



Visualisation software CGVision





A software for giant tasks

The high performance CGVision visualisation software controls and monitors even large-scale safety lighting systems with maximum reliability. This is backed up by CEAG, a company belonging to Cooper Industries, with over 40 years of expertise and experience. As market leader we are always aware of our special responsibility. Because where we are active, light means life!

The monitoring tool for really large-scale tasks: up to 480 individual emergency lighting systems with over one million light points can be kept in view on a monitor in the control room. With larger buildings in particular such as airports, universities, museums, sports centres and industrial facilities, the software is the ideal partner for optimal and therefore also economical operation of the complete safety lighting.

Web server solutions can only achieve a fraction of this compared to CGVision. Complexity and configurability are the strengths with which the CEAG software convinces. The management of the complete safety lighting is implemented with exemplary clarity and efficiency.

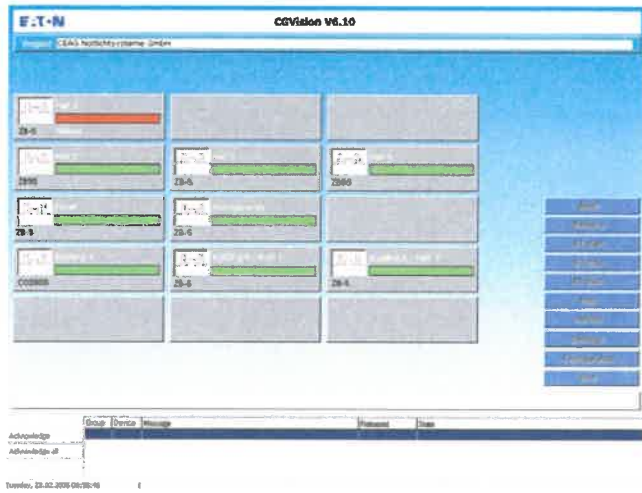
Every safety luminaire counts

Because when the worst comes to the worst, only 100 percent protection is enough. Every operator must document such cases. CGVision records all relevant details in an electronic inspection book. Status printouts can be implemented automatically and according to set times.

Control in its most cost-efficient form.



Clarity counts

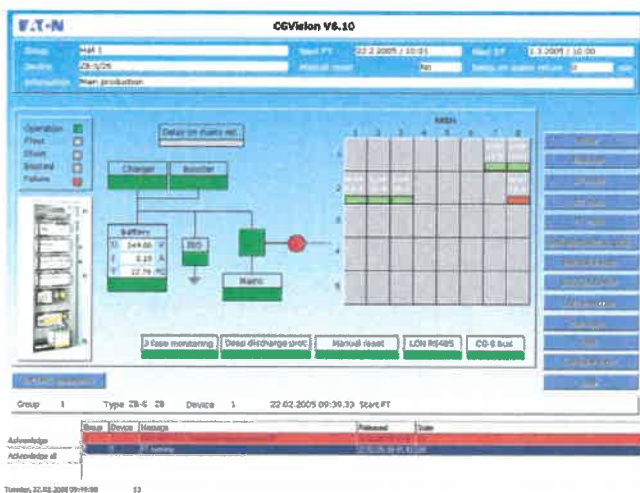


In the main group screen, up to 15 buildings (or other device groups) can be defined. With green everything is fine, red means that a defect has occurred.



The device group affected by the defect can be opened as simply as that. A maximum of 480 emergency lighting systems with up to 32 devices per group can be visualised here.

Intuitive operating concept



Red signals a problem. The device image gives a quick overview and supplies detailed, highlighted status information.



The software recognises colours on the circuit level as well. What is the luminaire status? Are the maximum of 20 luminaires switched off or defective? One glance is enough.

Visualisation software CGVision

Documenting, controlling, reacting



CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

CGVision tests the complete system once weekly in automatic mode according to legislative requirements. Complex control rounds are a thing of the past.

If an 'emergency light defect' is reported, the error can be localised conveniently and safely on the screen. The display shows in which subsystem the defect has occurred, which circuit module is affected, the position specification of the luminaire and how the switching type was programmed. The software interface is no cryptic intellectual challenge but can be operated highly intuitively.

