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build your system

1- Choose your platform

1. PCI Short (2 module sites)
2. PCI Long (4 module sites)
3. CompactPCI-3U (2 module sites)
4. CompactPCI-6U (4 module sites)
5. PXI-3U (2 module sites)
6.

2- Pick your I/O modules

1. MIL-STD-1553
2. ASYNC RS-422
3. ARINC-429
4. ARINC-429 Parametric
5. ARINC-429/717 + HDLC...
6. ARINC-561
7. ARINC-629
8. ARINC-708 Weather Radar
9. ARINC-717 FDR
10. HDLC / SDLC
11. Frequency / Pulse Generator
12. Analog to Digital
13. Discrete 48 unipolar I/O - 28V
14. Discrete 24 differential I/O
15. ASCB
16. CSDB
17.

3- Select your software

1. MAXIM
2. MX-Foundation API



IPM-429

4 to 16-Port ARINC 429 IPack Module

Ask for a quotation

OVERVIEW

The IPM-429 provides a high channel density solution to your ARINC 429 Avionics Databus requirements. Available as a 32MHz single size Industry Pack (IPack) module, the IPM-429 offers message scheduling and time-tagging with a precision of one microsecond. On-board transmit/receive buffers have programmable almost-full/almost- empty thresholds, which fully support both polling and interrupt-driven software strategies to ensure optimal real-time performance. The IPM-429 transmitters are short-circuit protected and offer programmable parity, word length, bit-rate and slew-rate. Receivers can be programmed to filter incoming messages based on their ARINC 429 labels. In addition, receivers can detect parity and short-word errors, and can be configured for internal loopback.

The ELB option offers automatic external loopback verification on transmission, which provides continuous verification of the transmitted data.

As an added convenience, the IPM-429 comes with 8 general-purpose DIO ports that can be programmed to toggle during the transmission of individual message words.

Carrier Board Support

The functionality of the IPM-429 is further enhanced by the power of MAX Technologies' line of intelligent multi- platform (PCI, CPCI and PXI) carrier boards. All modules and carrier boards are synchronized and time correlated to 32-bit microsecond-resolution.

Software Support

The MX-Foundation library provides high-level abstraction of hardware and allows to easily control mixed protocols and I/O modules on one or multiple carrier boards.

FEATURES

- Up to 16 ARINC 429 channels on a single size IPack Module
- Up to 64 ARINC 429 channels on one single carrier board
- Two configurable data rate generators per channel between 3900 bps and 125 kbps
- 32 ARINC 429 word FIFO
- Precision of one microsecond
- Complete independent channel configuration and operation
- Parity Error and Short Word Error detection
- 8 Discrete lines (DIO) independently configurable to Input/Output
- Short circuit protection on transmitters
- Available in extended temperature
- ELB Version: Provides automatic external loopback verification on transmitters

SOFTWARE

- MX-Foundation multi-protocol software API available for Windows, Linux and Mac OS X
- MAXIM Windows GUI

Specifications

Number of channels

- 2, 4, 8 or 16 channels, various Tx/Rx combinations

Discrete Input/Output (DIO)

- 8 independently configurable to Input or Output
- Transition detection on discrete Inputs (DIO)

Channel speed

- Two independent speeds, configurable per channel
- Tx and Rx Speed Range: 3906 bps to 125 kbps

Error Injection and Detection

- Parity, +/- 1-bit gap length

Time Synchronization

- 32-bit counter, 1 µs resolution, microsecond accuracy
- IRIG-B AM, Digital and 1-PPS Inputs

Physical dimensions

- IndustryPack Standard Single Size
- 3.9" x 1.8" (9.906 cm x 4.572 cm)

Environmental

- Standard Operating Temperature: 0°C to 70°C
- Relative Humidity for operation: 0 to 95% (non-condensing)

Power consumption

- 5V @ 800 mA - all TX port transmitting with maximum load

Reliability MTBF (MIL-HDBK-217 FN2, 30 °C)

- 584 200 hours

Electrical

- Standard ARINC-429 Voltage Level:
- Receive: ±6.5 to ±13V & ±2.5V (Null)
- Transmit: ±10V

IPACK Module bus clock

- 32 MHz

Additional features

- Label Selection and Word Filtering

Supported Industry Pack Carrier Boards

The IPM-429 is a standard IndustryPack (IPack) module that can be used with MAX Technologies' PCI, CPCI and PXI intelligent carrier boards.

Software

MAXIM	MAXIM is a powerful and easy-to-use test and measurement GUI application for Windows 7
MX Foundation	MX-Foundation is a multi-protocol high-level API that take full advantage of the MAX Technologies' intelligent carrier boards. MX-Foundation is available for Windows, Linux and Mac OS X

Ordering Information

Part Number	IPM-429 Description
MAX-IP-200110	4TX-4RX, 8 DISCRETE, ERR INJ, IRIG-B
MAX-IP-200109	8TX-8RX, 8 DISCRETE, ERR INJ, IRIG-B
MAX-IP-200101	16RX, 8 DISCRETE, ERR INJ, IRIG-B
MAX-IP-200105	16TX, 8 DISCRETE, ERR INJ, IRIG-B

Part Number	IPM-429-ELB (external loopback verification on transmission) Description
MAX-IP-200805	16TX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200807	8TX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200809	8TX-8RX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200810	4TX-4RX, 8 DISCRETE, Tx loopback verification IRIG-B

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