

LUX METER

iLUX
WITH A
POWERLINE INTERFACE



Developed for the purpose of street lighting and lighting in proximity to buildings, this controller/sensor unit, which features standardised powerline communication, permits control of lighting systems using a lighting-level sensor that is triggered by atmospheric conditions. Individually programmable and updateable, iLUX fulfils all tasks of a modern light management system and is thus an extremely safe investment. The broad measuring range of the light sensor just as its special design and isolation from the communication unit are all responsible for the unit's impressive degree of accuracy. The sensor is pre-calibrated for delivery and, thanks to its digital interface, enables access to measured values in a range from 0 to 64 kLux.

Depending on the measured lux values, the user then controls outdoor lighting via the measured values in digital form, to which end network variables in accordance with Lonmark® are used. Information can be transferred throughout the street lighting network so that different requirements can be met to suit the specific type of street.

Technical Details:

- Standby power consumption < 1.0 W.
- Interoperable controller with network variables in acc. with Lonmark® guidelines.
- Powerline communication: C/B band in acc. with Cenelec 50065-1
- ANSI CEA 709.1, 709.2 or EN 14908-1, EN 14908-2.
- Configurable and updateable.
- Suitable for integration into a light management system just as for standalone operation.
- Intuitive software-led configuration.
- Simple configuration transfer via a powerline interface

Typical Applications:

- Street lighting, lighting in proximity to buildings
- Lighting for pedestrian crossings, in parks, just as on main roads and side streets
- Car parks, bus stops and stations
- Company premises, warehouses, sports facilities

