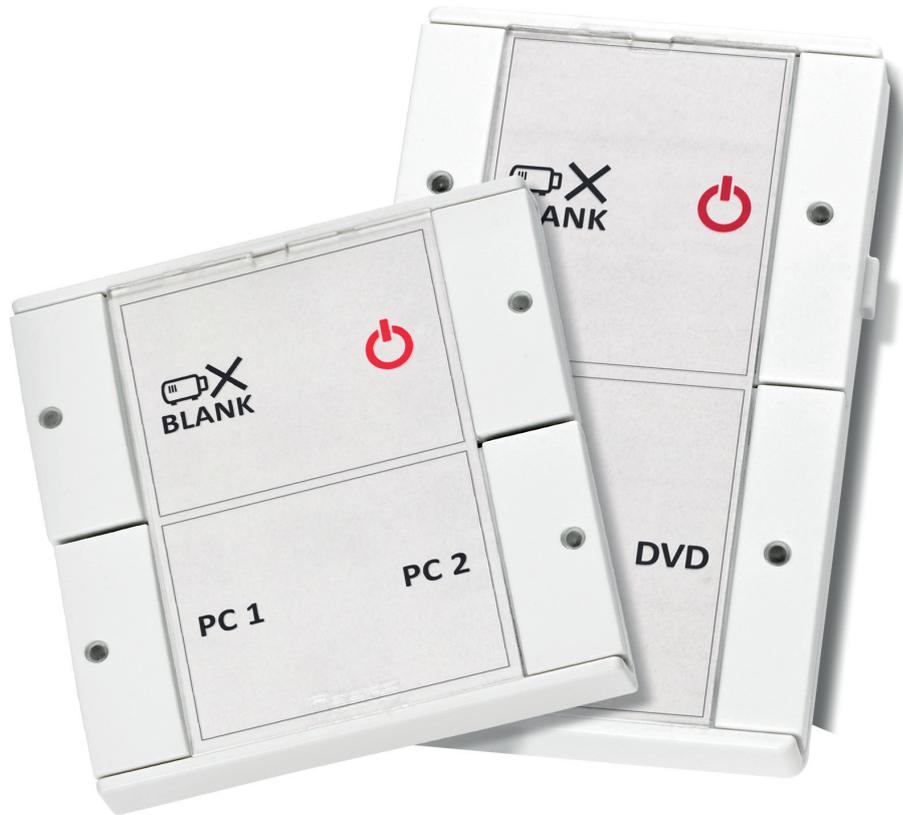# Neets Control – OsCar

Installation Manual

neets

Foreword

The purpose of this document is to describe how to install and configure the Neets Control – OsCar DK and EU models.

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 dealer or:

Neets

by E-Mail: Support@Neets.dk

or you may use our contact form at www.neets.dk

Revision list

Author: Date	Description	Pages	Rev
TSA: 07/03-2012	First release	All	1.00
MH: 08-07-14	New design according to Neets design guide	All	2.00
MH: 09-07-2015	Changed photo of BraVo to OsCar (backside)	3	3.00
MH: 29-08-2015	Error indication - added information about SR 4/8	12	4.00
SHJ: 21-09-2016	Error indication - added information about SR 4/8	12	5.00
DB: 07-12-2016	Update to tabel	12	6.00
DB: 13-03-2017	Added error indications to the troubleshooting overview	12	7.00

What is in the box?

OsCar, DK
1 x Neets Control - OsCar
1 x 12V wall plug PSU
Terminal connectors
1 x Front cover
1 x Paper cover

OsCar, EU
1 x Neets Control - OsCar
1 x 12V wall plug PSU
Terminal connectors
1 x Front cover
1 x Paper cover
Metal plate
2 x screws for metal plate

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.

Contents

Description

Neets Control – OsCar is a small, but intelligent control system with a minimum of buttons, which makes it very simple to use.

With Neets Control – OsCar anyone can start up a presentation without an introduction - just press ONE button and you are ready to begin!

