

PC/C

Time and Date Clock

Features

- Month, date, hour, minute, and second Information to PLC
- Crystal time base or line frequency time base
- 8 wire I/O connection
- Automatic sensing of 50, 60 Hz or DC supply
- Field programmable 12 or 24 hour display
- AM and PM indicators
- NEMA 4X/IP65 Front

Description:

The PC/C is a low cost, accurate time and date clock with a PLC compatible interface requiring only 8 wire connections for I/O. The internal battery standby system will operate the PC/C for up to six months without external power. Available in either AC or DC supply versions, accuracy of better than +.005% can be attained. When an accurate, non-interruptible time and date source is needed for report generators or other applications, the PC/C is the ideal solution.

The PC/C is a microprocessor based crystal controlled time and date clock. The PC/C displays hours, minutes, month and date on large, brilliant .55" high red-orange LED's. In addition, the PC/C will output, on demand to the PLC, hours, minutes and seconds as well as the month and date. The unique interface allows easy connection to almost any PLC via standard 12 to 24 Volt I/O ports or 12 Volt CMOS interface.

Specifications:

Mounting: Standard DIN cutout. 3.622" (92mm) wide, 1.772" (45mm) high, 4.4" (111.8mm) max. depth behind panel.

Display: Four .55" x .32" red-orange 7 segment LED's. AM and PM indicators and bar between HRS and MIN display.

Power Supply: 110 VAC 50 or 60 Hz., 220 VAC 50 or 60 Hz., 12 VDC -10% to 24 VDC + 10%.

Accuracy: + .005% from crystal controlled time base or line frequency accuracy from either 50 or 60 Hz line.

Battery Standby: Self-charging internal Ni-Cad 2.4 Volt battery providing up to six month standby service.

Housing: Standard high impact UL94V-O rated plastic case.

Temperature: Operating +32°F (0°C) to +130°F (+ 54°C) Storage -40°F (-40°C) to + 200°F (+93°C).

Data Inputs: Four digit select lines coded in Hex Logic 1>3 VDC and <30 VDC. Logic 0<1 VDC.

Data Outputs: Four digit value lines coded in positive true BCD Logic 1 voltage is +11 Volts DC if internal switch 4 is on and the PC/C is powered by AC voltage Logic 1 voltage is the power supply voltage -1 Volt DC if the PC/C is powered by DC voltage Logic 0 is less than 8 Volts DC.



Operating Instructions:

Data Inputs - Data may be read digit by digit, in whole or part, and in any order. Data inputs must be at least 1 msec long.

DEC#	BINARY	FUNCTION
0	0000	Secs 1's
1	0001	Secs 10's
2	0010	Mins 1's
3	0011	Mins 10's
4	0100	Hrs 1's
5	0101	Hrs 10's
6	0110	Date 1's
7	0111	Date 10's
8	1000	Mons 1's
9	1001	Mons 10's
10	1010	AM/PM*
11	1011	Latch

*Note: AM/PM output will be 0000 for AM and 1111 for PM.

Latch - Entering a Binary 11 (1011) will latch or freeze the output. The output will not change again until the latch is addressed again. This allows for a complete transfer of data without any changes. The display will continue to update at all times. A latch command must be given immediately prior to any data readout.

Theory of Operation - The PC/C clock contains a microprocessor to provide the interface scheme for the PC and an automatic 50/60 Hz detector which will determine what line frequency is being used and make the appropriate corrections to the time base. A CMOS clock circuit provides the function and low power consumption capabilities. This allows the battery standby circuitry to operate the timing functions of the PC/C for up to six months without a recharge. Data must be latched immediately before readout by inputting 1011 (Binary 11 or Hex "B") to the DATA INPUTS. This will freeze the readout but not the display. The latch will continue to freeze the readout until the next readout is desired. At that time another latch command must be given to the PC/C to get the updated information.

Program Hints - It is not necessary to read all the information from the PC/C. By inputting 0010 and 0011, the output will show minutes units and minutes tens respectively. Remember, before any reading, the latch must be enabled or the previous information will be transmitted. If in the 12 hour mode, AM and PM will be indicated by an output of 0000 and 1111 respectively. Any single bit may be examined to determine AM or PM.

Time Set - (Switch 3 off). Button B (right-hand) will increment the minutes on the display and at the same time will reset the seconds to 00. The seconds digits will not be seen. Button A (left-hand) will increment the hours display. While setting seconds, the hours will not increment on passing 59.

