

ENERGY SAVING – THROUGH A NEW APPROACH TO LIGHTING INSTALATION

Using microprocessor control, Phillips has evolved new approach to lighting installation design that offers energy saving potential by co-ordinating centralised switching with localised photo-Electric Control and individual manual controls. When combined with new efficient light sources, energy savings of 30 - 50% have been reported.

Phillips's Intergrated Function System (IFS) makes use of microprocessor control technique to provide optimum switching in response to local switching, requirements, photo-cell control, and central control via a preprogrammed controller.

The heart of the system is the control unit, which controls all switching operations in response to signals relayed to it from the local units and from information stored in its own data base. The data base can be switched according to time of the day, the day in the week, holidays, etc. The central control unit can be programmed by means of "MENU" selection software using a standard micro-computer. Once the programming is completed the microcomputer can be taken away for other duties. The unit keeps a record of every switching operation which can be used to generate separate lighting bills for each user.

The unit comprises of three functional sections—the data base and the memory, the stored users' data and the system data.

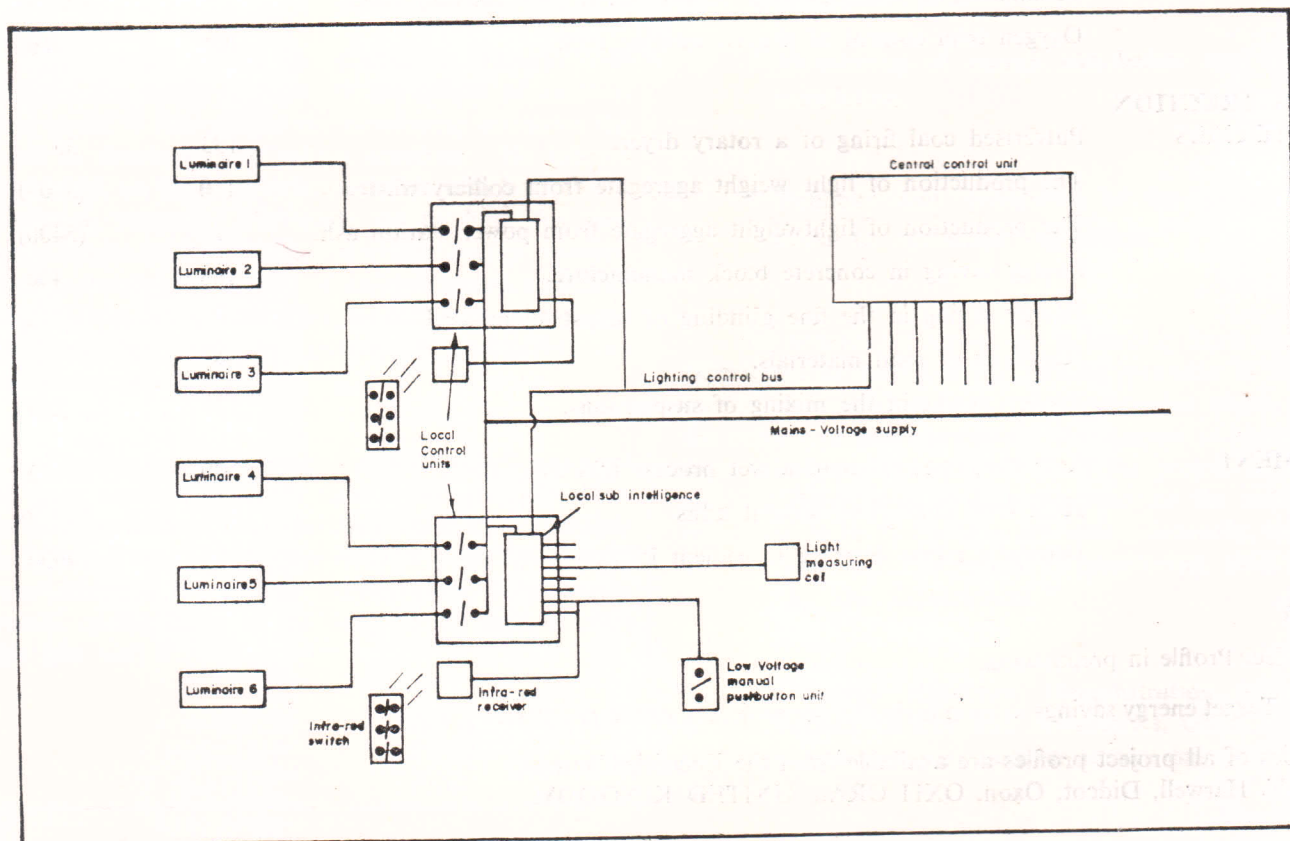
When a switching signal from a local control unit is received by this section, it is compared with the instructions held in the data base and the related command is extracted from the memory. Meanwhile the clock/calendar continuously looks at times and data stored in the memory and extracts relevant commands when time and date match.

