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A new cryogenic temperature measurement solution suitable for large installation and laboratory use.

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The low temperature measurement station called CABTR (Centrale d'Acquisition Basses Températures Rapide) is an instrumentation, recently developed by CEA, and dedicated to the cryogenic temperature measurement. Thanks to its data rate acquisition up to 1 kHz/channel and its lock-in measurement to be lowly sensitive to the industrial harsh environment, the CABTR permits to observe fast temperature transients, such as temperature oscillations due to pulse tube cryo-coolers..
Its bandwidth (max 100Hz) can be reduce to increase the accuracy and the distance between the sensor and the station. As an example, this paper will present 4K measurement results with a 300m long thermometric chain.
We also described all means of communication available to integrate easily the CABTR into your installation equipped for example with PLC. Different housings are available and will be described from 8 channels in lab box type to 40 channels in 19inch rack for cubicle mounting (8U).

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