XARA®

EXTENDED APPLICATION RANGE

NORKA

XARA®

The NORKA lighting control system

Edition 2018

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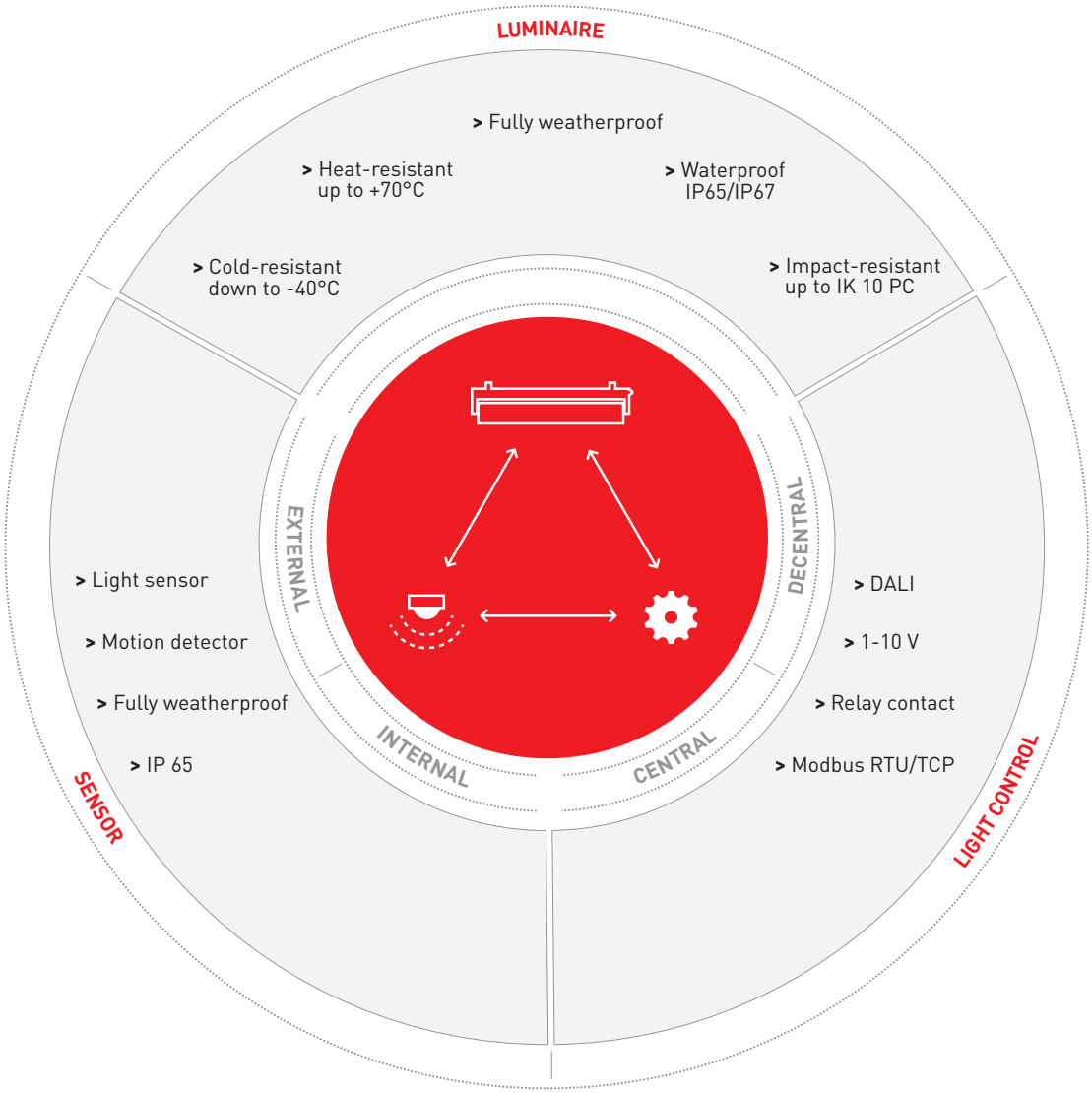
XARA® – THE NORKA LIGHTING CONTROL SYSTEM

XARA® stands for e**X**tended **A**pplication **RA**nge. NOKRA not only offers optimum illumination solutions with the XARA® lighting control system, but also the corresponding lighting control solution. Like the NORKA luminaires, the XARA® lighting control system is also designed for demanding ambient conditions.



