



## APPLICATIONS

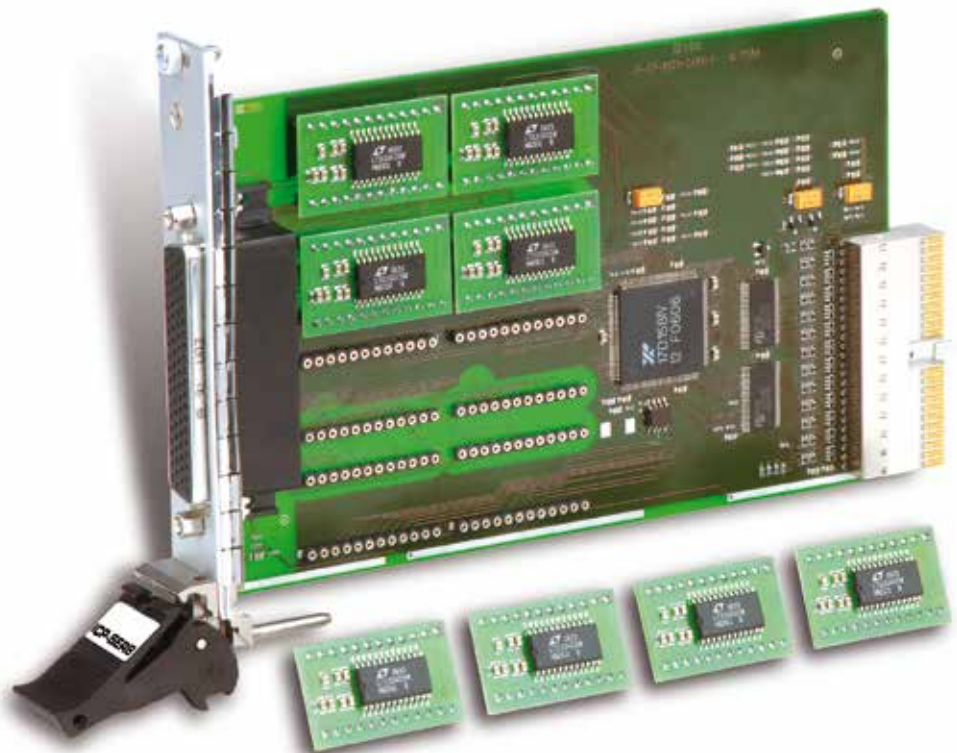
Even though communication standards based on FireWire, Fibre Channel or Gigabit-Ethernet do exist, the industrial preference is still the reliable asynchronous RS232 interface.

Typical application areas include:

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

# ICP-8SER

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



## ICP-8SER

### 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





# ICP-8SER

EM Compact

## 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.



**EMTrust GmbH**  
 Headquarters  
 Gewerbering 1  
 85258 Weichs - Germany  
 Phone +49 8136 80 677-800  
 Fax +49 8136 80 677-809  
 sales@emtrust.de  
 www.emtrust.de

**Trucomp, Inc.**  
 11555 Heron Bay Blvd  
 Suite 200  
 Coral Springs, FL 33076, USA  
 Phone +1 954 603-0582  
 Fax +1 954 603-0581  
 sales@trucompusa.com  
 www.trucompusa.com

The information contained in this document has been carefully checked and is believed to be reliable. However, EMTrust GmbH makes no guarantee or warranty concerning the accuracy of said information and shall not be responsible for any loss or damage of what ever nature resulting from the use of, or reliance upon, it. EMTrust does not guarantee that the use of any information contained herein will not infringe upon the patent, trademark, copyright or other rights of third parties, and no patent or other license is implied hereby. Intel and Intel logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.  
 This document does not in any way extend EMTrust's warranty on any product beyond that set forth in its standard terms and conditions of sale. EMTrust reserves the right to make changes in the products or specifications, or both, presented in this publication at any time and without notice.  
 LIFE SUPPORT APPLICATIONS  
 EMTrust's products are not intended for use as critical components in life support appliances, devices or systems in which the failure of a EMTrust product to perform could be expected to result in personal injury. All mentioned trademarks are registered trademarks of their owner.  
 © 2013 EMTrust GmbH. All rights reserved. Rev. 1.4 / 21.11.2013