MicroNova
Software and Systems

Intelligent Breakout Box (iBOB)

The intelligent breakout box (iBOB) allows the recording and manipulation of signals on SPI buses as well as the parallel recording of digital and analog I/Os and switching of digital outputs.

Features

General

- Supports up to five SPI interfaces with a total of twelve slaves, which are selected via separate chip select lines
- Maximum allowed clock frequency: 10 MHz
- Maximum SPI frame size: 64 bit
- Each slave has its own SPI protocol
- Definition of the frame structure stored in individual text files; easy reconfiguration
- Control via user interface or API
- Numerous functions can be controlled via CAN bus
- High-speed CAN interface with standard rate of 500 Kbit/s (max. 1 Mbit/s)

Tracing

- Ability to start recording via digital trigger line
- Recorded in MDF format, version 4.1
- Timestamp resolution: 10 ns
- Record SPI frames including current values of the digital and analog inputs
- Separate recording of analog and digital signals independent of SPI communication at a sample rate of 10 kHz

Manipulation

- Control of manual manipulation via user interface, API or CAN bus
- Record the manipulated data (frames)
- Support for out-of-frame protocol (response to request only in the next frame)
- Nine different manipulation options for MOSI/MISO lines
- Manipulation depending on frame content possible (e.g. request/response code or address; max. 16 bits)
- Clock line manipulation for fault simulation

Analog / Digital I/O

- 12 digital outputs (8 push-pull, 4 open drain)
- 4 analog inputs (0-20 V)
- 17 digital inputs

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