



General

The HEIM DATaRec 4 ASM100 Module is an 8 channel serial input or output module.

The module can operate as a standalone recording front-end (PC connection via USB 2.0¹⁾) or linked together with additional HEIM DATaRec 4 Modules to a multi channel system via HeimLink. Each input / output channel is completely independent. The HEIM DATaRec 4 represents leading edge technology.

8 channel serial input or output

Number of channels	8
Operation mode	asynchronous serial line input or output
Operation mode	record or replay
Signal level	RS422/RS485 or RS232, selectable
Termination	RS422/RS485: 110 Ω or 24 kΩ; RS232: 5 kΩ
Maximum in / out data rate	112.5 Baud – 230.4 kBaud, 112.5, 150, 225, 300, 450, 600, 900, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 14.4 k, 19.2 k, 28.8 k, 38.4 k, 57.6 k, 76.8 k 115.2 k, 230.4 k
Recording method	message oriented, characters are stored on 8 bits
Message timing	longest allowed gap between characters within one message is selectable from 1 to 255 bits message start is time-stamped with 100 ns absolute time
Timing accuracy	1 μs
Character format	5, 6, 7 or 8 bits input / output recorded always on 8 bits
Start bit	1
Stop bits	1, 1.5 or 2

Parity	no, even, odd, space ["0"] and mark ["1"] parity
Error detection	parity, framing, break
Input signal level	RS422/RS485: differential threshold voltage: -200 mV and +200 mV (max. common mode voltage: -7 V to +12 V); hysteresis: 40 mV RS232: threshold voltage: low / high: 0.8 V / 2.4 V; hysteresis: 0.6 V RS422: differential voltage: 5 V (unloaded); min. 2 V (50 Ω termination) RS485: differential voltage: 5 V (unloaded); min. 1.5 V (27 Ω termination) RS232: voltage swing: ±6.5 V (unloaded)
Output signal level	
Power consumption	8.1 watts typical
Connector	separate input and output input 44-pin D-Sub (male) output 44 pin D-Sub (female)
Dimensions	standard HEIM DATaRec 4 housing 37.1 x 184 x 124.5 mm (w x h x d) including fixing system
Weight	810 g typical
Communication	HeimLink and USB interface
Display, button, LED	yes

Functions

Supported dataformat	each channel provides an independent IRIG 106 chapter 10 data stream
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Technical Specification HEIM DATaRec 4 ASM100

Environmental specifications

Vibration	5 g
Shock	10 g
Temperature operational	IEC 60068-2-14-Nb
Standalone module	-20 °C - 70 °C -30 °C - 70 °C ²⁾
Link chain system	-10 °C - 55 °C -20 °C - 55 °C ²⁾
Storage	-40 °C - 85 °C
Humidity	0 - 93% relative, non-condensing
EMI	DIN EN61000 / DIN EN61326 ³⁾

Notes

Performance varies depending on the installation environment. The shown values were measured using an appropriately designed test system including the HEIM DATaRec 4 power supplies under nominal conditions of temperature, voltage, etc..

Performance is significantly influenced by storage medium type, host computer performance and load, used acquisition software, signal module configuration, power supplies and cabling.

- 1) under development
- 2) special start-up procedure required
- 3) for operation in industrial environment (according to DIN EN 61326) earthing of the module and / or shielded cable is necessary to prevent influences by external electromagnetic distortions.

Applications



Miniature system
Single module system with direct link to the PC via USB 2.0



Distributed data acquisition system
Remotely located modules (up to 768 channels)



Compact system
Centralized acquisition system with up to 768 channels



Distributed multi channel system
Remotely located groups of modules (up to 768 channels)



GSS base system, up to six internal Signal Modules



Decentralized system
Base system, module extender and external storage

ZODIAC Data Systems GmbH

Friedrich-Ebert-Strasse / TechnologiePark – D-51429 Bergisch Gladbach
Tel.: +49 2204 84 41 00 – Fax: +49 2204 84 41 99
info.heim@zodiacaerospace.com – <http://www.zodiac-data-systems.com>

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