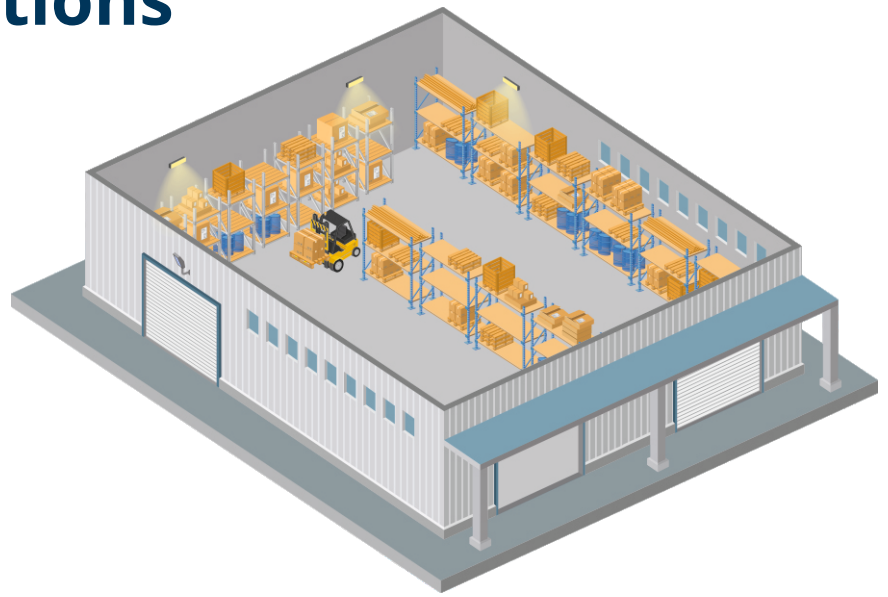


Smart lighting control for Indoor applications

SEAK

SEAK SMART is a reliable **lighting control system** for commercial and industrial buildings that uses existing power lines for communication. Besides lighting, SEAK controls provide connectivity also for **electric vehicle chargers** and other **IoT devices**.



What's unique about?

The technology uses existing 230V power lines to transmit control signals. It does so using original patented reliable low-frequency technology.

- ✓ No additional cables.
- ✓ No antennas and no more radio waves.
- ✓ No repeaters needed.
- ✓ Just reliable communication up to 5 km from each electric cabinet.
- ✓ Can be extended with EV Chargers.

	SEAK powerline	DALI solution
Luminaire requirements	DALI, 1-10V or PWM	DALI interface required
Installation	No control cable needed	Additional control cable needed for each luminaire
When changing layout (tenant request)	Only configuration change	Control cables need to be refitted
Versatility	Powerline up to 5000 m	Control cable max. 300 m
Communication type	Half-duplex, asynch	Half-duplex, asynch
Communication speed	50bps	1200bps
Supported lamp types	LED, HID	LED, HID

With Seak technology achieve almost 50% energy savings

TESCO STORES

"We approached the Seak company in 2009 to propose an energy saving system for our stores. In their case, the presented solution and ROIs matched our vision of effective energy savings for Tesco indoor and outdoor lighting."

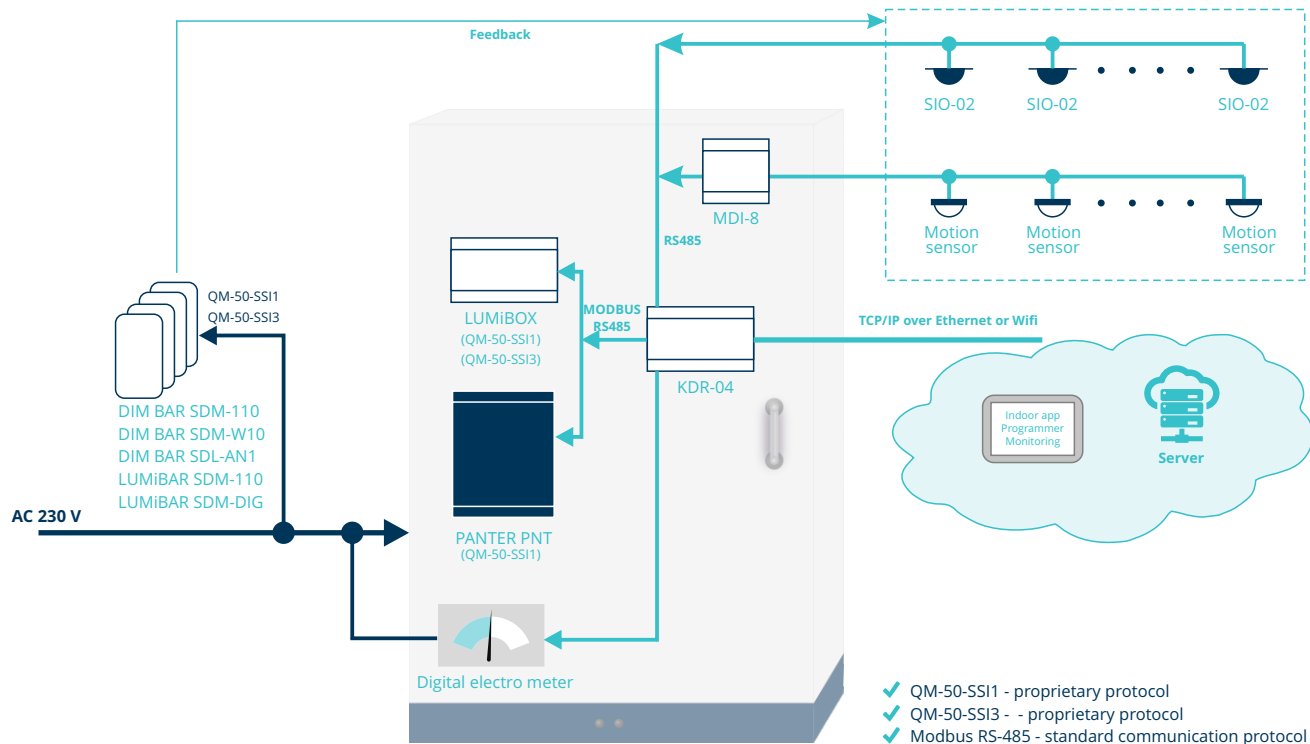
Vítězslav Mizera, MBA, Energy Conservation Manager for Tesco Stores CZ and SK

