

No Time Out for This Programmable Timer/Controller

Model PT41 a precision clock/timer, controller, combines the features of many dedicated meters into one multipurpose design. See Figure 1. Challenge this universal and economical, programmable timer/controller to any level task, from variable cycle timing in complex patterns to elementary stop watch and reset operations.

Timing modes and patterns are virtually unlimited and the four independently controlled outputs are easily programmed using front panel pushbuttons or remote serial link. Connected by a common bus to other DP41 series test instruments, the PT41 timer/ controller is capable of requesting readings from all meters and recording the data on a common printer.

Special Features

The features of this precision instrument allow variations of timing patterns through simplified programming and process monitoring. There are four independent outputs with eight programmable setpoints and five controlled output modes allowing for extensive combinations of load control patterns. For the often used timing sequences, the instrument can store up to 64 preset patterns. Operations may be timed in intervals as short as 0.01 second or as long as 24 hours and will repeat any cycle up to a million times. The meter may be configured to use any one of eight built-in time bases (such as time-of-day or one hour resolution).

The user can view the setup and timing configuration any time the meter is functioning. Depress the front panel REVIEW button or activate the remote serial link and this feature will display the timing sequence without disturbing the timing function.



Figure 1 PT41 timer/controller

If power is interrupted, the microprocessor-based nonvolatile memory retains all timer settings. If retention of day and date is required, a battery backup option is available.

Programming Made Simple

The PT41 is fully programmable from the front panel or remotely via an RS-232 or RS-485 serial link. Front panel programming is accomplished with five pushbuttons. The programmer is prompted with key words (such as START, TIMSET, UNITS, ELAPSE) on the six position alphanumeric LED display.

The remote programming option has more than forty commands which allows full control by a personal computer or work station. Programming and timing status is fed back to the personal computer for program verification. The remote programming feature comes with its own directive software.

Automated Data Logging

A unique feature of the PT41 is found in its controller mode. A maximum of 32 DP41 series instruments (such as voltmeters, temperature indicators, batch controllers) equipped with RS-485 serial interface boards, can be bussed together using this instrument as a timer/controller. It can sequence through all meters on the bus and request readings from all devices. An RS-485 printer, also located on the bus, is then directed

to record the readings, with or without a time and date stamp. The PT41 can be programmed to monitor remote devices in intervals of up to eleven days. Figure 2 illustrates a typical configuration using the PT41 to connect three DP41 instruments and a printer.

Manages Any Time Problem

The flexible timing and output load control of this meter provide the tools needed to manage any timing problem. Applications such as life testing, burn-in, reliability evaluation, process control, and repeat cycle timing are typical.

Example 1 Time and control of intermittent burn-in, where a product is to be energized for ten seconds and deenergized for 50, with the process cycled 10,000 times; voltage readings logged every hour.

Example 2 Time and control of four production processes running concurrently, each requiring different start-stop sequencing with an alarm to signal key steps in each process.

Example 3 Control the opening and closing time periods for a set of doors in a facility for security reasons.

Example 4 Record readings from five remote unattended test instruments once a day and repeat the process for ten days.

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Adaptable Design

The six position, 14 segment red or green LED display operates at 100% and 50% brightness levels. Additional indicator lights show alarm settings, AM/PM reference and timer status. The clock time base is derived from the 50 or 60 Hz line frequency and from an internal crystal oscillator with an accuracy of ± 50 PPM over the full operating temperature range of $+32^{\circ}\text{F}$ to

$+140^{\circ}\text{F}$ (0°C to $+60^{\circ}\text{C}$). The AC power is 115V or 230V $\pm 10\%$ with power consumption 9 Watts maximum.

The UL-rated polycarbonate case is dimensioned 1.89" H x 3.78" W x 5.86" D (48 x 96 x 149 mm).

Universal Instrument

The PT41 is a full function instrument capable of timing, controlling and directing data logging. The functions and features included in this one low cost instrument are normally attained by combining several individual meters. PT41 functions in a panel mount or table configuration and is the "all in one" solution for automated test, operation and process control.

Controller Mode Operation

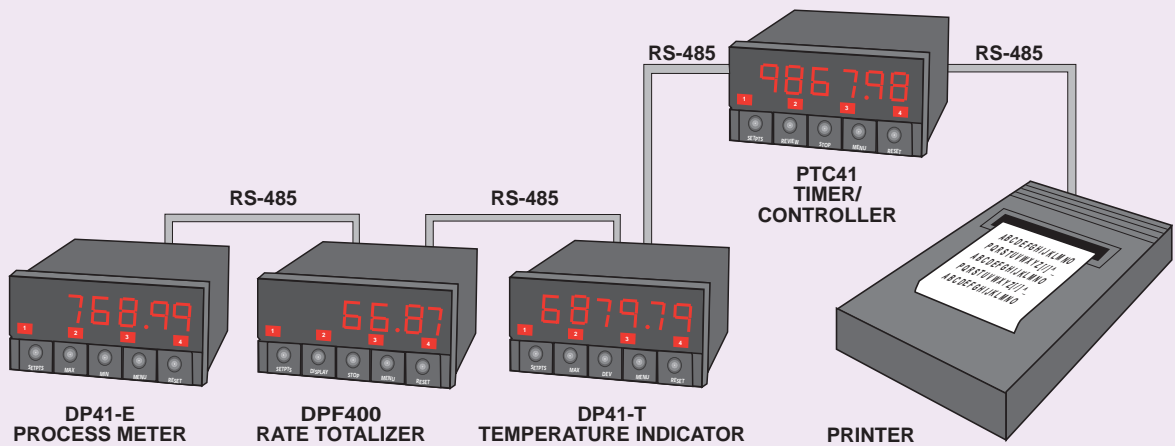


Figure 2 A typical configuration demonstrating the PT41 linked to three DP41 instruments and a printer.