

Whitecroft
lighting



Command
Central automatic emergency lighting testing

Command

MOTIVATION

A cost effective but highly efficient method of meeting legislation for conducting and recording fully diagnostic tests on emergency lighting installations. Command utilises a unique robust communication protocol to monitor up to 16,000 emergency lighting luminaires ensuring the tests required by the relevant standards are carried out and recorded automatically.

APPLICATION

Command has been designed to suit all projects utilising Whitecroft emergency lighting luminaires. Options include wall panel or PC central control for small to medium sized projects. For larger projects different zones can be networked via modem to a single, central control position. Command utilises a simple 'twisted pair' bus cable keeping installation costs below most other competing systems. Test schedules can be programmed to suit the application and occupancy of any building.

SPECIFICATION

Features

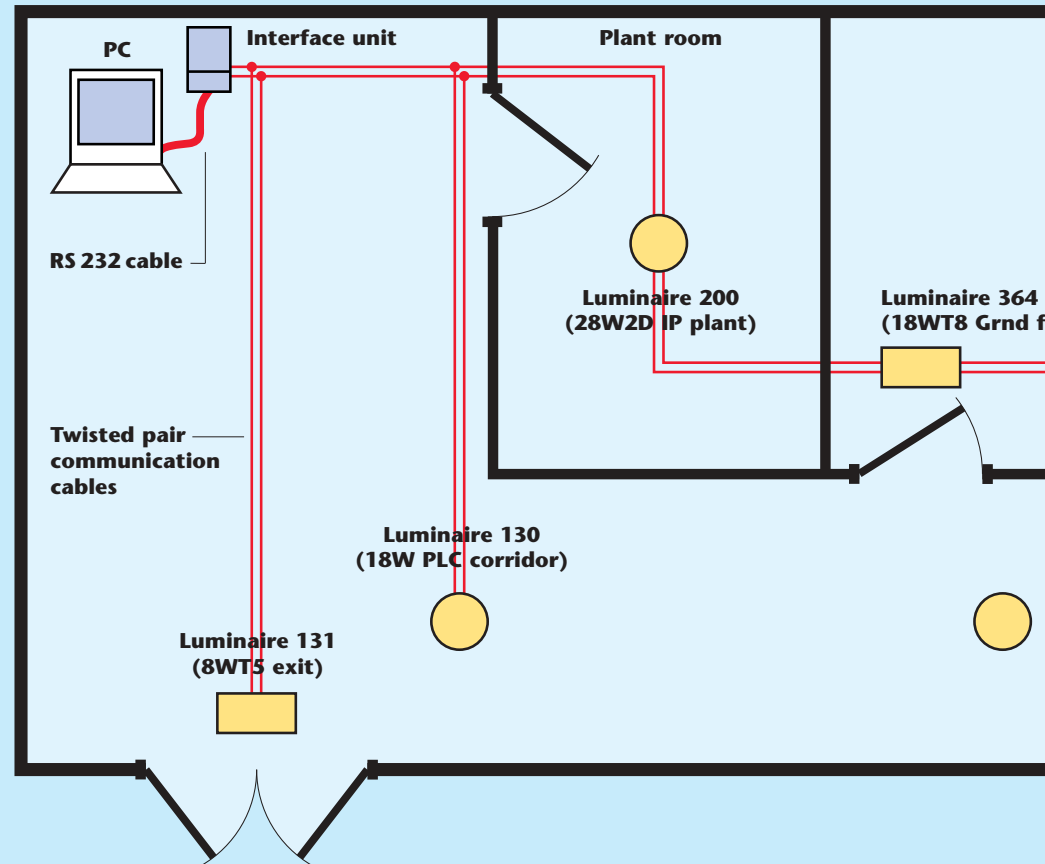
- Wall mounted control panel or standard PC running windows.
- Single system can monitor up to 16,000 luminaires.
- Simple two wire communication bus.
- Each luminaire has unique address and descriptive text file.
- Times and dates of tests easily programmed.
- Luminaires may be tested individually or in groups.
- Failures indicated locally at the luminaire and on the central controller.
- All test details are automatically held in a text file.