It is also possible to integrate a detailed building plan into the software that precisely positions the safety luminaires with a coloured status display at their locations. Safety-relevant controls of the work of house technicians or external service providers can be implemented directly on the screen. If the display changes from red to yellow, the light point again functions perfectly.

But the graphical display possibilities do not end there: even the location-specific display as part of an aerial view is possible. You can't get an overview more quickly.



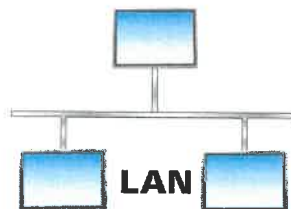
More comfort with an interface to building technology

CGVision and the emergency lighting systems can be connected without complex installations via existing LAN and telecommunication cables. The most common interfaces for building technology are offered. A connection to the building control systems is also simple: CGVision offers an OPC interface for this, or optionally a BACnet interface.

The software is also optimal for decentral solutions: various locations can be controlled via the company-internal intranet without limitations. In this way, efficiency and economy are united as one.



BMS

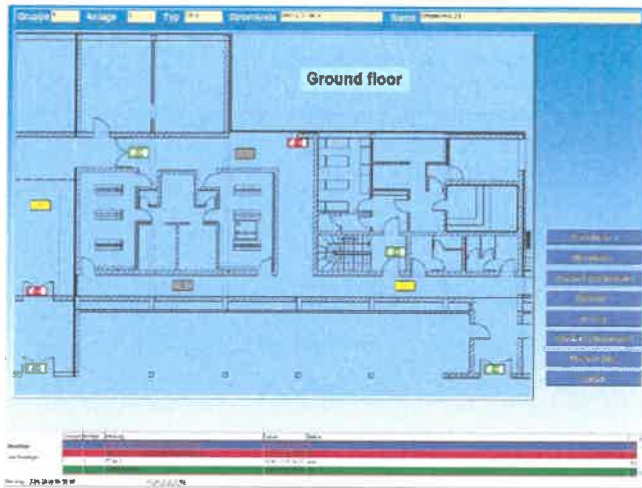


LAN

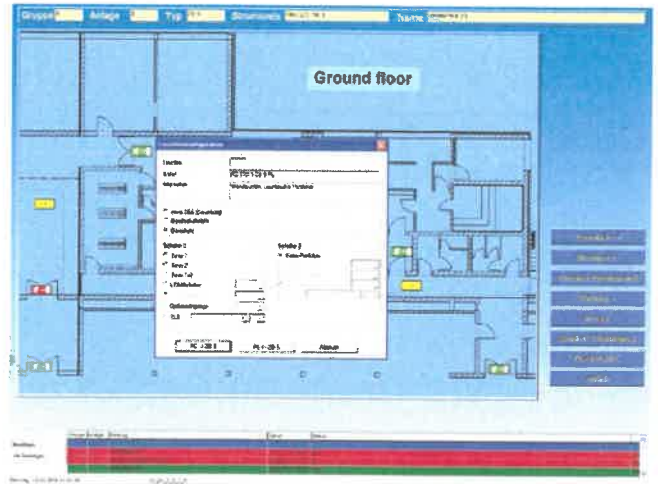


CGVision

Graphical display possibilities

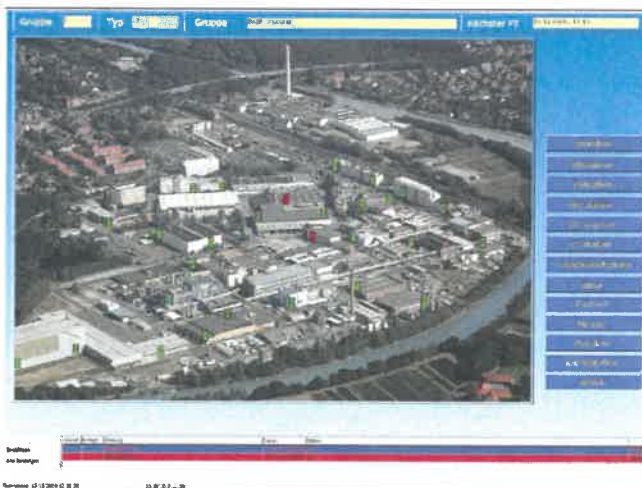


Clear and concise display of the luminaires in the layout plans is also optionally possible. A special graphics tool enables the simple import of CAD plans in .dwg or .dxf format.

