueBec III only

Input 1 Loop through is an HDMI signal loop through connection that is used to detect an active signal transmission between a source (PC, Video player etc.) and a display (Projector, Monitor etc.) without modifying the HDMI signal content.

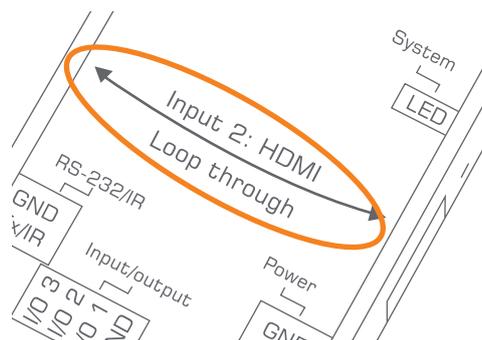


Input 2 Loop through

QueBec II and III

In both QueBec II and QueBec III the Input 2 Loop through is a HDMI signal loop through.

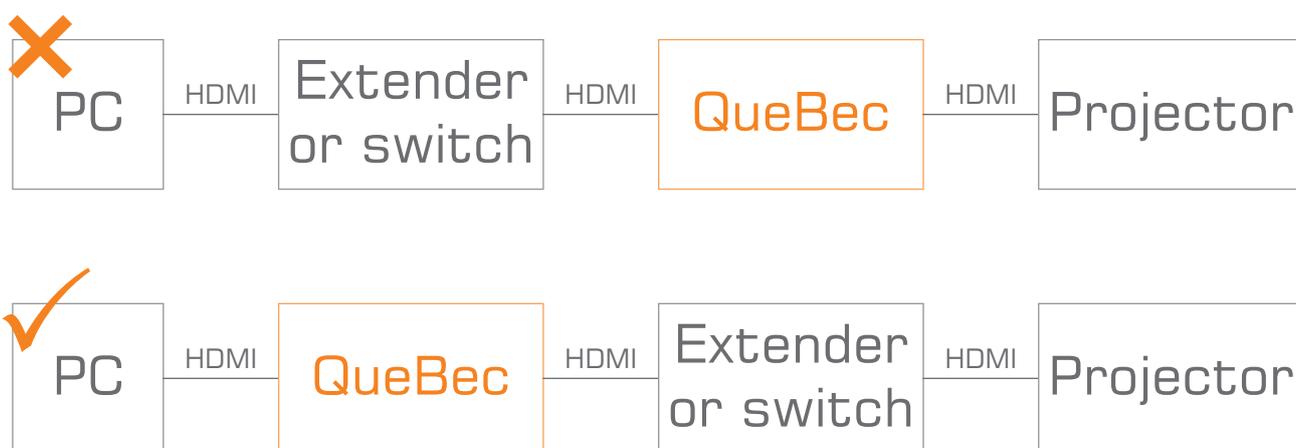
Please refer to description of Input 1 Loop through description for QueBec III as function is the same.