Computer and CIU interface



Command



SYSTEM COMPONENTS

Central controller — wall panel or computer:

Command wall panel (CWP); the CWP is basically an Industrial PC with a touch screen and a built-in interface unit for connection to 1000 luminaires. The Command software operates within the installed windows platform and results can be transferred to any external printer.

Computer; any existing PC can be utilised to operate the Command testing system. The Command software works in the background of the windows operating system and does not restrict the prime functions of the PC. A CIU interface unit is required for communication to the intelligent Command luminaires and an additional interface unit is required per 1000 extra luminaires. Each interface unit must be connected to the computers I/O ports by an RS232 cable.

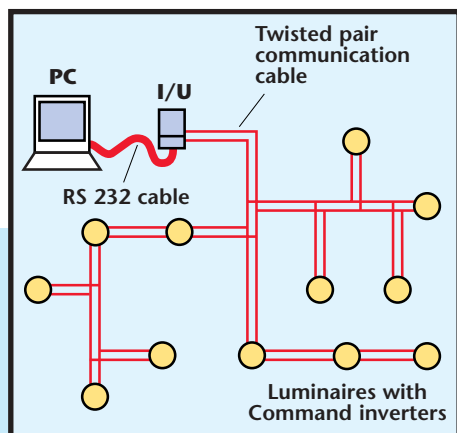
Interface Units

Command Interface Units (CIU) are required to allow a computer to communicate with up to 1000 Whitecroft intelligent emergency lighting luminaires.

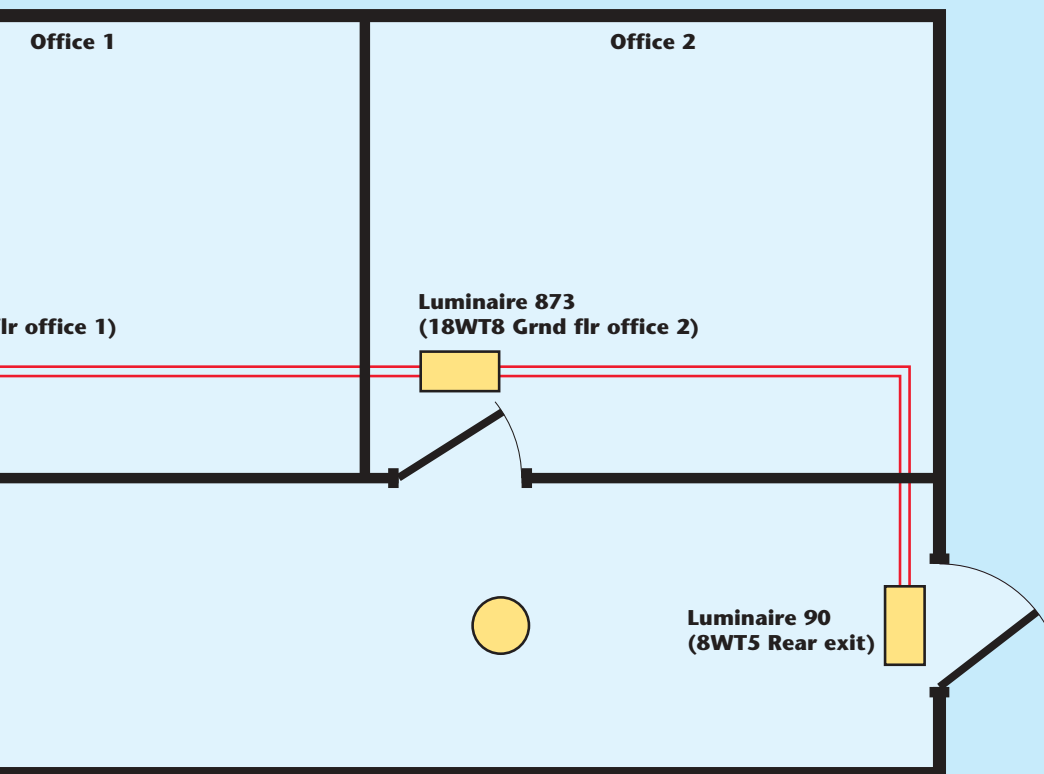
The CIU's are connected to the computer I/O ports by RS232 cables and the communication path to the luminaires is made via simple twisted pair cables. Each luminaire has a unique address and the system 'polls' each address in turn. However, the twisted pair communication cables can be connected to luminaires in any order and using any parallel connection (multi spur, loop in/loop out, ring etc).



