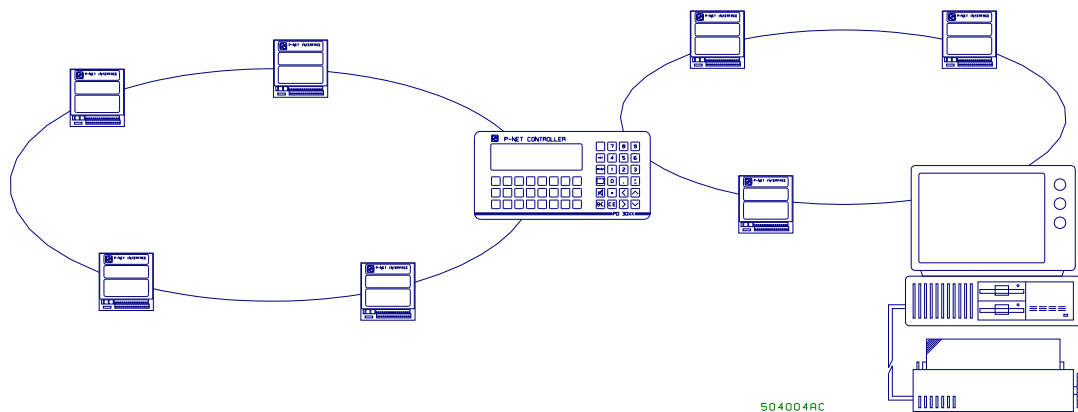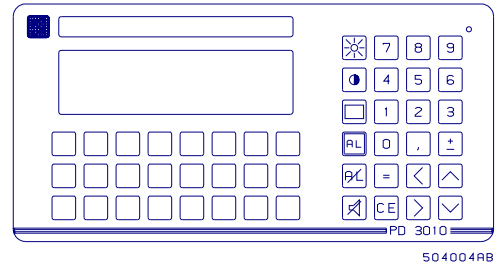PD 3000 P-NET CONTROLLER

FEATURES
* 16 Bit Microprocessor
* Programmed in High Level
  Multi Tasking Language
* Large Data Storage Capacity
* Sealed Keyboard to IP65
* Backlit Graphics LCD Display
* User Definable Overlay
* P-NET Fieldbus Communications
* RS232C Interface
* Battery Back-up
* Internal Clock

504004AB

504004AC

APPLICATION
The PD 3000 is designed as the central control computing and display element in both highly complex or simple process control systems. It is used in conjunction with the collection of distributed input/output and control modules, which provide digital, analog, flow and weighing facilities, via the fieldbus called P-NET. The Controller is front sealed to IP65, and is therefore suitable for use in any industrial environment, when mounted on the outside of a suitable box or panel. The controller can be used independently of the keyboard/display, as a network gateway, or interface between a PC and P-NET.

SYSTEM DESCRIPTION

Display
The display is a fast graphics LCD, using Supertwist technology, providing adjustable contrast and wide viewing angle. The display has a resolution of 256 by 64 pixels, enabling a variety of character fonts and graphic display to be used. An adjustable brightness green phosphor back light is incorporated.

Keyboard
The keyboard is sealed, (membrane switch technology), with 48 available keys. The key functions depend upon the type of application, and may be defined by the user program. The unique design includes a self adhesive keyboard overlay, which provides the ability to customise the unit, and ensures an ideal operator/instrumentation interface. The keyboard/display module can be omitted when the Controller function does not require operator input/output facilities.

Microprocessor

The Controller utilises a 16 bit HC 68000 microprocessor, giving it exceptional power and memory addressing capability.

Memory

The program memory is a single EPROM of 128K bytes (64K x 16). The data memory is CMOS RAM 64K bytes (32K x 16) with battery back-up. In case of power failure, the Controller will save the current program state. When power is restored, control will either continue from the failure point, or reset, depending on instruction.

Real Time Clock

The controller is equipped with a real time clock with battery back-up. It is configured for 24 hour format and enables the display or recording of real time, in seconds, minutes, hours, days, months and years.

Programming

The Controller is programmed in Process-Pascal, which is a multi-tasking high level language developed especially for the programming of process control activities, which utilize P-NET distributed interface modules. Process-Pascal is an extension of standard Pascal. The program is generated on an IBM or compatible PC with 640K of RAM, using any general purpose editor. It is then compiled and downloaded to the Controller via the RS232 interface, or directly via a PC P-NET interface. After testing, the program can be blown into EPROM. The powerful nature of the compiler enables a system designer to write independent processes as separate, testable tasks, and to define process elements, such as valves, sensors, keyboards and displays as named program variables. This makes it particularly easy to design control programs, which can also incorporate system instrumentation requirements.

Communication Interfaces

The Controller has two Serial interface channels:
1) The P-NET multi-master interface with a transmission speed of 76,800 baud. This RS485 interface is used when communicating with P-NET interface modules and with other controllers in a larger system.
2) This serial channel is used as an RS232C or multi master RS485 P-NET interface. It has an adjustable baud rate (1200, 2400, 9600, 19200 or 76800). This channel can be used as an interface to a printer, PC, auto-dial modem, barcode reader, etc., or as a second P-NET interface when using the Controller as a network gateway.

SPECIFICATION

Scale Drawing (in mm)

Power supply:
    24V AC/DC ± 15%, 6 watts
Operational Ambient Temperature:
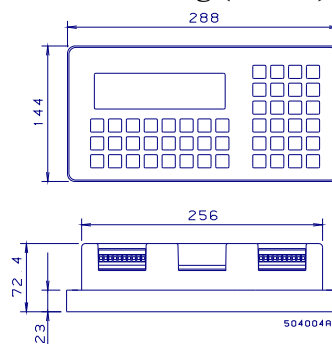   -10 to +45 °C
Storage temperature:
    -20 to +60 °C
Weight:
    1.5 kg

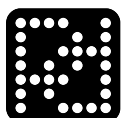Produced by: Distributed by:

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