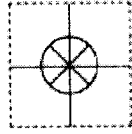
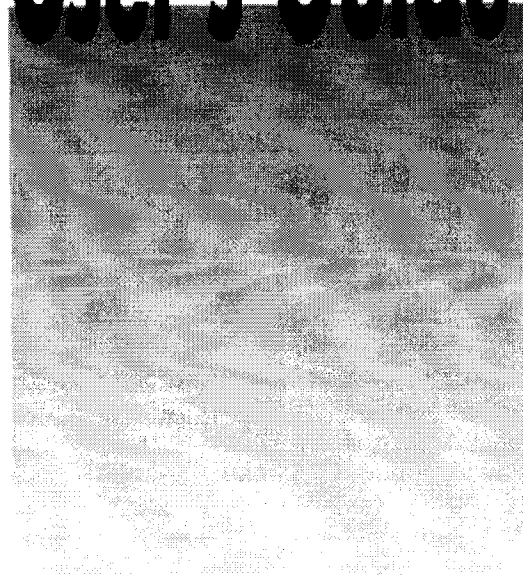


1 YEAR
WARRANTY



User's Guide



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PTC-1A Programmable Timing Controller



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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

PTC-1A Programmable Timing Controller

DESCRIPTION

The PTC-1A is a multi-mode, multi range industrial timer designed to fulfill the majority of time delay requirements in a single product. The timer incorporates circuitry that allows operation with a supply voltage between 18 and 264Vac/dc without any adjustment. A switch pin (pin11) is provided for delay on de-energize DD mode but may be used as an enabling input in all other modes. If not used it must be connected to pin 2.

Six operating modes are provided:

- DE - Delay on Energize : The output energizes SET TIME after application of supply or input
- INT - Interval :The output energizes on application of supply or input and de-energizes after SET TIME
- DD - Delay on De-energize : The output energizes on application of input or supply and de-energizes SET TIME after removal of input.
- CY - Cycle : On application of supply or input, the output remains open for CY-SET TIME then repeatedly energizes for CY+ SET TIME and de-energizes for CY- SET TIME
- ICY - Immediate Cycle : The output energizes on application of supply or input for ICY+ SET TIME and then repeatedly de-energizes for ICY- SET TIME and energizes for ICY+ SET TIME.
- DP - Delayed Pulse : Output energizes for 250msec SET TIME after application of supply or input.

FRONT PANEL FUNCTIONS



In timing mode, when pressed momentarily, accesses the set time mode. Subsequent presses scroll through each digit. When held for >5 secs, accesses the program mode (with supply removed). Further single presses scroll through program parameters

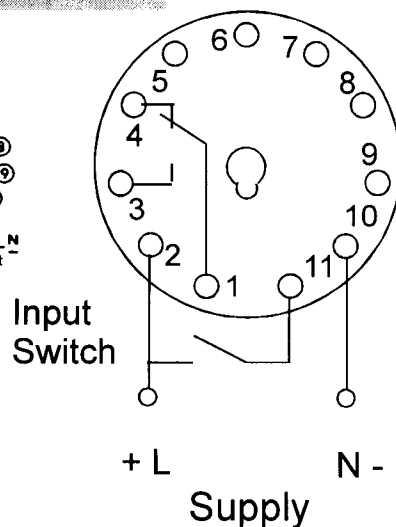
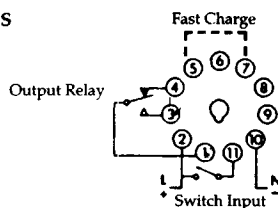


In timing mode, after access by the **SET** button, enables adjustment of each digit for time setting. In program mode, increments the parameter selected by the **SET** button.

WIRING DIAGRAM

WIRING CONNECTIONS

Pin	Function
1	Relay Common
2	Supply
3	Relay N/O
4	Relay N/C
5	Charge link to 7
10	Supply
11	Switch input

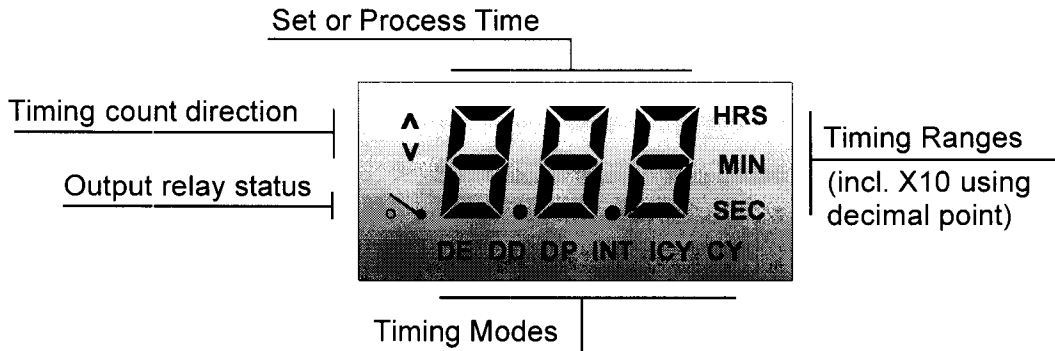


TIMING MODES

Timing Modes	Delay On(DE)	Delay Off(DD)	Delayed Pulse(DP)
Supply			
Switch			
Output			
T=Set Time, P=250mS			
	Interval(INT)	Immediate Cycle(ICY)	Delayed Cycle(CY)
Supply			
Switch			
Output			
T=Set Time, P=250mS			

