



Overview 2020 - 2021

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We are committed to listening, learning and offering solutions to our clients; we act with honor, responsibility and always delivering what we promise.

Our teams are dedicated to technical excellence, in order to work intelligently and find the right solutions according to the needs of our clients.

## ANALYSIS, RESPONSE & SUPPLY

We are part of the technological evolution offering solutions to your ideas.

### OVERVIEW 2020-2021

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At Cooper Lighting Solutions, we build forward-thinking lighting solutions that make people's lives safer, while making buildings, homes and cities smarter and more sustainable. We deliver an industry-leading portfolio of indoor and outdoor lighting, lighting controls and smart lighting systems.

We question, we seek and we solve. Because building a better world means asking tough questions and pushing harder for answers. Together with our customers, we create solutions that build a better world. At Cooper Lighting Solutions, we push past the ordinary to build brighter.

Cooper Lighting Solutions is a business unit of Signify, the world leader in lighting. Together we have a shared purpose to unlock the extraordinary potential of light for brighter lives and a better world.



## Lighting Products

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GUV Disinfecting Solutions

GUV Controls

VHB LED High Bay

Controls

## GUV DISINFECTING SOLUTIONS



### GUV Disinfecting Solutions

Multiple GUV fixtures available with UL 1598 controls package.

GLR - Louvered aesthetics with GUV disinfection technology.

GSL - Narrow strip light family with GUV disinfection technology.

GH - High bay with 6 or 8 GUV lamps for large area UV disinfection.

GUC - Low profile GUV under cabinet design available in 2' & 4' lengths.

GTR - Recessed troffer with open design to maximize disinfection.



### Disinfect. Safe. Secure

Fail-Safe GUV Disinfecting Solutions, germicidal UV (GUV) fixtures, use ultraviolet radiant energy to inactivate bacteria, mold spores, fungi or viruses. Several GUV-enabled fixtures (high bays, strip lights, troffers, under cabinet lights, and louvers) are available.

Cooper Lighting Solutions has introduced the first and only UL1598 Safety Certified solution for GUV applications. Learn about GUV and share what GUV-enabled solutions from Cooper Lighting Solutions are available to kill bacteria and inactivate viruses empowering health and safety around the world.



## UV Clearance Pushbutton

UL1598 Safety Rated.  
LED illuminated when activated.  
Normally Open Relay.  
IP65 rated.  
Comes assembled with wallplate.

The Clearance Pushbutton is installed in the space to be sanitized and must be pushed before the system will turn on. This ensures the operator walks the space and checks for occupants before activating the system. The button will illuminate when pressed, notifying the user the button has been pressed.



## GUV Control Panel

UL 1598 safety rated control system.  
Monitors primary and secondary safeguards.  
Will automatically turn off if someone enters the space.  
Built in adjustable timer will automatically turn the system off.  
Connect up to 24 pushbutton inputs to the panel.



The GUV Control Panel is an integral part of the Cooper Lighting Solutions' GUV System. Using required clearance pushbuttons and magnetic sensors, the UL1598 Safety Rated control system ensures that the space to be sanitized is vacant and if someone enters the space, assurance that the system will turn off. The control panel accepts up to 24 safety clearance pushbutton inputs and can be wired to one User Safety Panel which is used to turn the system on and off.





### GUV Magnetic Access Sensor

UL1598 Safety Rated.  
Built-in triple redundancy.  
Tamper-proof, coded actuators.  
IP67 rated.

The GUV Magnetic Access Sensors are to be installed on all doors, windows and other openings where someone could enter a space being sanitized by GUV Luminaires. When the sensors are separated, the GUV Control System will turn the GUV Luminaires off and will not restart until the system is turned on again.



### GUV User Station

UL1598 Safety Rated.  
System ready and System on LED indicator lights.  
Universal keyed activation switch.  
Fits in standard double gang wallbox.

The GUV User Station allows a trained operator to control the GUV System. There are 4 components of the User Station: an ON/OFF switch, an LED indicator notifying the user the pushbuttons and sensors are in the closed position, a keyed switch which only allows trained staff to operate the system and another LED light which indicates if the system is actively running.