iLUX – Intelligent Lux Meter with a Powerline Interface

Technical Details

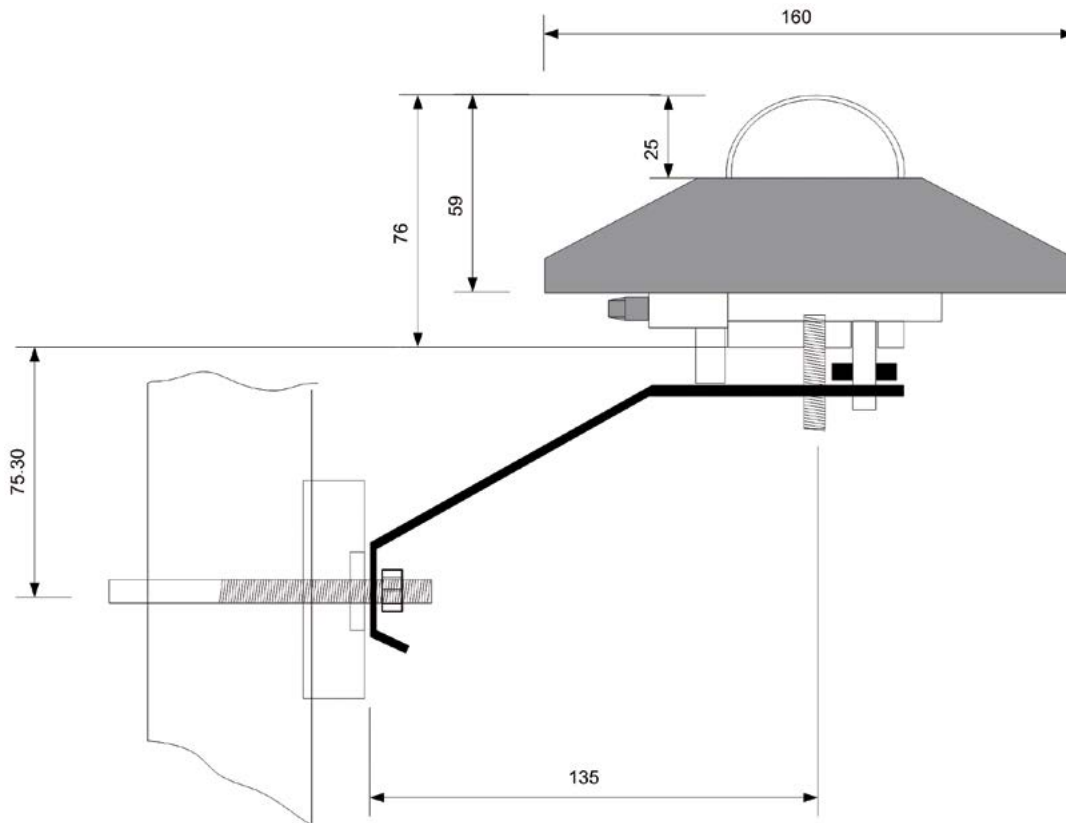
intelligent Lux Meter	186253
Type	iLUX
Input voltage	200 V AC to 250 V AC
Frequency	50 Hz (+1% / -2%)
Power consumption	< 1,0 W
Communication	
Communication type	using the power supply (powerline), in acc. with Cenelec 50065-1
C band	primary Band 125 – 135 kHz
B band	secondary Band 95 – 115 kHz
Data transfer USA	ANSI CEA 709.1, ANSI CEA 709.2
Data transfer Europe	EN 14908-1, EN 14908-2
Slot	Digital interface for communicating with the light sensor
Output	
Switched output	2x for connecting luminaires or power-reduction relays
Switched current	In total 4A, $\lambda = 0,8$
Switching cycles	50.000, function (4A, $\lambda = 0,8$)
Generally programmable	Yes
Generally configurable	Yes
Switched output luminaire	2 x for connecting a luminaire
Controller terminal	1,5 mm ² 900 mm
Conductor type	fine-stranded with wire end sleeves
Firmware update	via powerline
Configuration	via powerline
Control and monitoring parameters	Switch on/off
Capture of measured data	Lux
Software interface	Interoperable in acc. with Lonmark®. Use of network variables and configuration parameters, repeat function
Software interface	based on Lonmark®-Variablen
Measured value	LNS® as well as repeat-capable network integration
SNVT_Lux	0 to 64 kLux, made available for decentralised evaluation
SNVT_switch	direct control of LonWorks® devices
Connection sensor	electrically isolated from the evaluation unit
Sensor	
Accuracy	Cos error between 0 and 80 ° < 8%
F1 error	< 9 %
Non-linearity	< 9 %
Temperature dependency	< 0,1 % / °C
Long-term stability	(1 year): < ±3 %
Temperature influence	< 0,1 % / °C
Sensitivity	1 Lux to 150 kLux
Sensor detection range	corresponds to 0 to 2000 W/m ²
Solid angle	2 π sr
Connection cable	UV-resistant cable, connectable at both ends, 10 m in length
Casing iPC-Lux	
Material	Polycarbonate (PC) casing
Dimensions (LxWxH)	250 mm x 60 mm x 55 mm
Weight	460 g
Degree of protection	IP54
Operating temperature range	- 25 °C to + 80 °C
Storage temperature range	- 25 °C to + 85 °C
Humidity	90 % non-condensing

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iLUX – Intelligent Lux Meter with a Powerline Interface

Surge voltage resistance	4 kV / 1,2 / 50
Standards	DIN EN 61037
Protection class	II
Casing Sensor	
Cover	Aluminium, PC
Sensor unit	Protected with opaque glass
Dimensions (LxWxH)	165 mm / 165 mm / 104 mm
Weight without mounting bracket	900 g
Weight of mounting bracket	300 g
Degree of protection	IP65

