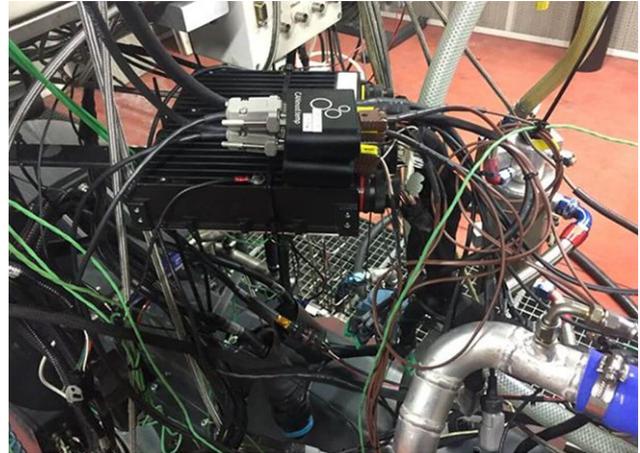


THERMOCOUPLER

Measuring cylinder head temperatures

Pipo Moteurs (France) has used the CANmod.temp devices by CSS electronics (Denmark) when designing and optimizing its race engines.

“We used the devices for water temperature measurements (delta temperatures, 20 °C to 200 °C, 1-mm probes) on internal combustion engines with TCT,” explained Adrien Ferrand from Pipo Moteurs. “In addition, we used it for exhaust temperature measurements (absolute temperatures, 25 °C to 1100 °C, 3-mm probes) on an ICE with TCK.” The CANmod.temp DBC file was integrated into the existing system to allow for easy decoding. The two daisy-chained CAN sensor devices comprise four temperature inputs each. “Using the temperature data, we were able to modify and improve the water jacket on our cylinder head. In particular, the high-resolution outputs let us perfectly view the development of each signal, allowing us to make the necessary analyses and conclusions for our project,” said the French engine engineer.



The French user daisy-chained two thermocouplers and connected them to the CAN interface of the ECU logger (Source: CSS electronics)



The CAN modules provided by the Danish company features four thermocouple inputs. It supports type B, E, J, K, N, R, S, and T thermoelements. They can be used as an add-on for the CANedge datalogger for engine dynos, EGT analysis, and HVAC monitoring. The datalogger is able to record CAN error frames and to display them. The CAN interface of the thermocoupler supports bit-rates of up to 1 Mbit/s. The temperature values can be mapped into 11-bit or 29-bit data frames. There are also configurable trigger modes for these CAN data frames. Device configuration is done by means of DBC files.

The CANmod.temp modules provide on the CAN interface a TxD dominant timeout capability to prevent network blocking in case of a failure (Source: CSS electronics)

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