CAN *Newsletter Online*

DATA-LOGGER

Audio, video, and 18 CAN ports

With the Ipelog2, Ipetronik is presenting a data-logger for test applications in the automotive and commercial vehicle sectors. It is especially suited for fleet management.

The data-logger is designed around the basic concept and enclosure of the Ipelog data-logger, but has been further advanced in some details. These include for example an audio input, which allows the test driver to record verbal comments and noises event driven – e.g. via the iMic microphone and trigger button – for subsequent measurement data analysis. Another advancement is the extension from 14 to 18 network and measurement interfaces as well as the USB 3.0 port for faster configuration updates and data downloads.

The data-logger provides 18 CAN ports (Photo: Ipetronik)

Two versions of the Ipelog2 are available: The standard version features ten CAN inputs, four of which can be switched between CAN high-speed (HS) and CAN low-speed (LS – fault tolerant). In addition, the logger system features six LIN inputs in accordance with LIN 1.3 and 2.0 standards. The second version has 16 CAN inputs, also with HS and LS switchover capability, but no LIN inputs. All 10 and/or 16 CAN inputs support the so-called Wake On CAN and No Message Lost (NML) functions. Wake On CAN wakes the logger (via CAN network activity), such that it automatically boots up from standby and switches to measuring mode. The associated NML function ensures that all the CAN messages from waking up the vehicle are saved signal-based as a CAN trace.

The data-logger is based on a 1,33 GHz Atom E3805 dual-core processor, incorporates 2 GiB RAM, and uses the RTOS-32 real-time operating system with the Testdrive operating software. The measurement data is recorded using the latest CFast technology with up to 64 GiB data volume. These storage media have already proven themselves in the M-LOG V3 data-logger.

The logger also features an M-CAN-LEMO system socket for connecting Ipetronik M-CAN measurement modules. The special feature of the M-CAN connection is that the bus termination can be set via a software switch. Users thus benefit from the fact that no additional M‑CAN termination connector or special M-CAN system cable is necessary for the bus termination. The modules are also supplied with power via this socket.

To cater to the increasing requirements on Ethernet-based protocols and buses, the data-logger supports two Gigabit Ethernet measurement inputs. These inputs allow XCP-on-Ethernet protocols and automotive Ethernet networks to be integrated via BroadR-Reach media gateways. Flexray signals and future Flexray traffic are measured via the Flexray-Extender. One of the two Gigabit Ethernet inputs takes the form of an X-Link connector for measuring the high-speed measurement inputs of the X-device family with a sampling rate of up to 100 kHz and saving these in the logger. IP-based camera systems can also be integrated into the device in future via the Gigabit Ethernet inputs. As such, Ipelog2 also caters to future requirements, such as the synchronous recording of control unit and environmental image data of multiple cameras (e.g. for validating driver assistance systems).

Remote data transmission

The Ipelog2 supports the wireless transfer of measurement data both via an integrated Wi-Fi interface as per standard IEEE 802.11 a/b/g/n and also via an LTE (4G) modem. The WLAN module is capable of setting up an access point itself for connecting terminal devices such as tablets. The modem is modular in design, allowing it to be adapted to the place of installation – North America, EMEA, APAC/South America. To allow the position data of the vehicle to be acquired synchronously with the measurement data, a GPS receiver plus gyro is built-in. This records the vehicle's rotations along all three axes. Thanks to its functions and properties, the logger is suited for conducting endurance and fleet tests in conjunction with the Ipecloud web portal.

The data-logger features an aluminum casing measuring 206,5 mm x 73 mm x 166,5 mm (W x H x D) in accordance with IP54 protection and weighs 1750 g. It has a working temperature range from –40 °C to +85 °C for a relative humidity of 5 % to 95 %. A voltage of 9 V_{DC} to 36 V_{DC} is required for the power supply. The power consumption is typically around 10 W. The casing has no fans, hard drives, or other mechanical wear parts. The CAN, LIN, ETH and 4 DIG I/O measurement inputs are completely galvanically isolated from each other.

"The IPElog2 is a technology carrier which, as regards its architecture and hardware, is designed for catering to customer requirements also over the longer term. Thanks to the large number of interfaces and measurement inputs, the logger is predestined for extensive measurement tasks with numerous CAN and LIN buses," commented Felix Ottofülling, Marketing Manager at Ipetronik. "Due to its scalable licensing model, the Ipelog2 is available at an affordable entry-level price with four CAN interfaces in the basic version. Further functions can be licensed subsequently if required and used immediately."

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