The XARA® lighting control system represents smart lighting control in extreme ambient conditions. In line with our luminaires, the XARA® components are also designed with a special focus on durability and reliability throughout their entire service lives. The sensors are used in the same difficult ambient conditions and meet the highest requirements of functionality, protection rating, vibration resistance, and impact resistance.

The temperature range is very wide. NORKA LED luminaires are extremely efficient. The focussed lighting concept allows NORKA luminaires to be adapted precisely to the lighting requirement, achieving energy savings of more than 60%. Another 30% could be saved with the use of control technology.

The XARA® lighting control system includes components for centralised and decentralised controls, configuration software, operating controls such as touch panels, light and motion sensors, wireless components and interface modules. These provide for ultimate operating convenience. And also allows simple integration of NORKA luminaires into building control systems.

XARA® — EXTENDED APPLICATION RANGE

The XARA® lighting control system allows for illumination and lighting control solutions from under one roof. This means NORKA is able to combine the services of the luminaire manufacturer, the control system manufacturer and the system integrator in an "**all-inclusive package**" tailored to individual customer requirements.
XARA® PROFESSIONAL even allows for the integration and monitoring of emergency luminaires.
XARA® lighting control components are checked to ensure their compatibility with each other as well as in terms of NORKA luminaires, thus guaranteeing **maximum functional reliability**.
NORKA provides support taking full responsibility for its lighting and lighting control expertise **from planning to commissioning** performed by its own staff. We will be happy to work out a complete overall solution for your project.

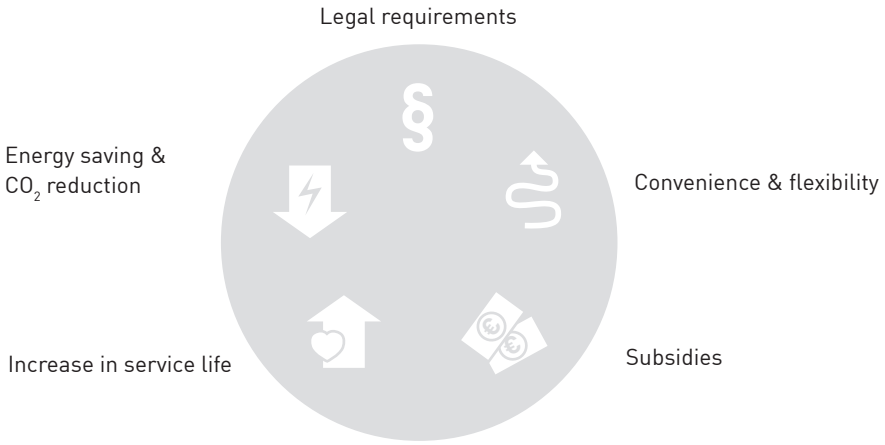
XARA® INCLUDES SMART BUILDING CONTROL COMPONENTS

> Operating controls such as touch panels
> Motion and light sensors
> Wireless components
> Configuration software
> Interface modules

XARA® COMPONENTS ENABLE THE FOLLOWING:

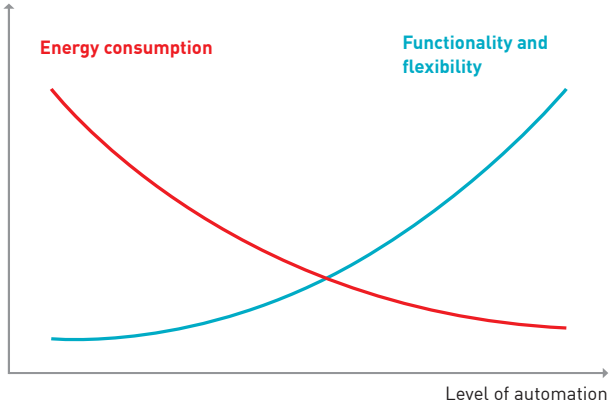
> Lighting and lighting control system by NORKA all from under one roof
> All luminaires and DALI components are compatible with each other
> Support in the planning process by means of additional assistance from our XARA® designers
> Easy integration of NORKA luminaires into complex building control systems
> Integration of other control tasks from the building control system
> 1:1 exchange possible in many areas
> Up to 90% energy savings when combined with NORKA LED luminaires

