



OCHNO

### EASY TO INSTALL & USE

Through the Ochno Power Hub you can easily install an infrastructure for an advanced technology that is easy to use.

### OPTIMIZES BUILDINGS

Ochno Power Hub enables smart monitoring, steering and measuring of all devices connected in a building. Through this connectivity, it can optimize usage by saving user data and build learning curves from different types of devices in one common platform.

### ENSURES SECURITY

Through the Ochno Power Hub and Ochno Operated, you can have full access to all devices connected to the system. You can decide who get access to internet. You can provide secure access for each connection.

Through the Ochno Power Hub infrastructure, you can also build lighting systems to provide higher experienced security at all times and still be energy efficient.

## OCHNO POWER HUB



The Ochno Power Hub is a powerful product in a slim and stylish package, easy to install and friendly for users. It is one of the key components in the Ochno System Solution.

The Ochno Power Hub enables buildings to quickly and affordably implement the next generation technology that reduces energy consumption while creating an attractive and flexible interior design.

It has four USB-C connections which can provide both 100W bi-directional power distribution and IoT connectivity for any device connected to the hub. Any device that is connected can charge or dis-charge and at the same time be monitored and steered by Ochno Operated, a cloudbased software platform.

The Ochno Power Hub has two options for power supply. Alternative one is to connect DC In 5-20 V, 5A or through USB-C connection with maximum 20V, 5A.

4 x USB Type-C with bi-with bi-directional 100W power distribution and IoT connectivity

- Fully comply to USB Power Delivery 3.0 standard
- DC-Out: : 5-20V, 5A
- DC In: 5-20V, 5A
- USB 2.0 High-Speed (480Mbit/s) communication.

#### Power Supply

- Alt 1: DC In: 5V-24V, max 15A.
- Alt 2: USB Type-C, max 20V@5A. For daisy-chaining multiple Power Hubs together

#### Ochno Operated Communication

- 10/100 Mbit/s Ethernet (via USB 2.0 Ethernet Dongle)
- 54 Mbit/s WiFi (via USB 2.0 WiFi Dongle)

#### Management

- Fully managed via Ochno Operated (<https://operated.ochno.com>)
- Supports OTA firmware updates of both Power Hub and connected Ochno USB-C devices, e.g. LED-Driver and other

#### Certification

- CE
- USB-IF
- RoHS

The Ochno Operated communicates through the Ethernet via USB 2.0 Dongle or via WiFi via USB 2.0 Dongle.

The Ochno Power Hub and all devices connected to it is fully managed via Ochno Operated, a cloudbased software platform, that also supports OTA firmware updates. All needed certifications are provided.

Ochno AB  
Kopparbergsvägen 6  
722 13 Västerås  
Sweden  
[www.ochno.com](http://www.ochno.com)



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#### FULL FLEXIBILITY

Enables full flexibility through its state of the art architecture utilizing common IT standard.

#### FULL ACCESS

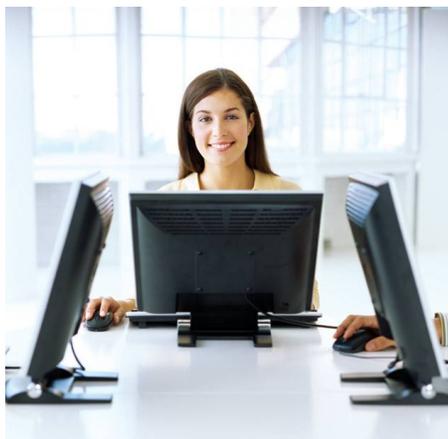
Plug in any device in any connection, anywhere in the building and you can monitor, measure and steer.

#### FULL SERVICE

Ochno System Solution offers full service for the end users through its cloudbased software platform, Ochno Operated.

For more information on any of our products or services please visit us on the Web at:  
[www.ochno.com](http://www.ochno.com)

## SERVICE FEATURES AND BENEFITS



\* In the picture you can see a daylight steered office connected through the Ochno Power Hub as well as all computer screens are connected without any docking stations or abundance of cables.

The Ochno Power Hub provides an easy to install and easy to use infrastructure for optimization of various flows of energy usage, internet usage and space usage.

The building owners have full flexibility in designing their space without the limitation of future tenant requirements. They can configure all lighting, power and data connections for all devices with the fully flexible Ochno Power Hub plug and play solution.

Further benefits for the building owners are happy and satisfied users of workplaces as they have real time data on temperature, humidity, noise, VOC - air quality, energy consumption.

## Ochno System Solution

Ochno System Solution provides a state of the art solution for building owners through its smart solution architecture.

It is built in a modular way and has no limitation on how small or big a system you can build.

Any device that need power supply and connectivity can easily be plugged in and played with.

Full flexibility for the building owner, once invested it is easy to re-configure and re-arrange any device placement, anywhere in the building through its plug and play architecture.

Easy installation as there is no need for technical competence to install and re-install all devices independent of IT equipment, lighting, multi-sensors or any other device.

#### SERVICES AVAILABLE

[Technical Support](#)  
[Installation and Setup](#)  
[Maintenance](#)  
[Application Support](#)  
[Hardware Support](#)  
[Guaranteed Warranty](#)

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# OCHNO 40W TUNABLE LED DRIVER



The Ochno 40W Tunable LED Driver is a smart building block within the Ochno System Solution for human centric lighting. Its smartness lies in zero Watt in stand-by mode, internal and external temperature sensor, automated alarm with faulty LED-module or over-temperature, and connected in a slim and stylish package.

