Tutorial

The Three Laws

of

System Design

This short tutorial offers three laws that will help when designing and analysing a control system.

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The Three Laws

To help you build good quality control systems that are easy to understand, reliable and easy to maintain we offer the following the three laws.

Law 1. Keep It Simple (KIS)

Whatever you are doing, keep it simple. If it is not simple then use Law 2. and break it down until it becomes clear and understandable.

Law 2. Break It Down (BID)

Break all parts of the control system down into modules with each module having a clearly defined function. Here we are referring to both the physical system and the software used to program it.

Law 3. Make It Modular (MIM)

By studying the needs of your proposed control system and applying 'KIS' and 'BID' you should be able to build the entire system from interconnected modules.

If you follow the three laws your control system should be a hierarchy of modules much like a family tree in which the top level is broken down into lower level modules and so on until the bottom level is reached. Ideally the bottom level modules will all be very simple and easy to understand and the module tree will describe the function of the whole control system.

If your control system is simple to start with then the three laws may not be needed however its always good to keep them in mind because control system have a habit of growing. When the boss sees what you've created he will always ask what else it can do, how long it will take and how much it will cost.

Questions

If you have any questions regarding either this tutorial or any other aspect of using the E-Node range please contact the staff at Etrol ltd.

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