

HDLC104

HDLC Communications Controller



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The HDLC104 is a four channel HDLC communications controller on a single PC/104 card. The HDLC104 uses a high performance, industry standard serial communication controller to provide 4 independent channels that can be configured for either HDLC-Synchronous or Asynchronous communication.



The HDLC104 has been designed for demanding transportation and industrial applications. The HDLC104 supports an extended temperature operation range of -40 to $+85^{\circ}\text{C}$. All 4 ports feature galvanic isolation up to 2000Vrms.

Each of the 4 channels can be individually configured for RS-232, RS-422 or RS-485 electrical interface. Each channel has independent receive and transmit FIFOs that allow high speed serial data rates. Intelligent interrupt hardware and flexible address decoding allow the HDLC104 card to occupy only 32bytes of IO space and a single IRQ line on a PC/104 system.

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Subject to change without notification

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2000Vrms

Galvanic

Isolation

for demanding

Transportation and

Industrial

Applications



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The HDLC104 is available with software drivers for Linux, Windows-XP and Windows-CE6.0/7.0 (x86).



Applications

- Serial protocol conversion
- Mass-Transit / Transportation
- Vending Machines
- POS and ATM systems
- Remote instrumentation
- LAN Gateway or Bridge
- Embedded WAN
- Locomotive Communications

4 Independent
HDLC-Synchronous
or Asynchronous
channels

Extended
Temperature
operation

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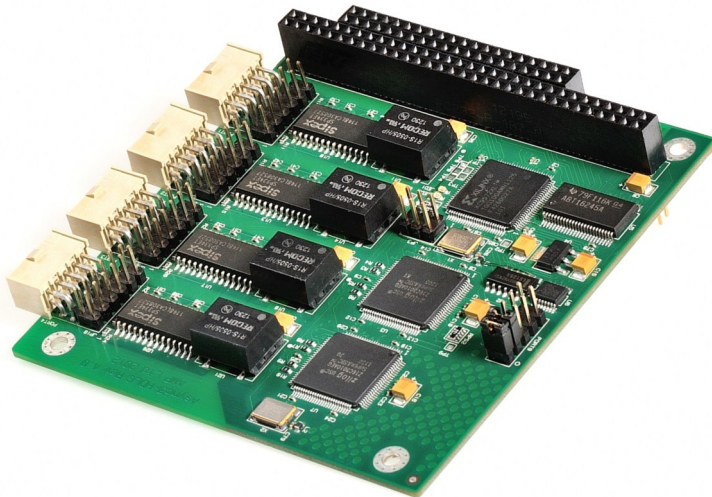
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Features

- 4 channel concurrent operation
- Individually configurable for HDLC / Asynchronous operation
- 2000Vrms galvanic isolation for each port
- Selectable RS-232/422/485 electrical interface
- Uses single IRQ
- Rugged, Locking I/O connectors
- Single +5V power supply
- Extended temperature operation (-40C to +85C)
- Standard PC/104 form factor

Designed for
Demanding
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Communications Controller

32Bytes FIFO per channel
 HDLC synchronous, Asynchronous operation

HDLC

HDLC protocol support
 Wide range of serial encoding methods:
 NRZ, NRZB, Biphasic Mark (FM1), Biphasic Space (FM0),
 Biphasic Level (Manchester),
 Biphasic Differential (Manchester Differential)
 Up to 1MBit/sec multiple Ports (depends on host CPU)
 Supporting differential TX-Data and RX-Data
 Full-duplex operation
 Abort Sequence generation and checking
 Automatic zero bit insertion/deletion
 Automatic flag insert

Asynchronous

Programmable baud rates up to 115200bps
 Full-duplex operation
 5,6,7, or 8 data bits per character
 1, 1.5, or 2 stop bits
 Odd or Even parity

Bus Interface

16-bit PC/104 Interface (stack through)
 Single IRQ - one of IRQ 10 or 11
 Flexible I/O mapping to PC/104 IO space

Physical Interface

Independent RS-232/RS-422/RS-485 ports
 2000Vrms galvanic isolation
 Supporting TX-Data, RX-Data, CTS, RTS
 4 off 10-pin 0.1inch pitch headers

Miscellaneous

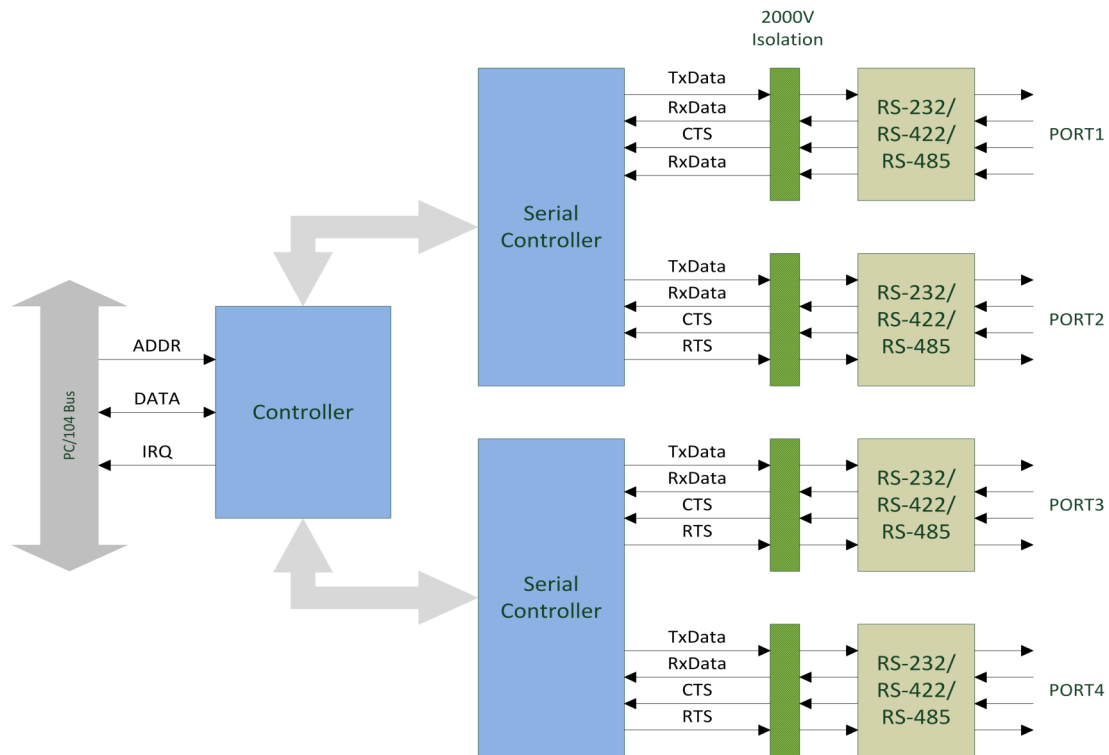
Single +5V at less than 1000mA
 Operating temp -40°C to +85°C (extended temp)
 Standard 3.6 x 3.8in PC/104 form factor

Software Support

Linux
 Windows-XP
 Windows-CE 6.0, 7.0 (for x86)

Ordering Information

HDLC104-Ext 4-port PC/104 HDLC Controller (-40 to 85°C)



HDLC104 Functional Diagram