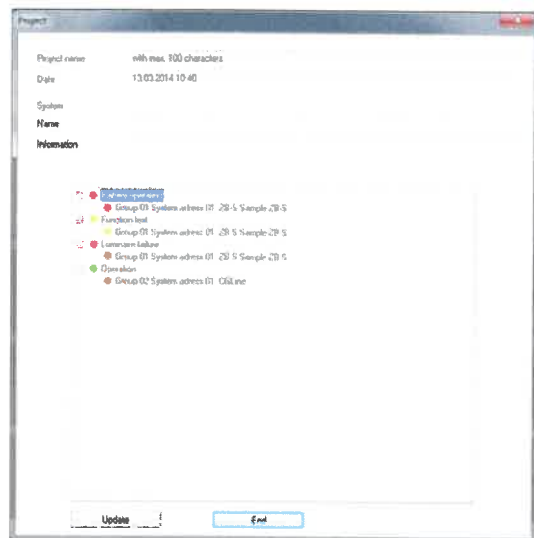


The luminaires can be reprogrammed with respect to their switching types, e.g. from maintained light to standby light with only a few clicks of the mouse in the layout image.

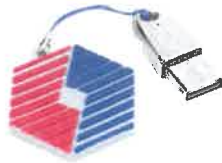
Orientation becomes child's play



Display of the emergency lighting systems in an aerial view or area plan simplifies orientation enormously!



In addition, all systems can be displayed clearly within an Explorer structure along with detailed information.



The correct license for your application



CGVision visualisation software is available in three different packages in the Basic or Pro versions.

The packages essentially differ with the CG-S interface for connecting the existing emergency light systems to the CG-S bus. All packages have dongle licenses for all EGA devices that can be connected to CGVision (ZB96/Euro ZB.1/GVL24.1/CG48 or ZVL220, optionally available CG-S/IP router+ 1P required)

Package I contains a CG-S/IP interface, for connecting CG-S based systems such as ZB-S, AT-S* or CG2000 via ethernet (IP network). For this purpose optional CG-S/IP-Router are necessary.

Package II does not contain a CG-S interface, e.g. only with use of a CGLine+ self-contained luminaire system via CGLine+ Web-Controller.

Package III contains a CG-S/USB interface for connecting CG-S based systems via a standard 2-wire bus line (CG-S bus).

All **Pro Packages** contain in addition to the Basic Packages convenient layout programming enabling the display of the systems in building plans or aerial views, or the display of emergency luminaires circuit-related in building layouts. The image format is typically .bmp format. Converting a .dwg based AutoCAD file is also possible. Positioning luminaires in the layout is via drag & drop.



Overview CGVision licences

	Basic Package I	Basic Package II	Basic Package III	Pro Package I	Pro Package II	Pro Package III
CG-S/IP interface	X	-	-	X	-	-
EGA licences	X	X	X	X	X	X
CGLine 400 licences	X	X	X	X	X	X
CGLine+ licences	X	X	X	X	X	X
Ethernet I/O licences	X	X	X	X	X	X
CG-S/USB interfacebox	-	-	X	-	-	X
Graphic visualisation of the devices	-	-	-	X	X	X
Visualisation in a building layout	-	-	-	X	X	X

