

PLC Terminal Display with Embedded Variable Data

Features:

- 2 x 20 Character backlit LCD or VFD display
- 256 messages stored on EEPROM
- Multiple embedded variables per message
- 8 Discrete 3-30VDC inputs
- Windows™ based software for message entry
- 7-40 VDC power
- Small DIN size
- Serial interface for message upload and download
- Message chaining and linking
- Smart cable hook-up to PLCs via programming port

Description:

The PT220 range of operator interfaces are 2x20 character message display units that connect to PLCs via their programming ports. Each message can contain up to 4 different variables and bit dependant text, limited only by the size of each message (61 characters). A message is displayed by placing a number in the Message Trigger Register (MTR) in the PLC. Messages can be made to scroll, flash and to chain to another message with a programmable time out. 8 Discrete inputs (3-30VDC) are also available to provide input to the PLC, saving on PLC I/O to connect to buttons, etc. Low cost front label overlays can be produced, ideal for an OEM producing a product with a definite style.

Message Selecting:

Messages are selected by placing a value in the MTR register of the PLC. This register can be selected via the programming software. The PT220 will display the message number corresponding to the number in the MTR. If zero is in the MTR the PT220 will display a blank screen. If a time out is programmed the message will be displayed for a set time, before changing to the next message number in the MTR.

Serial Port:

A serial port is provided to allow programming via a PC and to connect the PT220 to a PLC. The serial port can set for RS-232 or RS-422 operation depending on the PLC type, so few special cables are required. The PT220 automatically detects when a programming cable is inserted into the serial port and enters programming mode. When the programming cable is removed the PT220 enters on-line mode and tries to connect to the PLC.

Inputs:

Each input accepts 3-30VDC with a 3.6K Ω sink/source pull up resistor. These inputs appear in the PLC memory as bits within a register (MTR+5).



Messages:

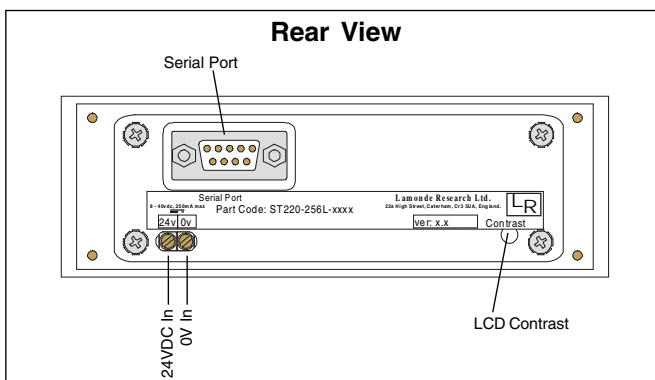
There are two versions of the PT220, one storing 32 messages and one storing 256 messages. Messages can be made to scroll, flash, can be displayed for a set length of time (1-64 seconds in 1/4 second increments) and can be made to chain to another message. A message chain can be interrupted by loading 255 in the MTR, when, for example, an alarm needs to be displayed. Message 0 is displayed for 3 seconds upon starting up, allowing a customisable greeting message. If message 0 is selected during the normal working of the display a blank screen is displayed. The four registers MTR+1 to MTR+4 are used to embed variables within each displayed message.

Specifications

Setup:	Windows™ based PC Software
Programming:	Via RS-232 serial port
Display:	2 x 20 Character STN LCD with high brightness backlight.
No. Messages:	256 (optional 32)
Message Request:	Via PLC Message Trigger Register
Character Height:	5mm
Memory:	Serial EEPROM
Inputs:	3-30VDC inputs sink/source operation - plus strobe/latch facility
Serial I/O:	RS-232/422 port for programming and PLC connection
Power Supply:	7-40VDC @ 0.25A max (75mA Typ @ 24VDC)
Operating Temp:	0°C to 50°C (32°F to 122°F)
Environmental:	NEMA4/IP65
Approvals:	CE Approved

Ordering Information

Part No.	Description
PT220-32L-SIS5	PT220, 32 Messages, LCD Display, Siemens S5 Diver
PT220-256L-SIS5	PT220, 256 Messages, LCD Display, Siemens S5 Driver
PT220-32L-DNET	PT220, 32 Messages, LCD Display, DirectNet Driver
PT220-256L-DNET	PT220, 256 Messages LCD Display, DirectNet Driver
FT-V	VFD Display Option
PT228-SOFT-DNET	Windows™ Programming Software - DirectNet Version
PT228-SOFT-SIS5	Windows™ Programming Software - Siemens S5 Version
FTCBL-PROG	PC Programming Cable
FTCBL-SIS5	PLC to PT220 Cable for SIS5
FTCBL-DNET	PLC to PT220 Cable for DNET



Variable Numbers

When a message is displayed up to 4 variables can be embedded anywhere in it. The data for these variables are taken from the registers MTR+1 to MTR+4. Each variable can have its own attributes such as HEX, BCD, signed or unsigned, how many decimal places and how many digits to display. These attributes are easily selected via the setup software. Bit dependant text can also be incorporated, with both the on and off text and the PLC select bit encoded into the message. Note. The maximum message length is 61 characters and each code can take up more characters than are displayed, especially bit dependant text.