Neets Control – OsCar is easy to install and perfect for use in classrooms.

| Function description	
RS-232 (Tx/Rx) / IR (controls 1 device)	1
I/O	2
LAN port	1
Buttons	4
LED (Color: Red)	4
USB port for programming	1
PIR sensor input	Yes
Light on/off	Yes
Room darkening	Yes
Screen up/down	Yes
Volume control	Yes

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Quick guide to the OsCar

Buttons, indicators and connectors are available on the front and rear panels.
These are shown below:

Front:

With front cover	Without front cover
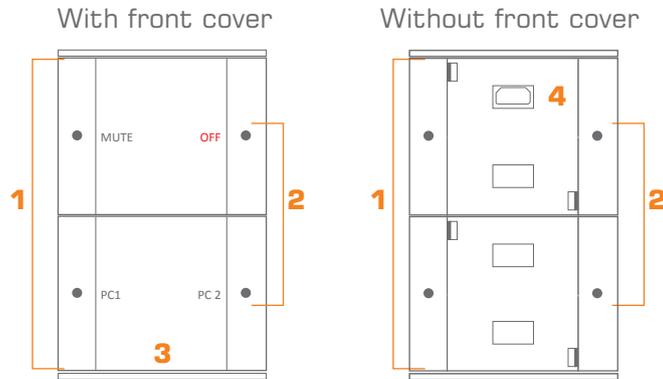
Number:	Description
1	Push buttons for controlling the AV setup
2	Red LED lights for indication of AV setup status
3	Front cover with label for button description
4	Mini USB for programming (behind front cover)

Rear:

DK version   EU version
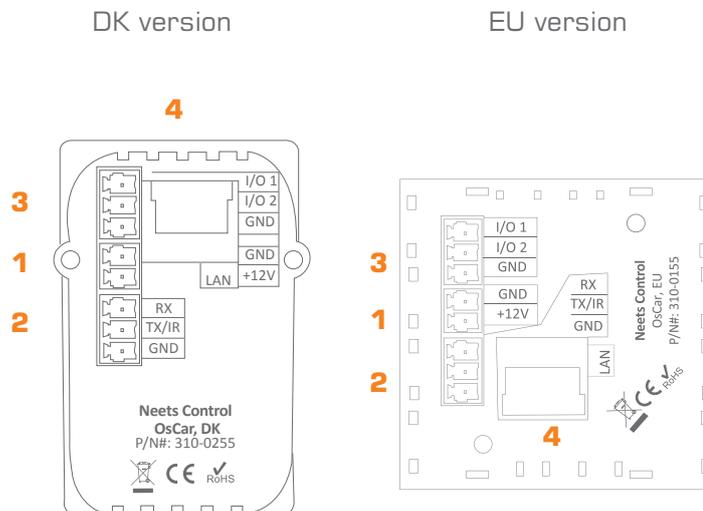
| Number:	Description
1	External 12V DC input
2	RS-232 or IR control out
3	Input/Output
4	LAN connector

Installation

The OsCar can be installed in standard electrical back boxes or by using mounting brackets. Each model (DK, EU) fits in typical boxes matching specific installation requirements for the country of sale.

1.   Prepare the installation site by installing the needed back box or brackets. Pull the needed cables through the back box or bracket.

2.   Mount the supplied connectors to the cables as needed and connect to the control system.

3.   Mount the control system in the back box or on the bracket:

DK version

o   Insert a flathead screwdriver gently and pry out the front cover. Remove the front cover and the paper label behind it.
o   Insert a flathead screwdriver into the button. Gently push and pry out the button.
o   Insert the control system in a frame matching the back box used.
o   Insert screws (not supplied) matching the back box into the two holes. Secure the control system to the back box without overtightening the screws.
o   Remount the paper label, insert a printed transparent label showing the button functions, and mount the front cover. Note that the front cover mounts in only one direction.