CGVision Package III

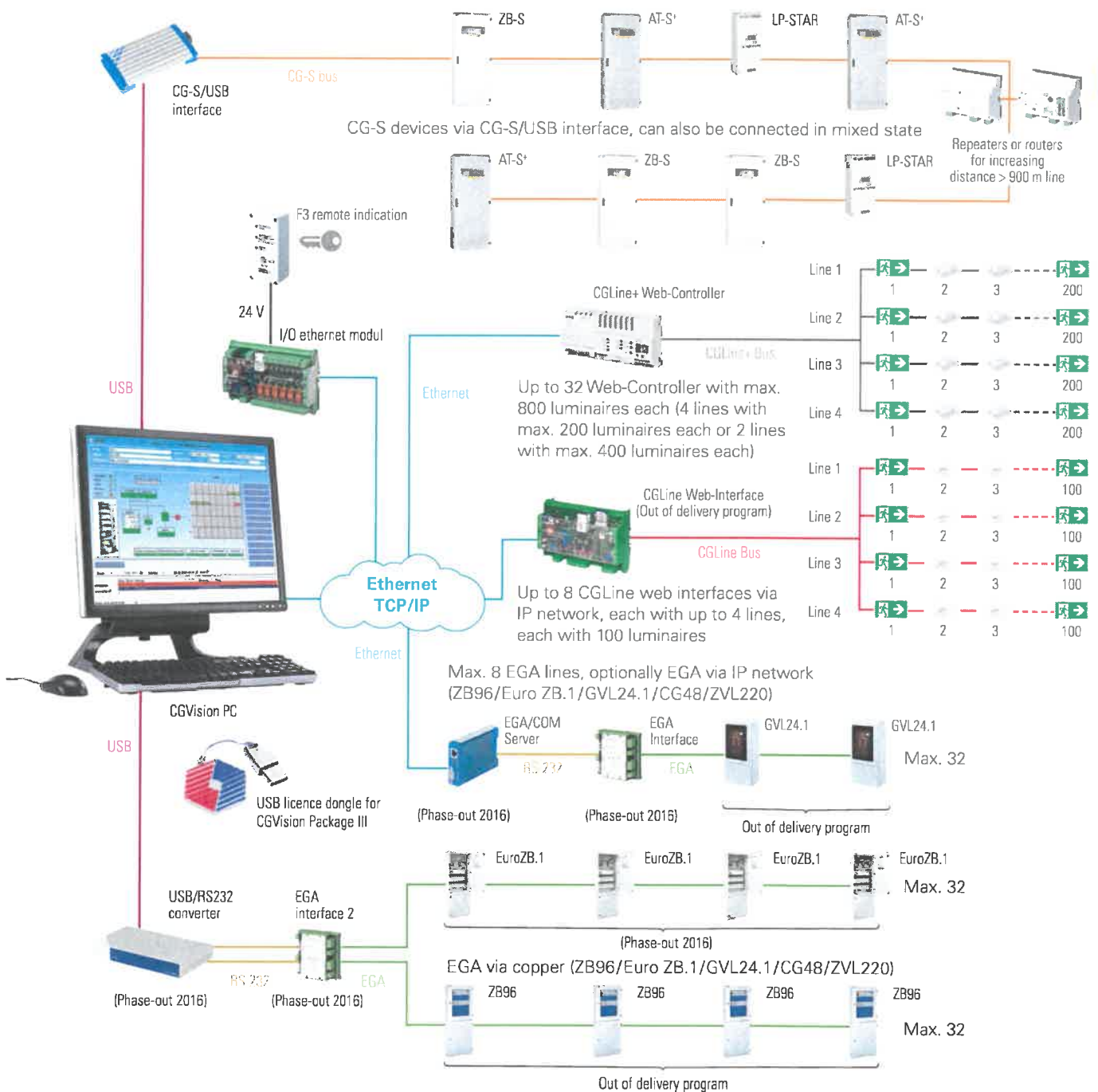
CGVision Package III (Basic or Pro) contains the CG-S/USB interface (USB box), enabling CG-S bus-based emergency light systems such as ZB-S, LP-STAR, AT-S+ and CG2000 to be connected to the CGVision visualisation software via a standard bus cable.

Any number of ZB-S, CGLine+, AT-S+ or CG2000 systems, also in mixed state, can be connected. In CGVision the systems must however be assigned own device groups.

Increasing the distance of the bus cable is possible via optionally available repeaters or routers.

In addition, the CGVision Package III version contains all dongle licenses for EGA devices (ZB96, EuroZB.1, GVL24.1, CG48 or ZVL220), CGLine+, CGLine or Ethernet I/O modules on CGVision.

