

**Nadcap**

International certification system for special processes in the aerospace industry

**AMS2750G**

SAE standard related to pyrometry for equipment used for thermal processing of aerospace parts

\*Nadcap: National Aerospace and Defense Contractors Accreditation Program  
\*AMS: Aerospace Material Specifications

○ **SMARTDAC+ compliance with AMS2750G**

1. TC measurement accuracy within  $\pm 1.0^{\circ}\text{F}$  or  $\pm 0.6^{\circ}\text{C}$  (with calibration correction)
2. Instrument calibration reminder
3. Adds sensor correction factor values to recorded data
4. Secure, tamper-proof data with password access management
5. Meets field test instrument requirements for TUS work

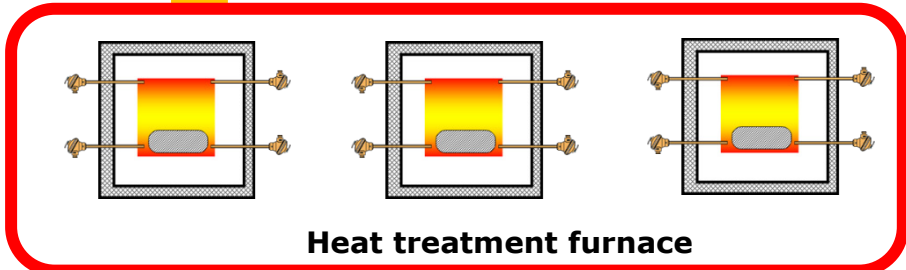


**SMARTDAC+**



**SMARTDAC+ Applications**

- Electronic recording of QA data; replaces aging paper chart recorders
- Temperature Uniformity Surveys (TUS)

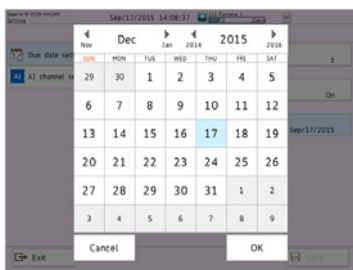


**Heat treatment furnace**

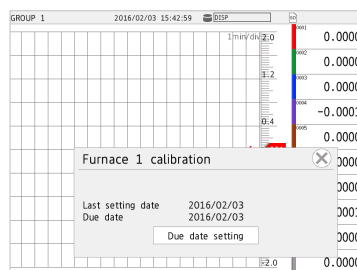


**TUS reports**

**Instrument calibration reminder function**



**Set calibration date**



**Notification screen**

Model	Number of Schedules
GX10, GP10	Up to 6
GX20-1, GP20-1, GM10-1	Up to 6
GX20-2, GP20-2, GM10-2	Up to 12

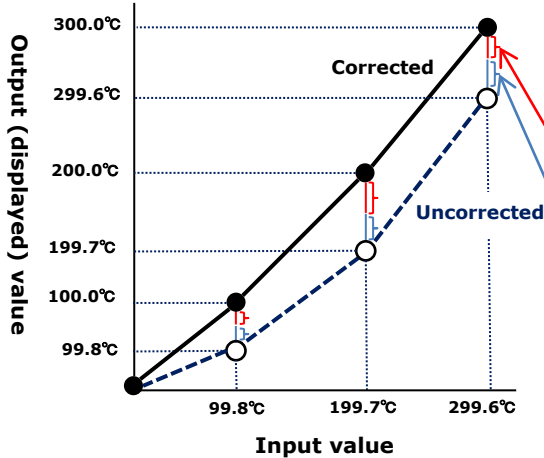
Reminder	
Furnace 1 Calibration Time until due date: 63 days	Furnace 4 Calibration Time until due date: 7 days
Furnace 2 Calibration Time until due date: 70 days	Furnace 5 Calibration Time until due date: 28 days
Furnace 3 Calibration Time until due date: 0 days	Furnace 6 Calibration Time until due date: 35 days

- After due date
- After reminder before due date
- Before reminder date

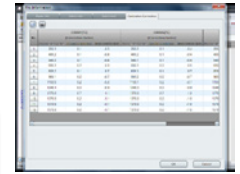
**Reminder screen**

## Correction Coefficient Mode of Calibration Correction

Sensor and recording instrument correction factors can be set separately and accounted for in the recorded data, conforming to AMS2750G. SMARTDAC+ has up to 11 linearizer function segments for each input channel (Max. 12 set points). The calibration settings are saved and recorded together with the recorded data.