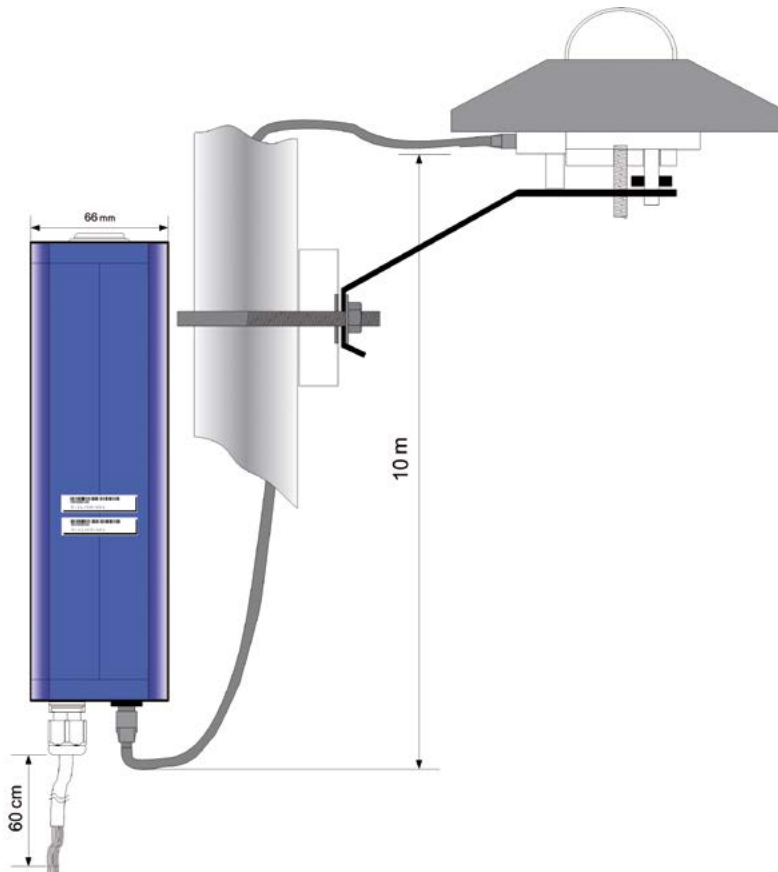
Dimensions (mm)



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Weather-proof light sensor with mounting bracket for attachment to a street lighting pole or on a wall plus a spirit level for directional adjustment.



Casing

The extremely compact design of the iPC-Lux facilitates installation in any luminaire pole. The cable between the pole controller and light sensor is fitted with high-quality connectors at both ends.

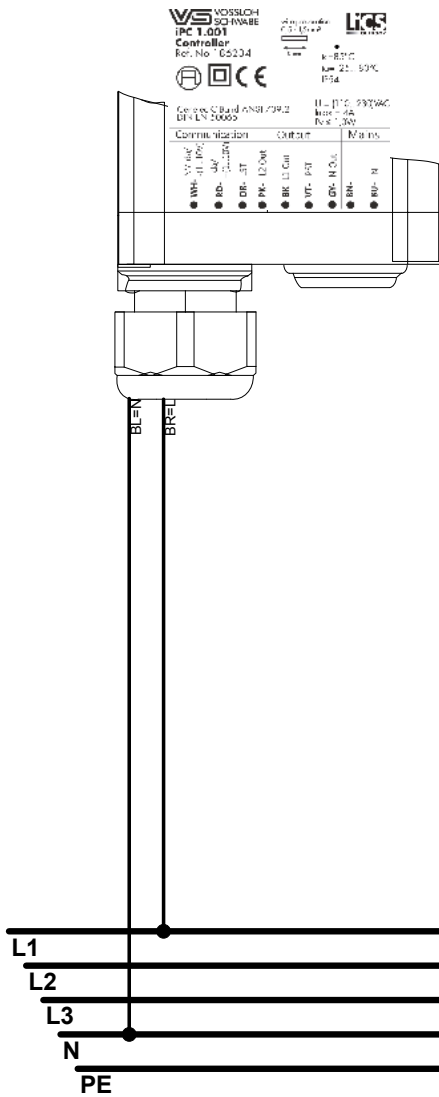
iPC-Lux with an iLUX Interface

The iPC-Lux controller is designed for installation in a luminaire pole and is fitted with an interface for connection of an iLUX sensor. Coupled with optional firmware updates, the configurability of the application makes it a very safe investment. When operated within a LonWorks® powerline network, the iLUX sensor makes measured data directly available in the form of SNVT_Lux. When operated in standalone mode, the unit permits direct lighting control in line with configurable light-threshold switching values via two relay contacts. Adding a contactor downstream even enables control of larger lighting systems.