Flathead screwdriver

Paper label

Transparent label
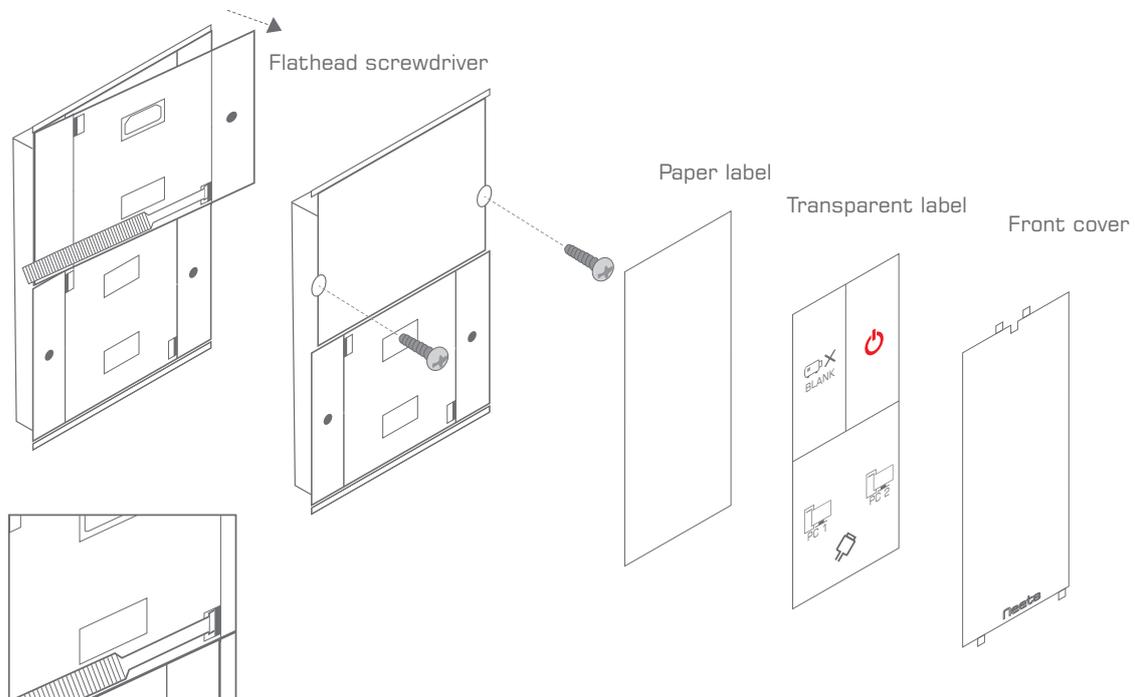
Front cover

EU version

- o Insert a flathead screwdriver gently and pry out the front cover. Remove the front cover and the paper label behind it.
- o Insert the control system in a frame matching the back box used.
- o Insert screws matching the back box or bracket into the two holes. Secure the control system to the back box or bracket without overtightening the screws.
- o Remount the paper label, insert a printed transparent label showing the button functions, and mount the front cover. Note that the front cover mounts in only one direction.


