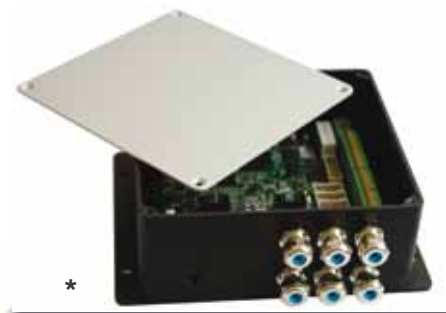


BMX Module

**Embedded Control
and Measurement Platform**



- **Mobile and Wireless Communication**
 - **Analog, Digital Interfaces & Bus IO**
 - **Programmable with LabVIEW™ 2011**



S-E-A Science & Engineering
Applications Datentechnik
GmbH



BMX - Embedded Control and Measurement Platform - Overview



BMX - 500
PCB assembly

The BMX module is a platform specialized for local control and measurement functions on a real-time operating basis. All real-time and FPGA functions, as well as the complete application can be programmed with the programming language LabVIEW™ from National Instruments™. High level API and driver functions to access the modules hardware and IO capabilities are available.

These tasks are performed by the Core Power-PC CPU with a real-time operating system, and the on board FPGA for very fast and deterministic control and monitoring functionality.

A separate communication controller manages the remote access and communication infrastructure for GSM, 3G and WLAN radio functions. Via the embedded controller one can remotely transfer stored data or copy new control parameters onto the system. Even the remote exchange of the complete LabVIEW application software is possible. A high sense GPS receiver supplies precise geo-position information as well as precise timing information, which can time stamp measurement signals down to microsecond accuracy. Thus it is ideal for correlated measurement in the energy and supply market, but it is also perfect for applications like vehicle data logger for mobile assets.

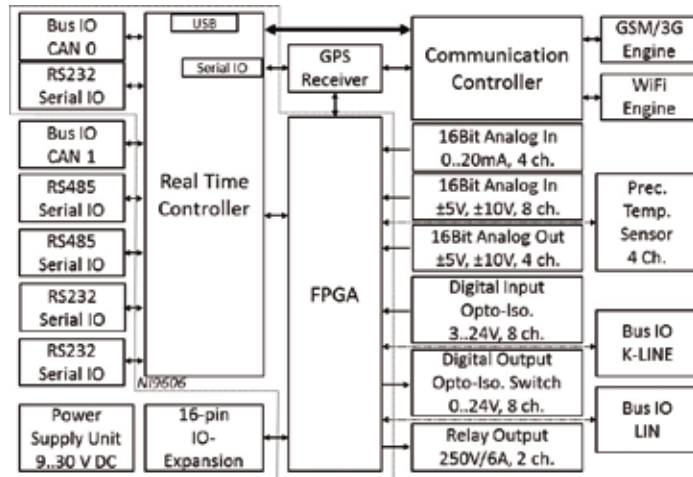
Processing Power

Real Time

- 400 MHz power PC processor from Freescale
- integrated real-time controller

FPGA

- Xilinx Spartan-6 FPGA for high speed reaction times



Ports

RS485 Serial Ports

- number of ports : 2
- maximum baud rate 230400 bps

CAN Ports

- number of ports: 2
- maximum baud rate 1 Mbps (high speed)

RS232 Serial Ports

- number of ports : 3
- maximum baud rate 230400 bps

LIN - Bus

- number of ports: 1
- maximum baud rate 20 kbps

K-Line

- number of ports: 1
- maximum baud rate 20 kbps

Interfaces

Digital IO

- 24 V opto-isolated inputs
- number of input channels: 8/7
- 24 V opto-isolated outputs
- number of output channels: 8
- relay output 250 V/ 6 A (SPDT)
- number of channels : 2
- 16-pin general purpose connector
- Connector for up to 4 precision digital temperature TSIC sensors

Analog Output

- analog output channels 16 Bit
- voltage range: +-5 V, +-10 V
- number of output channels: 4
- sample rate up to 10kHz/ch

Analog Input

- analog input channels 16 Bit
- +-5 V, +-10 V
- number of input channels: 8,
- sample rate up to 20 kHz/ch
- analog input current 16 Bit
- 0..20 mA
- number of channels: 4,
- sample rate up to 5 kHz/ch

USB Interface

- USB 2.0 host interface for memory devices

Communication

External communication can be achieved via the embedded GSM/3G modem or the 802.11n WLAN module

Mobile Communication

communication frequencies:

- GSM/GPRS/EDGE (850/900/1800/1900 MHz)
- UMTS/HSDPA/HSUPA (850/1900/2100 MHz)
- peak downlink speeds up to 7.2 Mbps
- peak uplink speeds up to 5.76 Mbps
- SIM card holder with mechanical lock function

WLAN

- 802.11 a/b/g/n dual band standard
- operating frequencies: 5.1..5.8 GHz and 2.4..2.4835 GHz

GPS

- 50 channel GPS receiver for positioning and timing
- active antenna supply

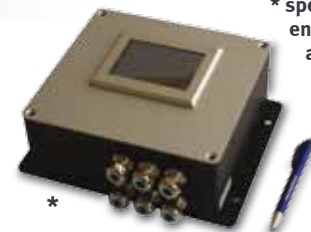
Power Supply

- voltage range: 9-30 V
- dual supply input



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* specialized enclosures available



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Order information

Different modules are available.
OEM quantities only; contact S.E.A. for pricing
For further information please refer to:



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