The threshold values that trigger the two relays to be switched on or off are separately configurable.

iLUX – Intelligent Lux Meter with a Powerline Interface

Connection terminal for powerline operation

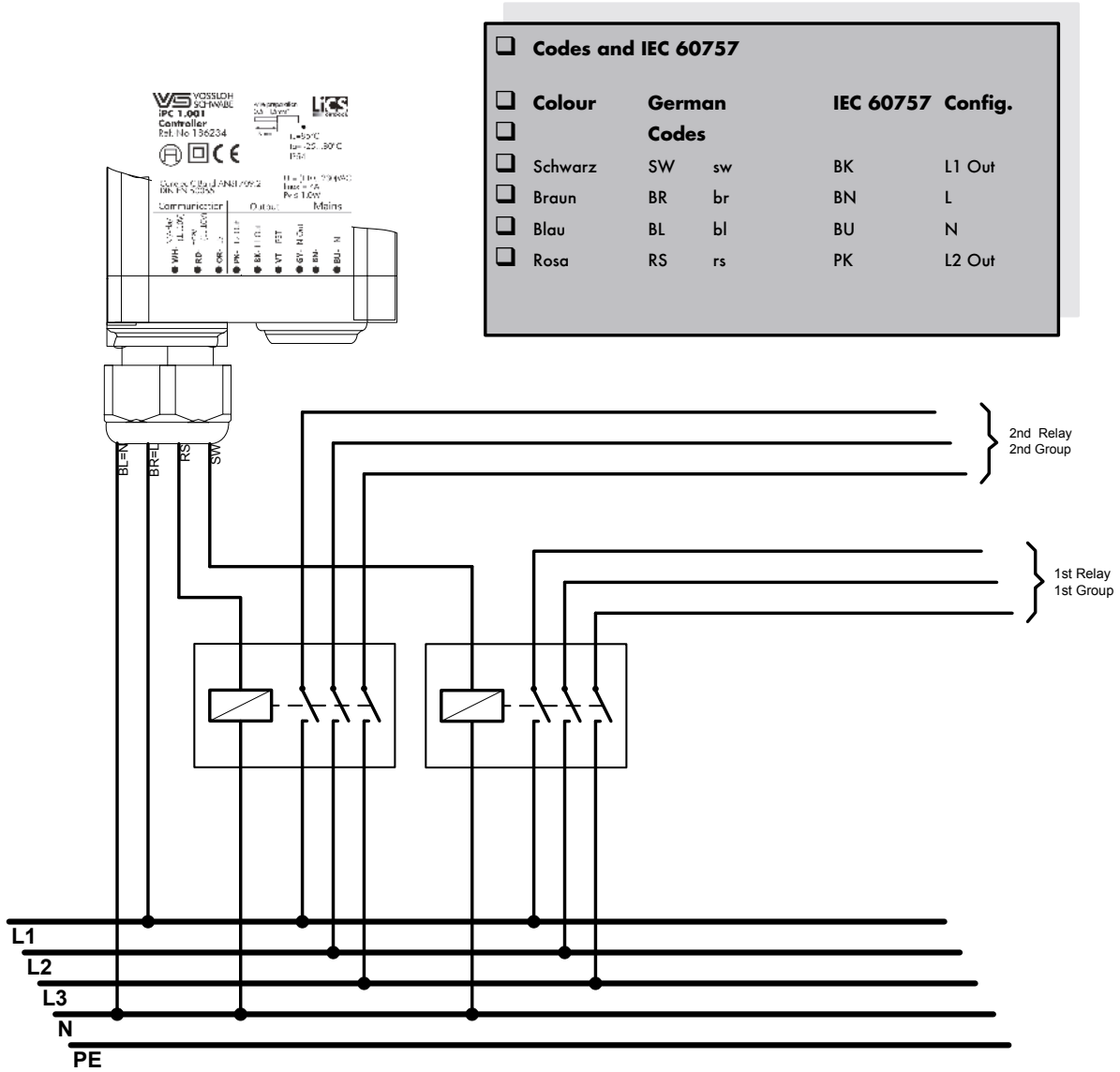


Codes and IEC 60757

<input type="checkbox"/> Colour	German Codes	IEC 60757	Config.