## VHB LED HIGH BAY



### VHB LED High Bay

Compact, lightweight design for ease of installation.

High impact polycarbonate optical lens 5 lumen packages available (9,000, 12,000, 15,000, 18,000 and 24,000).

High-Performance efficacy up to 147 lm/W.

Connected lighting options available for added savings.

Lumen maintenance – L85 @ 60,000 hours.

Precision optics in narrow and wide distribution.

0-10V Dimming driver standard.

Up to 65% energy savings.



The VHB is designed for a wide variety of applications and mounting heights with a balance of fixture performance and affordability. Precision designed optics, multiple distributions, lumen outputs and color temperatures make the VHB ideal for industrial, commercial, manufacturing, gymnasium and other applications that utilize traditional linear fluorescent and HID high bays.

# CONTROLS



## WaveLinX Wired PoE Touchscreens



PoE touchscreen can be installed virtually anywhere.

Customizable graphics.

Password protection capabilities.

Portrait or landscape mounting and layouts.

Area, scene, zone level control with buttons and/or sliders.

Save scene capabilities with password protection.

Color picker for white tuning or DMX color changing.

## WaveLinX Wired Configuration Software



Scan and detection auto device.

Define lighting areas, scenes and zones.

Occupancy detection configuration.

Daylight harvesting configuration.

Receptacle control.

Time scheduling and control sequencing.

Control panel screen editor.

Partitioning setup.

Demand response settings.

## WaveLinX Wired Interface Module - Mini



Programming of up to 8 sequences with up to 30 steps per sequence.

1.7" diameter module interface easily fits in standard junction boxes.

## WaveLinX Wired Multi-Sensor Highbay



PIR sensor facilitates lighting load control in response to occupancy.

Integrated sensor measures the overall light level in detection area.

Supports mounting heights up to 49 feet.

Works with all iLumin Plus panels using the SCMD4 control module.

**Cooper Lighting Solutions controls catalogue:**

<https://www.cooperlighting.com/product-list.html?c=cooper-lighting;product-category/controls-wiring&tags=>



# current

powered by GE

## The time is now.

Businesses are just beginning the transition to LED lighting in millions of commercial and industrial buildings in the world. While the immediate goal is energy efficiency, connected lighting has the potential to unleash additional productivity and revenue outcomes, and to prepare organizations for the future of smart building technology.

Data & Analytics.  
Efficiency Mastered.  
Productivity Plus.  
Holistic View.

## Lighting Products

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Evolve LED Wall Pack – EWNB

Albeo LED Luminaire – ABV3

Albeo LED Luminaire - AHH2

Controls

EconoLED Products



## EVOLVE LED WALL PACK-EWNB



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### Evolve LED

#### Wall Pack – EWS3

The next generation of the Evolve® LED N-Series wall pack is designed to efficiently illuminate walkways, area, and general lighting applications. The EWNB's advanced LED optical system provides high uniformity, excellent vertical light distribution, reduced on-site glare and effective security light levels. This luminaire offers identical photometrics to the EANB area light, which allows lighting designers to capitalize on the same features without compromising site layouts. In keeping with a sleek design strategy, this product offers a modern look, balancing the need for photometric scalability with reliable workhorse performance. Now available in 3000K, 4000K & 5000K with lumen range of 4,000 – 14,400 lumens and 0-10V continuous dimming.

### APPLICATIONS

Wall mounted, site, area and general lighting utilizing an advanced LED optical system providing uniformity, vertical light distribution, reduced on-site glare and effective security light levels.

### FEATURES

4,000 – 14,400 lumen output.

Utilizes high brightness LEDs, 70 CRI at 3000K, 4000K and 5000K typical.

L90 @ 50,000 hours.

Type II, III & IV distributions.

120-277 volt and 347-480 volt available.

Mounting: Flush wall mount (w/ convenient tab and slot mounting for easy "J" box installation). 1/2" conduit holes are included for non-"J" box installation.

Title 24 compliant.

UL/cUL certified.

DLC Listed (for 120V-480V).

Compliant with the material restriction requirements of RoHS.



