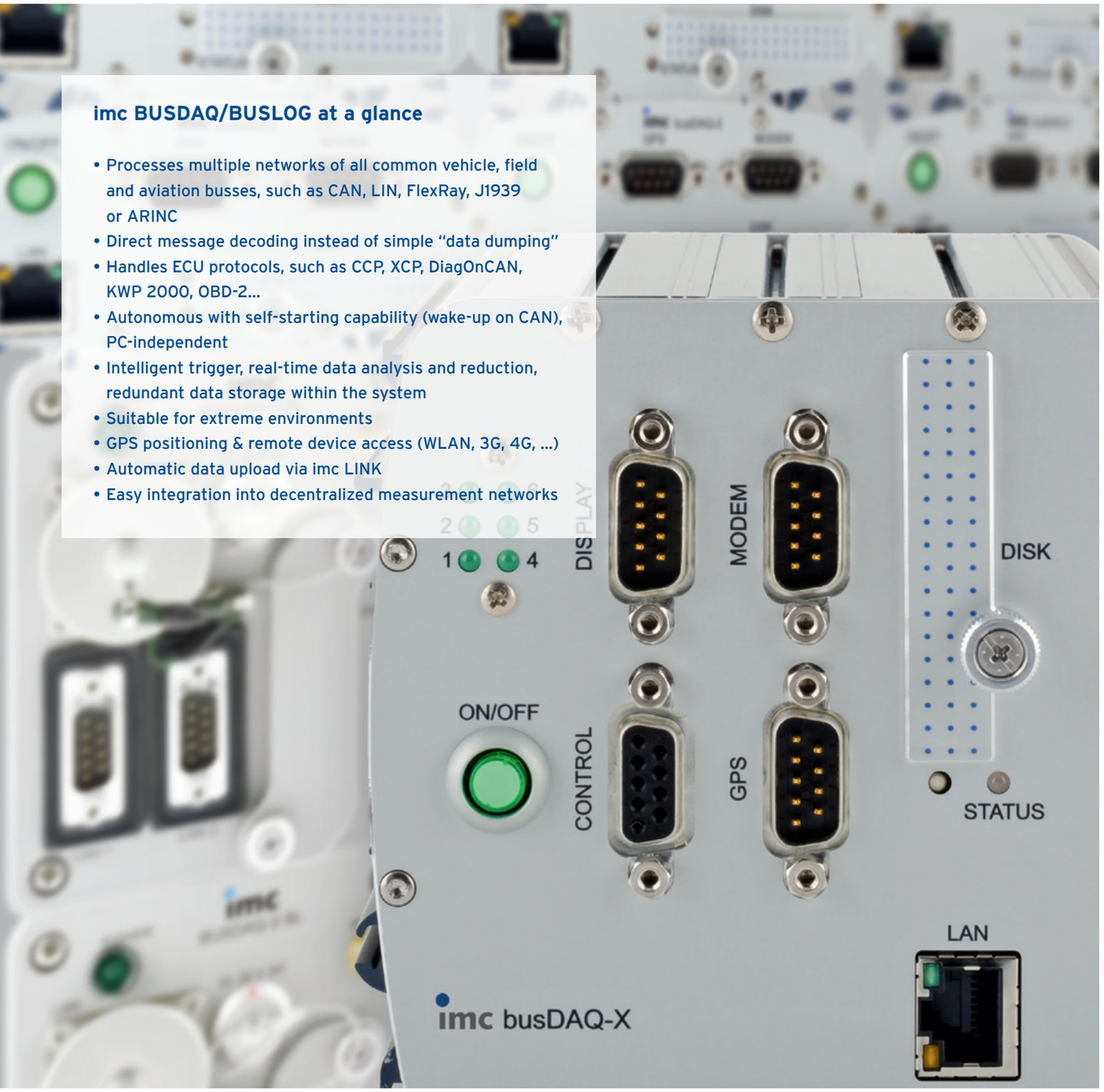
imc BUSDAQ /imc BUSLOG

autonomous • intelligent • synchronized

Field bus data acquisition - from stationary to mobile



imc BUSDAQ/BUSLOG at a glance

- Processes multiple networks of all common vehicle, field and aviation busses, such as CAN, LIN, FlexRay, J1939 or ARINC
- Direct message decoding instead of simple "data dumping"
- Handles ECU protocols, such as CCP, XCP, DiagOnCAN, KWP 2000, OBD-2...
- Autonomous with self-starting capability (wake-up on CAN), PC-independent
- Intelligent trigger, real-time data analysis and reduction, redundant data storage within the system
- Suitable for extreme environments
- GPS positioning & remote device access (WLAN, 3G, 4G, ...)
- Automatic data upload via imc LINK
- Easy integration into decentralized measurement networks

imc BUSDAQ / BUSLOG

Efficient data acquisition and real-time calculations

Thanks to its lightweight and compact design, imc BUSDAQ is ideal for vehicle and field testing. With advanced functions ranging from real-time calculations for data analysis and reduction, to a compound yet intuitive trigger engine and support of ECU protocols, imc BUSDAQ is much more than a simple data logger. While allowing wake up from low power standby to operation within milliseconds (both upon CAN traffic or trigger signal) this compact system also excels in robustness. With condensation protection and an extended temperature range, the imc BUSDAQ series can operate easily in extreme environments.

Specifically, this also includes shock resistance up to 30g as encountered in off-road testing.

For remote monitoring of vehicles, machinery and equipment, imc BUSDAQ allows the use of various wired and wireless data transfer methods. The system can independently report to remote offices, providing relevant measurement values, status information and notification of exceeding limits by SMS or e-mail. In addition, imc BUSDAQ can provide continuous online long-term monitoring and remote parameterization via internet.

imc BUSLOG, CAN bus data logger

imc BUSDAQ-2, intelligent, networkable measuring system

imc BUSDAQ-X, multi-bus/multi-protocol data acquisition system

Small sized, but high performance: imc BUSDAQ / imc BUSLOG

Beyond simple data logging
- Selective recording of decoded channels, plus additional log file
