

# INTELLECT REGULATOR

- Competitive energy management package
- Energy saving - typically between 50% and 70%
- Presence detection, daylight linking and constant illumination
- Background light feature
- Easy to set-up

Intellect Regulator is the sister range of luminaires to Intellect Digital, sharing the same basic lighting and energy management functionality, of presence detection, daylight linking and constant illumination in every luminaire. Infra-red programming and override is replaced by simple set-up via DIP switches, resulting in a highly competitive package. Intellect Regulator is flexible with re-configuration easily performed as requirements change. A special background light feature prevents lone room occupants being stranded in a pool of light surrounded by darkness, whilst maintaining a high quality gently lit environment and good uniformity. Particularly suited to refurbishment projects, Intellect Regulator provides advanced energy management at exceptional value for money.



## WHERE TO USE INTELLECT REGULATOR

- Call centres
- Offices
- Store rooms
- Reception areas
- Libraries
- Corridors
- Toilets
- Universities, schools and colleges

# INTELLECT REGULATOR

## STANDARD SYSTEM FEATURES

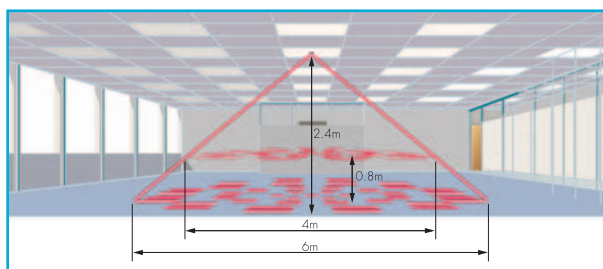
Intellect Regulator is an advanced lighting and energy management tool that is extremely easy to install and set-up, providing instant energy savings. Intelligence is built into every luminaire, with a comprehensive range of set-up parameters available to meet building user needs. All features are set-up via a series of DIP switches mounted on the side of the control cube and can be summarised as follows:

- Presence Detection
- Daylight Linking
- Constant Illumination
- Background Light Mode
- System Setup

## PRESENCE DETECTION

Intellect Regulator uses a passive infra-red (PIR) presence detection system fitted within each luminaire, which turns on the luminaire while people are present, but off shortly after they leave. Energy savings are typically between 20% and 40%.

PIR detectors have a sophisticated lens which divides the area into three dimensional zones, which have to be crossed to trigger the device. Intellect Regulator uses a sophisticated 360° lens which has a high zone density immediately beneath the luminaire to detect small movements, ensuring the luminaire remains lit when reading or writing at a desk. Further away, larger movements are required. Normal 2.4m - 3m luminaire spacing ensure that people are almost always working in detection zones of high sensitivity.



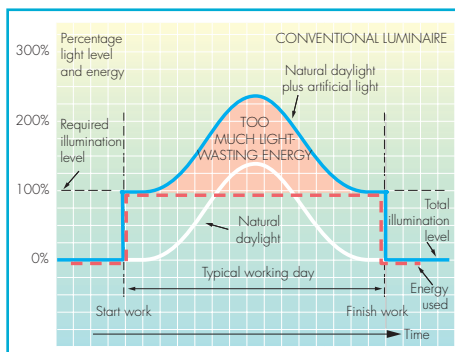
Intellect PIR coverage

## DAYLIGHT LINKING

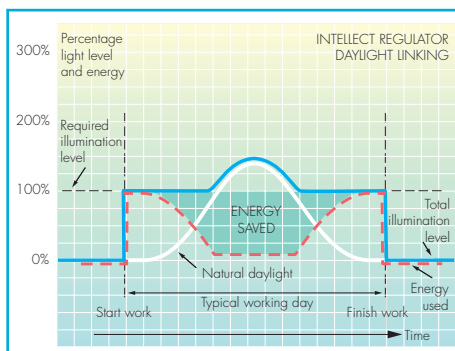
Energy is wasted if artificial light is not reduced when natural daylight is adequate, particularly in the 5 metre area next to windows known as the window zone. Potential savings due to daylight are between 50% and 70%. However, most people do not turn off the lights and if they do it can cause problems, as some people, particularly those further away from the windows, will still require illumination.

