MB4U

BiSS, SSI, PC-USB 2.0 ADAPTER

preliminary

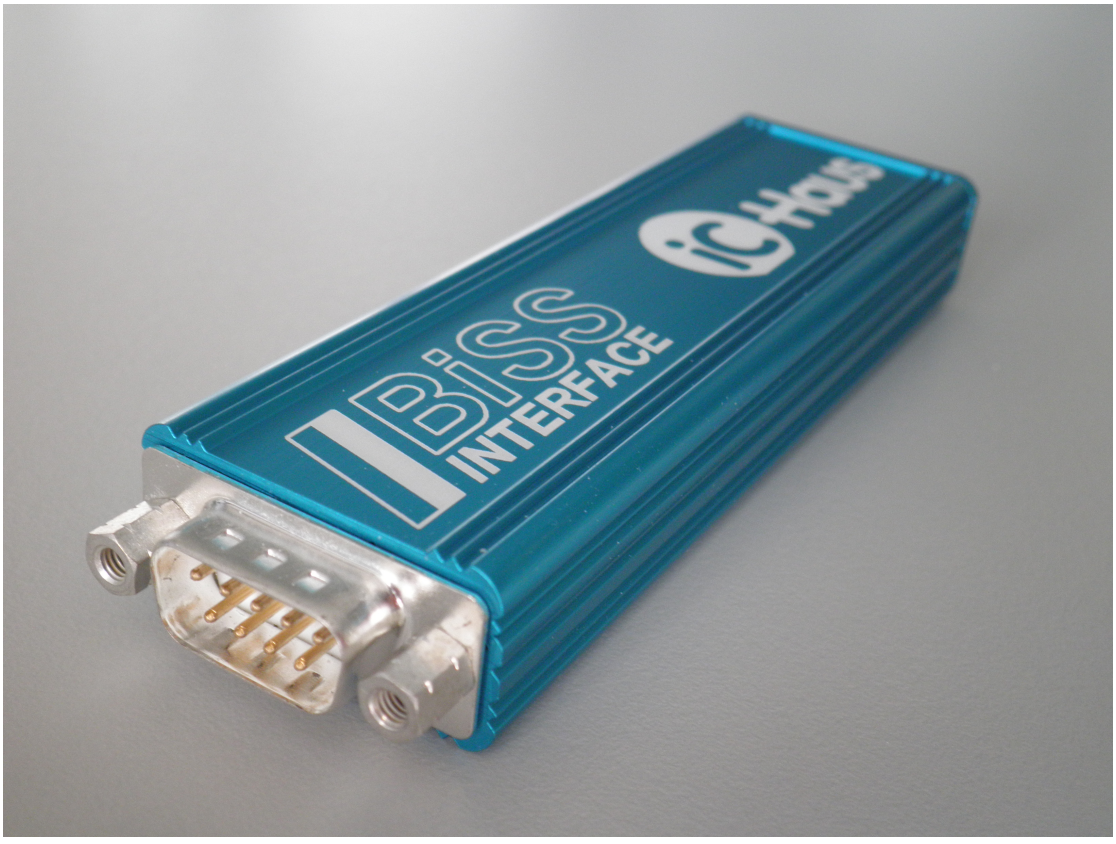
FEATURES

- USB 2.0 high speed PC interface
- FPGA based logic
- Hardware implemented interface protocols
- Fast realtime data communication (10 MHz *BiSS*; 4 MHz SSI)
- API for Windows: *BiSS*-Interface DLL
- Field capable design: box, field interfaces, USB bus powerable
- USB powered 5 V and 12 V supplies for external applications
- Supported interfaces:
  BiSS / SSI controlled by FPGA application

APPLICATIONS

- *BiSS* / SSI application development
- *BiSS* / SSI debugging
- Flexible interface configuration
- Encoder calibration
- Portable applications

SYSTEM VIEW



DESCRIPTION

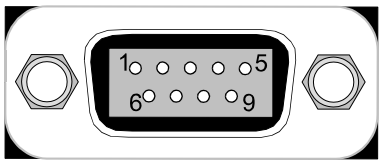
The MB4U is a PC-USB 2.0 high speed interface *BiSS* master based on FPGA logic system design.

