Intech INSTRUMENTS LTD

June 2007

Control Devices: The PLC

Historical June

6th June 1944

Just after midnight, 'Operation Overlord', the combined allied invasion of Europe better known as 'D-Day' begins.

2nd June 1896

Guglielmo Marconi, pioneer of radio communications applies for the first ever patent of 'wireless technology'.

26th June 1911

Juan Manuel Fangio, winner of five Formula 1 World Championships with four different teams born in Balcarce, Argentina. Fangio is considered by many as the greatest motor racing driver of all time.

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What is a PLC?

A **Programmable Logic Controller** or **PLC**, is an electronic device used to enable efficient automation of industrial processes, such as control of machinery on factory assembly lines. The PLC is a cousin of the household PC but is designed to be immune to electrical noise, resistant to vibration and impact, capable of operating to extended temperature ranges and able to handle multiple inputs and outputs.

History

In 1968, General Motors in the US issued a request for an electronic alternative to hard wired relay systems. The outcome was the Bedford Associates 084 **MO**dular **DI**gital **CON**troller (MODICON). The Modicon brand was sold in 1977 to Gould Electronics before being acquired by the German firm AEG. The current owners of the Modicon brand are Schneider Electric.

Intech's Isolating PSW Power Supplies (left) and TW Series Units solve many PLC issues

Electrical Isolation

One of the most common difficulties suffered by PLC's is the problem of Earth leaks. A PLC may be capable of performing numerous functions faultlessly but if an Earth leak exists, functions and control parameters may be compromised leading to false readings and incorrect control. As is often the case, the way to fix this issue is to electrically isolate inputs, outputs and even use an isolated power supply. Simple Isolation can easily prevent problems for extremely capable PLC units.

Analogue Inputs

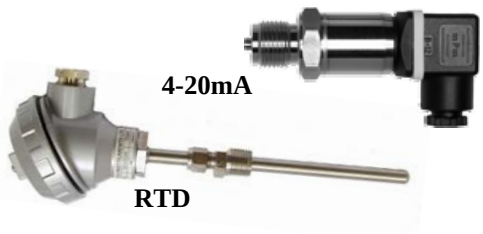
In many cases end users need to be able to read a number of analogue inputs using a PLC. This can be a very expensive operation - particularly where 'speed' is not essential and it is not necessary to read analogue inputs with particular urgency. This is often the case when reading temperatures inputs where changes tend to occur very slowly.

Intech Multiplexers: Cost Saving

Analogue inputs for PLC's are expensive. It is often far more cost effective to use a dedicated multiplexer. A multiplexer offers the facility to read several analogue signal parameters but only uses a single analogue input on a PLC unit. This can save end users literally thousands of dollars.

Flexibility

You can hook virtually any device up to a multiplexing unit. Some units are designed to handle just one type of input whether it is milliamps (mA), millivolts (mV), Volts (V) or RTD but intelligent multiplexers can handle almost any input - even pseudo digital!
So, as an end user you can input a variety of instruments to a PLC via one box of tricks.



Multiplexers Handle Virtually All Inputs

SHIMADEN TRIMEC INDUSTRIES BC BRAINCHILD JUMO

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Team New Zealand use Intech hardware & software

Fly High: Make Contact with Intech Instruments

For almost 25 years Intech Instruments have been operating throughout New Zealand, servicing a variety of industries. Our product range is made up of both our own high quality manufactured products plus a range of first class imported items.

Our core business is concerned with supervisory, monitoring and control – utilising hardware and software facilities to provide a host of solutions for end users.

Based in Christchurch, where we have both a sales and service operation, Intech Instruments also have offices in Auckland and Hawkes Bay.

With a combination of industrial experiences and technical skills, Intech are able to provide customers with the best possible solutions for a variety of applications.

Shimaden SD16A & SD20 Digital Indicators

Ever popular, Shimaden produce Microprocessor based display units of the highest calibre.
The SD16A & SD20 units are virtually unrivalled.

- Multi Input Capability
- Analogue Output
- SPST Alarm Relay (2)
- IP66 Front Panel
- 20mm Digit Display
- Optional 24V ac/dc

Shimaden SD16A Display

The SD-20 is a more advanced version of the SD16A. It has finer accuracy, two SPDT changeover alarm contacts and also the facility for scaling the output.

- Multi Input Capability
- Scalable Output
- Changeover Alarms (2)
- RS232/422/485 comms
- 0.25% High Accuracy
- IP66 Front Panel

Shimaden SD20 Display

Intech PI Series Isolating Transmitters

Held in extremely high regard, the key to the success of the 'PI Series' units lies with ultra smooth circuitry. Programmable, these units are capable of performing where others struggle.

- ♦ Field Programmable
- ♦ Onboard 20v P/S*
- ♦ Multiple Isolation
- ♦ Input Damping
- ♦ AC/DC Power
- ♦ Bi-Polar Ranges

* Model Dependant

PI-Series: Exceptional

Need a Loop Powered Display

There are occasions when a power supply can't be located. If you need a display, simply slot the LPI-LCD-5 unit (right) in the 4-20mA loop. No power supply necessary.

LPI-LCD-5: Loop Powered

Jumo dTrans T01

Designed to be fitted inside the head of temperature probes, the T01 is a fully programmable HART transmitter.

- ♦ Thermocouple or RTD
- ♦ Program via Windows set up
- ♦ HART Communication

Mini Roto-Bin

The Mini-Roto-Bindicator (below) is designed to provide level control for small bins & hoppers. Its big brother has been used within Industry for years.

- ♦ IP67
- ♦ Adjustable sensitivity
- ♦ 10A, 250VAC Relay

Trumeter Timers / Counters

Trumeter have supplied an impressive range of timers and counters to Intech for a number of years. If you are in need of a counter, totaliser or hours run meter, contact us for a host of options.

Digital & Mechanical varieties are available at good prices.

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