MANY GOOD ARGUMENTS FOR THE XARA® LIGHTING CONTROL SYSTEM



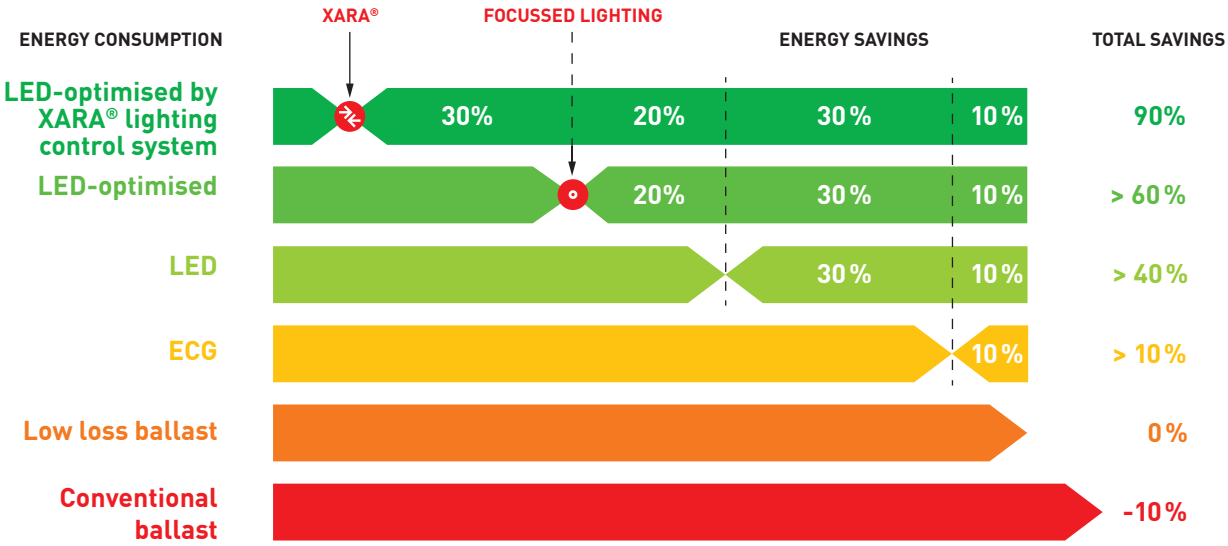
In times of steadily increasing energy consumption and CO2 emissions, combined with rising energy prices, legal requirements demand and promote energy savings. System efficiency of modern luminaires and spotlights with LEDs is already at a very high level. Additional energy savings can be achieved with a control option. This is where the XARA® lighting control system comes into effect. Up to 90% energy savings can be achieved with XARA® lighting control system light and motion detectors. Sensors detect different parameters of building use and can help control them. The energy consumption of lighting systems, in particular, can be controlled by a smart control system. At the same time, convenience and user benefits are increased with maximum flexibility. Lighting control or light reduction by dimming reduces the thermal load on all components in a luminaire and thus significantly increases the service life.
The higher the level of automation, the lower the energy consumption. At the same time, convenience and user benefits increase.

Our XARA® packages reflect these different levels of automation.



The higher the level of control system automation, the lower the energy consumption.

POTENTIAL SAVINGS



UP TO 90% ENERGY SAVING

Replaced by dimmable NORKA LED luminaire with optimised lumen package/luminaire length as well as operation with daylight and motion control compared to low loss and conventional ballast luminaires.

XARA® LIGHTING CONTROL SYSTEM DESIGN

The XARA® lighting control system is basically divided into three areas: XARA® BASIC, XARA® ADVANCED and XARA® PROFESSIONAL. These provide the flexibility and functionality required for spot-on solutions for your project. From simple motion detection in a self-contained corridor (XARA® BASIC), constant light control with a central control panel in a swimming pool (XARA® ADVANCED) to the networking of individual subway stations with all options for lighting control, emergency light monitoring and energy monitoring (XARA® PROFESSIONAL).

XARA® BASIC and XARA® ADVANCED are based on decentralised control technology. The overall function of the system is determined by the configuration and parametrization of the individual components in the lighting control circuit. XARA® PROFESSIONAL relies on central control technology. The overall function is generated by programming the central position.

XARA® BASIC

- Plug & play
- Do it yourself
- Fixed settings
- Adjustment via remote control or potentiometer
- Simple & application-optimised

XARA® ADVANCED

- Plug & play
- Do it yourself
- Configuration parametrization via software
- Great flexibility & functionality
- Parametrization in the factory in accordance with customer specifications

XARA® PROFESSIONAL

- Programming via programming software
- Maximum flexibility & functionality
- All-inclusive package
- Control options above and beyond lighting control

DECENTRALISED CONTROL SYSTEM

CENTRAL CONTROL SYSTEM

XARA® functions

The XARA® lighting control system offers a variety of components and configurations. Below is an overview of the range of features of individual packages.

