ESCC

APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

Component Title: **Switches,Thermostatic,Bimetallic, SPST, Opening contact**

Executive Member: CNES Date: 05/12/2014

Appl. No. 275E

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Components (including series and families) submitted for Extension of Qualification Approval:

ESCC COMPONENT NO.	VARIANTS	RANGE OF COMPONENTS	BASED ON	TEST VEHICLE / S	COMPONENT SIMILAR
3702 001 01B	01	**Grade 1 and Grade Y**	**TH-47**		**All other variants Grade 1 and Grade Y**
3702 001 02B	02	**Grade 1 and Grade Y**	**TH-47**	370200102B027021HY	**All other variants Grade 1 and Grade Y**
3702 001 03B	03	**Grade 1 and Grade Y**	**TH-47**		**All other variants Grade 1 and Grade Y**

2 Component Manufacturer

Comepa

3 Location of Manufacturing Plant(s)

88 Avenue du Général de Gaulle
93170 BAGNOLET Cedex

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Date of original qualification approval:
Date: 24/03/2004

Certificate Ref No. 275

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ESCC Specifications used for Maintenance of qualification testing:

Generic: 3702 Issue: 03

Detail(s): 3702001 Issue: 04

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Deviations to LVT testing and Detail Specification used:

No ☒ Yes ☐ (supply details in Box 15)

Deviation from current Specifications:

No ☒ Yes ☐ (Supply details)

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Qualification Extension Report reference and date:

1.2014.03.20-PRECAP par CNES-M. Marty (03/2014)
2.RF1419-14000589-Part1-Chart II-III (06/2014)
2.RF1419-14000589-Part1-Chart III-LAT3-25 et 50Kcycles (10/2014)
2.RF1419-14000589-Part1-Fin 100Kcycles-Overload (11/2014)
2.RF1419-14000589-Part4-Vibrations & Shocks (08/2014)
2.RF1419-14000589-Part5-Vibrations & Shocks (08/2014)
3.2014.09.17-Rapport final Vibrations Emitech (09/2014)

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Summary of procurement or equivalent test results during current validity period in support of this application (those to ESCC listed first)

Project Name	Testing Level	LAT	Date code	Quantity Delivered
Cf 5. Thermostats delivered.xls				

9 **PID** changes since start of qualification

None ☐
Minor* ☒
Major* ☐ *Provide details in box:

10 Current **PID** Verified by: CNES
Name of Excutive Representative

Ref No: PID47_Ind I_201401
Issue: I Date: 14/02/2014
Rev Date: 15/11/2013

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Current Manufacturing facilities surveyed by: CNES & ESA on 21/03/2014
(Name of Executive Representative) (Date)

Satisfactory: Yes ☒ No ☐ Explain

Report Reference: **COM-AUD-2014 Report ESA-TECQES-RP-0344 issue 1 16-April-2014**

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Failure Analysis, DPA, NCCS available: Yes ☒ No ☐ (Supply data)

Ref. No's and purposes: NC2CCMP401 and NC2CCMP301closed out.

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The undersigned hereby certifies on behalf of the ESCC Executive - that the above information is correct; - that the appropriate documentation has been evaluated; - that full compliance to all ESCC requirements is evidence (except as stated in box 15;) - that the reports and data are available at the ESCC Executive and therefore applies on behalf of CNES as the responsible Executive Member for ESCC qualification status to be extended to the component(s) listed herein.

Date: 08/12/2014

JP. BUSSENOT

(Signature of the Executive Coordinator)

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Continuation of Boxes above:

Box 11 : Audit Corrective Actions

After a first review in October 2014, corrective actions from March 2014 ESA/CNES audit have been discussed on the 3rd of December 2014. The status of the actions is as follows :

- Up-grading of equipment labelling : The equipments are grouped within three families : Electrical, mechanical and temperature. The up-grading is completed on the three groups – Action closed.
- Qualification of an additional operator for space (action resulting from the identification of a potential problem linked to operator availability) – Action closed.
- Up-dating of follow-sheets referenced in the PID, up-dating of the follow-up of soldering electrodes to initiate their cleaning. All sheets are available at COMEPA – Action closed.
- RGA test was not performed on a regular basis. A new test has been requested from the subcontractor – Test report shall be available next week, in December 2014.