The Ochno Power Hub enables buildings to quickly and affordably implement the next generation technology that reduces energy consumption while creating an attractive and flexible interior design.

It has four USB-C connections which can provide both 100W bi-directional power distribution and IoT connectivity for any device connected to the hub. Any device that is connected can charge or dis-charge and at the same time be monitored and steered by Ochno Operated, a cloudbased software platform.

The Ochno Power Hub has two options for power supply. Alternative one is to connect DC In 5-20 V, 5A or through USB-C connection with maximum 20V, 5A.

The Ochno Operated communicates through the Ethernet via USB 2.0 Dongle or via WiFi via USB 2.0 Dongle.

2-channel 40W LED-Driver for human centric lighting.  
Very small size  
Zero Watt stand-by power consumption reduces energy consumption.  
Ideal for tunable white LED panels and high-powered LED downlights.  
Plug-and-play installation into any Ochno outlet.  
Supports dimming both via PWM and Constant Current Reduction. Can be uniquely programmed into hybrid dimming models.  
Internal and external temperature sensor  
Automated alarm with faulty LED-module and over-temperature.

### Power Supply

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## EASY TO INSTALL & USE

Through the Ochno Multi-sensor you can easily install an infrastructure for an advanced technology that is easy to use.

## 1 SENSOR – 9 FUNCTIONS

- ✓ Motion detection
- ✓ Air pressure
- ✓ Temperature
- ✓ Relative Humidity
- ✓ Ambient Light Strength
- ✓ Ambient Light Color
- ✓ TVOC - Total Volatile Organic Compound
- ✓ eCO<sub>2</sub>
- ✓ Sound pressure

## BIG DATA GENERATOR

Through the Ochno Multi-sensors and Ochno Operated, one can have full access to all functions connected to the system. By having all devices connected through the Ochno System Solution, there is a huge potential for Big Data generation. Ochno Operated, a cloudbased software platform can provide APIs for OEMs to utilize their data.

# OCHNO MULTI-SENSOR

The Ochno Multi-sensor is a connected device within the Ochno System Solution which provides 9 different functions in one Multi-sensor. It monitors any area indoor/outdoor and collects data from 9 functional areas and communicates via Ochno Operated, a cloudbased software platform.

It is possible to grow the network of Multi-sensors by just adding new plug and play sensors into the system. There is no need to pre-configure or decide in beforehand, you can grow your network continuously or cut it short.

Utilizing Ochno Operated you have always the latest online information of all connected sensors.

There is no need for additional layers of control systems or costly consultants performing occasional measurements for sound, temperature, TVOC or (e)CO<sub>2</sub>.

You additionally have all access needed to control ambient lighting according to human centric lighting preferences through the Multi-sensors.

- Presence: Motion detection, up to 12m and 120 degree field-of-vision. Shorter detection range also available.
- Air pressure: mbar 10 to 2000 mbar. Accuracy +/- 2 mbar.
- Temperature: -40 to +85 C. Accuracy: +/- 1 C
- Relative Humidity: 0% to 100%, Accuracy: +/- 3 C
- Ambient Light Strength: 3 to 220.000 Lux. Only detects visible light and not sensitive to IR-radiation.
- Ambient Light Color: Measures light color at 3 wave lengths (465nm, 525nm,615nm) with 256-steps resolution per color. Also derives comparable Kelvin-level of ambient light.
- TVOC: Measures Total Volatile Organic Compounds for indoor air quality monitoring. Range 0 ppb to 32768 ppb (particles per billion).
- (e)CO<sub>2</sub>: equivalent CO<sub>2</sub> is a derived CO<sub>2</sub> value based on the amount of TVOC. Range 400 ppm to 32768 ppm (particles per million).
- Sound Pressure: Measures level in 9 different frequency bands according to ISO 1973 standard for indoor environmental measurements. Frequency range 31Hz to 8000Hz, sound pressure range 0 dB to 128 dB.

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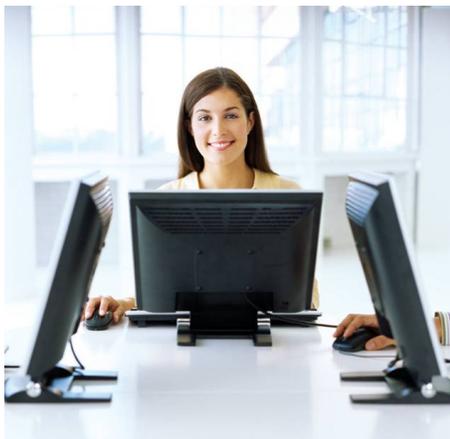
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## SERVICE FEATURES AND BENEFITS



The Ochno Multi-sensor provides an easy to install and easy to use infrastructure for optimization of various flows of energy usage and space usage.

The building owners have full flexibility in designing their Multi-sensor network with plug and play solution.

Further benefits for the building owners are happy and satisfied users of workplaces as they have real time data on temperature, humidity, noise, TVOC - air quality and energy consumption.

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