CGVision Package III application example



Monitoring and programming software



Monitoring and programming software

- Extremely diverse: complete visualisation, monitoring and programming of up to 480 emergency lighting systems with over 1,000,000 emergency luminaires
- Ideal orientation: luminaire texts and supplementary information fields for each luminaire as well as the display of emergency lighting systems and luminaires in aerial views or layouts makes orientation child's play
- Clear and user-friendly inspection books as well as extensive printing functions offer convenient information possibilities
- Automatic notification: an integrated e-mail function with many setting possibilities informs conveniently per e-mail. Thus control rounds are no longer necessary



Operating system	Windows® 7 (32 Bit) (64 Bit), Windows® Server 2008 (no server/client)
Processor	at least 2 GHz
RAM	at least 1 GB RAM, 3 GB recommended
Hard disk	2 GB free hard disk storage
Graphics board	at least 128 MB (no shared memory)
Drives	CD-ROM
Monitor	at least 17" (min. 1280 x 1024 dpi)
Mouse, keyboard	1 x each
USB port	1 x (CG-S interface/dongle license) 1 x USB for printer

CGVision



- Detailed system information are available at every time
- Simple menu guidance
- Up to 480 emergency lighting devices are monitor- and programmable, a segmentation in up to 15 groups of devices is possible (one device group per device family)
- Up to 32 pcs. CGLine+ WEB-Controller with up to 25,600 CGLine+ luminaires are monitor- and programmable
- Up to 8 pcs. CGLine WEB-Interfaces with up to 3,200 self contained luminaires are monitor- and programmable
- Free input of texts and additional information at each level (up to 100 signs) and cognition of destination for luminaires (ZB-S/CG 2000 up to 20 signs)
- Inquiry of the current working conditions of all mounted systems
- Clearly-presented display in explore structure (tree structure) possible
- Constant display of the 5 latest events in an alarm list
- Localised failure display about each emergency circuit and luminaries with destination data in plain text in connection with function tests
- Always current information on charging unit and battery
- Storage and retrieval possibility of all log book entries over a period of 4 years at least
- Free programmable function- and duration test
- Configurable automatic print functions
- Integrated e-mail client program with status information for each device group
- **Up to 10 e-mail recipients each device group configuring**
- Connection of a building management system (BMS) via integrated OPC-server possible
- Optional BACnet server (only for ZB-S / CG2000) for BACnet based BMS available

Overview CGVision licences

	Basic Package I	Basic Package II	Basic Package III	Pro Package I	Pro Package II	Pro Package III
CG-S/IP interface	X	-	-	X	-	-
EGA licences	X	X	X	X	X	X
CGLine 400 licences	X	X	X	X	X	X
CGLine+ licences	X	X	X	X	X	X
Ethernet I/O licences	X	X	X	X	X	X
CG-S/USB interfacebox	-	-	X	-	-	X
Graphic visualisation of the devices	-	-	-	X	X	X
Visualisation in a building layout	-	-	-	X	X	X

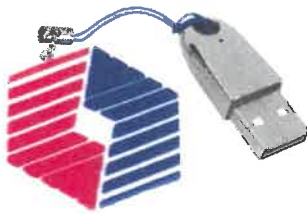
Features of all packages

- CGLine+ Licence (release via USB-dongle) for visualisation of CGLine+ self-contained luminaires via CGLine+ WEB-Controller on CGVision. Up to 32 pcs. CGLine PC-interfaces with up to 25,600 pcs. CGLine+ self-contained luminaires can be controlled and monitored.
- CGLine Licence (release via USB-dongle) for visualisation of CGLine self-contained luminaires via CGLine WEB-interface on CGVision. Up to 8 pcs. CGLine PC-interfaces with up to 3,200 pcs. CGLine self-contained luminaires can be controlled and monitored.
- Ethernet I/O-Licence (released via USB-dongle) for visualisation of devices via pot.-free In-/Outputs. 8 digital inputs for visualisation and 7 relay outputs 24V, to control of diverse functions, e.g. Start function test.

In addition all CGVision Software Pro Packages contain:

- Graphic visualisation of the devices in a .bmp graphic, e.g. area plan, aerial map
- Circuit orientated visualisation of luminaires in a building layout

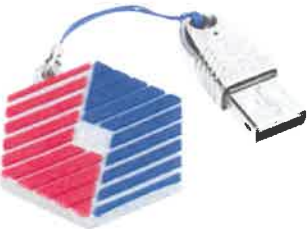
Licence (Dongle) Basic Package I



Special features of CGVision Software Basic Package I

- CG-S/IP-Interface (USB-dongle) for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, LP-STAR, CG 2000) via an ethernet (TCP/IP), directly via the LAN-interface (RJ45) of the PC. For the connection of CEAG emergency lighting systems with STAR-Technology via an ethernet, CG-S/IP-Routers+ 1P are necessary, which are optionally available.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