	Basic	Advanced	Professional
Motion detection	■	■	■
Daylight threshold value & motion detection	■	■	■
Daylight-controlled control system		■	■
Daylight-controlled control system & motion detection		■	■
Integration of switching elements		■	■
Time-dependent control/daily and weekly schedule		■	■
Integration of single-battery and central-battery emergency luminaires		■	■
Transformer failure fault query			■
LED/lamp failure fault query			■
DALI bus communication fault query			■
Inspection log book for emergency luminaires according to VDE 0108			■
Web-based visualisation or via touchscreen			■
Surveillance function			■
Night lighting			■
Connection to central building control system			■
Energy monitoring			■
Remote maintenance			■
Email/SMS service			■
Customisations			■
Integration of luminaires from other manufacturers			■

SENSORS

XARA® motion and light sensors were developed for installation in diverse NORKA luminaires as well as use in an external housing. Sensors with passive infrared (PIR) and high frequency (HF) / radar technology are used.

ADVANTAGES OF AN INTEGRATED SENSOR

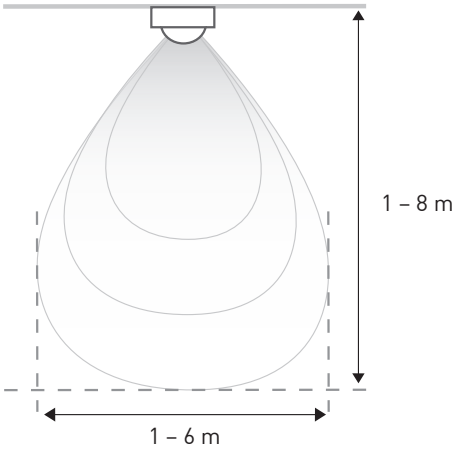
The luminaire and sensor form a unit and can be used in tough ambient conditions. A separate sensor does not have to be connected, thus reducing installation effort. In no time at all, installations can therefore be put into action with autonomous control single luminaires right through to complex lighting control systems applying the "master / slave principle". The high protection rating of our luminaires is maintained in the process.

THE ADVANTAGES OF THE EXTERNALLY INSTALLED SENSOR

The sensor is installed in a housing with high protection rating and in any position. This means it is particularly good for retrofitting existing lighting systems. The separate position also allows it to cover particularly critical or sensitive areas. For example, daylight sensors can cover areas with little daylight exposure as reference measurement, whereas motion detectors can be installed directly at entrances and exits.

FEATURES OF THE HIGH-FREQUENCY/RADAR SENSOR (XARA® BASIC)

- Multi-master compatible – multiple sensors possible in one DALI circuit
- Motion detection and light intensity measurement
- Active high-frequency motion detector - independent of temperature
- Adjustable switch-off delay (20 seconds to 30 minutes)
- Adjustable detection range (1-8 m detection height, 1-6 m diameter)
- Illumination level measurement from 2 to 2000 lux
- Great temperature / application range of -20 °C to +60 °C
- Corridor function
- Remote control available

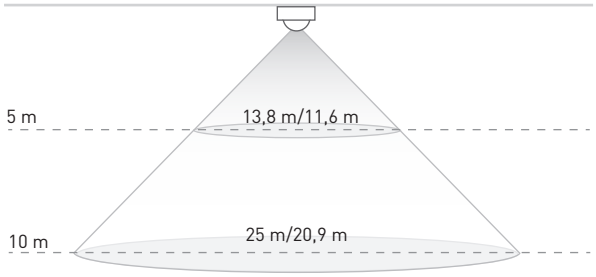


Adjustable detection range for radio-frequency sensor

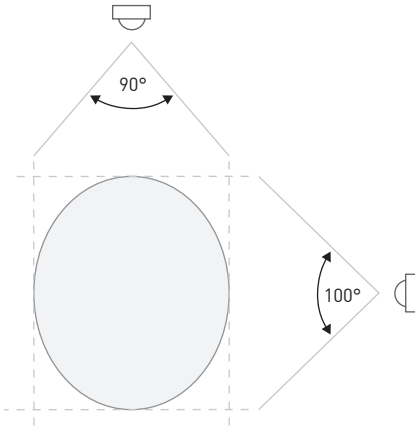
SENSORS

FEATURES OF THE PASSIVE INFRARED SENSOR (PIR) (XARA® ADVANCED)