- Support of complex ECU protocols (CCP, KWP2000,...)
- Real-time analysis of bus data traffic instead of crude log file dump
- GPS positioning and time synchronization
- Synchronous acquisition of multiple field bus standards (CAN, LIN, FlexRay, J1939, ARINC)

Simple set-up
- Wide variety of set-up parameters available as standard database information
- Supporting formats such as DBC and A2L
- User-friendly assistance in setting up bus parameters, as well as device configuration
- Complete test and measurement software imc STUDIO for intuitive setup, data visualization and analysis, administration, reporting and even test automation

Autonomous and mobile
- PC-independent "black box" operation, as well as interactive usage
- Redundant or autarkic data storage onboard the system
- Built-in backup battery (UPS) for bridging power supply outages
- Decentralized networking and synchronization capability with all imc measurement systems
- WLAN-, GPRS- / UMTS-capable: ideal for remote or inaccessible sites
- Wake up on CAN within 200 milliseconds

Immediate results and notifications in real time
- Real-time results and data reduction (imc Online FAMOS)
- Broad selection of statistical and mathematical analysis functions
- Threshold monitoring and user notification for measurement channels and real-time results
- Powerful and selective trigger system

Robust and secure
- Compact and rugged design for use in space constrained environments
- Operating temperature range -40°C to +85°C, condensation allowed
- Complies with norms EN 50155 and MIL-STD 810-F – shock and vibration resistant
- Integrated UPS prevents any loss of measurement data during short power failure

In Practice

Fleet monitoring and vehicle testing
With fleet tracking and mobile testing, the vehicles are always at different locations. Measured data can be easily recorded via CAN with the data aquisition system imc BUSDAQ. If the vehicle is shut down, imc BUSDAQ automatically enters sleep mode. For example, starting data acquisition can be triggered by opening the door (wake up on CAN). Within 200 ms, this CAN message starts a pre-configured test. At the same time, imc BUSDAQ automatically connects via WLAN, 3G, 4G network to the imc internet platform for remote monitoring. Now, the test engineer is able to access any measurement system in the fleet from a PC.