## ALBEO LED LUMINAIRE - ABV3



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### Albeo LED Luminaire - ABV3

#### FEATURES

Compact, efficient design from 11" x 14" to 15" x 28".

Lumen output: 9,000-90,000 lm.

Optics: 30, 55, 90, 120 degree optics with clear, diffused, or no lens options.

Cable/chain, rod, or pendant mount  
3000K, 3500K, 4000K or 5000K CCT.

70, 80, or 90 CRI.

Daylight, motion, and wireless controls  
0-10V dimming.

Lifetime: L70 at 100,000 hours.

5 year limited system warranty.

Inverted Mounting Options.

Controls & Sensors: 0-10V standard; occupancy and ambient light detection with dimming available; Wireless Daintree™ Networked options available.

Additional Efficiency: Achieve up to a 70% reduction in lighting costs by adding Daintree Wireless Lighting Controls. In addition to greater control over illumination levels, you'll also benefit from improved occupant comfort and productivity.

#### APPLICATIONS

High and low bay lighting.

Racked aisles or open floor plan.

Warehouse, cold storage, industrial, gymnasiums, sports arenas, retail, high-ceiling spaces.



## ALBEO LED LUMINAIRE - AHH2



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### Albeo LED Luminaire - AHH2

#### FEATURES

UL 844 Class I, Division 2, Groups A, B, C, D.  
Up to 60°C maximum ambient temperatures.  
IP66 rated fixture.  
Modular design: single and double fixture options.  
Up to 165LPW.  
Lumen output: 9,000-60,000 lm.  
Optics: 30°, 55°, 90°, 120°.  
¾" NPT threaded conduit mount.  
4000K or 5000K CCT.  
70, 80 CRI.  
0-10V dimming.  
Optional Corrosion Resistant Finish.  
Lifetime: L70 at 100,000 hours.  
RoHS.  
5 year limited system warranty standard.

#### APPLICATIONS

Hazardous Location High Bay & Low Bay Lighting.

The Albeo® AHH2 LED luminaire is a Class I, Division 2, Groups A,B,C, and D rated fixture for hazardous locations with high ambient temperatures and wet applications. Utilizing a sealed, IP66-rated form factor, the Albeo® AHH2 series offers customers a rugged design with exceptional performance and high reliability.



## CONTROLS



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### Advanced Lighting Controls and Building Automation.

The Daintree™ wireless solution includes advanced lighting controls, edge hardware devices and an intuitive, web-based software application. Whether you are performing a retrofit or new construction project, Daintree™ wireless lighting solutions are flexible, upgradeable and cost-effective. Furthermore, the open architecture of the Daintree™ network allows for integration with third-party devices and applications, providing the ability to expand your control beyond lighting and create more intelligent environments.

#### Standalone Daintree™ One



Standalone or single-fixture wireless control system. Daintree™ One comes with factory-installed embedded wireless occupancy and daylight sensors that control each fixture individually.

#### Distributed Daintree™ EZ Connect



Distributed lighting controls solution. It allows a group of adjacent fixtures to communicate with each other directly, without the need for a separate gateway or cloud operating system. Each fixture has an embedded wireless occupancy and daylight sensor, and the system can be setup, commissioned and controlled via mobile application.

#### Daintree™ Networked



The foundation of a building's digital infrastructure. This comprehensive solution provides full-featured lighting control for both fluorescent and LED lighting, as well as other devices including wireless thermostats, fans, water heaters, air compressors, HVAC units and more.



# current

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### EconoLED Portfolio

Current has developed a new range of LED luminaires that meets the needs of an evolving market.

EconoLED Luminaires offer several easy-installation and high-energy efficiency solutions; from honeycombs and downlights to projectors and industrial luminaires of different sizes; improving lighting in key segments such as offices, commercial buildings, shops, hotels and factories.



#### EconoLED Luminaire - Flood GEN 2

The Flood LED Projector is the solution to efficiently illuminate spaces where traditional projectors are used; with meaningful benefits throughout its useful life.



#### EconoLED Luminaire - Panel

The LED Panel transforms ambient light into high-efficiency lighting. These panels are designed to replace fluorescent lamps in false ceilings.



