TMI Data logger, VACQ III

DATA SHEET

TMI-Orion

VACQ III





Temperature measurement inside kilns during curing processes of bricks, tiles, ceramics.

VACQ III is an autonomous data logger which enables the measurement of temperature inside kilns during ceramics, tiles and bricks curing processes. It has 8 or 16 thermocouple channels and is associated with industry-specific software: Qlever Ceramics.

It enables the visualization and mapping of thermocouple temperature inside kilns, and the matching of wagon position and temperature at corresponding location. Positioning the instruments (burner, door...) in the software helps anticipating possible failures.

METROLOGY

Operating range	Measurement range	Resolution and noise	Uncertainty* The uncertainty corresponds to 2 standard deviations
Without thermal shield : from 0°C to 140°C With thermal shield: from 0°C to 250°C during 70 hours. Other thermal profiles upon request.	Up to 1200°C	16 bit converter, resolution: <±0.1 °C	+/- 0.1°C from 0°C to +140°C

Each logger can be calibrated and adjusted at the temperature points corresponding to the user's needs.

**The specified uncertainties correspond to two standard deviations. The uncertainties are calculated taking into account the various significant error sources, including the calibration probes, the equipment, the environmental conditions, the influence of the logger, repeatability, etc…*



FUNCTIONS

- Start set up: immediate or delayed
- Time stamped measurement data
- Battery level alert with Qlever software

TECHNICAL SPECIFICATIONS

Material	Logger body: 316L Stainless steel	
Dimensions	Body : D.67 mm x L.100 mm (without connector)	
Number of channels	8	Up to 8 connected thermocouple elements and up to 3 platinum sensors as reference channel for cold junction, and internal temperature of the box
	16	Up to 16 connected thermocouple elements and up to 6 platinum sensors as reference channel for cold junction, and internal temperature of the box
Temperature sensor	Thermocouples: type K (full scale 1300°C)	
Memory capacity	232 000 acquisitions divided by number of measurement channels	
Acquisition rate	Programmable: minimum 1 second, maximum 59 minutes and 59 seconds	
Program duration	Programmable: days, hours, minutes	
Recording	Programmable start: by date, hour, minute	
Power	User replaceable battery pack	
Connectivity	USB wired interface to the PC	
External connection box (*)	Number of channels	Adapted to the number of channels of the logger
	Connectors	Miniature, standard or universal (upon request)
	Material	304 Stainless Steel for the hose 316L Stainless steel for the box

(*) We can study any customization of the box: connectors, format, flexible hose length.



VACQ III external connection box



VACQ III



AUTONOMY

The VACQ III is powered by a battery pack; its autonomy depends on environment and operational conditions of the application (extreme temperatures, radio range, electromagnetic disturbances, data acquisition and transmission rate).

As a result of the variety of environments and operational conditions, TMI-Orion does not guaranty the battery lifetime and recommends that the user determine the battery lifetime according to his own process conditions and experience.

SOFTWARE AND RELATED PRODUCTS

VACQ III is used with Qlever software platform.

Qlever software platform: data acquisition, management and visualization of data from TMI-Orion data loggers. Qlever is installed on a PC and operates under Windows® Vista/7/8/10. Data transmission and visualization are done after the industrial process.

- VACQ III products family includes VACQ III FullRadio for full wireless data logging real time monitoring.

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