Combining imc BUSDAQ and imc CANSAS
On large machinery, such as wind turbines, distributed measurement systems have a distinct advantage. They allow capture and digitizing of signals close to the sensor, thus reducing the amount of wiring and minimizing interference. This saves time and increases the quality of test results. Additional advantages become evident when imc BUSDAQ and imc CANSAS are used in combination. imc CANSAS modules convert analog sensor information into CAN signals, and output digitized data to imc BUSDAQ, for logging and storage. Absolute time synchronization between the channels of all connected imc CANSAS systems is ensured. This way the system easily scales with changing requirements for channels or sensor types.

Intuitive operating software: imc STUDIO
imc BUSDAQ is operated by imc STUDIO – the same intuitive software users know from all other imc data acquisition systems. imc STUDIO offers a complete test and measurement workflow environment with an emphasis on productivity in measurement configuration and test development. From quick and simple data capture tasks, to fully automated durability tests, imc STUDIO is based on over 20 years of experience, with one single goal in mind: improving your testing productivity.

imc BUSDAQ Details

imc BUSDAQ general specs and features

Key: ● Default, ○ Optional

	BUSLOG	BUSDAQ-2S	BUSDAQ-2	BUSDAQ-X
General				
CAN nodes	2	2	2	2 ... 8
Additional Fieldbus types (CAN, LIN, FlexRay, ARINC, XCPoE)				o
Housing type	alu profile	alu profile	alu profile	alu profile
Width	30 mm	30 mm	51 mm	110 mm
Weight	650 g	650 g	850 g	2000 g
Operating conditions				
Extended temp. range (-40 .. +85°C, incl. condensation)	●	●	●	●
Shock vibration rating	30g pk (3 ms), EN 50155			
Connectivity				
Ethernet (100 Mbit)	●	●	●	●
W-LAN (WiFi) internal				○
Wireless UMTS, 3G, 4G			○	○
GPS connection port			●	●
Display connection port			●	●
Remote controlled main switch	LEMO.0B	LEMO.0B	DSUB-9	DSUB-9
Synchronization signal	SMB	SMB	BNC	BNC
Programmable status feedback (LEDs)				●
Data storage				
CF card slot (Compact Flash)	●	●	●	●
Storage on PC / network drive	●	●	●	●
Hard disk (internal)				○
Stand-alone capabilities				
PC independent complex trigger functionality	●	●	●	●
Onboard real-time data analysis (imc Online FAMOS)		○	○	○
Autarkic PC-less operation, self start (timer, absolute time)	●	●	●	●
Sleep mode (200 mW, wakeup 200 ms)	●	●	●	●
Wake up on CAN	●	●	●	●
Synchronization & clock				
Master-Slave between different imc systems	●	●	●	●
Via external DCF-77 signal	●	●	●	●
Via external GPS signal			●	●
CAN				
Max. Baud rate	1 MBit/s	1 MBit/s	1 MBit/s	1 MBit/s
Configurable CAN high speed /low speed	●	●	●	●
Individual galvanic isolation	●	●	●	●
Single-Wire CAN version available (per node)	○	○	○	○
Max. number of channels	512	512	512	512
Full CAN message decoding	●	●	●	●
J1939 protocol support	●	●	●	●
Process control (digital I/O)				
4 Bit digital input, isolated, TTL / 24V				●
4 Bit digital output, 0.7 A				●
Power supply				
DC input 10V to 50V	●	●	●	●
AC/DC adaptor (110 to 230VAC)	●	●	●	●
Data integrity upon power fail	●	●	●	●
UPS	●	●	●	●
Automatic shutdown after power failure	10 s	10 s	10 s	15 s
Operating power	< 3W	< 3W	< 8W	< 8W
Supply of connected imc CANSAS modules via CAN cable	○	○	○	○
Software				
Vector database (DBC)	●	○	○	○
ECU protocol support		○	○	○
imc STUDIO Standard	○	○	○	○
imc REMOTE WebServer	○	○	○	○