Paper label

Transparent label

Front cover
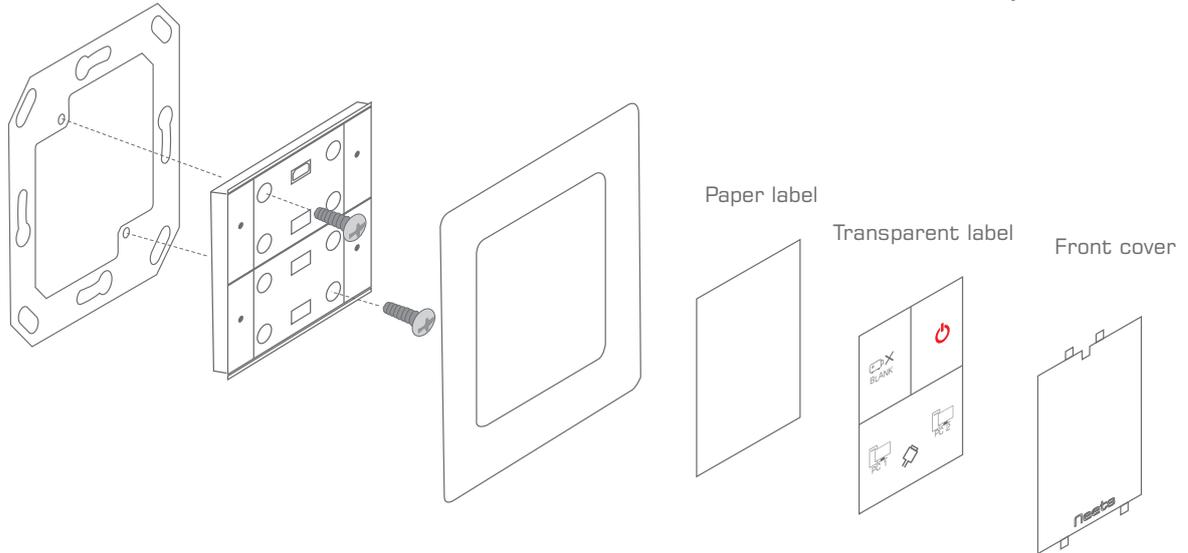
4.   Connect and apply power to the control system.

5.   Configure the control system using the Neets Project Designer.

Connections and Controls

Power input port

Connect the OsCar to the supplied universal mains AC power adaptor. Using the supplied 2 pole screw block terminal connect white/black wire to 12V and black wire to GND.
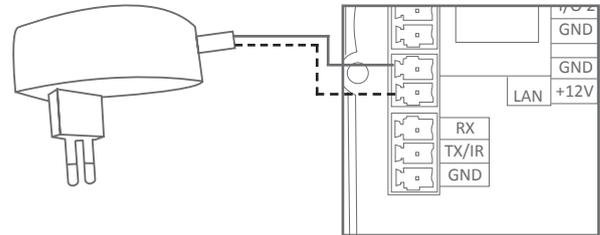

I/O ports

The Neets Control – OsCar has 1 I/O onboard. They can be used for external keyboard, PIR (movement) sensor, keyboard lock, extra relay and so on.
The port is not potential free, which means you will need external relays, if you need to prevent e.g. ground loops.

When used as output it is active low (when the software says activated, the pin are tied to GND through a FET transistor - also called open drain/collector function). You can draw up to 24VDC/500mA.