HDMI detection description

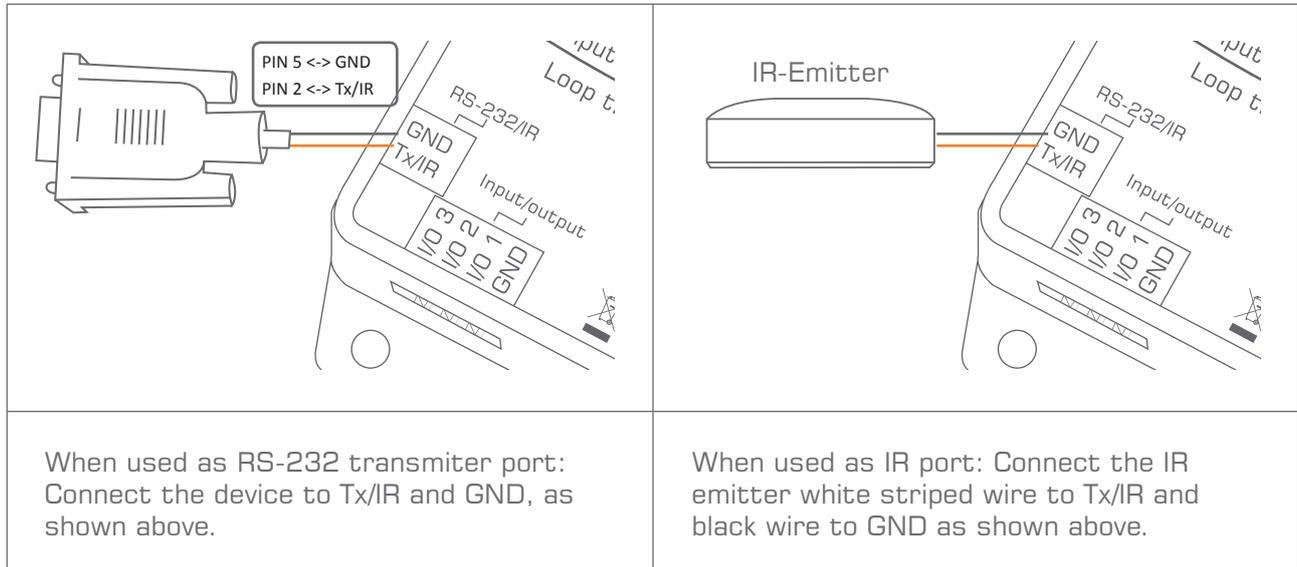
The Quebec III uses the +5 V DDC/CEC signal in the HDMI connector (pin 18) to detect an active connection between the source and the display.

Due to the type of HDMI detection, it is important to consider the placement of an HDMI extender, if used. Some HDMI extenders are set for a constant +5 V DDC/CEC signal at the output, and therefore the Quebec is not able to detect a signal change. In this situation place the Quebec before the HDMI extender in the signal chain.



RS-232/IR connector

The QueBec has one RS232/IR port, which can be configured to be used as either RS-232 transmitter or IR emitter.



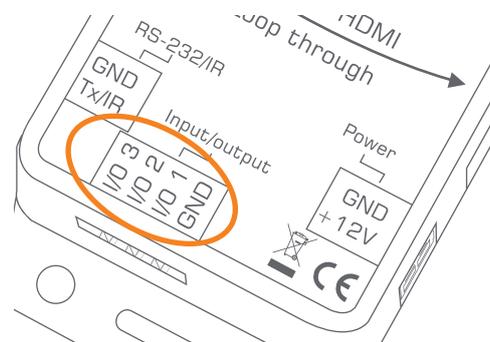
Input/Output connector

The QueBec has 3 Digital I/O connections; each of these can be configured as either input or output. As inputs they can be used together with an external keypad, a PIR (movement) sensor, or a keypad lock. As output they can be used to power on external equipment or control a screen or lift.

The ports are not potential free; external relays may be required to prevent ground loops.

When used as an output, a connection is active low: when the software shows activated, the pin is tied to GND through a FET transistor (also called open drain/collector function). Each output can draw up to 24VDC/500mA.

When used as an input, the voltage present at the connection has to be below 1 VDC to be accepted as LOW, and above 4 VDC (but below 24 VDC) to be accepted as HIGH. The inputs are default HIGH and must be connected to ground in order to change state.

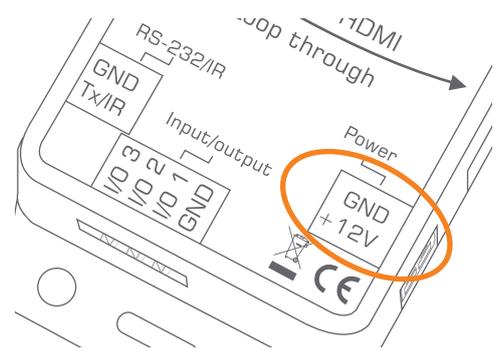


Power connector

Connect the QueBec to the AC power line using the supplied AC power adaptor and terminal block. The power adaptor output wires should be connected in the terminal block with the white marked wire connected to +12V and the black wire connected to GND.

