



Universal Clock Module

PRODUCT DESCRIPTION

The Universal Clock Module is a versatile timer consisting of two clock devices, a highly accurate crystal controlled Precision Interval Clock (PIC) and an AC Line Frequency Derived Clock (LFC). Each of the clocks is completely independent of the other for maximum convenience.

FEATURES

- Crystal controlled accuracy
- External synchronization
- Programmable load and sense
- Programmable resolution and interval
- Two Independent Clocks

OPERATIONAL CHARACTERISTICS

PROGRAMMABLE PRECISION INTERVAL CLOCK

The Precision Interval Clock is dynamically variable through program control. It provides timer controlled processor interrupts and a program accessible counter giving resolutions of 1, 10, and 100 microseconds as well as 1 millisecond through an interval range of 2^{12} .

The master time base for the PIC is provided by a one megahertz crystal oscillator which can be disabled to allow substitution by an external master time base oscillator.

1. Resolution and Interval data are retained in the PIC input buffer, where it resides until new data is supplied.
2. Timing is started upon command and continues until the interval is reached, at which time a program interrupt is generated. The timing operation automatically continues in a cyclic manner. The user may dynamically alter the interval any time before the completion of the present interval.
3. The PIC incorporates an Output Buffer to allow Interval Counter interrogation without disturbing its operation. The PIC interrupt circuitry can be disabled under program control. This action does not inhibit the timing operation or the ability to sense the interval count.

AC LINE FREQUENCY DERIVED CLOCK

The line frequency is derived directly from the AC power line and is presented as a clock rate equal to twice the line frequency. This clock has no set up procedure other than to enable, disable or disarm the interrupt circuit.

SPECIFICATIONS

UNIVERSAL CLOCK MODULE

Accuracy: PIC -- $\pm .01\%$ Crystal controlled Oscillator

Resolution: (PIC) 1 μ s, 10 μ s, 100 μ s, 1 ms

Interval: PIC
1 μ s to 4,095 μ s, 10 μ s to 40,950 μ s,
100 μ s to 409,500 μ s, 1 ms to 4,095 ms.
(corresponding to resolution)
LFC
8.33 ms on 60 Hz line
10 ms on 50 Hz line

Program Control: PIC -- Control to Clock
Command -- Disable, Disarm, Enable,
Start
Status -- Overflow
Write Data Byte 1, 2 -- Resolution and
Interval Count
PIC -- Output to Processor
Read Data 1, 2 -- Current Interval Count
LFC -- Command -- Disable, Enable,
Disarm

Power Requirements: 1.75 AMP @ + 5 V
12 VAC 10 ma

Dimensions: 7" X 15" (17.8 X 38.1 cm)
Printed Circuit Board

Weight: 1.0 Pounds (.5 kg)

INTERDATA PRODUCT NUMBER

M48-000 Universal Clock Module

The information contained herein is intended to be a general description and is subject to change with product enhancement.