

# WatchPro Display Unit – ML Series



Figure 1 - ML Series Display Unit

## Features

- Microprocessor controlled counter with **MODEL** and **TARGET** displayed alternately on the top line of the display unit.
- **RESULT** count showing actual production count from production line sensor.
- **PROGRESS** display provides instantaneous feedback on production line performance.
- Barcode or keypad entry of model numbers.
- 2.25 inch LED display elements allow production performance to be monitored over a viewing distance of 40 metres.

The ML series WatchPro display units are used for displaying production performance information to line managers and the shop floor workforce in medium to large sized manufacturing areas. They are typically mounted at the end of a production line so that all the workers on the production line can see the current production count and how close the production is to meeting the shift target.

The display unit can be provided in a single sided format or a double sided format where there are display LED' s mounted on both sides of the display unit.

When mounted above a production line viewing distances of up to 40 metres are achievable using 2.25 inch Light Emitting Diode display elements.

Different coloured lamps built into the unit are used to illuminate the **DELIVERY**, **IN PROCESS**, and **OUTGOING** lamp displays which provide a visual indication of production line status. The labelling can be easily changed to suit individual customer requirements.

The **MODEL/TARGET** display line is used to display either the model being produced or the production shift target and the display line is alternated every 5 seconds between these two figures. A model number of up to 8 characters long can be shown on this display line.

The display unit has opto-isolated inputs one of which is used to connect to a production line sensor which provides the **RESULT** count on the display unit which is incremented for each unit produced. A value in the range of 0 to 9999 can be displayed on this line.

The **PROGRESS** display line is used to show a figure which gives an indication of how far production is exceeding target or how far it is lagging target. E.g., if a value of **96** is shown then production is exceeding target by 96 units and if a value of **-12** is shown then production is lagging target by 12 units.

# WatchPro Display Unit – ML Series

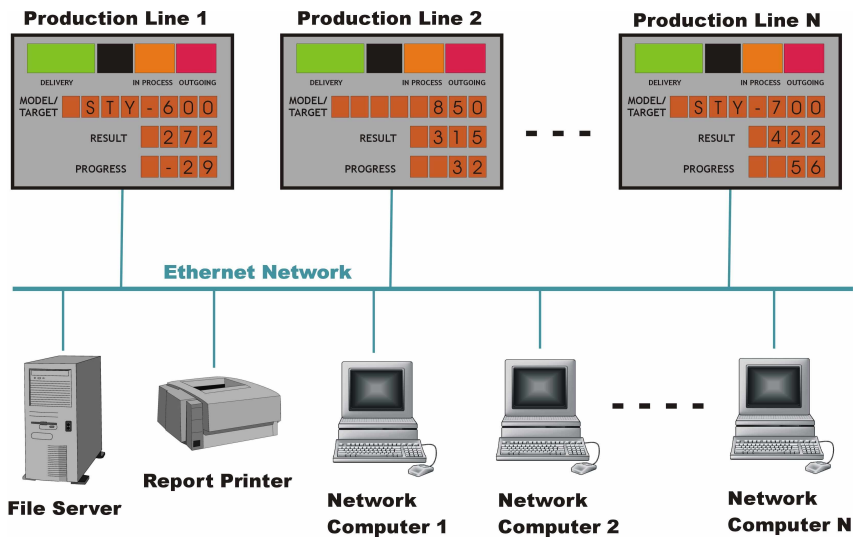


Figure 2 - WatchPro System Diagram

The ML series display units can be linked together using an Ethernet computer network. This allows the production information for the entire factory to be viewed on one computer screen using the WatchPro software running on one or more of the network computers. The WatchPro software is also used for programming the units with the shift start and stop times. The WatchPro software can also be used for logging the machine production information to a central database located on the file server which can be used for generating production reports.

## Customer Options

The display unit is controlled by a microprocessor and the firmware of the microprocessor can be modified to suit any special requirements asked for by a customer.

The Model/Target, Result, and Progress lettering on the front panel of the unit can be easily changed to suit a customer's individual requirements.

A barcode interface can be provided for entering model numbers using barcodes or a keypad interface can be provided for entry of model numbers from an alphanumeric keypad.

Technical Specifications	
<b>Construction</b>	Mild steel case finished in textured black paint. Printed plastic label covers the front panel with green, orange, and red windows for the lamp displays. 12mm lettering for labelling of LED display windows.
<b>Dimensions</b>	Width 530 mm, height 500 mm, depth 122 mm.
<b>Weight</b>	10 kg (single sided) 13 kg (double sided)
<b>Operating Temperature Range</b>	0 to 60 degrees Centigrade
<b>Mains Input</b>	110 to 240 V AC, 50 to 60 Hz, 12.6 watts power consumption (typical). Filtered IEC mains connector.
<b>Internal Supplies</b>	12 Volts DC
<b>Inputs</b>	16 opto-isolated inputs.
<b>Outputs</b>	4 opto-isolated outputs, 3 open collector outputs.
<b>Control Electronics</b>	Z80 motherboard and embedded PC board for ethernet interface.
<b>RS232 Interfaces</b>	Two RS232 interfaces are provided. One of these is a dedicated debugging port. The other is used for connection of a barcode reader or keypad.
<b>Network Interface</b>	An RJ45 connector is provided for connection to a 10 Base-T Ethernet network. Two RS485 connectors are provided for a daisy changed RS485 network.
<b>LED displays</b>	2.25 inch starburst LED modules.