#### EconoLED Luminaire - Downlight GEN 2

The LED downlight comes in different sizes and color temperatures. It's perfect for commercial buildings, office spaces, hotels and restaurants.



#### EconoLED Luminaire - Waterproof

LED Waterproof is the ideal solution for lighting of low-rise commercial building applications. Energy-efficient and low-maintenance, compared to traditional fluorescent lamps.



Revolutionizing the world through light.

Light that lights, sees, connects, thinks, protects.

Sees by leveraging ultrahigh sensitive sensors and cameras (optional).

Connects through a next generation wireless network.

Thinks by using edge-based Artificial Intelligence together with an adaptive platform that combines intelligent three-dimensional layers of data into a neural network.

Protects against pathogens utilizing UV-C and UV-A, to disinfect spaces lights utilizing the latest in LED technology.

We transform public spaces into safe and fully connected environments.

## Lighting Products

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AiO Better Light, Protection and Disinfection

Protect Series C

Protect Series H

Protect Series S

Protecting Light Sense

## PROTECTION AND DISINFECTION



### Juganu's J. Protect Luminaries - **AiO Better Light, Protection and Disinfection**

Harnessing the power of years of experience and 43 Granted Patents, Juganu is helping the world fighting the COVID-19 Pandemic.

Juganu's Smart Lighting Planar Technology with the JMix UVA for continuous protection and the disinfection mode, is the most advanced and safe luminary that can replace existing Light Fixture with a an AiO solution; as well as the perfect solution for a new installation, providing you with smart lighting, dimming, color temperature control, continuous protection and disinfection.



## PROTECT SERIES C



### J.Protect - Series C

#### FEATURES

- General illumination.
- Invisible protection.
- Disinfection cycle.
- Wireless control.
- Safety features.
- Planar technology.

#### BENEFITS

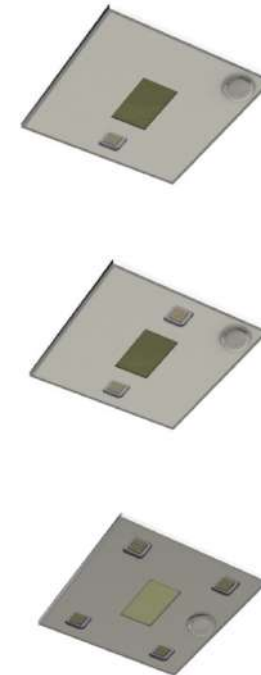
- Dual functionality.
- Continuous protection.
- maintenance - free.
- Easy installation.

### Harnessing the power of light to protect you.

Providing light and protection for public spaces, this unique luminaire mixes visible and non-visible light to function both as a general lighting fixture with the ability to continuously protect from disease carrying pathogens, and a secondary function which manually activates disinfecting feature.

#### J. Protect Series C

A multifunctional luminaire with general lighting, JMix UVA for continued protection and a UVC mode for fast disinfection. J. Protect C is designed for standard ceiling heights; such as office environments, open spaces and reassessed ceiling.



## PROTECT SERIES H



### J.Protect - Series H

#### FEATURES

- General illumination.
- Invisible protection.
- Disinfection cycle.
- Wireless control.
- Safety features.
- Planar technology.

#### BENEFITS

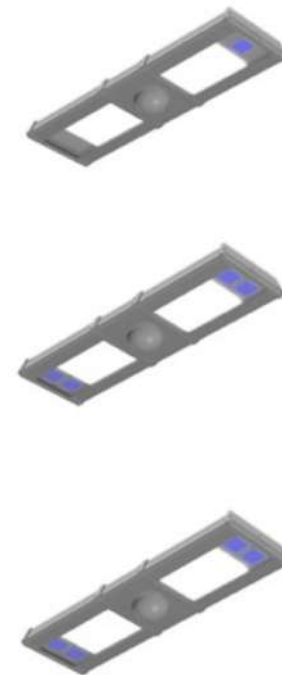
- Dual functionality.
- Continuous protection.
- maintenance - free.
- Easy installation.