imc BUSLOG, front

imc BUSDAQ-2, front

imc BUSDAQ-X, front

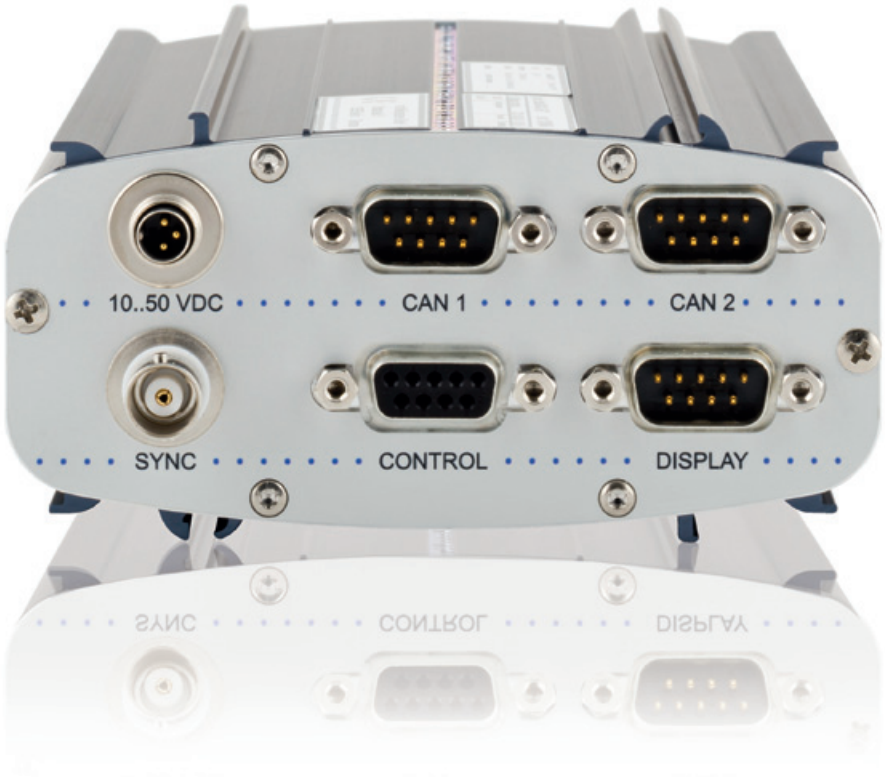
imc BUSLOG, back

imc BUSDAQ-2, back

imc BUSDAQ-X, back

imc BUSDAQ software options

	Features		Licensing	
	Software product	Functionality	License model	included
Operating software				
	imc STUDIO Standard	Operating software, integrated test & measurement suite	PC	○
	imc STUDIO Professional / Developer	Customized operation, scripting, application development	PC	○
	imc CANSAS	In-situ configuration of imc CANSAS modules		●
Post processing				
	imc FAMOS Reader	Data visualisation	PC	●
	imc FAMOS Standard / Professional / Enterprise	Data visualisation, analysis, reporting, scripting	PC	○
Remote access				
	imc LINK	Remote device access, automatic data transfer	PC	○
	imc REMOTE	Web Server, secure https device access	Device	○
CAN				
	Vector database	Vector database interface	Device	○
	ECU protocols	ECU protocol support (KWP 2000, CCP, OBD-2) for CAN interface	Device	○
Development				
	LabView™ VI's	LabView VI components		●
	imc COM	ActiveX programming interface (API)	PC	○



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