



ICP-8SER

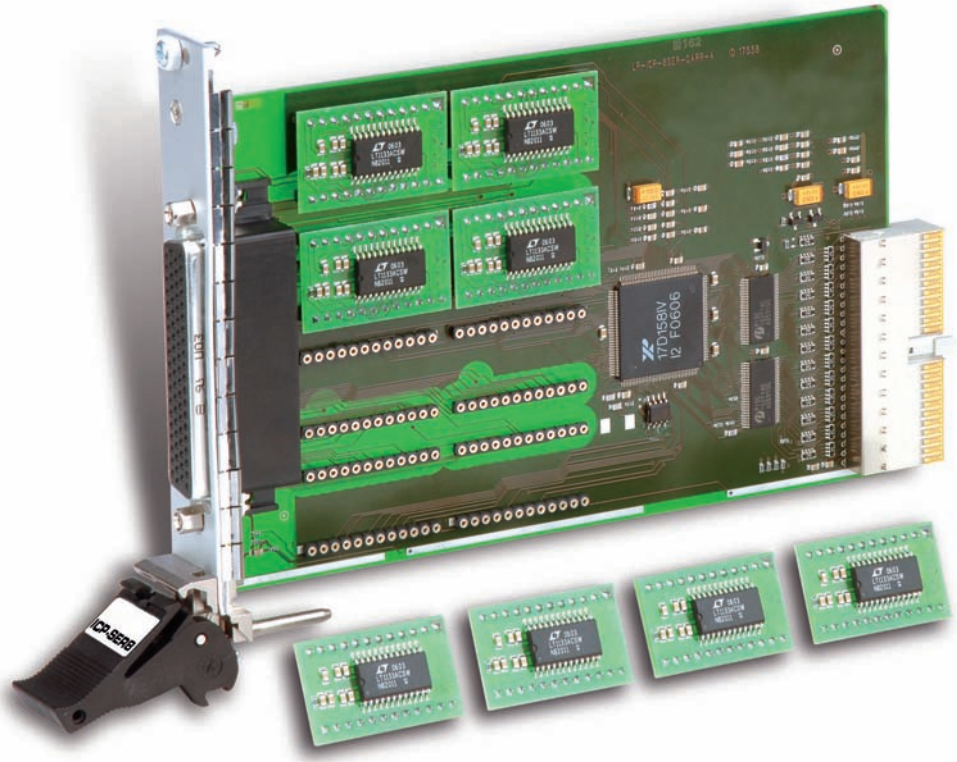
Configurable Industrial-Grade Eight-Port Serial I/O Controller

APPLICATIONS

Even though communication standards based on FireWire, Fibre Channel or Gigabit-Ethernet do exist, the industrial preference is still the reliable asynchronous RS232 interface.

Typical application areas include:

- ▶ Data Acquisition
- ▶ Industrial Process Control
- ▶ Measurement & Control
- ▶ Industrial Serial Communication
- ▶ Multi-User Systems
- ▶ Remote I/O Networks
- ▶ Multidrop Applications



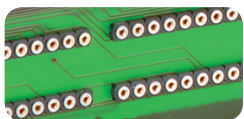
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FEATURES

- ▶ Up to 8 individually configurable serial ports
- ▶ Wide choice of SPIMs (Serial Plug-In Module)
- ▶ Single front-panel D-Sub interface
- ▶ Standard 16C550 FIFO UARTs
- ▶ Accelerated interrupt handling
- ▶ 'Octopus' cable for simplified connectivity
- ▶ Short circuit protected inputs
- ▶ Fully shielded against the effects of EMI
- ▶ Universal V I/O
- ▶ 3U, 4HP CompactPCI format

BENEFITS

- ▶ Scalability to suit the application
- ▶ Highest serial I/O density on the market
- ▶ Offloads the CPU
- ▶ Low power consumption
- ▶ Suitable for extended operational temperatures
- ▶ Standard PC COM port recognition
- ▶ Long-term product availability
- ▶ Superior software compatibility
- ▶ Open standard architecture





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Serial I/O

OVERVIEW

All I/O lines are short-circuit protected and guard against fast transients, electrostatic discharge and high-frequency EMI. In addition, software is able to perform internal diagnostic checks, and detect break, parity, overrun and framing errors.

The EMTrust drivers that come with the board enable the host CPU to 'see' eight additional 16C550 compatible COM ports.

To date, there are 5 main types of SPIM module, and their details are available on a separate data sheet:

- ▶ RS232
- ▶ RS485
- ▶ RS422
- ▶ IBIS (Integrated On-Board Information System)
- ▶ TTY (20 mA current-loop)

SPECIFICATION SUMMARY

- ▶ Extended 8x 16C550 UARTs
- ▶ Up to 8 serial I/O ports
- ▶ Individually configurable
- ▶ Practically zero CPU load
- ▶ Extended operating temp.



SPECIFICATIONS

UART CONTROLLER

Exar XR17D158 with 8 individually configurable extended 16C550 compatible FIFO UARTs with accelerated interrupt handling

INTERFACES

- ▶ cPCI: 32-bit, 33 MHz, universal V I/O (v2.1 PICMG)
- ▶ Serial I/O: 78-pin female D-Sub

MASS

- ▶ 130g (without SPIMs),
- ▶ SPIMs are approx. 30g each

SPIM MODULES

RS232 SIGNALS

TXD, RXD, CTS, RTS, DSR, DTR, RI & DCD

RS485 SIGNALS

A, B (half-duplex)

RS422 SIGNALS

Twin A, B (full-duplex)

TTY SIGNALS

Isolated transceiver input and output

TTY CONFIGURATION

Dual independent 20mA current sources for active/passive operation

IBIS PROPERTIES

Four-wire slave observing the standard VDE specifications

BAUD RATES

- ▶ 460.8 kBaud (RS485, RS422)
- ▶ 230.4 kBaud (RS232)
- ▶ 9.6 kBaud (TTY)

TRANSMIT MODES

Asynchronous, full or half-duplex (except IBIS)

PROTOCOL

- ▶ 5, 6, 7 or 8-bit character,
- ▶ 1, 1.5 or 2 stop bits
- ▶ 0, 1 start bit

PARITY

Even, odd or none

ISOLATION

500V DC (RS485, RS422, TTY, IBIS)

ACCESSORY

- 1m 'octopus' cable with:
 - ▶ 1x 78-pin male D-Sub for board connection
 - ▶ 8x 9-pin male D-Sub for device connection

COMMON

SOFTWARE SUPPORT

- ▶ Driver for Microsoft Windows XP
- ▶ Built-in driver support (SUSE 10.0 & RedHat)

CLIMATIC CONDITIONS

0°C to +70°C (standard)
 -40°C to +85°C (extended)
 -40°C to +85°C (storage)
 Humidity 5% to 95% @ 40°C (non-condensing)

GENERAL

- ▶ Power: 3 W (max. fully populated)
- ▶ MTBF: > 200,000 hours
- ▶ Dimensions: 3U (100x160 mm) x 4HP

Notes:
 Linux configurations need to observe the guidelines set out in the documentation

ORDERING INFORMATION

PRODUCT	DESCRIPTION
ICP-8SER-00	3U CompactPCI serial I/O host controller supporting up to 8 individually configurable SPIM modules
J-CABLE-OCTOPUS-78-8x9	1m 'octopus' interface cable with single 78-pin male D-Sub to 8x 9-pin male D-Sub connectors
Note: The board comes complete with driver software. For additional requirements (e.g. extended operational temperature), please contact an EMTrust sales representative directly. The SPIM modules can be freely selected for each port. They are not included with the base board and must be ordered separately.	



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