



Clipsal C-Bus Control and Management System Overview

Imagine being able to leave your office at night and knowing that that all the lights throughout the office have been turned off, air conditioners have been switched off and your security system is armed all at the push of one button. How about being able to leave for holidays for a couple of weeks knowing that each night at sunset, lights will turn on inside your home giving it that lived in look. What if this same system could save me money, both with it's energy efficiencies and less need for maintenance and minor works.

Well all this and much, much more is possible with Clipsal C-BUS. It is an intelligent control and management system which can make day to day living a whole lot more enjoyable. It has many advantages over a conventional electrical install and provides you with flexible and reliable system that can integrate several services.

WHAT IS C-BUS?

C-BUS is an intelligent microprocessor based system used for the control and management of lighting, and other electrical applications in residential or commercial buildings. From a simple on/off switch to air conditioning control, security to reticulation, C-BUS can control virtually any type of electrical load.

Each C-BUS device has it's own in built microprocessor which allows all the units in an installation to be individually programmed. The system does not require a central computer or central controller to handle databases or lookup large operation tables. Large amounts of data can be transmitted effectively and reliably throughout a C-BUS network in a very small time frame leading to low bandwidth requirements and low processing overheads.

A Bus wiring system using pink unshielded twisted pair (UTP) cable provides the means of communication between the input and output devices in a specific network. This bus carries a small amount of voltage (36V DC) for the operation of the circuitry within each C-BUS unit. C-BUS networks are programmed so that specific actions within the network trigger responses from one or more unit within that network. When an input device is activated, the appropriate message is communicated throughout the network and the appropriate output device then performs its required task.

There are different ways to cable a C-BUS network but regardless of the method used the network must comply with the operating parameters. The size of a C-BUS installation is practically unlimited. There are limitations to the size of a network, however several sub networks can be set up to form one large network. These sub networks may be electrically isolated if required (for example a multi story building with house power controlled by C-BUS.)

C-BUS has many advantages to a conventional wiring set up. From a cabling point of view, C-BUS is less complicated and requires less cabling upon install. A single C-BUS connection can control an unlimited number of devices. Any input device existing or added to a C-BUS network can see all the devices within that network without the need for running new cabling. Therefore changing the way the network behaves doesn't mean hours of recabling.

FLEXIBILITY

C-BUS isn't just a control system for lighting. Part of the flexibility of this system is that it can be used in many different ways. Traditionally a new commercial installation has many different services, all of which need somewhere for the equipment which runs these services to terminate. Not only does this take up a lot of room but it also means numerous different trades being required to set the system up. With C-BUS, many of these systems can all be integrated and controlled from the one operating system. There are a wide range of tools available to allow it to interface with third party products. C-BUS can control practically any device from digital to analogue.

Each switch has the ability to perform many functions. Unlike conventional wiring where additional equipment is required to be installed for functions like dimming and timing, these changes can be made quickly and easily. There is no need for recabling, adding wall plates, and most importantly there is no need for disruption to your staff while these changes are being carried out.

Like the switches, sensors too can perform many functions. A sensor that may operate lighting in a low trafficable area by day, may also part of the buildings security system by night. The same sensor could also be used to receive RF signals from a pendant held by staff at a counter and set of a panic alarm if they feel as though they are being threatened.

ADVANTAGES

Operational changes with the way a network is required to perform can be done quickly and easily with very little and usually no disruptions to the customer. Because of the bus system which runs to all the input devices, a change in the way a lighting circuit is switched for example is no trouble. Unlike with conventional methods, switch wires do not need to be relocated to new locations. Instead, a programmer just makes the changes and updates the information to the network. Any input device can control any number of output devices.

C-BUS can be retro fitted into an existing installation without too much trouble. Whether it is the whole building you wish to fit out or just one or two rooms, the flexibility of C-BUS ensures that this can be done. Expansion to an existing C-BUS network is quick and easy also. Similarly, if the layout of your office changes there's no need to reshuffle lighting and change switching configurations, some minor programming can change the way that lighting groups are switched to suit the new layout.

With a large range of sensors available, you can make your install energy efficient. Motion sensors can be used to switch lighting in low trafficable areas. Instead of the light staying on all day, it will only be on when it needs to be. In large open areas that receive a lot of natural light, a light level sensor could be used to switch the lights only when the natural light level is insufficient. A master off switch at the front door can be set up so that the last to leave the office turns everything off, lights, air conditioning, even the urn in the kitchen.

Seasonal changes will no longer mean resetting time clocks to suit the conditions. Instead the light level sensors which are part of your network adjust with the seasons and everything adjusts accordingly without anyone having to lift a finger. The built in system clock also ensures that lights won't stay on all night if you don't want them too, saving you money.

Imagine you've left the office for the day and traveled half way home before realizing you haven't armed the security system at the office. No need to worry, C-BUS can be set up to receive DTMF tones from your mobile phone and carry out several pre programmed tasks. Perhaps you are out with friends and it's been raining. A quick call home and you can stop your reticulation coming on as it normally would on your rostered watering day.

Adding functions to a keypad doesn't necessarily mean having to increase the amount of buttons on a keypad. For example, a single button pressed for a short time can perform one task, but, that same button pressed for a long time can carry out a second separate task.

Multiple events can be carried out by the push of a button. A series of events could flow in a timed manner at the push of a button. Imagine giving a presentation in your boardroom and at the push of a button having the lights dim,

projector screen drop down, audio switch on to a preset level and everyone impressed before the presentation getting underway.

ACCESSORIES

Clipsal has produced a large range of attractive switch plates for the C-BUS market. Modern and stylish, the switch plates are the same size as conventional switch plates and can be easily retro fitted to existing installations. A DLT (Dynamic Labeling Technology) switch features a backlit LCD screen with a scrolling page to produce up to eight buttons. Each button can be labeled for your convenience. Colour touch screens and remote touch screens.



The output devices such as relays and dimmer units are able to din mount inside existing switchboards if there is enough room or into a separate enclosure if necessary. The quantities of each that you may need are dependant on the size and needs of an installation. For example a full office fit out will require a lot more dimmer and relay channels than someone who just wishes to fit out a boardroom.



Light level sensors, temperature sensors, infra red sensors, infra red sensors with RF inputs, 90 Degree sensors, 360 degree sensors, weather proof sensors, C-BUS has it all. There large range of sensors all have a neat finish and most indoor units can be installed unobtrusively if required. Most sensors can perform more than one function. For example an IR sensor may also be a light level sensor.