The data/communications protocol section communicates with the local control units via the lighting control bus (LCB) line and a Universal Synchronous/Asynchronous receiver transmitter interface card which provides full duplex communication with the micro-computer.

The Control Units

The local control units provide the sub-intelligence for the system, receiving switching signals from infra-red switch, light measuring cells or push button terminal units and passing these through LCB line to the central control unit and receiving commands from this unit to operate the output switches.

The local control unit comprises six sections the micro-processor, input section, address section, LCB interface, switching and supply section.



The supply section provides the DC supplies to the other sections and to the external input devices, i.e., infra-red receivers, light measuring cells and the push button terminal units. The address section contains the local unit's unique address which comprises a three digit number which can be selected by means of three 10 — position switches. One digit defines the LCB line and the other the serial number of local unit.

The output section can switch three separate luminaires or lighting circuits via three relays controlled by the microprocessor.

The Infra red Switches

Though various forms of local switches can be used including push button terminal unit and light measuring cells, preferred form is the infra-red transmitter. These are small hand held units that transmit coded signals by means of an infra-red beam. The infra-red signals are received by a compact ceiling mounted receiver which is connected to the nearest local control unit. Each transmitter has a unique code, attached to the local control unit which it is intended to be used.

For automatic switching in response to natural lighting levels, light measuring cells, normally used in "Daylight Group", may be connected to local control unit. The user enters threshold values, for each daylight group into the central control unit. This then interrogates the local control unit every two minutes and averages the information received, comparing this against the threshold values. Once the threshold value is exceeded the luminaires assigned to that particular daylight group are automatically switched off.

(Extracted from "ASIAN ELECTRICITY".—A monthly published in U.K. by "Business Press International Ltd. distributed free to Executives, Engineers and Government Staff who specify or purchase electrical equipment." Address — TIMES HOUSE, THROWLEY WAY, SUTTON, SURREY SM1 4AF, ENGLAND).

The International Energy Agency is concerned over the rising oil consumption in Switzerland. The specialist report on country's energy policy suggests that imports of natural gas and production of Electricity will need to be increased and energy saving intensified.

— Mordern Power Systems.

Prof. MOHAN MUNASINGHE, President Emeritus SLEMA Receives Major International Award for Outstanding Contributions in the Energy Field

Prof. Mohan Munasinghe has been named the winner of the award for outstanding contributions in the energy field, by the International Association of Energy Economists (IAEE), U. S. A. The award was officially presented at a major international energy conference held in November 1986, in U.S.A.

The IAEE has a membership of about 2,500 of the foremost energy experts from over 60 countries, and Prof. Munasinghe is the first third world recipient of this award. It is considered the most prestigious international prize of its kind.

The award was made on the basis of his original contributions in energy research and practical applications in the following areas:

1. Integrated national energy planning.
2. Energy pricing, demand management and conservation.
3. Electric power system analysis, reliability optimization and planning.
4. Rural electrification and rural energy analysis.

From 1982 onwards Prof. Munasinghe has served as Senior Energy Advisor to President Jayewardene. He is presently Head of Energy Policy Development, The World Bank, Washington, D. C. and also Chairman, Energy Research Group, a unique think-tank of 11 leading international energy experts who are analyzing the third world's long-term energy problems.

SRI LANKA ENERGY MANAGERS' ASSOCIATION TO BE INCORPORATED

Hon. P. Dayaratne M.P., Deputy Minister of Power and energy and Vice Patron of SLEMA has given notice in Gazette of the Democratic Socialist Republic of Sri Lanka (12-02-1987), to introduce a bill in parliament entitled "An act to incorporate the Sri Lanka Energy Managers' Association".