<input type="checkbox"/> Black	SW sw	BK	L1 Out
<input type="checkbox"/> Brown	BR br	BN	L
<input type="checkbox"/> Blue	BL bl	BU	N
<input type="checkbox"/> Pink	RS rs	PK	L2 Out

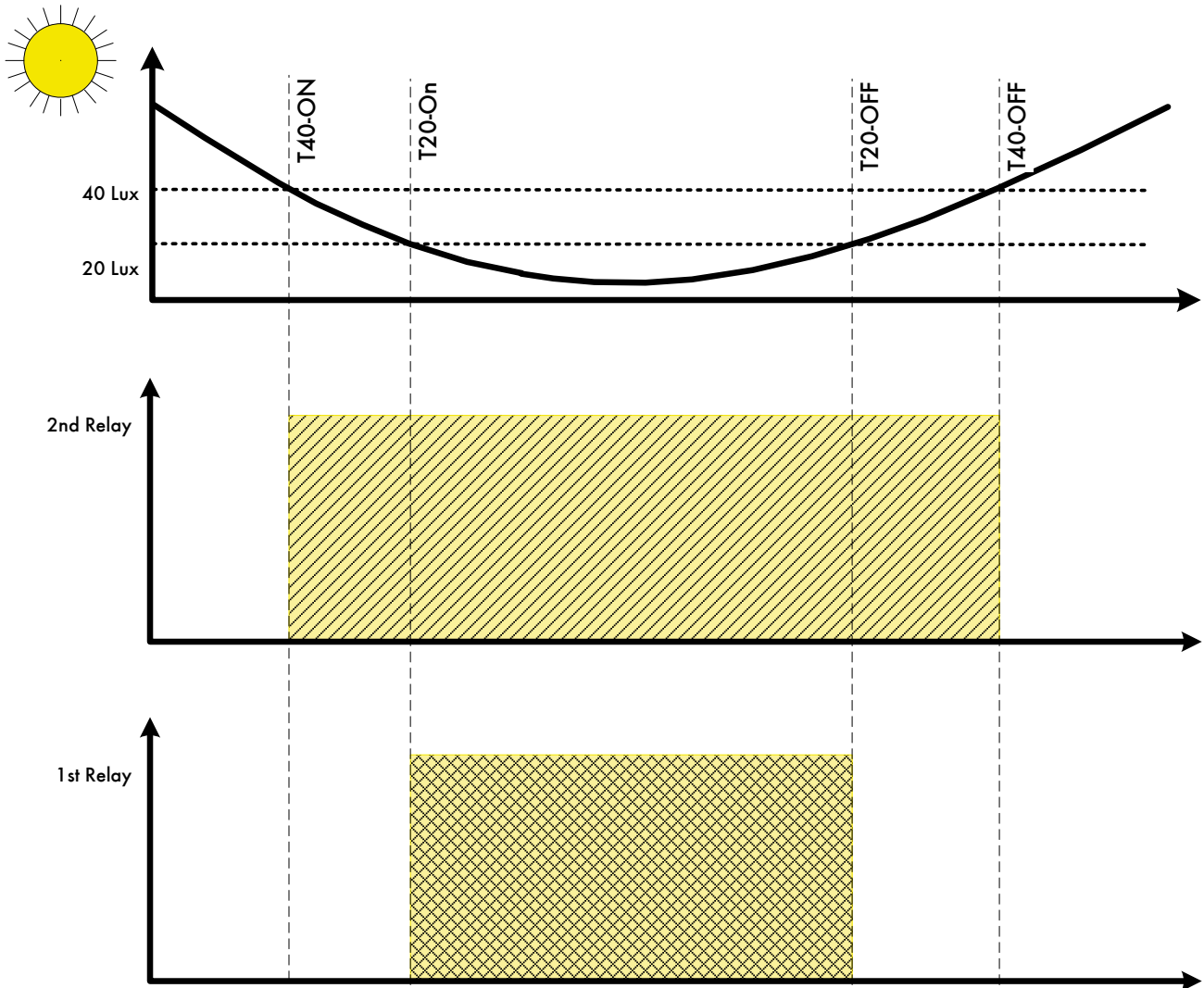
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Direct control of luminaire groups