VOLKSWAGEN BRATISLAVA

"One of our goals is to reduce energy consumption. The SEAK company has shown us potential by increasing efficiency with the help of public lighting management in a wide range of options as well as individual settings for standalone lighting circuits with regard to our needs. Using this system, its variability at a minimum cost of maintenance has proved to be the right decision."

Štefan Hanečák, Dipl. Ing., Gebäudemanagement/ Fabrikplanung

Technical infrastructure - Indoor



Controllers

The **SEAK controllers** provide selective lighting control for indoor and outdoor use.

Features

KDR-04

- ✓ various modes of lighting control
- ✓ automatic control of light intensity to the required lux level
- ✓ lighting control according to schedule
- ✓ lighting control based on motion sensors and various analog and digital inputs
- ✓ communication interface is ethernet for local and
- ✓ remote management of the system using graphical application
- ✓ external control – analog and digital inputs, twilight
- ✓ switch, devices on RS-485 bus

Modulators

Every powerline that serves luminaires needs to be connected through one of **SEAK modulators**. There are several models available to fit different current levels. Different modulators may be combined in one cabinet based on actual needs.

	PANTER PNT-340	PANTER PNT-360
Number of phases	3	3
Max. current	3x40A	3x63A
Dimensions (in mm)	196x300x120	204x316x123

Luminaire

SEAK can control both LED luminaires and discharge lamps. In order to read the commands from the powerline, the luminaire needs to contain one of **SEAK demodulators**. You can choose one depending on functions needed and the type of driver used in the luminaire.

Alternatively, you may use:

- ✓ **SCC LED Driver** (30 W - 250 W) with built in SEAK demodulator
- ✓ **VNS HID Ballasts** (45 W - 400 W) with built-in SEAK demodulator
- ✓ **SSR-1000 module** for remote switching of up to 1000 W line
- ✓ Luminaire from selected manufactures, that come with SEAK demodulator out of the box

	LUMiBAR SDM-110	LUMiBAR SDM-DIG
LED Driver Required	0-10V	DALI
Programmable dimming sequences	✓	✓
Reprogrammable over SEAK PLC	✓	✓
CLO function	✓	✓
Standby function	✓	✓
Dimensions (mm)	75x35x12	75x35x12

SMART Indoor App User-friendly Lighting Control

Gives the authorised person the power to control the lighting. Easy-to-use SMART application allows

- ✓ manage the lighting according to schedule
- ✓ manage the automatic control of lighting intensity to the required level for the whole area, for luminaire groups
- ✓ monitoring current lighting status and consumption



Smart lighting for hotels

SEAK offers SMART lighting control for hotels that uses existing power lines for communication. You can set up individual scene for parts of the hotel (reception, foyer, congress facilities, corridors or lobby bar).

In each scene you can adjust different features. During the day or night change lighting intensity or color temperature (from 3000K to 6000K).

For selected group of luminaire you choose the color of the light in RGB range.

Add luminosity sensors and motion sensors as needed with high lighting intensity demand. System will automatically balance light intensity to get you the right light at minimum consumption.

Get reports by lamp group or by individual lamp:
 ✓ consumption ✓ desired lux levels ✓ actual lux levels



Increase the attractiveness of hotels by EV chargers

SEAK offers the opportunity to extend charging infrastructure with affordable stations that communicate with SEAK SMART lighting system. We can use the existing lighting network and integrate these public charging stations on the same electrical lines.

You have a choice of three options:

1. EV charger integrated into public lighting
2. Stand-alone EV charger
3. Wallbox EV charger

Award for innovation

At Urbis Smart City 2018, the LUMiCHARGER won the Urbis Gold Medal Award for the most innovative Product, when the commission appreciated "the simple deployment of charging stations into existing public lighting network without the need to install additional communication or power cabling with automated electrical load balancing with the lighting system."

TYPE OF EV CHARGER

AC power, max. 22kW

TYPE OF CONNECTOR

Type 2 connector (Mennekes)



Wallbox electric vehicle charger



Selfstanding electric vehicle charger