### Harnessing the power of light to protect you.

Providing light and protection for public spaces, this unique luminaire mixes visible and non-visible light to function both as a general lighting fixture with the ability to continuously protect from disease carrying pathogens, and a secondary function which manually activates disinfecting feature.

#### J. Protect Series H

A multifunctional luminary with general lighting, JMix UVA for continued protection and a UVC mode for fast disinfection. J. Protect H is designed for high ceilings; such as warehouses environments, retail spaces and supermarkets.





## PROTECT SERIES S



### J.Protect - Series S

#### FEATURES

- General illumination.
- Invisible protection.
- Disinfection cycle.
- Wireless control.
- Safety features.
- Planar technology.

#### BENEFITS

- Dual functionality.
- Continuous protection.
- maintenance - free.
- Easy installation.

### Harnessing the power of light to protect you.

Providing light and protection for public spaces, this unique luminaire mixes visible and non-visible light to function both as a general lighting fixture with the ability to continuously protect from disease carrying pathogens, and a secondary function which manually activates disinfecting feature.

#### J. Protect Series S

A multifunctional luminaire with general lighting, JMix UVA for continued protection and a UVC mode for fast disinfection. J. Protect S is designed for small rooms and smaller spaces; such as hotel rooms, small bathrooms, and for places where fixtures size is limited by space.



# PROTECTING LIGHT SENSE



## Protecting Light - Sense

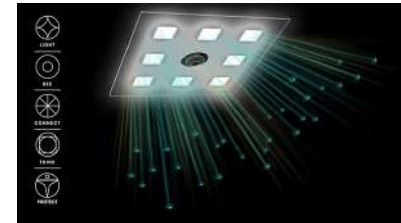
### THERMAL SENSING

Using the power of light to safely combat infection in public spaces with our unique thermal sensors.



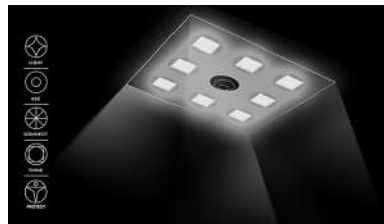
### J.SENSE

J. Sense provides a real time fever sensing solution.  
Basic level – manual flow.



### LIGHT THAT LIGHTS

We are providing a light that embodies the Sun.



### SETUP:

2.5 - 3 meters height.  
5 - 6 meters distance.  
Adjacent security station.



# PROTECTING LIGHT SENSE



## AUTOMATIC LEVEL MULTI-STAGE CONTROL

### 1. Detection:

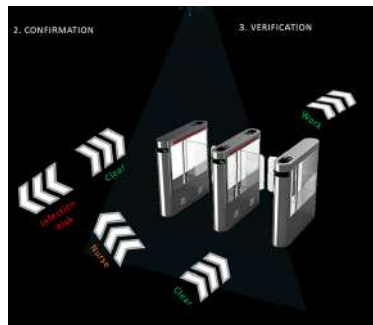
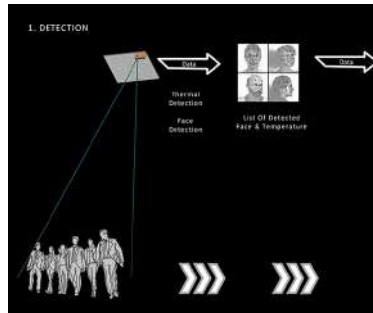
Thermal detection.

Face detection.

List of detected face & temperature.

### 2. Confirmation

### 3. Verification



## EDGE ANALYTICS

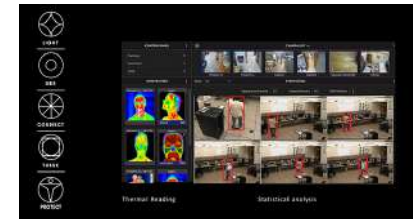
Image analysis and advanced AI to provide risk assessment in real time.

## CUTTING-EDGE AI TECHNOLOGY

We developed public health control measurements using the latest technology.

## DISCRETE INTEGRATION

Using integrated discrete cameras and sensors, remote health monitoring can be made in a none intrusive way.