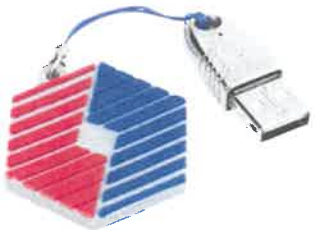
Licence (Dongle) Basic Package II



Special features of CGVision Software Basic Package II

- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

Licence (Dongle) Basic Package III



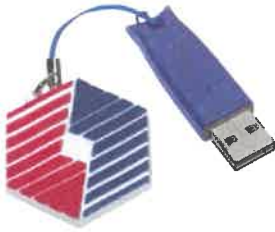
Special features of CGVision Software Basic Package III

- CG-S/USB-Interfacebox for the connection of CEAG emergency lighting systems with STAR technology (AT-S+, ZB-S, CG 2000) via a conventional two-conductor cable data bus.
- EGA-Licences (release via USB-dongle) for the visualisation of EGA-devices on CGVision. Up to 8 EGA-lines of each device family (ZB96, Euro ZB.1, GVL 24.1, CG48, and ZVL220) possible. Max. 15 EGA-lines in total on CGVision connectable. For the connection of CEAG emergency lighting systems with EGA-technology at CGVision via EGA-Interface-Box (one box each line) or via EGA/PC-interface-2 (each interface up to two lines) on a PC.

7

Monitoring and programming software

Licence BACnet-Server (Dongle)

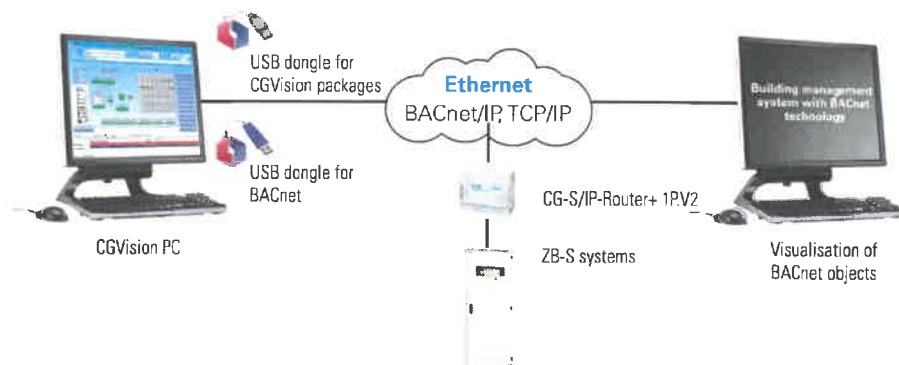


BACnet Server for CGVision

BACnet Server for CGVision to connect a BACnet based BMS to CGVision with ZB-S/CG2000 systems via BACnet/IP. The BACnet Server provides event-driven BACnet-objects with relevant status indications of ZB-S/CG2000 systems with STAR technology.

The BACnet interface provides following information each ZB-S/CG2000 system:

- 35 status information (e.g. mains failure, battery operation, luminaire sum failure etc.)
- 3 sum messages, mirroring of free programmable relay contacts
- 4 analogue battery values (Battery voltage, charge-/discharge current, temperature, capacity)
- 4 ZB-S control commands (e.g. start function test)
- 16 switch commands, to switch circuits or luminaires, which are programmed to LON-switch



I/O ethernet module



I/O ethernet module

- Connection as F3 interface with F3 module (optionally available) to CGVision
- Control and monitoring of external devices via up to seven pot. free relay outputs or up to eight digital inputs
- Integrated web server, for control/monitoring via standard web browsers (e.g. Firefox)
- Blocking input (input 8) with differential loop monitoring (closed-circuit principle)
- Integrated e-mail program, can be freely configured for up to ten e-mail recipients
- Voltage supply either 230V/AC or 24V/DC

F3 remote indication



F3 remote indication

The F3 remote indication ensures display of the most important installation functions via battery supply also with mains power failure. Blocking of emergency lighting operation is possible via a key switch during idle operation times. Blocking of emergency operation does not affect battery maintenance charging. Differential loop monitoring leads to operational readiness of the system with short circuits or wirebreak detection. LED displays: system readiness (green), source for safety services (yellow), failure (red). As such the F3 remote indication fulfills the requirement that remote switching is only permissible when operation by unauthorized persons is not possible.