The AC power adaptor is a universal mains type, which accepts AC line input from 100 VAC to 240 VAC. The AC power adaptor will be supplied with a socket connector for use in the country of sale. Change the connector as needed.

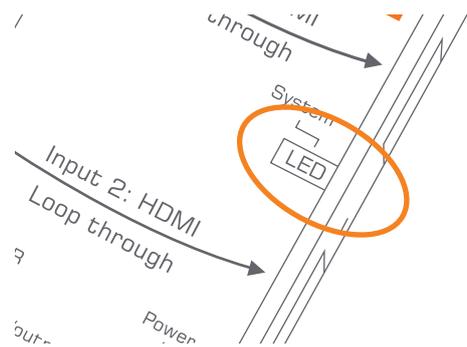
The QueBec accepts only 12 VDC as power source from the supplied power adaptor. If a power adaptor from another manufacturer is used Neets cannot guarantee proper function of the QueBec control system.



System LED indicator

The System LED indicator displays the current status of the system. This means that normal operation and error modes are indicated when ever there is power applied to the QueBec.

Below is a description of the different modes indicated by the System LED.



Description	LED behavior	Solution
Running		<ul style="list-style-type: none"> The system is running and working without any problems.
Unexpected Error		<ul style="list-style-type: none"> There may be problems in the project you have uploaded. Try uploading an empty project to remedy; otherwise, contact Neets or your local dealer.
Unable to start the project		<ul style="list-style-type: none"> This scenario only occurs where there is a problem in the project uploaded. Try uploading an empty project to remedy; otherwise, contact Neets or your local dealer.
Firmware upgrading		<ul style="list-style-type: none"> The control system is in progress of firmware upgrading. Do not disconnect power while in this state.
System are resuming factory default settings		<ul style="list-style-type: none"> See section System Default button on page 6 for information on requirements for this function.

Specifications

Power Input

Input voltage	12 VDC
Power usage	1 W
Connector	2 pin screw block

Power adaptor (included)

Input voltage	100 VAC – 240 VAC
Line Frequency	50 Hz – 60 Hz
Max power usage	25 W

HDMI Loop through w. signal sensing

Signal channel	HDMI loop through
Signal sensing type	+5 VDC, pin 18
Specification	HDMI 1.4
Connector	HDMI Type A

VGA Loop through w. signal sensing

Signal channel	VGA loop through
Signal sensing type	Horizontal sync, pin 13
Specification	QWXGA - 2048x1152
Connector	DSUB DE-15

RS-232 / IR

Ports	1 x transmitter
Baud rate	1200 - 115200 bit/sec
Data bits	7, 8
Parity	Even, Odd, None
Stop bits	1, 2
IR transmit frequency	400 Hz to 500 KHz
Connector	2 pin screw block

Input / Output

Ports	3 x I/O
Input trigger low	< 1 VDC
Input trigger high	> 4 VDC
Output type	Open drain
Isolated output	No
Max voltage load	24 VDC
Max current	0.5 A
Connector	4 pin screw block

General

Dimensions (W/D/H)	70 mm / 125 mm / 25 mm
Weight	100 g
Shipping dimensions (W/D/H)	150 mm / 170 mm / 55 mm
Shipping weight	280 g
Storage temperature	-20 °C to 50 °C
Storage moisture	Non condensing

Operation temperature	0 °C to 30 °C
Operation moisture	Non condensing

Approvals

Marking	CE
IEC/EN	61000-6-1
IEC/EN	61000-6-3

Product number

Neets Control - QueBec II	310-0011
Neets Control - QueBec III	310-0012