When used as input the voltage has to be below 1 Volt DC to be accepted as LOW, and above 4 VDC (but below 24 VDC) to be accepted as high.
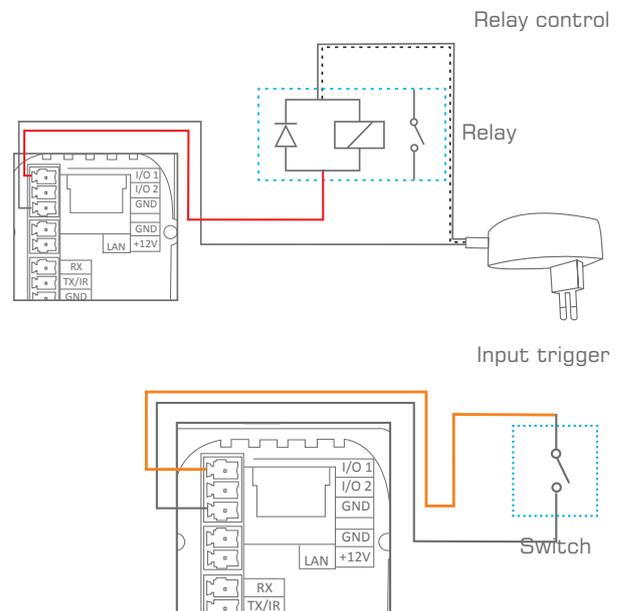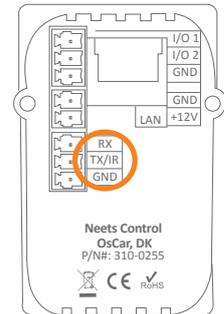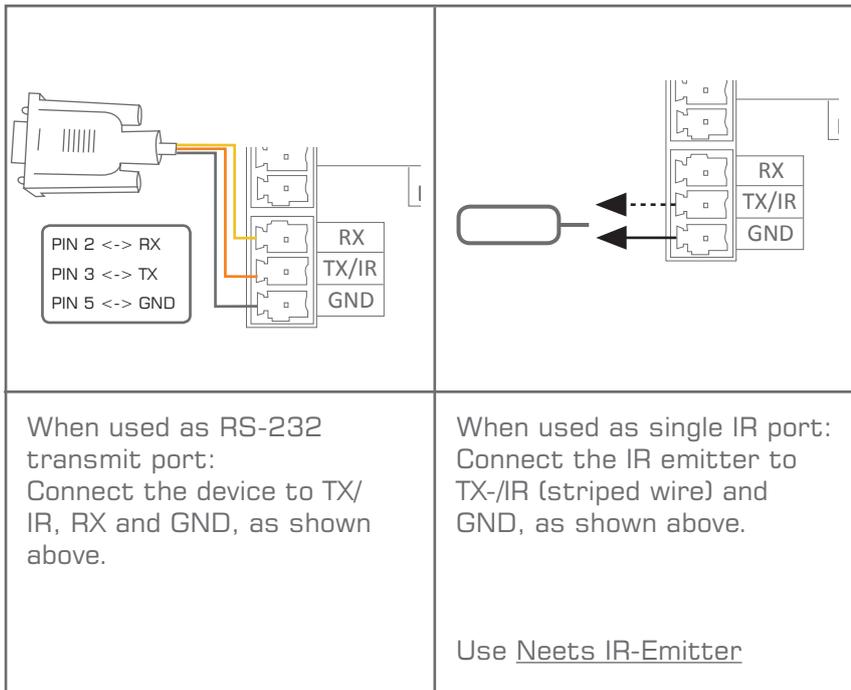
Relay control

Relay

Input trigger

Switch

NEETS

IR/RS-232 port

The OsCar has 1 port (TX/IR) which can be configured (in software) either as RS-232 or as IR emitter.

The RS-232 port is used for one- or two-way communication. A two way port is used for devices where reply commands is used. Connect the OsCar as shown here.

Connect the port as shown below.

|	
When used as RS-232 transmit port: Connect the device to TX/IR, RX and GND, as shown above.	When used as single IR port: Connect the IR emitter to TX-/IR (striped wire) and GND, as shown above. Use Neets IR-Emitter

Buttons

The four front panel buttons are accessed by the end user to control the AV system in which OsCar functions as the controller. The buttons are numbered as shown to the right.

Each button has a tactile click feedback to ensure proper activation. Also, each button has an embedded red LED light to indicate current status of the AV system.

Button function and LED indication are set up using the Neets Project Designer software.
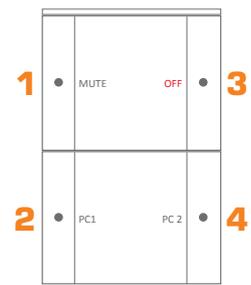
Configuration through USB port

The USB port can only be used to program the Neets Control – OsCar from the Neets Project editor software. It cannot be used to control any devices what so ever.

From the USB you can also power the system. This is to be used in programming situations, so you do not have to connect 12VDC to the unit to program it.