> Multi-master compatible – multiple sensors possible in one DALI circuit
> Motion detection and light intensity measurement (motion-controlled lighting control)
> Passive infrared sensor for motion detection – regardless of day/night
> Motion detection in 92 zones at a difference in temperature of 4 Kelvin
> Illumination level measurement from 0 to 2,500 lux
> Easy configuration of the motion and light sensor via the DALI bus using configuration software
> When connected to the mains, there is integrated DALI supply for a max. of two additional DALI transformers. In this case, a separate DALI supply is not necessary.
> Max. ceiling height 10 m
> Great temperature/application range of -40 °C to +70 °C
> Corridor function/follow-up time can be parametrized
> Opening angle of the passive infrared sensor: 100° and 90°



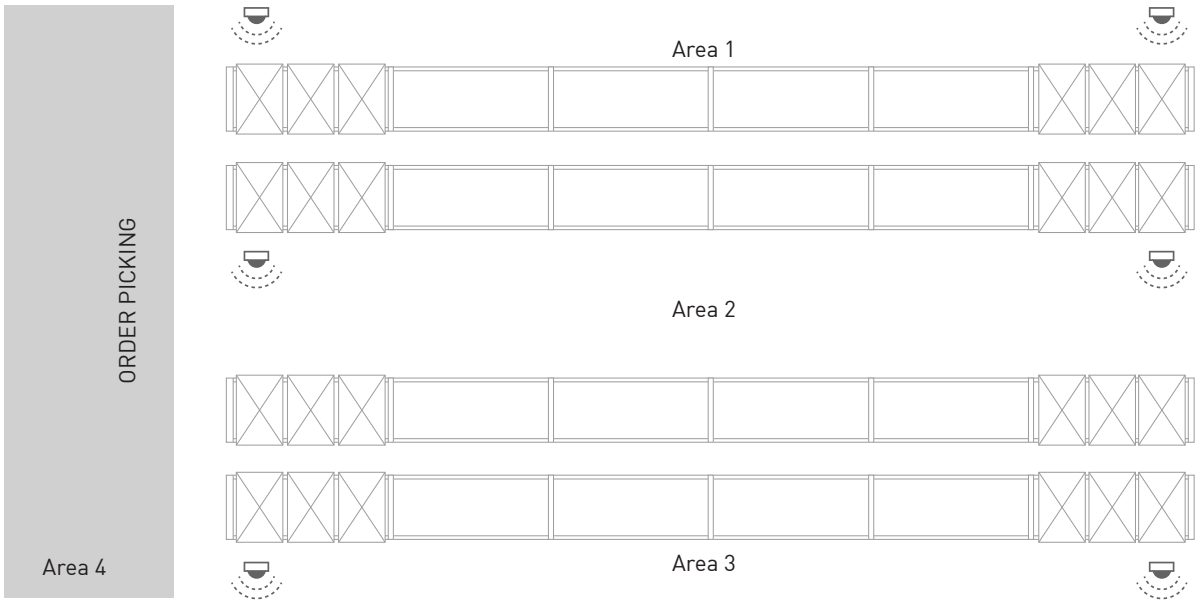
Detection ellipses (length/width) of motion detector at 10 m and ceiling height of 5 m.