## **Leuze electronic**

### **The I4.0-Capable sensor solution of the future.**

As leading innovator in optical sensors, Leuze electronic positions itself as the driving force and pioneer for the implementation of Industry 4.0

Making sensor data and information from different sources available globally and linking this data and information in a meaningful way – this is the crux of Industry 4.0. New business ideas make it necessary to make this information globally available and accessible not only within a company but also beyond the boundaries of the company and its location.

### **Lighting Products**

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#### OI - LINK

- Compartment occupation sensors
- Material thickness sensors
- Sag/loop control
- Parts detection and type testing
- Detection of transparent objects
- Measurement of roll diameter
- Detection of contrast markers
- Detection of objects in film

#### 1D and 2D Codes

- 1D code
- 2D matrix code
- 2D stacked code

#### Radio Frequency Identification - RFID

#### Measuring Sensors

- Optical distance sensors
- Ultrasonic distance sensors
- Sensors for positioning
- 3D sensors
- Light curtains
- Bar code positioning systems
- Measuring forked sensors



## **Leuze electronic**

### **IO-Link: The standard for networked factories.**

As founding member and technology developer of IO-Link, we have broad know-how and offer an extensive line of IO-Link sensors and system components such as IO-Link master and connection technology.

You always receive the latest technology – such as Smart Sensor Profile – and many sensors with additional functions as well as connection options to the cloud. With our networked solutions, you are ideally prepared for current and future requirements of the smart factory.

### **APPLICATION EXAMPLES**

#### **Compartment occupation check and push-through protection**



#### **Solution:**

The diffuse sensors of the HT 10, 110 and HRT 25B series also detect a wide range of pallets and containers. With their precise switching points, they can be used on nearly every high-bay storage device for compartment occupation checks or for push-through protection.

#### **Material thickness measurement**



#### **Solution:**

The ODSL 8 and ODS 9 sensors measure the distance with resolutions of up to 0.01 mm and thereby supply the basis for a high quality of this process step.



## Leuze electronic

### APPLICATION EXAMPLES

#### Sag/loop control



#### **Solution:**

The tension of the material can be monitored by measuring the sag. Due to their various light-spot geometries, the ODSL 8, ODS 10 and ODSL 96 sensors can reliably measure the sag of a wide range of different material surfaces.

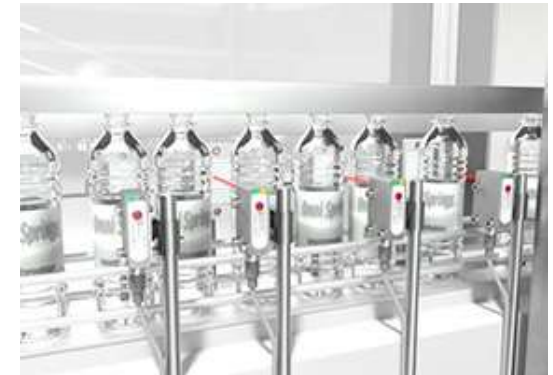
#### Parts detection and type testing



#### **Solution:**

Our compact and switching TOF sensors ODS 110 / HT 110 are the perfect solution – even in situations with limited installation space. Models ODS / HT 10 are suitable for measurement ranges over 5 m. They can also be mounted outside of the robot cells.

#### Detection of transparent objects



#### **Solution:**

Through the use of a retro-reflective photoelectric sensor for transparent objects with IO-Link – such as our PRK 3C, PRK 55 or PRK 18B – environmental influences can be detected and analyzed so that the machine control can respond.

## Leuze electronic

### APPLICATION EXAMPLES

#### Measurement of roll diameter



#### Solution:

An optical or ultrasonic distance sensor – such as ODS 9 or ODS 96B – measures the distance from the sensor to the roll. The measurement values are digitally transmitted to the machine control via the IO-Link process data. No conversion of measurement values from analog to digital is necessary.