Timing Range	Seconds	Seconds X 10	Minutes
Range	0.1 to 9.99 secs	0.1 to 99.9 secs	0.01 to 9.99 mins
Timing range	Minutes X 10	Hours	Hours X 10
Range	0.1 to 99.9 mins	0.01 to 9.99 hrs	0.1 to 99.9 hrs

DISPLAY

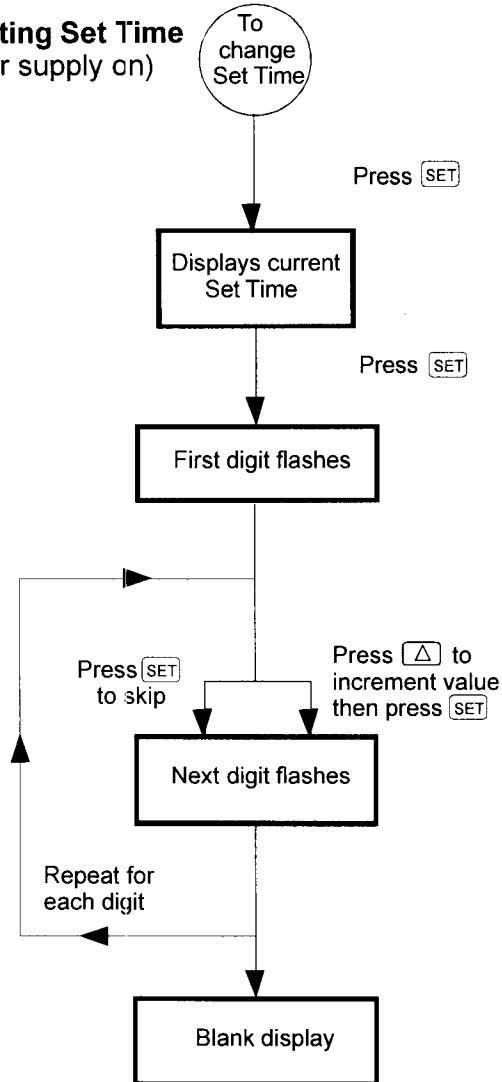


SPECIFICATION

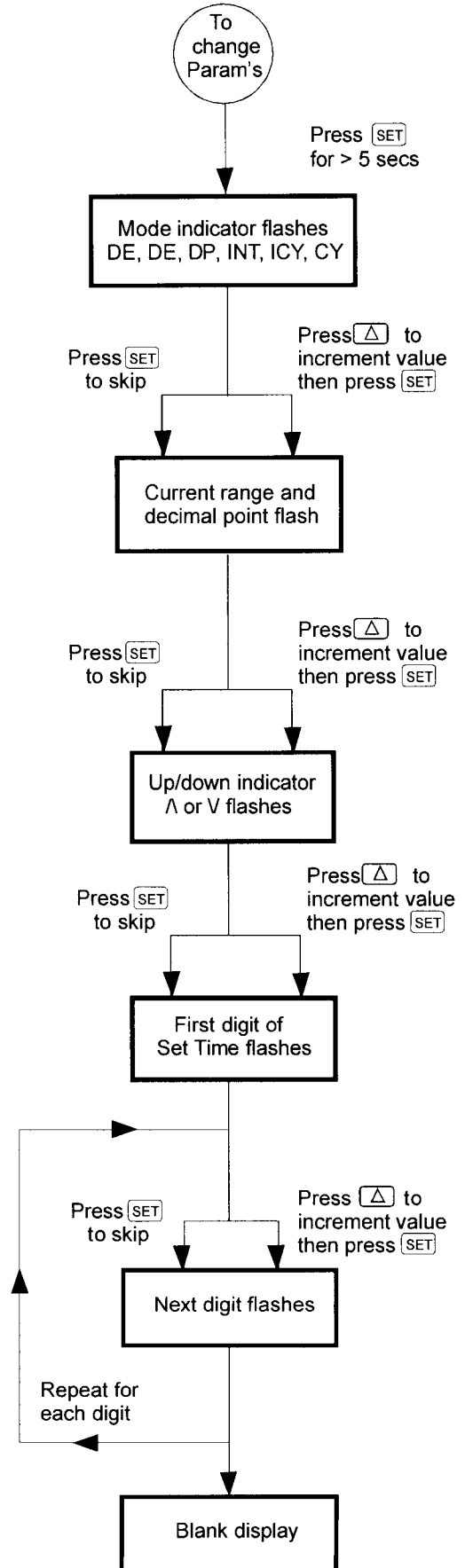
Ambient Temperature :	0 to +50°C.
Power Supply:	18 to 300Vdc. 18 to 264Vac at 47 to 440Hz.
Battery Life:	10 years approx.
Time Ranges:	See timing chart.
Operating Modes:	See mode chart.
Scale Accuracy:	+/-0.5% or 20msecs whichever is greatest.
Repeat Accuracy:	+/-0.3% of Set Time.
Output Configuration:	SPDT relay rated 10A @ 30Vdc/240Vac resistive (limited to 7A by socket).
Electrical Life:	200,000 operations at rated load.
Isolation:	1500Vac/50Hz for 1 minute.
Approvals:	Meets EU directives for EMC EN50081-1 & EN50082-1 and Low Voltage EN 61010-1.