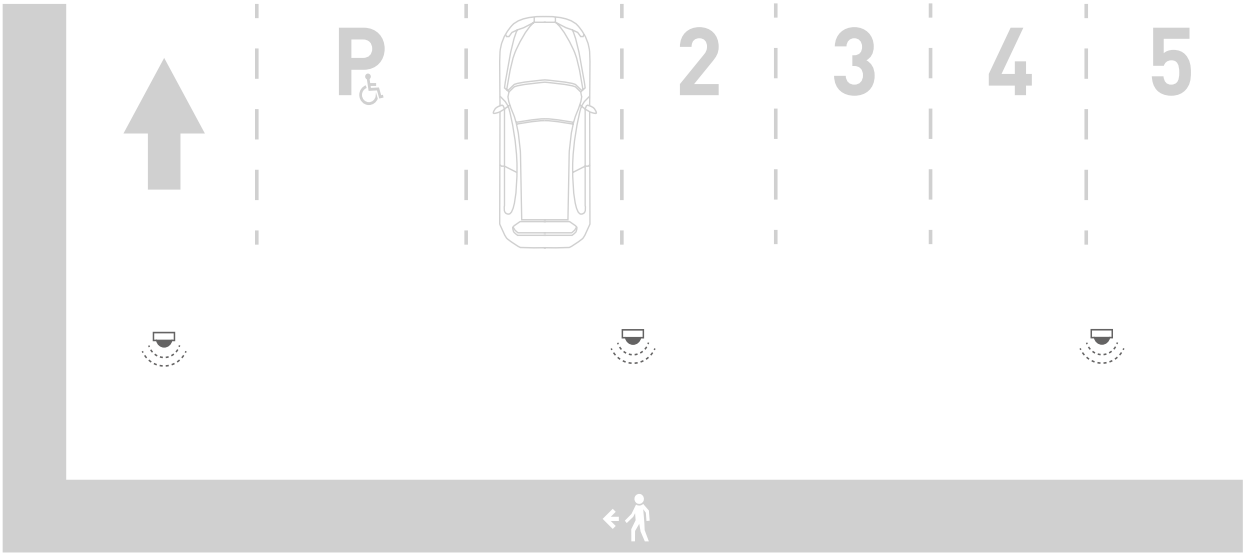
Detection angle of motion detector

COLD STORE

There is no direct sunlight or daylight in cold stores. The storage rooms are completely dark to prevent additional heating up from solar energy. This saves additional energy costs that would have had to be covered for cooling.
Until a few years ago, lighting had to be left on permanently as the fluorescent lamps would not start up reliably in sub-zero temperatures.
Cold-resistant LEDs have enabled luminaires in cold storage warehouses to be switched on and off or dimmed, thus further reducing energy costs.
Switching is activated by motion detection. The sensors can be inserted in the luminaire or externally, preferably at the entrance to the room and start of each shelving aisle.
After a defined follow-up time of a few minutes, the light in individual aisles is dimmed or turned off. This prevents less frequented aisles from being illuminated unnecessarily.



MULTI-STOREY CAR PARK



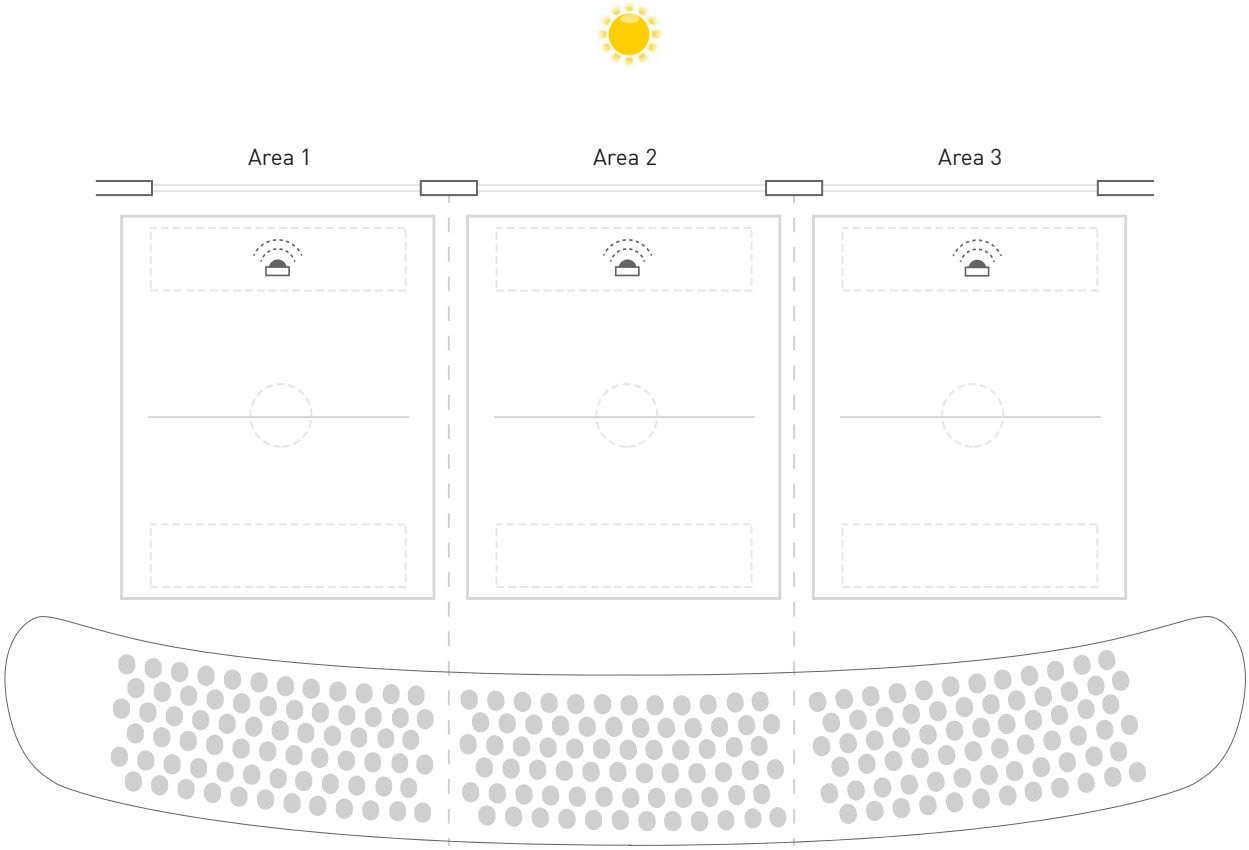
Multi-storey car parks often remain open around the clock and are used at regular intervals linked either to downtown shopping hours or residents' daily routines. They experience little traffic before and after these peak times. The XARA® lighting control system operates based on precisely these usage intervals.
Motion detectors register people and vehicles. This way, only the light that is actually needed is gradually 'faded in'.