***BiSS* Interface Functions and Features:**

- Up to 8 *BiSS* slaves
- RS422 10 MBit/s maximum data transfer rate
- SSI master
- *BiSS* C unidirectional and *BiSS* C master
- *BiSS* master MB100 *BiSS* IP based
- USB 2.0 interface up to 30 MBit/s data transfer
- USB 1.1 interface compatibility to 12 MBit/s data transfer
- Adapter and devices bus powerable
- Available drivers for Windows 2000, XP, Vista, 7
- FPGA integrated 1st level RAM

CONNECTORS

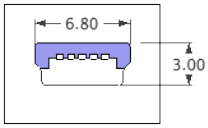
PIN CONFIGURATION *BiSS*



PIN FUNCTIONS

No.	Name	Function
1	VB	Field power supply
2	MA+	Clock output P
3	MA-	Clock output N
4	VDD	Logic power supply
5	MO-	Master data output N
6	GND	Ground (0 V)
7	SL+	Device data input P
8	SL-	Device data input N
9	MO+	Master data output P

PIN CONFIGURATION Mini USB



PIN FUNCTIONS

No.	Name	Function
1	VCC	5 V USB supply
2	D-	Data -
3	D+	Data +
4	ID	Identifier: A = GND, B n.c.
5	GND	Ground (0 V)

ABSOLUTE MAXIMUM RATINGS

Beyond these values damage may occur; device operation is not guaranteed.

Item No.	Symbol	Parameter	Conditions	Min.	Max.	Unit
G001	Power USB	Maximum Power Consumption from USB Bus	see USB specifications		500	mA
G002	VDD	Logic Power Supply		4.0	5.5	V
G003	I(VDD)	Logic Power Supply	VDD = 5 V, I(VB) = 0 mA	250	350	mA
G004	VB	Interface Power Supply		9	13	V
G005	I(VB)	Interface Power Supply	VB = 12 V, I(VDD) = 0 mA	90	125	mA

THERMAL DATA

Item No.	Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
T01	Temp	Temperature Range		0		50	°C
T02	HUM	Humidity	non condensating	5		95	%

All voltages are referenced to ground unless otherwise stated.
All currents flowing into the device pins are positive; all currents flowing out of the device pins are negative.

BiSS MASTER IP MB100

The MB4U is based on the MB100 *BiSS* master IP. With this implementation it is possible to connect one or more *BiSS* C devices or a single SSI device to the adapter. *BiSS* C protocol is fully supported. The adapter supports an unlimited count of *BiSS* C slave devices.

With *BiSS* there is 10 MBit/s RS422 maximum clocking available. The SSI protocol is also configurable.

With high speed buffered transfer the real-time measured data can be block-wise transferred to a Windows PC application for analysis, documentation, data processing, etc..

BiSS SOFTWARE ENVIRONMENT

iC-Haus Evaluation Software

iC-Haus *BiSS* software for PCs running on Windows operating systems as well as the required USB and/or LPT driver are available as a ZIP file. iC-Haus software built with LabVIEW™requires the installation of the LabVIEW™Run-Time Engine (RTE).

MB4U capable software and product DLLs are available on request (*BiSS* Reader GUI, iC-MN GUI, iC-LGC GUI, iC-NQC GUI, iC-MH GUI).

iC-Haus *BiSS* Interface DLL

For custom software running on Windows operating systems the *BiSS* Interface DLL enables rapid software development. Direct access to eval board adapter and high level protocol functions are directly available.

BiSS Interface DLL: availability on request

ORDERING INFORMATION

Type	Package	Order Designation
MB4U	105 mm x 33 mm x 16 mm Aluminium blue anodized	iC-MB4 iCSY MB4U

For technical support, information about prices and terms of delivery please contact:

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