MCS5

The MCS5 has the standard interface to the ECU: CAN. But if you work with the Infineon Tricore or one of the Renesas SH-Family you can use this new powerfull interface to make high-speed data aquisition: JTAG-OCDS or AUD.

The MCS5 combines this versatile ECU calibration interfaces with powerful data recording capabilities. Virtually any number of signals from any source can be stored into a circular buffer of up to 16 GB size at speeds of 10 MB/s. The circular buffer can be emptied at any time - even while the recording is in progress, to allow data recordings without gaps over very long periods. Retrieval of recorded data over LAN or USB2.0 is at speeds of 300 MB/minute. Smart on-the-fly data processing allows previews of the entire recording to be uploaded in seconds. The recorder is fail-safe even in case of power loss and is auto-resuming when power returns.

With the I/O-Interfaces an external analog and/or digital data aquisition is possible. If you use the digital-input for the crank-position you could analyze the datas by the internal crank analyzer. Or you use them to work with the Rapid Prototyping as you know it form the former MCS4/MCS400 with Matlab/Simulink. It is possible to get a Development Environment with up to 20 inputs/outputs free of charge.

Built around the Freescale MPC5200, the MCS5 delivers a performance of 760 MIPS (million instructions per second) . The on-chip double precision FPU and the proven, robust VxWorks 5.5 RTOS make the platform ideally suited for running Rapid Prototyping applications concurrently with it's system tasks.

Features:

Technical Data
400 MHz Freescale MPC5200 PowerPC delivering 760 MIPS
on-chip double precision Floating Point Unit, 128 MB RAM
VxWorks Real Time Operating System
Dimensions (mm): 110L x 75W x 22H.
Temp. range: -40 to +85 °C operating
Power Supply: 4V to 60V, overvoltage- and fault-protected, max. 3.3W power disipation
Possibility of having special enclosures for Racing and/or Heavy-Duty applications

Display
Status LEDs

Interfaces to Host-PC
1 x LAN 10/100 Ethernet
1 x USB2.0

Interfaces to peripherals
1 x RS-232
2 x CAN 2.0B, max. 1 Mbps

High speed interface to Infineon
Uses the On Chip Debug Support (JTAG-OCDS)
Very short downloadtimes
Measure without problems of latency
Rapid prototyping without latency

High speed interface to RENESAS
Uses the AUD-Interface
Very short downloadtimes
Measure without problems of latency
Rapid prototyping without latency

Options
FlexRay 2.01 (Dual Channel A+B)
Ethernet 10/100 for XCP on Ethernet or data aquisition units

I/O Peripherals
8 x Analog inputs 0..5V, 12Bits (up to 100kSps or vs. crank angle at 0.5° resolution)
8 x Digital inputs 3.3V/5V bidirectional (up to 10Mz or vs. crank angle at 0.05° resolution)
Shaft speed sensing (crank, cam, ...) by inductive pick-up or DHE

Features - cont:

Drive Recorder
High Speed 1 GB Flash Drive (optional: 16GB; 8 GB linear, 4 GB ring buffer, 4GB user Network drive)
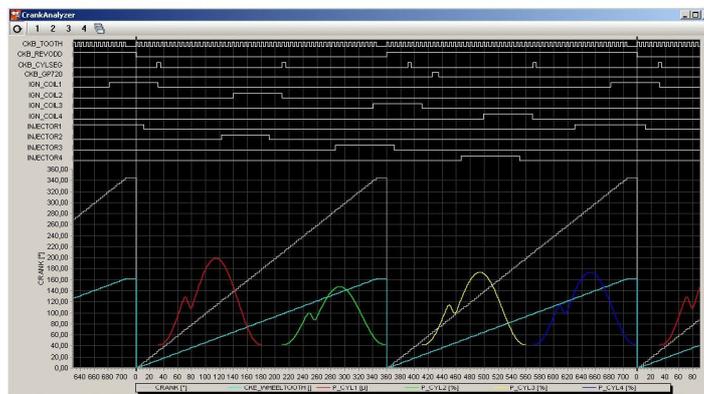
Network Functionality
DHCP server or fixed IP address support
Auto MDI/MDIX crossover select

CAN, CCP and XCP Functionality
ECU Calibration & data acquisition over CCP and XCP (for up to 20 ECUs simultaneously)
ECU Flash programming over CCP and XCP
CAN data acquisition & bus monitoring
CAN bus termination software selectable

Crank Analyzer:

Realtime Engine Crankanalyzing
All major functions required by a development engineer designing an engine timing unit.

Free kinds of viewing modes
Measure over one engine-cycle (720°)
Realize a Cylinder-individual measurement
Have a look at the TDC of all cylinders

Technical Details
Resolution 0.05° up to 20.000 rpm
All timings over 720°
8 Digital In- and Outputs (could changed in groups of 2).

Different kinds of reference wheels
The typical kind of reference wheels are pre-defined: 60 - 2, 36 - 2 or 24 - 2

Customer specific extensions are possible, please contact us in order to receive a quote.

Engine configuration
Up to 12 Cylinders
Free configuration of the ignition order

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