Hard on/off switching may cause anxiety in areas referred to as fear spaces, such as multi-storey car parks.
During periods in which no motion is detected, cutting-edge driver units dim the lighting to a preset value; this ensures permanent orientation lighting and makes sure that the building is never completely dark.
Motion detection can be set up zone-by-zone so that motion detected on the ground floor does not light up the entire building.

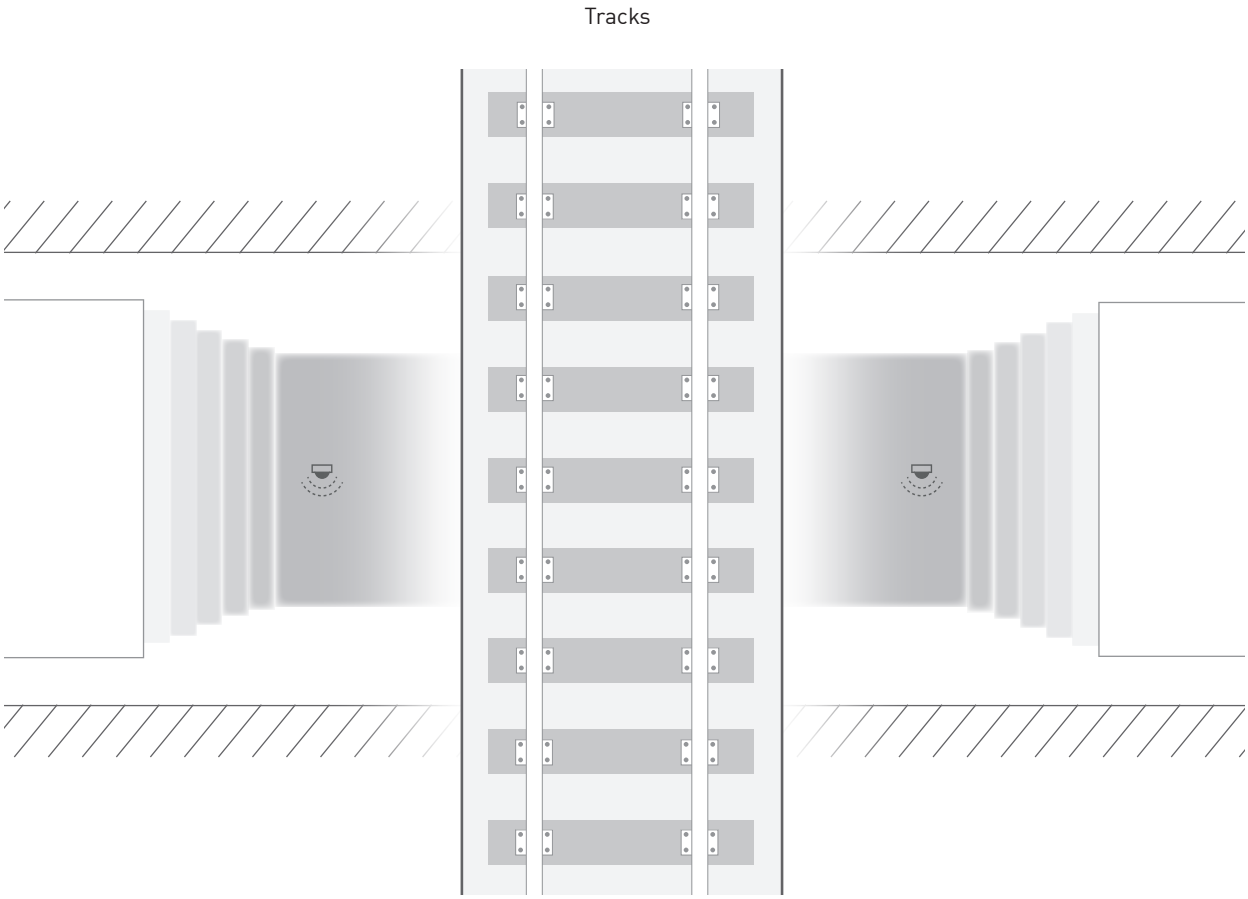
SPORTS HALL

"Who forgot to turn the light off?"
We all remember phrases like this one from our school days. The lights in the sports hall were often left on unintentionally because the daylight outshone them.
Partitionable sports halls are used for various purposes. PE classes are held in three sections of the gym at the same time, while the whole gym is given over to use for major events. Skylights and window fronts are exposed to daylight to different degrees, making one section of the gym almost too bright and warm while another becomes much too dark and perhaps even too cool.

Luminaires fitted with sensors adapt to the daylight conditions in each gym section and dim the lighting without disruptive switching. XARA® sensors additionally detect motion. When the gym is not in use, the light dims and switches off.
Above and beyond lighting management, XARA® can also take control of sun blinds, the heating or the ventilation system. The gym is automatically aired, heated and lit as required. The high rate of automation keeps everyone content and at the end of the day even cuts energy costs.