Date Set - (Switch 3 on). Button A (left-hand) will increment the months on the display. Button B (right-hand) will increment the date display. While setting the date, the months will not increment on passing 29, 30 or 31. With the correct month set first, the clock will know how many days it has. February is a special case. Since the clock does not know what year it is, it will always assign 29 days to February.

INTERNAL SWITCH SETTINGS

The switches are numbered from one to four starting at the left-hand end. Switches in the up position are off, and those in the down position are on.

- Switch 1 ON 12 Hour Clock
OFF 24 Hour Clock
- Switch 2 ON Xtal Controlled Clock
OFF Line Freq. Time Base
- Switch 3 ON Date Set & Display
OFF Time Set & Display

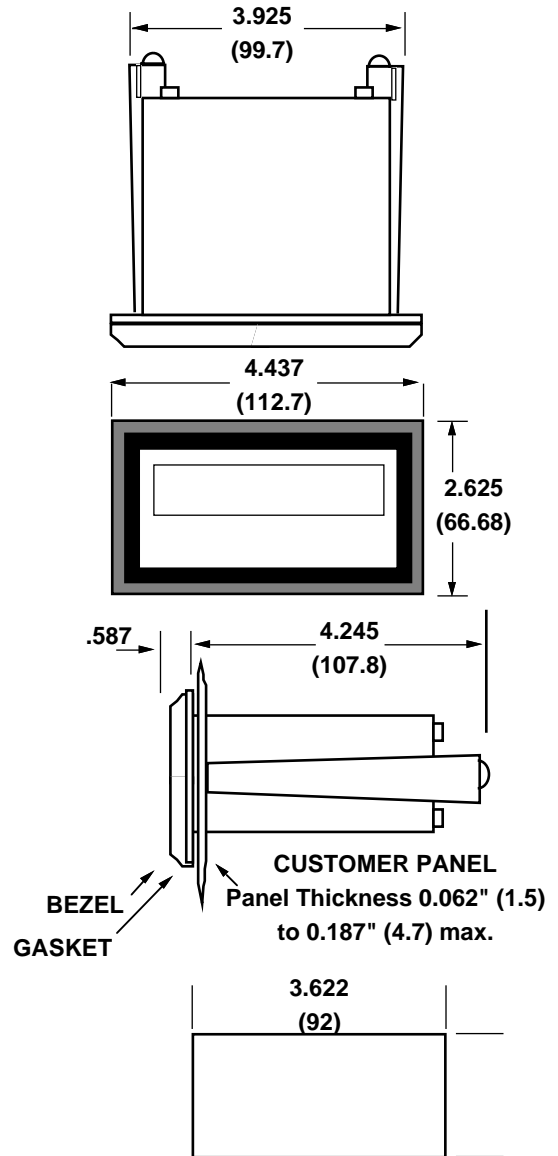
Switch 4 ON Internal voltage of 12 VDC, if the unit is AC powered, or the power supply voltage, if the unit is DC powered, will be present at the BCD outputs. Switch #4 must be on if DC powered.

OFF Unit powered by AC voltage. Voltage input from terminal #9 is applied to the BCD outputs. This input may be from +12 VDC (-10%) to +24 VDC (+10%).

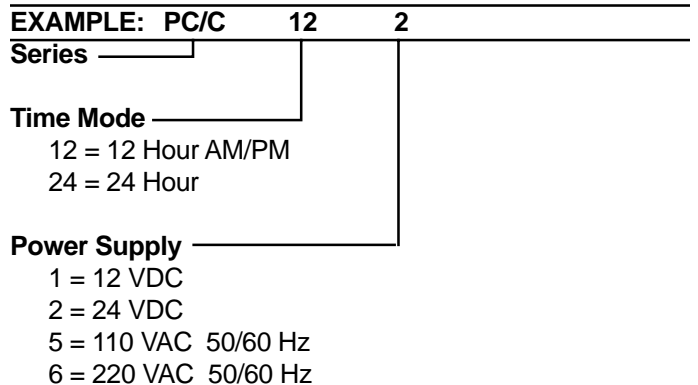
Wiring:

- 1- BCD 8 OUT
- 2- BCD 4 OUT
- 3- BCD 2 OUT
- 4- BCD 1 OUT
- 5- BCD 1 IN
- 6- BCD 2 IN
- 7- BCD 8 IN
- 8- -BCD 4 IN
- 9- DC POWER INPUT
- 10- SIGNAL GROUND
- 11- 120 VAC
- 12- 120 VAC

Mounting:



How To Order:



ACCESSORIES