CWP panel



Communication cabling



Software

Command software (installed on CWP's or provided free with the first CIU) is a TSR (terminate/stay ready) program operating in the background of windows. It provides a simple menu driven method of detailing luminaires, scheduling tests and indicating failures.

Communication cables

The Command system uses a very robust low baud communication protocol. There is no requirement for screened communication cables and any twisted pair sized to minimise volt drop will be acceptable. Whitecroft recommend 0.75mm² twisted pair (Belden 9407 or equivalent) for installations of up to 1000 luminaires (1000 metres of cable) and 2.5mm² twisted pair (Belden 9412 or equivalent) for larger installations involving long cable runs.

It is also recommended that for large installations Command ISO data isolators are introduced in the communication cabling to break the installation into zones. This simplifies commissioning and the future addition of further Command luminaires.

Intelligent luminaires

Whitecroft can offer most of their wide range of emergency lighting luminaires with Command intelligent inverters.

Each luminaire will be provided clearly marked with its unique address number so that details of where it is positioned within a lighting scheme can be noted ready for commissioning.

OPERATION

The Command system will be commissioned at the end of installation so that brief details (22 characters) of every luminaire are recorded against each address. Test schedules will be pre-programmed so that the required tests will automatically take place on dates and times best suited to the occupier. Command has three levels of test;

Status

A brief check of mains supply, battery charge presence and general electrical conditions.

Functional

An operational test putting the luminaire into emergency lighting mode for a few minutes to assess discharge conditions, light output, battery capacity etc.;

Duration

The same tests as 'Functional' but operating the luminaires for the full rated duration to ensure lamp condition at the end of duration. Any of these tests can be utilised at any time but a typical schedule would be to conduct Status checks every week, Functional checks every month and Duration checks every year.

The Command software allows tests to be carried out on groups of luminaires to avoid all luminaires being discharged at the same time. For example it may be decided to conduct Functional checks on all even numbered addresses at 10.00pm on the 22nd day of every month and on all odd numbered addresses at the same time on the 26th day of every month, then conduct a full Duration test on all luminaires at 1.00am on 31st December every year.

Every test is recorded in a text file for examination by any duly authorised person and the Command software can be programmed to notify failures in various ways.

FAILURE REPORTING

If a site is so large that a small percentage of failures can be tolerated the software can be programmed not to notify until a certain number of failures have been recorded.

When this level is recorded the failures can be shown by a simple red traffic light symbol in the windows tool bar or the software can take a number of positive actions including sending emails, SMS messages etc.

In all cases a failure will result in a flashing LED indicator on the luminaire and no fault can be 'cleared' without carrying out a further test to prove that the problem has been fixed and to update the test records.

ORDER CODES

Most Whitecroft Lighting luminaires can be supplied to be suitable for the use with Command emergency test systems. Select the specified Whitecroft luminaire and add the suffix: /COMET after the catalogue number.

e.g. SEN/BH/M/F8/COMET

Please confirm compatibility with the Whitecroft technical department before placing your order.

Command system components

COMET/CWP — Command wall panel with integral software and interface unit.

COMET/PCP — Standard personal computer available through Whitecroft if required.

COMET/CIU — Command interface unit required with PC installations and supplied with Command software.

COMET/ISO — Command isolator for introduction into the communication wiring breaking the installation into 'zones'.

N.B: It is essential that the position and address of every Command luminaire is recorded during installation. Whitecroft can then arrange a fast and effective commissioning of the system prior to handover.



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