Neets website - sign up

The USB connector needed to connect to the Neets Control – OsCar is of the type mini USB B 5P. You can either buy this cable from Neets or via the web (buy a USB A to Mini USB B 5P). The cable type is also widely used for MID devices, compact cameras and so on.
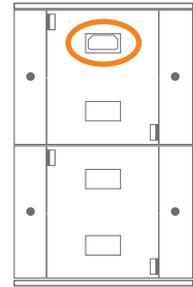
Troubleshooting

Error indication using LEDs

When errors occur the LED will indicate this. The following will give you a guide to find these errors. In the Neets Control – OsCar the LED´s are placed here:
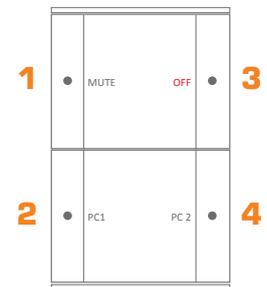
The flashing error descriptions and patterns are described below:

LED shows	Description	Solution
1 Flashing 2 Flashing 3 Off 4 Off	Unexpected Error	o Turn off the power to the control system for 20 sec before turning the power on again.
1 Off 2 Off 3 Flashing 4 Off	Error in serial number	o You need to return the unit to Neets or your local dealer for replacement/repair.
1 Flashing 2 Flashing 3 Flashing 4 Off	No project found on the control system or unable to start the project	o Try to upload the project again. o Alternatively, there can be a problem in the project you have uploaded. In this case, try uploading an empty project and see if this works.
1 Constant light 2 Off 3 Constant light 4 Off ↓ 1 Flashing 2 Flashing 3 Flashing 4 Off	System are resuming factory default settings	o When pressing Switch 1 and 2 during power on, the system will delete the current settings and resume factory default. This method is only intended to be used, if the control system locks up and enters "Unexpected Error".

LED shows	Description	Solution
1 ⭘ Off 2 ☀ Flashing 3 ☀ Flashing 4 ⭘ Off	No contact to Neets extension unit	o Check to confirm that the serial number used in Project Designer matches the Neets extension unit. o Check the network or RS-232 connection from the control system to the Neets extension unit.
1 ⭘ Off 2 ☀ Flashing 3 ☀ Flashing 4 ☀ Flashing	Wrong firmware version in Neets extension unit	o The Neets extension unit has a different firmware than the one in the control system. o Please upgrade the firmware by plugging in the USB cable from the Neets extension unit into a PC running Project Designer and follow the instructions.
☀ Off button flashing once per second (all buttons flash if no off button is configured)	Unable to connect to configured TCP device.	o Verify the TCP device in the project is alive and responding on the specified IP.
☀ Off button flashing 4 times per second (all buttons flash if no off button is configured)	Password incorrect on configured LAN device.	o Verify that the password is entered correctly in Project Designer for all LAN devices that require password.

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	Max 8 W

RS-232 or IR port

Ports	1 x bi-directional
Baud rate	1200 – 115200 bit/sec
Data bits	7, 8
Parity	Even, Odd, None
Stop bits	1, 2
IR frequency	400 Hz to 500 KHz
Connector	3 pin screw block

Product number

310-0155	OsCar EU, white
310-0255	OsCar DK, white

Compliancy

IEC/EN	61000-6-1
IEC/EN	61000-6-2
FCC	Part 15, Class A
CE	

Input / Output

Ports	2 x I/O
Input trigger low	< 1VDC
Input trigger high	> 4VDC
Output type	Open drain
Isolated output	No
Max voltage load	24 VDC
Max current	0.5 A
Connector	3 pin screw block

Network (LAN)

Speed	10 / 100 Mbit
Duplex modes	Half or Full
DHCP	Default off
Default IP	192.168.254.252
Default gateway	192.168.1.1
Default subnet mask	255.255.255.0

General

Width, EU	55 mm
Height, EU	55 mm
Depth, EU	17 mm
Width, DK	45 mm
Height, DK	72 mm
Depth, DK	17 mm
Weight,EU/DK	90 g
Shipping weight	0,3 kg
Shipping dimension:	EU, DK
(W/D/H)	155x85x55 mm
Storage temperature	-20 °C to 50 °C
Storage moisture	Non-condensing
Operation temperature	0 °C to 30 °C
Operation moisture	Non-condensing