DATA SHEET

TMI-Orion

VACQ xFlat

Measurement of temperature at various points for thermal process control.

The VACQ xFlat is a data logger equipped with 4, 8, 16 or 32 thermocouple connectors. It must be protected by a thermal shield when the temperature exceeds +140°C.

Most models are available with an interchangeable power supply. The use of the logger with power adapter frees the user from battery lifetime concerns. When required by the application, it is possible switch to battery mode so the logger is fully autonomous and offers a greater operating range in temperature (except for Stainless Steel models).

METROLOGY

Models	Number of thermocouple channels	Battery packs	Operating range	Resolution	Internal reference channel calibration uncertainty*
VACQ xFlat 1.4	**4**	VXP1	0°C to +140°C	<± 0.1°C	± 0,1°C from 0°C to +140°C
		015S	-55°C to +140°C		
		AC Adapter	0°C to +60°C		
VACQ xFlat 1.8	**8**	VXP1	0°C to +140°C		
		015S	-55°C to +140°C		
		AC adapter	0°C to +60°C		
VACQ xFlat 2.8	**16 (2 rows of 8)**	015S	-55°C to +140°C		
		AC adapter	0°C to +60°C		
VACQ xFlat 4.8	**32 (4 rows of 8)**	015S	-55°C to +140°C		
		AC adapter	0°C to +60°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…*

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FUNCTIONS

- Start set up: immediate or delayed
- Time stamped measurement data
- Battery level alert with Qlever software
- Interchangeable power supply (except for Stainless Steel models)

TECHNICAL SPECIFICATIONS

Material of the logger body	VACQ xFlat 1.4	With VXP1 battery packs	304L Stainless steel
		With 015S batteries or AC adapter	Anodized aluminum
	VACQ xFlat 1.8	With VXP1 battery pack	304L Stainless steel
		With 015S batteries or AC adapter	Anodized aluminum
	VACQ xFlat 2.8		Anodized aluminum
	VACQ xFlat 4.8		Anodized aluminum
Dimensions	VACQ xFlat 1.4	With VXP1 battery packs	L.82 mm x H.11 mm x W.107 mm
		With 015S batteries or AC adapter	L.150 mm x H.20 mm x W.80 mm
	VACQ xFlat 1.8	With VXP1 battery packs	L.153 mm x H.11 mm x W.80 mm
		With 015S batteries or AC adapter	L.150 mm x H.20 mm x W.80 mm
	VACQ xFlat 2.8	L.150 mm x H.20 mm x W.80 mm	
	VACQ xFlat 4.8	L.150 mm x H.40 mm x W.80 mm	
Number of channels	VACQ xFlat 1.4	4 connected thermocouple elements 1 internal reference channel 1 reference channel for cold junction and internal temperature of the box	
	VACQ xFlat 1.8	8 connected thermocouple elements 1 internal reference channel 1 reference channel for cold junction and internal temperature of the box	
	VACQ xFlat 2.8	2x8 connected thermocouple elements 1 internal reference channel 1 reference channel for cold junction and internal temperature of the box	
	VACQ xFlat 4.8	4x8 connected thermocouple elements 6 internal reference channels	
Temperature sensor	Thermocouples type K (full scale +1300°C), or type T (full scale +400°C), or other types upon request (B, S, N, …)		
Watertightness	Not designed for immersion nor for use in steam autoclaves		
Memory capacity	VACQ xFlat 1.4	43 600 acquisitions per thermocouple channel	
	VACQ xFlat 1.8	26 100 acquisitions per thermocouple channel	
	VACQ xFlat 2.8	13 700 acquisitions per thermocouple channel	
	VACQ xFlat 4.8	13 700 acquisitions per thermocouple channel	
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	Interchangeable power supply to be used according to the application (except for Stainless Steel models with VXP1 battery pack): AC adapter (+ backup battery pack) or two user replaceable 015S batteries.		
Connectivity	USB wired interface to the PC		

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AUTONOMY

The VACQ xFlat models in anodized aluminum are powered by an AC adapter or by two batteries 015S. The VACQ xFlat models in Stainless Steel are powered by a battery pack. With batteries or battery pack, the autonomy of the VACQ xFlat depends on environment and operational conditions of the application (extreme temperatures, data acquisition 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 xFlat 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 xFlat family of products includes:

- VACQ xFlat FullRadio for remote real time wireless set up and reading of data.
- VACQ xFlat Radio for remote real time reading of data.

DELIVERABLES

The VACQ xFlat solution usually includes the following items:

- The VACQ xFlat data logger with a battery pack and/or an AC block + AC adapter,
- The VACQ xFlat calibration certificate,
- The VACQ xFlat configuration and calibration file,
- Qlever software platform (to be ordered separately),
- A wired interface to the PC (to be ordered separately),
- A transport case (optional – to be ordered separately).

SERVICES

Maintenance: TMI-Orion recommends annual preventative maintenance and calibration service for 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.

Examples of VACQ xFlat models

VACQ xFlat 2.8 with connectors for type T thermocouples

VACQ xFlat 1.8 with connectors for type T thermocouples

VACQ xFlat 1.4 with connectors for type K thermocouples

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