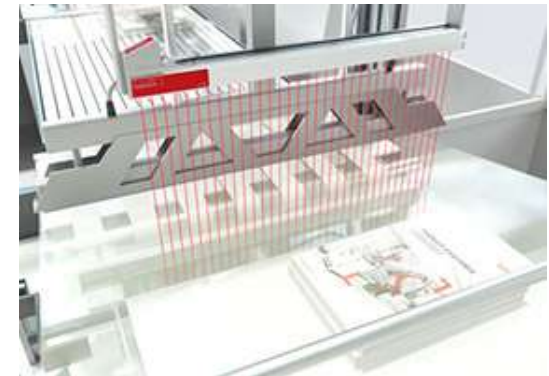
#### Detection of contrast markers



#### Solution:

An optical contrast sensor – such as the KRT 3B or KRT 18B – is used that determines the optimum contrast ratios by means of multiple transmitter colors. The transmitter colors are taught in once using a teach routine and stored in the sensor or control. IO-Link can then be used to select defined and taught products from the recipe memory of the sensor or transfer them from the control. No new teach-in process is necessary.

#### Detection of objects in film



#### Solution:

The measuring light curtain of type CML 730 with power setting transilluminates the only partially transparent films with its transmitter that has been set to high power. The number and position of the interrupted beams is output to the machine control via the IO-Link interface. Preset, material-dependent beam parameters can be output to the light curtain via IO-Link.

## 1D AND 2D CODES



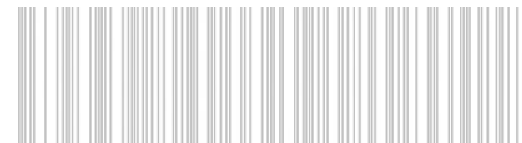
### **Leuze electronic**

#### **The Right Technology.**

To offer the optimum solution for all requirements, we use various technologies. These range from optically reading 1D and 2D codes to contact-free data transmission through radio frequency identification.

#### **1D CODE**

With 1D codes, the information is represented using lines and gaps of various widths. The black bars and white gaps reflect the light emitted by the 1D code reader to different degrees. Less light is reflected by the black bars. This is detected by the receiver module of the reader, which converts the information into binary data that can subsequently be processed further and output via an interface.



**1D CODE**

#### **ADVANTAGES**

Simple and inexpensive to create.

Through an integrated check digit, the code is directly checked for validity, thereby making possible high first-pass read rates.

#### **AREAS OF APPLICATION**

Electronics, automotive and consumer goods industries.

Transport logistics.

Postal shipping.

# 1D AND 2D CODE



## Leuze electronic

### 2D CODE

There are two types of 2D codes: the matrix code and the stacked code.

With the matrix code, the information is represented by arranging small geometric cells.

The stacked code is a special case. Here, the information is represented by lines and gaps in multiple rows. The camera of the sensor takes a picture of the code. The camera chip detects the contrast between the white gaps and the black cells and converts the information into binary data. This is then processed further and output via an interface.

Unlike the 1D code, the information is contained in the arrangement of the cells.

### ADVANTAGES

Minimal space requirement.

Highest-possible information content.

Through the integrated error correction algorithm, even damaged codes can be read error-free.

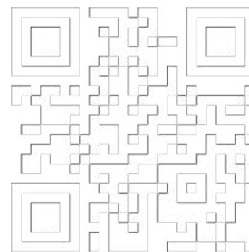
### AREAS OF APPLICATION

Transport logistics.

Electronics and automotive industries.

Consumer goods and travel sectors.

Pharmaceutical industry.



2D matrix code

### ADVANTAGES

Compact code compared to 1D codes.

Variable width and height.

Through the integrated error correction algorithm, even damaged codes can be read error-free.

### AREAS OF APPLICATION

Transport logistics.

Consumer goods industry.

Travel sector.



2D stacked code

# RADIO FREQUENCY IDENTIFICATION – RFID



## **Leuze electronic**

### Radio Frequency Identification – RFID.

An RFID system consists of a read/write system with integrated and/or external antenna as well as at least one transponder and uses electromagnetic waves for data transmission. Each transponder consists of an antenna and a microchip on which a unique, unchangeable serial number (Unique ID) as well as – depending on the type of transponder – other object-related data is stored.

