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IPM-429

ARINC-429 IPACK Module



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.

SOFTWARE Support

The MX-Foundation library provides high-level abstraction of hardware simplifying control of 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

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IPM-429

ARINC-429/575 IPACK Module

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, +/- 1bit, gap length

Time Synchronization

- 32-bit Timetag, Resolution: 1 microsecond, Accuracy: 1 microsecond
- IRIG-B AM, Digital and 1-PPS inputs

IPACK Module bus clock

- 32 MHz

Physical dimensions

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

Environmental

- Standard Operating Temperature: 0°C to 70°C
- Extended Operating Temperature: -40°C to 85°C (Optional)
- Relative Humidity for operation: 0 to 95% (non-condensing)

Power consumption

- 5V @ 800 mA MAX

Electrical

Standard ARINC-429 Voltage Level:

- Receive: ±6.5 to ±13V & ±2.5V (Null)
- Transmit: ±10V & 0V

Additional features

- Label Selection and Word Filtering
- Selectable 25 or 32-bit word length

Supported IndustryPACK Carrier Boards

The IPM-429 is a standard IndustryPack (IPack) module that can be used with MAX Technologies' **PCI, CPCI, VME and PXI** intelligent carrier boards. The IPM-429E/ELB module can also be used with MAX Technologies' MAXVME-6400 VME-64x dumb carrier board or a third party carrier boards supporting 32-MHz IPack modules.

Software

MAXIM	MAXIM is a powerful and easy-to-use test & measurement GUI application for Windows 2000/XP
MX Foundation	MX-Foundation is a multi-protocol high-level API that takes full advantage of the MAX Technologies' intelligent carrier boards. MX-Foundation is available for Windows and Linux.

Ordering Information

Part Number	IPM-429-E Description	Part Number	IPM-429-ELB Description
MAX-IP-200110	4TX-4RX, 8 DISCRETE, ERR INJ, IRIG-B	**MAX-IP-200805**	16TX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200109	8TX-8RX, 8 DISCRETE, ERR INJ, IRIG-B	**MAX-IP-200807**	8TX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200101	16RX, 8 DISCRETE, ERR INJ, IRIG-B	**MAX-IP-200809**	8TX-8RX, 8 DISCRETE, Tx loopback verification IRIG-B
MAX-IP-200105	16TX, 8 DISCRETE, ERR INJ, IRIG-B	**MAX-IP-200810**	4TX-4RX, 8 DISCRETE, Tx loopback verification IRIG-B

Additional configurations, extended temperature versions and accessories are available. Please contact us to inquire.

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