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 or 16 thermocouple connectors. It must be protected by a thermal shield when the temperature exceeds +140°C.

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
		VXP3			
VACQ xFlat 1.8	8	015S	0°C to +140°C		
		VXP3			
		016_TRELOAD + AC adapter	0°C to +70°C		
VACQ xFlat 2.4	8 (2 rows of 4)	VXP1	0°C to +140°C		
		VXP2	-55°C to +140°C		
		VXP3	0°C to +140°C		
VACQ xFlat 2.8	16 (2 rows of 8)	015S	0°C à +140°C		
		VXP2	-55°C to 140°C		
		VXP3	0°C to +140°C		
		VXP3HC			
		VXPS + AC adapter	0°C to +70°C		
		016_TRELOAD + AC adapter			

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 of the logger body	VACQ xFlat 1.4	With VXP1 and VXP3 battery packs	304L Stainless steel
	VACQ xFlat 1.8	With 015S and 016_TRELOAD battery packs	Anodized aluminum
		With VXP3 battery pack	304L Stainless steel
	VACQ xFlat 2.4	With VXP1, VXP2 and VXP3 battery packs	304L Stainless steel
	VACQ xFlat 2.8	With 015S and 016_TRELOAD battery packs	Anodized aluminum
		With VXP2, VXP3 , VXPS and VXP3HC battery packs	304L Stainless steel
Dimensions	VACQ xFlat 1.4	L.82 mm x H.11 mm x W.107 mm	
	VACQ xFlat 1.8	With VXP3 battery pack	L.153 mm x H.11 mm x W.80 mm
		With 015S battery pack	L.150 mm x H.20 mm x W.80 mm
	VACQ xFlat 2.4	L.82 mm x H.21 mm x W.107 mm	
	VACQ xFlat 2.8	L.150 mm x H.20 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 2.4	2x4 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	
Temperature sensor	Thermocouples type K (full scale +1300°C), or type T (full scale +400°C), or other types upon request (J, N, …)		
Watertightness	Not designed for immersion nor for use in steam autoclaves		
Memory capacity	VACQ xFlat 1.4	43 000 acquisitions per thermocouple channel	
	VACQ xFlat 1.8	26 100 acquisitions per thermocouple channel	
	VACQ xFlat 2.4	26 100 acquisitions per thermocouple channel	
	VACQ xFlat 2.8	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	User replaceable battery pack Option: Power adaptor supplied with VXPS battery pack (From 0°C to 70°C)		
Connectivity	USB wired interface to the PC		

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AUTONOMY

The VACQ xFlat is powered by a battery pack; its autonomy 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
- 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.
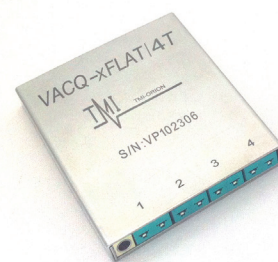
Examples of VACQ xFlat models

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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