Intellect Regulator overcomes this by monitoring the light level below each luminaire. As daylight levels increase the luminaire reacts by dimming the lamps, continuing until minimum output is reached. With continuing or sustained daylight availability, the luminaires can be instructed to stay on and continue to operate at low levels of output, or switch off after a timed period. When daylight falls, lamps are automatically brightened to maintain the pre-selected light level. Each luminaire reacts independently.

Intellect Regulator automatically compensates for light received from other luminaires and the use of curtains or blinds. It also has a built in time delay so that it is unaffected by temporary changes in level due to reflections or clouds passing over the sun.



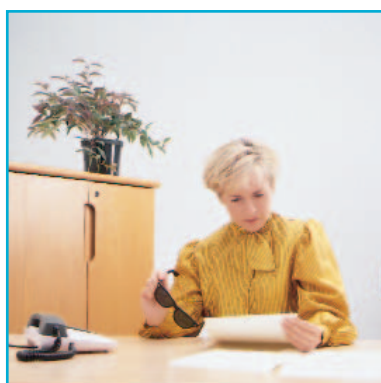
Using a conventional luminaire, artificial light is needed at the start and end of the day, but provides too much light for most of the day (because of daylight) thus wasting energy



Intellect Regulator's daylight linking feature reduces light output and energy used but ensures that the installation has enough light

### CONSTANT ILLUMINATION

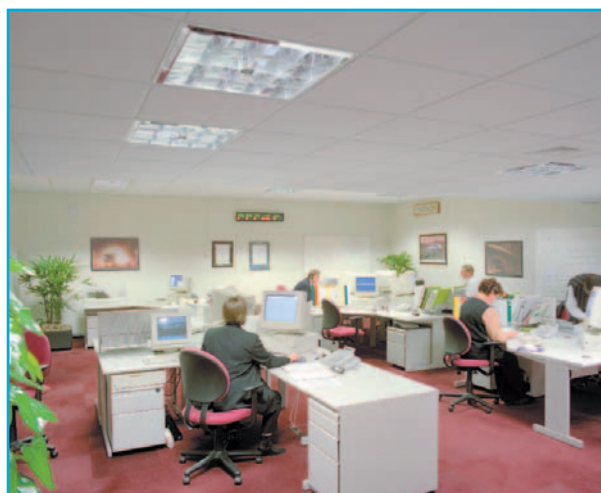
Light output from all luminaires reduces over time, as lamps age and the optics get dirty. Room surfaces also accumulate dust and dirt. Standard lighting design practice compensates for this depreciation by increasing initial illumination levels, according to maintenance and cleaning plans. When the installation is new or following maintenance and re-lamping, this leads to over lighting and energy wastage with conventional luminaires.



Conventional luminaires overlight causing discomfort and wasting energy



Intellect Regulator provides only the level of light required



Mercedes Benz UK, Milton Keynes

### BACKGROUND LIGHT MODE

Normally when an area is vacated, luminaires switch off after a selected period of time. This can lead to poor lighting quality and unacceptable uniformity for anybody left working alone in the area, particularly in open plan offices. At night this can also be intimidating, if sat in a pool of light surrounded by darkness.

Intellect Regulator overcomes this by activation of a background light mode feature, which if selected instructs the luminaire to remain on, but at a reduced light level. In deep open plan offices this delivers improved uniformity around areas where people are still working and greatly improves the visual environment, as walls and other vertical surfaces remain gently illuminated. The feature is also useful for frequently accessed racked areas in store rooms. The reduced level of light and a further time delay to full switch off are selectable on every Intellect Regulator luminaire.

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## SYSTEM SET UP

System setup is simple, via a series of DIP switch on the side of the control cube, accessed from inside the luminaire.

