µPac-HC11

CPU: CMOS 68HC11F1 with 8.0 MHz crystal speed

DIGITAL I/O: 12 TTL level, bit programmable I/O lines, and 8 additional high drive (500 ma. sink, not to exceed package dissipation of 2.25 Watts) outputs. The 20 I/O lines terminate to a standard 50 pin I/O rack header connector.

ANALOG INPUTS: Fast 8 channel, 8 bit analog to digital converter with an 16 microsecond conversion rate.

ANALOG OUTPUTS: The optional D/A has 4 channels with 8 bit resolution.

COUNTER/TIMERS/PWM: 1, 16 prescaled counter featuring 4, 16 bit output compare registers, and a bi-directional input/output register providing PWM capability. An 8 bit counter/timer is also available. A Watchdog Timer is also included

COMMUNICATION: A total of 2 RS232 serial ports, 1 of which is standard and 1 of which is optional. Conversion of one port from RS232 to RS-422/485 is available optionally.

INTERFACES: A Backlit LCD interface is provided standard with an optional 20 key, keypad interface available. Also included is a 50 pin bus expansion header.

The MICROPAC series of Single Board Computers feature micro size with micro power consumption at a micro price. The MICROPAC HC11 has dimensions of 5.375" by 3.625" with a power requirement of 45 ma. typical. The MICROPAC HC11 is ideally suited for controller applications requiring an on-board Liquid Crystal Display (LCD) and/or keypad interface circuitry. The MICROPAC HC11 Single Board Computer utilizes the Freescale 68HC11F1 microprocessor. This high integration processor features programmable I/O ports, Boolean processor, interrupt controller, watchdog timer, A/D converter, pulse width modulation (PWM) capability, EEPROM and timer/counters. The F1 is the most powerful processor in the 68HC11 processor family. EMAC integrated this powerful processor onto a board that contains up to 20 digital I/O lines, 2 serial RS232/485 ports, LCD interface, keypad interface, 8 channels of A/D and 4 channels of D/A. This is a do-it-all Single Board Computer. The MICROPAC HC11 comes complete with an 68HC11 assembler on a PC compatible

disk and a Buffalo Monitor EPROM that allows you to upload HEX files, single step through code, dump memory, and more. Complete commented driver source code, written in assembly language is also included. If you do not desire to program it in assembler, an optional EPROM containing BASIC 11 with high level drivers can be purchased as well as a number of third party C compilers. The MICROPAC HC11 is ideal for low cost data acquisition and control applications that require a display and keypad entry. The 8 channels of A/D allow the board to be connected to temperature sensors, pressure sensors, strain gauges, and LVDTs. Conditioned signals from these sensors can be used to make decisions in controlling motors, lights, heaters, etc. Try this board in your application for 30 days risk free!

Specifications

SBC Type:

Single Board Computer Microcontroller

Processor

Processor:

Freescale 68HC11-F1

Clock Speed:

8 MHz

Real Time Clock:

Processor Misc.:

CPU: CMOS Freescale 68HC11F1 with 8.0 MHz crystal speed

Memory

Memory Misc.:

MEMORY: Memory space for up to 32K of EPROM and up to 128K of RAM. Total memory capacity is 160K bytes. The HC11 directly accesses up to 64K of memory (32K EPROM and 32K RAM depending on I/O configuration) with the 96K balance being banked selected memory. A 32K buffalo ROM Monitor and a 32K RAM is included. In addition to the EPROM/RAM memory is 512 bytes of EEPROM. The EEPROM is a nonvolatile memory organized into 512, 8 bit words with over 10,000 write cycles guaranteed and unlimited read cycles.

Primary I/O

GPIO:

1x 16 bit with PWM

1x 8 bit Timer/ Counter

Watchdog

SDIO:

20 x digital I/O lines

Video Out:

Backlit LCD interface

Serial Ports:

2x RS232/485

Watchdog:

Primary I/O Misc.:

DIGITAL I/O: 12 TTL level, bit programmable I/O lines, and 8 additional high drive (500 ma. sink, not to exceed package dissipation of 2.25 Watts) outputs. The 20 I/O lines terminate to a standard 50 pin I/O rack header connector.

COMMUNICATION: A total of 2 RS232 serial ports, 1 of which is standard and 1 of which is optional. Conversion of one port from RS232 to RS-422/485 is available optionally.

Secondary I/O

Timers/ Counters/ PWM:

1x 16 pre-scaled counter featuring 4x 16 bit output compare registers and a bi-directional input/output register providing PWM capability

LPT Port:

Keypad:

PS/2:

Secondary I/O Misc.:

COUNTER/TIMERS/PWM: 1, 16 prescaled counter featuring 4, 16 bit output compare registers, and a bi-directional input/output register providing PWM capability. An 8 bit counter/timer is also available. A Watchdog Timer is also included.

INTERFACES: A Backlit LCD interface is provided standard with an optional 20 key, keypad interface available. Also included is a 50 pin bus expansion header.

Analog on

A/D:

A/D Channels:

8

A/D Channels:

8x 8 bit

A/D Resolution:

8 bit

D/A:

D/A Channels:

4

D/A Channels:

4x 8 bit

D/A Resolution:

8 bit

Analog Misc.:

ANALOG INPUTS: 8 analog inputs are multiplexed into a single 8 bit Analog to Digital Converter. Conversion time is 16 microseconds and the standard Voltage input range is 0 to 5 Vdc. Accuracy is +/- 1LSB.

ANALOG OUTPUTS: The optional D/A Converter has four independent channels with 8 bit resolution. The D/A output range is 00 to 5 Vdc. A setting time of 1 microsecond is required for each channel.

Dimensions

Dimensions:

5.375 × 3.625 in

Form Factor:

uPac

Power Requirements

Voltage:

7 V

Max Boot Current:

50 mA

Power Misc.:

POWER REQUIREMENTS: Single Voltage supply operation from +7 Vdc to +15 Vdc with on board regulation. Maximum current draw is 50 ma.

Environmental

Low Operating Temperature:

0 C

High Operating Temperature:

70 C

Upper Operating Humidity:

90%

Environmental Misc.:

OPERATING TEMPERATURE: 0 to 70 degrees centigrade, humidity range without condensation 0% to 90% relative humidity.

Pricing

E341-01

E341-01
$0.00
Keypads:
E020-25
12 KEY MEM TELEPHONE STYLE KEYPAD
$25.00
E020-21
16 KEY MEMBRANE HEX STYLE KEYPAD
$30.00
Date/Time Clocks:
E010-03
REAL TIME CLOCK/CALENDAR 32K BATTERY BACKED PROVISION (REQUIRES 32K RAM, 06-0723 OPTION)
$39.00
E010-04
REAL TIME CLOCK/CALENDAR 128K BATTERY BACKED PROVISION (REQUIRES 128K RAM, 06-0724 OPTION)
$50.00
Power Supply:
E010-11
WALL TRANSFORMER 110V - 9 V 500 MA
$10.00
E010-15
WALL TRANSFORMER 110V - 9 V 1 A
$18.00
E010-10
WALL TRANSFORMER 110V - 12 V 800 MA
$10.00
Displays:
E020-30
20 CHAR. X 2 Line LCD Display
$49.00
E020-31
20 CHAR. X 2 Line LCD backlit display
$65.00
E020-32
20 char. X 4 line LCD
$74.00
E020-33
20 Char. X 4 line backlit LCD (EOL, LIMITED AVAILABILITY)
$0.00