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Control of two luminaire groups dependent on adjustable digital threshold values



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Lonmark® Profil

In line with the mentioned ANSI and EN specifications, the controller is fitted with an interoperable network interface, which makes it possible to establish heterogeneous networks. The definition of the precise data structure for data transfer purposes is similar to the Lonmark® definition. As a light sensor profile for outdoor applications is not available, a profile has been created in line with the requirements on the basis of Lonmark® guidelines that enables control of interoperable light management systems. Once integrated into an LMS network, the iLUX lux meter delivers data in SNVT_Lux form and directly switches luminaires in accordance with the set threshold values via the SNVT_Switch.

Accessories

The iPLNI is a powerline network interface that is used if the iLUX lux meter needs to be configured at a later date without it being intended for operation within a network. The 230 V AC power supply cable can be used to effect data communication between a notebook or PC and the iLUX unit. The operating system of the notebook or PC needs to be Microsoft Windows XP or higher. Vossloh-Schwabe provides this special tool for configuration purposes as well as for firmware updates.



Ref. No.: 186265.02

Sales Text

Network-capable, multifunctional, intelligent built-in luminaire pole controller with powerline communication, standalone function and iLUX sensor. Suitable for use in street lighting, lighting in proximity to buildings as well as industrial lighting. The controller enables luminaire control with the help of a switched lighting or mains cable. The controller is configurable and updateable.

Text for Invitations to Tender

Powerline-capable controller for installation in a luminaire with a light sensor for controlling luminaires in street lighting, lighting in proximity to buildings as well as industrial lighting using a non-switched mains cable in combination with a sensor or with a control line. Data transfer is possible in accordance with the ANSI CEA (709.1, 709.2) and EN 14908(-1, -2) standards. The controller communicates in accordance with Lonmark® guidelines. In line with the LON philosophy and the Lonmark® definition, the controller is fitted with all applications required for control as well as for data and limit value calculation purposes. Cenelec-compliant bidirectional LON powerline communication is effected in accordance with DIN EN 50065-1 using the C band (primary; 125 ... 140 kHz) and B band (secondary; 95 ... 125 kHz). The built-in pole controller provides two switched outputs for turning luminaires amounting to 4 A in total on or off as well as for controlling a power switch. The switchpoints are pre-configured for 40 Lux and 20 Lux, but can be reconfigured at any time via an optional powerline interface and the matching software.

Electrical specifications: mains voltage 230 V (10%), frequency 50 Hz (+1% / -2%), nominal current 4 A max. in total for relays 1 and 2, power consumption 1 VA (standby) / 6.75 VA (transmission mode), surge voltage resistant up to 4 kV/1.2/50 in acc. with DIN EN 61037, protection class II.

Climatic capacity: operating temperature -25 °C to + 80 °C, storage temperature -25 °C to +85 °C. Polycarbonate (PC) casing. Dimensions (L/H/W) 93 mm / 58 mm / 30 mm. Weight 400 g, degree of protection IP54. Synchronisable real time clock. Interoperable software interface, use of network variables and configuration parameters in acc. with Lonmark®. When operated in optional standalone mode, automatic lighting control is effected directly or with the help of a power switch.

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