While active transponders use an integrated power source for data transmission, passive transponders draw the energy required for data transmission from the electromagnetic field of the reader. Here, RFID systems use either low frequencies/LF (125 kHz to 134 kHz), high frequencies/HF (13.56 MHz) or ultra-high frequencies/UHF (865 MHz to 928 MHz). The used frequencies vary depending on operating range, transmission rate and susceptibility to interference. In general, the reading ranges achieved by the system increase with frequency, but so too does the susceptibility to interference.

### ADVANTAGES

"Visual contact" is not required between write/read unit and transponder: the radio waves penetrate materials such as wood, cardboard or plastic depending on the frequency range.

Transponders can be integrated in the product or in the transport medium.

RFID systems are robust and also function reliably in harsh environments independent of contamination.

When using writable transponders, production and quality data can be stored directly on the transponders during the production process.

### AREAS OF APPLICATION

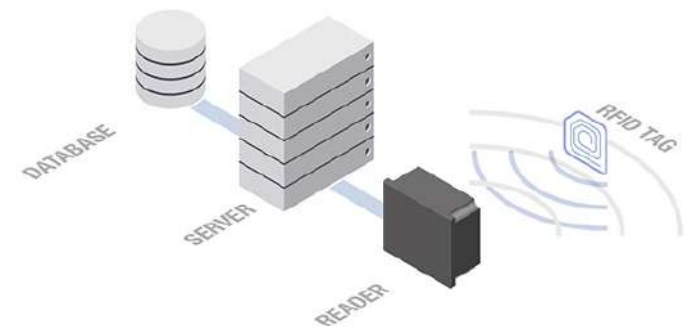
Production control.

Access control.

Identification of persons and objects.

Skid, container and pallet identification.

Material flow control in conveyor and storage systems or the automotive industry.





# MEASURING SENSORS



## Leuze electronic

### Intelligent monitoring and control through measuring sensors.

Measuring sensors can actively check distances, position system parts and monitor other parameters in order to intelligently and independently initiate actions and, e.g., intervene in processes for control purposes. Here, you will find a large selection of technologies and designs for as efficient and fault-free system operation as possible.

### Optical distance sensors



Lights on – measurement starts.  
These sensors use laser or LED light to quickly and precisely measure distances on a wide range of materials, even at large ranges.

### Ultrasonic distance sensors



When light isn't enough.  
With ultrasonic technology, it is possible to reliably detect even partially or completely transparent objects and to perform reliable distance measurements. In addition, measurements can be performed in dusty, hazy or humid environments.

# MEASURING SENSORS



## Leuze electronic

### Sensors for positioning



At the right position with millimeter accuracy. With moving system parts that need to automatically work together, the positioning of parts or work pieces with millimeter accuracy is of great importance. We offer devices here with two operating principles. One is a laser distance measurement device that measures against a reflector and the other is a bar code positioning system that has a red light laser which determines the position and speed relative to a bar code tape.

### 3D sensors



Would you like another dimension with that? These sensors determine height contours. 3D data can be easily generated for moving objects or by moving the sensor. The measurement data can either be output for external processing or preprocessed in the sensor for convenient object measurement or detection.

### Light curtains



Many beams see more than one. Our measuring light curtains monitor a large measurement field and output measurement information from this field. Depending on the configuration and model, the devices are suitable for a variety of measurement tasks with various resolutions and can be integrated in different fieldbus environments.

## Leuze electronic

### Bar code positioning systems



Position data without limit – "Infinite", curve-going and with millimeter accuracy.

The read head of the bar code positioning system is moved along a bar code tape. It calculates the absolute position data in the direction of travel with millimeter accuracy up to a distance of 10,000 m. The bar code tape is extremely simple to use and can be bonded both in straight lines and in curves. Maximum flexibility, simple mounting, transparent diagnosis as well as a large selection of integrated interfaces are the strengths of this system.

### Measuring forked sensors



Fork is just another word for exact.

The forked shape offers measurement resolutions as great as 0.014 mm with high reproducibility without time-consuming alignment. An infrared light-band illuminates a line-scan camera (CCD line) and returns analog or digital output signals depending on the illuminated pixels and configuration.