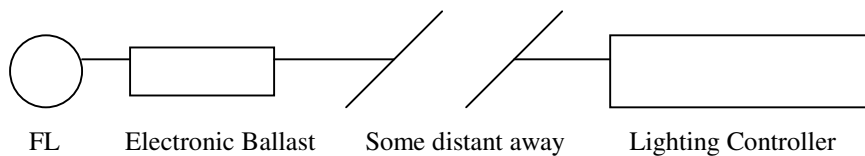


Control Networks - Fundamental Tutorial #1

Part 2 – Long question

Q1. You are handling a lighting control project to design a block diagram to indicate the different levels of this control network based on CENELEC TC247/W4 levels model. The following are the requirements:

- six rows of lighting fixtures with lighting controller controlling each row of lighting fixture. Row 1, 3, 5 are grouped together as group A, while Row 2, 4, 6 are grouped together as Group B.
- Group A is normally used for illuminating, while Group B is for back-up in case Group A fails, i.e. Row 2 will turn on if Row 1 fails, with all other Group B's rows still off, etc. The fail of a particular ROW is sensed by a Lux sensor, putting very close to the fluorescent lamp.
- A computer in the management office with a build-in HMI (Human Machine Interface) monitoring the condition and can directly control the lighting controllers wither ON or OFF.



Example connection from controller to FL

Q2. Briefly explain three of the benefits obtained from a truly open, interoperate system composed of different subsystems integrated together in comparison to a proprietary system