F3 remote indication for flush-mounting



Monitoring and programming software

24" TFT screen

Generous TFT flat screen for display of CGVision visualisation, monitoring and programming software via a PC system.

PC miditower

High performance PC system for installation and operation of CGVision visualisation, monitoring and programming software, incl. WIN 7 Prof. (32 Bit), mouse and keyboard.

Ordering specifications software

Scope of delivery	Order No.
CGVision Basic Package I (including CG-S/IP-Interface)	40071361020
CGVision Basic Package II (EGA components to be ordered separately)	40071361022
CGVision Basic Package III (including CG-S/USB-Interface, EGA components to be ordered separately)	40071361024
CGVision Pro Package I (including CG-S/IP-Interface and visualisation in a building layout)	40071361021
CGVision Pro Package II (including visualisation in a building layout, EGA components to be ordered separately)	40071361023
CGVision Pro Package III (including CG-S/USB-Interface and visualisation in a building layout, EGA components to be ordered separately)	40071361025

Ordering specifications optional licenses

Scope of delivery	Order No.
CGVision CEAG BACnet-Server (dongle) with 1000 data points, version: USB-Port	40071360336

Ordering specifications I/O ethernet module

Scope of delivery	Order No.
I/O ethernet module (via LAN), for DIN rail	40071360115

Ordering specifications F3 remote indication

Scope of delivery	Order No.
F3 remote indication, surface-mounting	40071338497
F3 remote indication recessed, performance for installation in the flush-mounted switch or empty space box acc. to DIN VDE 0606	40071347490

Ordering specifications Hardware

Scope of delivery	Order No.
PC Miditower with Intel-Prozessor, incl. keyboard, optical mouse and WIN 7 Prof. (32 Bit) (english), incl. installation	40071347144
24" TFT screen	40071347155
Ink jet printer (Laser printer black&white optional)	40071340753

Detailed Specifications & Technical Data

METRIC MEASUREMENT VERSION



8471NH Multi-Conductor - GreenChoice Multi Conductor



For more Information
please call

1-800-Belden1



General Description:

16 AWG stranded (19x29) tinned copper conductors, PP insulation, twisted pair, LSZH jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
1	16	19x29	TC - Tinned Copper

Total Number of Conductors: 2

Insulation

Insulation Material:

Insulation Material	Wall Thickness (mm)
PP - Polypropylene	0.457

Inner Shield

Inner Shield Material:

Inner Shield Material
Unshielded

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (mm)
LSZH - Low Smoke Zero Halogen	0.813

Overall Cable

Overall Nominal Diameter: 6.452 mm

Pair

Pair Color Code Chart:

Number	Color
1	Black & White

Pair Lay Length & Direction:

Lay Length (mm)	Twists (twist/m)
50.8	19.686

Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +75°C

UL Temperature Rating: 75°C

Bulk Cable Weight: 47.622 Kg/Km

Max. Recommended Pulling Tension: 271.340 N

Min. Bend Radius/Minor Axis: 63.500 mm

Detailed Specifications & Technical Data



METRIC MEASUREMENT VERSION

8471NH Multi-Conductor - GreenChoice Multi Conductor

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC(UL) Specification:	CMG
CEC/C(UL) Specification:	CMG
EU Directive 2011/65/EU (ROHS II):	Yes
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	05/08/2012
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

Flame Test

UL Flame Test:	UL1685 FT4 Loading
C(UL) Flame Test:	FT4

Suitability

Suitability - Indoor:	Yes
Non-halogenated:	Yes

Plenum/Non-Plenum

Plenum (Y/N):	No
---------------	----

Electrical Characteristics (Overall)

Nom. Inductance:

Inductance (µH/m)
0.558

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
55.777

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
14.7317

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Current
7.1 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8471NH 0101000	305 MT	17.237 KG	BLACK		2 #16 PO NHFRPO_

Revision Number: 0 Revision Date: 06-15-2012

© 2013 Belden, Inc.
All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications

Detailed Specifications & Technical Data



METRIC MEASUREMENT VERSION

8471NH Multi-Conductor - GreenChoice Multi Conductor

described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 73/23/EEC), as amended by directive 93/68/EEC.