

DATA SHEET

TMI-Orion

CeriDry

Temperature,
humidity and
shrinkage data logger

Monitor temperature, humidity and shrinkage in drying processes of bricks, tiles and ceramics.

CeriDry is an autonomous data logger equipped with one temperature sensor, one humidity sensor and one retractometer. This data logger correlates the changes in relative humidity and air temperature with the shrinkage of bricks, tiles or ceramics during the drying process.



It also enables the acute evaluation of drying within two parts of the same brick or tile.

METROLOGY

	Operation range	Measurement range	Resolution	Uncertainty*
Temperature	- 30°C to +140°C	0°C to +140°C	0,04°C	± 0.1°C
Humidity	0 to 100 % RH non condensed	2 to 98 % HR	0,05 % hr	± 3.5 % RH
Shrinkage	20 mm movement	140 mm à 160 mm	0,01 mm	± 0.5 mm

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
- Memory set up: stop at maximum capacity or loop writing
- Time stamped data
- Battery level alert with Qlever software



TECHNICAL SPECIFICATIONS

Material	316 L Stainless Steel
Dimensions	Length 169 mm, width 55 mm, height 52 mm
Temperature sensor	PT1000
Humidity sensor	Capacitive
Shrinkage measurement	Linear potentiometer
Positioning support	3 points
Memory capacity	12 000 acquisitions per measurement channel
Memory capacity with Big Memory option	73 500 acquisitions per measurement channel
Acquisition rate	Programmable: min. 1 second, max 59 minutes 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

AUTONOMY

The CeriDry is powered by a battery pack; its autonomy depends on environment and operational conditions of the application (extreme temperatures, acquisition rate).

As an indicator, for an industrial drying process of ceramics, bricks or tiles, autonomy is 800 hours at 140°C with an acquisition rate of 1 acquisition every 10 seconds.

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

CeriDry 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.

- CeriDry products family includes CeriDry FullRadio for full wireless datalogging real time monitoring.

DELIVERABLES

The CeriDry system usually includes the following items:

- The CeriDry logger with a battery pack
- The CeriDry calibration certificate
- The CeriDry configuration and calibration file

- A USB wired interface to the PC (to be ordered separately)
- Qlever software platform (To be ordered separately)
- A transport case - (Optional - To be ordered separately)

SERVICES

Maintenance: TMI-Orion recommends annual preventative maintenance and calibration service for the replacement of o-rings, functional checking, calibration and adjustment.

Accessories: The battery packs, engineered by TMI-Orion, are replaceable by the user and are referenced in the documents available on our web site.

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