The following parameters can be set:

- **Light levels**

Luminaires can be set to the same or different levels according to the task needs. A choice of eight different levels can be set in each luminaire, which then compensate automatically for contribution from daylight and surrounding luminaires. One of these levels is for fixed maximum output

- **Time delay**

Sets time span between last detected movement and luminaire switch off. A choice of four different delay periods are offered - 2.5, 5, 10 or 20 minutes

- **Background light mode**

Luminaires can be instructed to hold after the last detected movement, at three selectable levels - 10%, 20% or 50% output. After entering background light mode, the luminaire has the facility to automatically switch off after a further time delay of 5, 20 or 60 minutes, or hold on continuously.

Any movement detected when a luminaire is in background light mode returns the luminaire to its normal operating level

- **Bright-out mode**

If bright-out is selected, the luminaire switches off when the ambient daylight levels exceed by 50% or more the pre-programmed light level required, for more than 10 minutes. The PIR continues to monitor movement, so that when ambient levels fall, the luminaire switches back on if the area is still occupied. If bright-out is not selected, luminaires will remain at minimum output during periods of occupancy and high ambient levels

## SYSTEM COMPONENTS

- **Luminaires**

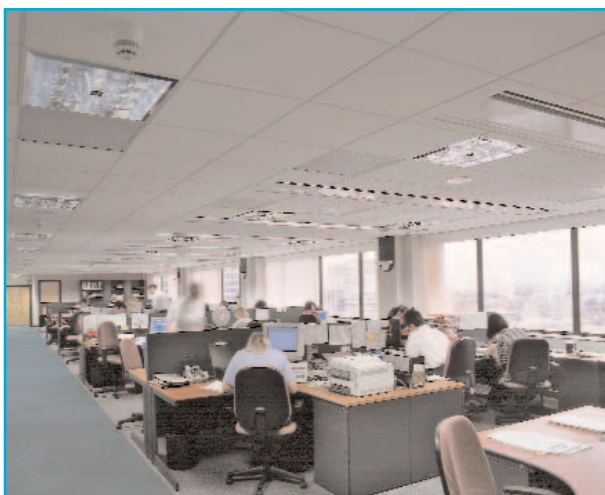
All Intellect Regulator luminaires are supplied with digital high frequency regulating control gear and a built in Intellect Regulator "cube", which contains all system controls and intelligence in an unobtrusive housing. No other components or accessories are required. A comprehensive list of luminaires available with Intellect Regulator controls is shown on page 35

## SYSTEM DESIGN AND INSTALLATION

- Intellect Regulator system lighting design is carried out exactly as a conventional system would be, selecting luminaires that are available fitted with Intellect Regulator controls. See page 35 for a comprehensive list of compatible luminaires
- Light switches are not essential, although a recognised means of isolation is required to facilitate maintenance and re-lamping.
- A mains power supply is connected in the normal way
- The luminaires can be set-up prior to or after installation, using the built in DIP switches. If set up before installation, further adjustment to light level settings may be required
- Contact our Technical Support and Application department for advice on design or system application

## OPTIONS

- Master and slave luminaires can be supplied for installation where full flexibility is not required, or to meet specific project requirements. Master luminaires are supplied with full Intellect Regulator functionality. Slave luminaires are fitted with digital high frequency regulating gear and receive on/off and light level instructions from the master luminaire. It is recommended that a maximum of 3 slaves are operated from a master luminaire for satisfactory PIR detection range reasons. Additional components are required if 4 or more slaves are operated from a master. Contact Technical Support for further details
- If control is required at luminaire group level only, to meet specific project requirements, Intellect Regulator can be supplied in Groupmaster format. Up to four standard digital dimming luminaires can be modified to accept on/off and light level instructions from a single Groupmaster control unit, which contains the Intellect Regulator "cube". System set-up functions are shared by all luminaires in the group. See the Groupmaster section on page 36 for more details



NatWest Bank, Manchester