

### WHY IMPLEMENTING BiSS?

#### Structure of a complete BiSS system

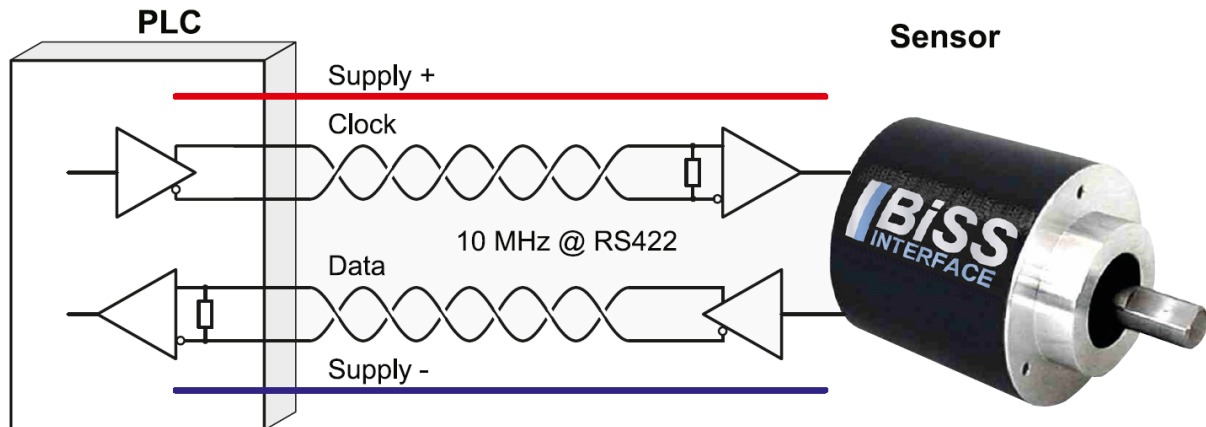


Figure 1: *BiSS* System (point-to-point configuration: master, cable, slave)

#### Benefits on using *BiSS*

- Open standard
- Non proprietary
- Fast
- Serial
- Safe
- Point-to-point capable
- Multi slave bus capable
- Compact
- Cost effective
- Permanent bidirectional
- Uses unidirectional lines (e.g. RS422)
- SSI PHY compatible
- SSI backwards compatible/downconfigurable master and slaves
- Ready-to-use IP modules for device manufacturer
- Licencing free of charge for device manufacturer

### USING EXISTING EnDAT 2.2™ HARDWARE

EnDAT 2.2™ does use RS485. Typical EnDAT 2.2™ PHY hardware permits bidirectional operation on each line. BiSS does only need unidirectional operation each line as this is a subset of EnDAT 2.2™ PHY hardware. BiSS can use existing PHY hardware of an existing EnDAT 2.2™ implementation.

### USING EXISTING SSI HARDWARE

SSI does use RS422 unidirectional line drivers. Typical SSI PHY hardware permits unidirectional operation on each line. BiSS does also only need unidirectional operation each line as this is compatible with SSI PHY hardware. BiSS can use existing PHY hardware of an existing SSI implementation.

### USING EXISTING FPGA HARDWARE

The BiSS master IPs MB101 and MB105 are free available VHDL based BiSS master to be implemented on CPLD/FPGA based hardware.

FPGA Platforms that implemented BiSS master IPs

- ALTERA
- XILINX
- ACTEL
- Lattice
- .. other and new platforms that support VHDL or NET LISTS

### USING EXISTING DSP/μC/CPU HARDWARE

The BiSS master IPs MB302 is C/C++ code based BiSS master to be implemented on DSP/μC/CPU hardware.

**DSP/μC/CPU Platforms that implemented BiSS master IPs**

- Microchip PIC™
- Texas Instruments
- SiLabs
- .. other and new platforms that support C/C++ code / structured programming code

**DSP/μC/CPU Output/Input Interfaces**

- GPIO: 2 pins (MA GPIOx output, SL GPIOy input)
- SPI: 2 pins (MA = SCLK, SL = MISO)
- ... other serial protocol generator hardware

### USING EXISTING IC HARDWARE

- iC-MB3 TSSOP24
- iC-MB4 TSSOP24 (preliminary)
- Custom ASICs
- ... future products with BiSS master functionality