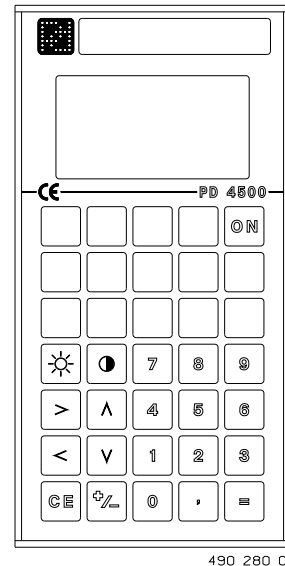PD 4500 HAND-HELD TERMINAL

FEATURES

- 32 Bit Microprocessor (H8/300H)
- 8 hours battery operating time
- Programmed in C
- Large Memory area
- Backlit Graphics LCD Display with a resolution of 128 by 64 pixels
- Sealed Keyboard (35 keys)
- Multi-master P-NET Port
- RS232 Port
- Buzzer output
- 5V / 100mA output
- Real Time Clock
- Waterproof to IP67
- EMC approved (89/336/EEC)

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APPLICATION

The PD 4500 is a hand held controller designed for mobile data collection, e.g. to collect service information when walking around a plant. Having completed the tour, the PD 4500 can be connected a P-NET point in the office or other convenient location, where the collected data can be unloaded.

SYSTEM DESCRIPTION

Programming

The Hand-held Terminal application is programmed in C, and compiled on an IAR compiler. Programmes are developed on a standard PC, compiled and down loaded directly to FLASH memory via the P-NET interface.

A library of C functions can be provided, including functions for controlling P-NET, display, keyboard and power saving.

Memory

The PD 4500 has on board memory consisting of 256 Kbytes of FLASH and 512 Kbytes of RAM. In addition, a 64 Kbyte EPROM is provided, which holds the boot program and the Operating System.

Battery

The Hand-held Terminal is powered by a rechargeable nickel metal hydride battery, giving a full operating time of up to 8 hours.

Channels

In keeping with the standardised, object orientated channel structure of other P-NET devices, the PD 4500 incorporates structured Channels to deal with the configuration and use of Communication Ports, Program control, keyboard and display usage, and the buzzer output. As with all P-NET devices, the Service channel (channel 0) provides the ability, amongst other facilities, to identify the device and to provide the means to set the node address.

Communications Interfaces

The Hand-held Terminal has two serial communications interfaces. One of these provides a galvanically isolated RS485, multi-master P-NET fieldbus interface, which runs at the standardised speed of 76.8 Kbaud.

The second communication interface is a standard RS232 port, configurable for DatamodeIn, DatamodeOut or DatamodeInOut. The port has an adjustable Baud rate of between 300 and 76800. This communications channel is used to provide an interface to printers, modems, barcode readers, electronic tag readers (TIRIS) etc.

Keyboard/Display

The PD 4500 provides a 35 programmable key layout, using sealed, membrane switch technology. A customised self adhesive keyboard overlay can be used to provide the operator with the ideal visual interface associated with the usage of the Hand-held Terminal. The associated display is an LCD Supertwist technology type, having a resolution of 128 by 64 pixels, providing adjustable contrast and wide viewing angle. An adjustable LED back light is also provided.

5V / 100mA output

The Hand-held Terminal is equipped with a 5V / 100mA output, which can be used as a power supply for external devices, such as barcode readers etc.

Real Time Clock

The PD 4500 is equipped with a real time clock with battery back-up. It is configured for 24 hour format, and contains real time in seconds, minutes, hours, days, dates, months and years.

Buzzer Output

The Hand-held Terminal has a built in buzzer output, which can be used for alarm purpose etc.

SPECIFICATIONS

Scale Drawing (in mm)

Power Supply:
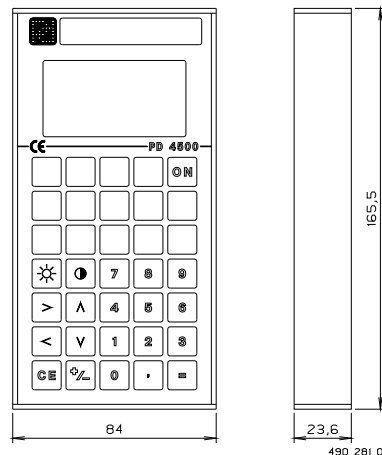24V DC ± 15%, 4 watts
Ambient Temperature:
-20 to +50 °C
Weight:
450 g
Sealing:
IP67 specification
Memory:
256 Kbytes FLASH and 512 Kbytes RAM.

PD 4500 is approved in compliance with **EMC Directive No. 89/336/EEC.** Test limits are determined by the generic standards **EN 50081-1** for emission and **EN 50082-2** for immunity. PD 4500 is approved in compliance with the **IEC 68-2-6 Test Fc** standard for vibration.

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