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DATASHEET

Capture Module SerDes GMSL2/3

General description

The Capture Module SerDes GMSL2/3 from Technica Engineering GmbH is a versatile and powerful device for logging data in automotive applications, such as AD/ADAS. It features 4x GMSL2/3 link lines (8 ports) and 4x SFP+ ports for high-speed and reliable data logging output (up to 10Gbps each).

The Capture Module SerDes GMSL2/3 can capture up to 4x GMSL2/3 sensor data stream (point-to-point connections) without influencing the network itself. Sensor data (GMSL forward link) is forwarded from the sensor (connected to the CM deserializer port) to an ECU (connected to the CM serializer port). At the same time, the data is captured and sent to a logging port as an encapsulated Ethernet frames. Control data (I2C and GPIO), which is usually transmitted using the GMSL reverse link, is also forwarded between the sensor and the ECU while being captured by the CM.

Designed with durability in mind, the Capture Module SerDes GMSL2/3 has a robust and anodized aluminum case and it is compatible with typical 12 Volt systems. In addition, it integrates a galvanically isolated voltage input to eliminate ground loops and reduce common mode-noise on the GMSL interfaces.

Application Areas

The Capture Module SerDes GMSL2/3 is ideal for automotive engineers and developers who require logging high-speed camera data when developing and testing their AD/ADAS or infotainment applications.

Configuration

Through an internal configuration website, the user can easily configure the device for their use cases, abstracting the complex underlying hardware. This includes GMSL link configuration, video logging, compression, GPIO mapping, bridging and logging.

Lossless Video Compression

The Capture Module SerDes GMSL2/3 offers a significant advantage for AD/ADAS applications by employing real-time and lossless JPEG compression. This technology reduces storage requirements by up to 50% (depending on the environment) without compromising video quality, and thus enabling efficient data handling and storage. This feature is particularly valuable for AD/ADAS applications that demand large amounts of video data storage.
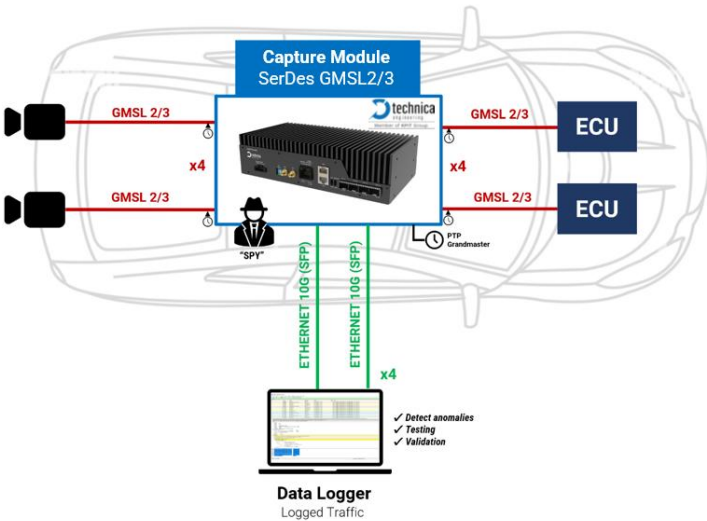

Capture Module SerDes GMSL2/3

Technical Data

Operating Temperature	-40 °C to +75 °C
Supply Voltage	9 V to 24 V DC (typ. 12 V)
Power consumption	15 Watt (depending on connected SFP Modules)
IP Protection Class	IP 20
Housing Dimensions	240 mm (W), 130 mm (L), 65 mm (H)
Weight	1,5 kilograms (aprox.)
Interfaces	8x GMSL2/3 ports (4x link lines)
	2x 10Gbit Ethernet (SFP+) for Logging
	2x 1000BASE-T (RJ-45) for Config and Sync
	1x Service Port
	2x Wake-Up Line
Serializer	Analog Devices MAX96793
Deserializer	Analog Devices MAX96792A

Features of the CM Serdes GMSL2/3

Devices Features	Configuration Webpage
	Wake-Up/Sleep
	Import/Export of Configurations
	Status LEDs
	Video data logging
	Control data logging (I2C and GPIO)
	Hardware Timestamping
	Time Synchronization (gPTP/802.1AS-2011 AVnu profile or PTPv2 subset)
	Serdes link diagnostics
	Power Over Coax (PoC) injection (12V)
	GMSL link configuration
	Galvanically isolated voltage input
Core Feature Package	GMSL GPIO configuration
Advanced Feature Package*	Lossless JPEG Compression
	Remote clock synchronization
	MIPI Datatype Overwrite
Expert Feature Package *	Adaptative Lossless Video Compression
	GPIO and I2C packetization

* Needs to be ordered separately

Use case

Order Information

Name	Article Number	Cable set number*	Adv. Feature Package*	Expert Feature Package*
Capture Module SerDes GMSL2/3	TE-1190	KS-1190	TE-1190-AF	TE-1190-EF

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