Correction point	1	2	3
Uncorrected input value	99.8 °C	199.7 °C	299.6 °C
<b>Sensor correction factor</b>	0.1 °C	0.2 °C	0.2 °C
<b>Instrument correction factor</b>	0.1 °C	0.1 °C	0.2 °C
Corrected measured value	100.0 °C	200.0 °C	300.0 °C



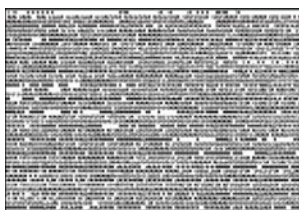
Corrected values can be confirmed by dedicated software

## Security functions



### Login for controlled access

- Administrator and User level log in
- Selectable User level access properties
- Advanced Security option /AS adds Electronic Signature and Audit Trail



Encrypted binary files to prevent data tampering

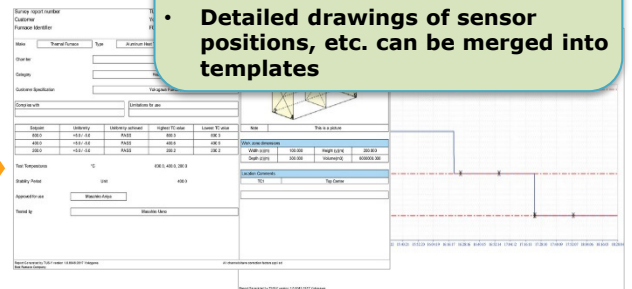
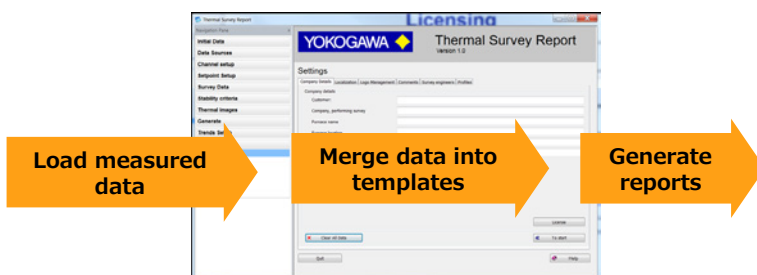
Date	Time	Action	Factor	User
2012/01/01	10:22:54	MathStop	OPERATE	User001
2012/01/01	10:22:54	MemStop	OPERATE	User001
2012/01/01	10:21:29	MemStart	OPERATE	User001
2012/01/01	10:21:29	MathStart	OPERATE	User001
2012/01/01	10:21:20	ParameterSet	OPERATE	User001
2012/01/01	10:21:11	Error242	SYSTEM	
2012/01/01	10:21:11	Error503	SYSTEM	
2012/01/01	10:21:11	ParameterSet	OPERATE	User001
2012/01/01	09:43:48	ParameterSet	OPERATE	User001
2012/01/01	09:43:39	ParameterSet	OPERATE	User001
2012/01/01	09:42:31	ParameterSet	OPERATE	User001
2012/01/01	09:41:53	MathStop	OPERATE	User001
2012/01/01	09:41:53	MemStop	OPERATE	User001
2012/01/01	09:41:34	MemStart	OPERATE	User001
2012/01/01	09:41:34	MathStart	OPERATE	User001

E-signature and audit trail functions  
\*with /AS option

## TUS reporting software (sold separately)

Easily create TUS reports from data measured by recorders

- Max/min temperature
- TUS pass/fail result
- Temperature change trend over time etc.
- Detailed drawings of sensor positions, etc. can be merged into templates



\* For information on TUS software, contact your Yokogawa representative.

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