Contrast

Contrast and viewing angle of the display can be altered by turning the pot on the back of the unit. The viewing angle may need to be changed if the unit is set above or below normal eye level in the panel. The STN display has a wide viewing angle, however, and unless the display is set at a very acute viewing angle the contrast should not need to be altered.

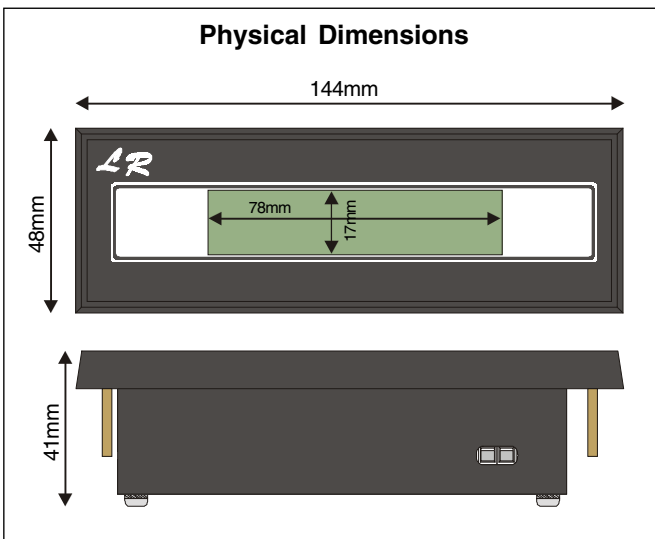
PLC Models Supported

The PT220 range of terminals supports drivers for the following PLCs. Other drivers are being developed and custom drivers can be designed to order.

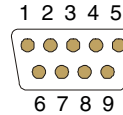
PLC Direct: The DNET protocol gives support for all Koyo PLCs. Both **DirectNET** and K-Sequence protocols are automatically supported. NB. The D3-330 and D3-330P require a DCU unit.

Siemens S5 Support for the S5 range of PLCs from Siemens. Supports 90U, 95U, 100U, 102U, 103U, 115U.

Physical Dimensions



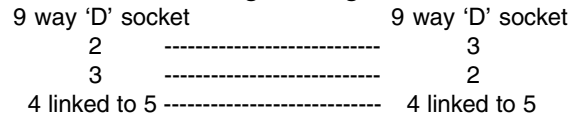
Port Pin Outs



Serial Port

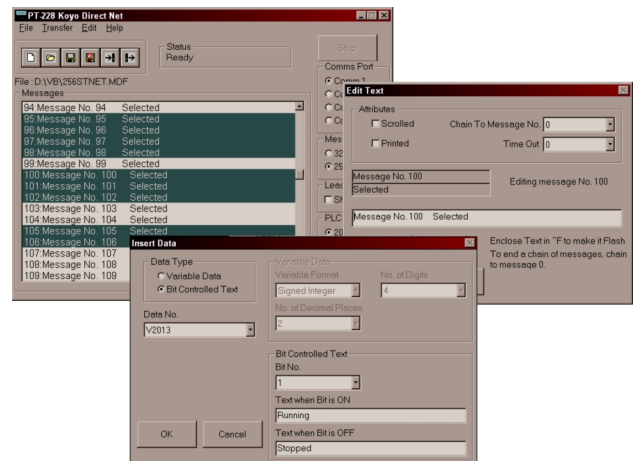
- 2 TXD - Transmit
- 3 RXD - Receive
- 4 PRG - Connect to GND to put unit in program mode
- 5 GND - Signal Ground

Programming Cable



The programming cable is reversible.

PT228-SOFT Setup Software



The PT220 display is setup using windows™ software. The software runs on a PC running windows 3.11, 95 or 98. The setup software allows you to edit all the messages with a simple click of the mouse. Message lists can be saved and loaded, cut and pasted, collected together or distributed to diverse message numbers. There is the facility to upload and download selected messages as well as the complete message lists. Communication ports 1-4 are supported. Variables are entered using an easy setup screen where you enter the details of the variable to be displayed and the code is automatically entered into the message.

Panel Cutout