PROGRAM PARAMETER MAP

Adjusting Set Time (Power supply on)



Programming Procedure (Power supply removed)



WARNING

This product contains a Lithium battery which must not be cut open, incinerated, exposed to temperatures above 60° C or recharged. Dispose of in accordance with local regulations.

PROGRAMMING PROCEDURE

The operating mode and time range should be set before adjusting the set time.

1. Remove the supply - mode and range can only be set with the supply off.
2. Press and hold the SET button for 5 seconds. The mode flag will flash at the bottom of the display : DE, DD, DP, INT, ICY, CY.
3. Use the Δ button to step through the modes until the required mode is displayed.
4. Press the SET button to store the selected mode and go to range selection. The current time range and decimal point will now flash.
5. Use the Δ button to step through the time ranges until the required range is reached. Press the SET button to store the selected range. If mode ICY or CY are selected this procedure must be repeated as two ranges are required. This is indicated by ICY+ and ICY- or CY+ and CY-. The final press of the SET button accesses count up/down selection.
6. Use the Δ button to switch between count up (elapsed time) and count down (remaining time) functions. Press the SET button to store the count direction and show set time with the first digit flashing.
7. Use the Δ button to set the required value for the first digit and press SET to move to the next digit.
8. Repeat step 7 until all parameters have been set and the display goes blank. If mode ICY or CY are selected this procedure must be repeated. This is indicated by ICY+ and ICY- or CY+ and CY-.

ADJUSTING SET TIME

If the set time only is to be adjusted then the following sequence can be used with the supply still connected.

1. Press the SET button and the display will indicate the set time.
2. Press the SET button again and the first digit will flash.
3. Use the Δ button to set the required value for the first digit and press SET to move to the next digit.
4. Repeat step 3 until all digits have been set. If mode ICY or CY is selected the two set times are displayed before they can be changed.

NOTES

Changes to the set time will not take effect until stored by pressing SET and then only when next called for by the timer.

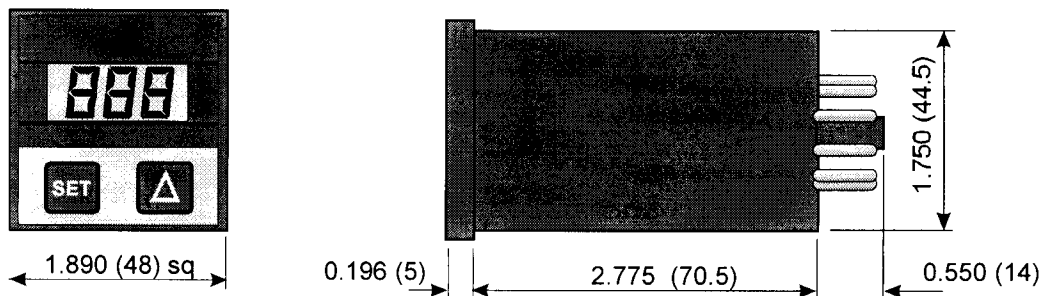
The timer has a battery saving function which will switch off the display if no button is pushed for 20 seconds during set up. When this happens the current parameter being set will not be changed but all previous changes will be saved.

If the wrong mode or range is selected it is necessary to cycle through the other set ups using the SET button and restart the procedure at step 2 above.

The set time, range and mode are stored in battery backed up memory for 10 years without a supply connected. If the data is lost **Set** will flash on the display and the timer must be re-programmed.

The switch input to pin 11 is very sensitive in order to operate over the full voltage range and is, therefore, liable to electrical noise. If long cable runs are to be used to operate the switch input a relay should be installed near the timer. Alternatively the input impedance must be reduced by a relay coil or an external resistor. For a 240Vac supply through 3 core cable over 4 metres long a 22K 7W resistor between pins 10 and 11 will overcome this problem.

DIMENSIONS



Panel cut-out 1.772 X1.772 (45 x 45)

Dimensions in inches (mm)

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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