UNDERPASS



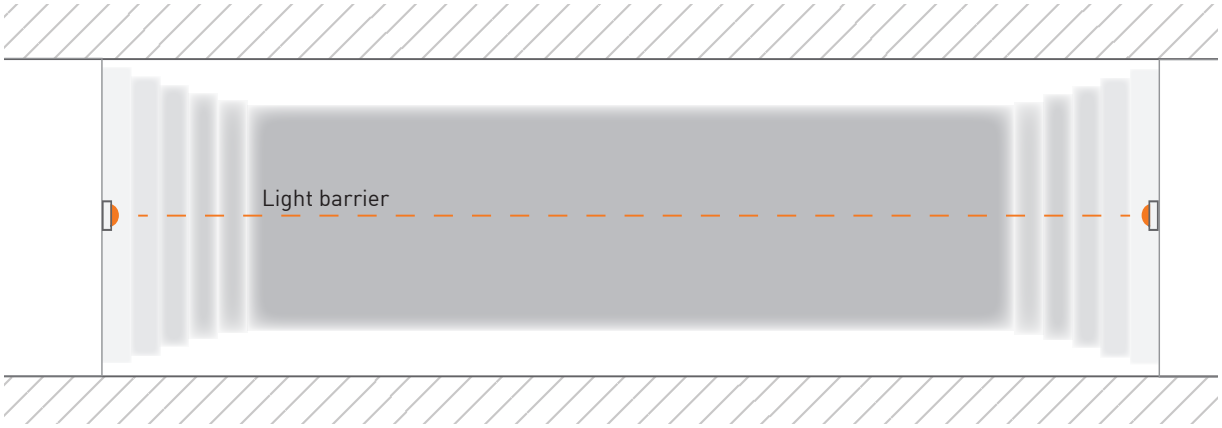
Many people find insufficiently illuminated underpasses scary. At the same time, many underpasses are similar to multi-storey car parks in that many or hardly any people come through depending on the time.
The parties responsible for underpasses are required to keep them sufficiently lit, including the entry areas. It is common practice to program times for switching to full or half lighting based on people count.

Luminaires featuring the XARA® lighting control system detect people and ensure that full illumination is always available when required. When nobody is passing through, the lighting dims to a low level. The underpass never appears unlit. Integrating the sensor into what we call the master luminaire eliminates the need for any new, visible cables. This reduces the risk of vandalism.

WORK PIT

Sensors in work pits face challenges in the long detection ranges required and the low amount of movement. Detecting motion will not suffice here, as the jobs performed often entail remaining almost motionless over longer periods. Such scenarios require **presence detection**. This could be realised using a light barrier combined with a relay contact. It monitors the entire length of the pit and registers anyone inside it.

XARA® luminaires also feature the capacity for connection to sensors with a relay contact and thus allow you to engineer projects that cannot be realised using passive infrared or radio-frequency sensors.



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