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Non compliance to ESCC requirements:

No.:	Specification	Paragraph	Non compliance

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Additional tasks required to achieve full compliance for ESCC qualification or rationale for acceptability of noncompliance:

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Executive Manager Disposition

Application Approval: Yes ☐ No ☐

Action / Remarks:

Date:

Signature, ESA Representative

ANNEX 1: LIST OF TESTS DONE TO SUPPORT EXTENSION OF QUALIFICATION

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Tests conducted in compliance with:

- ESCC 3702 generic specification; Chart V (for ESCC/QPL parts);
- or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

TH47 thermostat 4702BHY0270221 dc 1435	

Detail Specification reference:

Chart V	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Environmental / Mechanical Subgroup	Rapid Change of Temperature	☒	IEC Publication No. 60068-2-14	1435	6	0	
	Vibration	☒	IEC Publication No. 60068-2-6	1435	6	0	
	Shock	☒	IEC Publication No. 60068-2-27	1435	6	0	
	Resistance to Soldering Heat	☒	IEC Publication No. 60068-2-20	1435	6	0	
	Seal Test	☒	IEC Publication No. 60068-2-17	1435	6	0	
	Electrical and Thermal Measurements	☒	Table 2 of the Detail Specification	1435	6	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	1435	6	0	
Endurance Subgroup	Operating Life	☒	ESCC 3702 Para. 9.17	1435	6	0	
	Overload	☒	ESCC 3702 Para. 9.16	1435	3	0	
	Seal Test	☒	IEC Publication No. 60068-2-17	1435	6	0	
	Electrical and Thermal Measurements during Endurance Testing	☒	Table 6 of the Detail Specification	1435	6	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	1435	6	0	

Chart V	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Electrical Subgroup Electrical Measurements	Creepage	☒	ESCC 3702 Para. 9.6	1435	6	0	
	Response Time	☒	ESCC 3702 Para. 9.8	1435	6	0	
	Electrical and Thermal Measurements	☒	Table 2 of the Detail Specification	1435	6	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	1435	6	0	
Electrical Subgroup Assembly Capability Tests	Solderability	☒	IEC Publication No. 60068-2-20		4	0	
	Permanence of Marking	☐	ESCC Basic Specification No. 24800				Laser Identification (Deviation in detail specification 3702/001)
	Robustness of Termination	☒	IEC Publication No. 60068-2-21		4	0	
	Seal Test	☒	IEC Publication No. 60068-2-17		4	0	
Additional Tests		☐					
		☐					
		☐					

NOTES ON THE COMPLETION OF THE APPLICATION FORM FOR ESCC QUALIFICATION EXTENSION APPROVAL

ENTRIES

Form heading	shall indicate: - the title of the component as given in its detail specification or the name of the series, family; - the Executive Member; - the entering date; - the certificate number and its sequential suffix.
Box 1	shall provide details given in the table; in particular there shall be listed: - the variants or range of variants; - the range of components (the ESCC code is recommended to indicate the values or values range, the tolerance, the voltage, etc); the designation given in the detail specification as 'base on'; - under Test Vehicle enter either an ESCC code or the specific characteristic capable of identifying the component tested (e.g., voltage of coil for a relay); - under component similar enter a cross if relevant.
Box 2; 3 and 4	As per QPL entry; otherwise, an explanation of the changes must be supplied.
Box 5	Will show the ESCC Generic and Detail specifications, including issue number and revision letter, current at the time the tests reported were performed. If the specifications are different from those current on the date of the application, see Box 6.
Box 6	Will show the deviations from the Generic and Detail Specifications listed in Box 5, in particular deviations from testing. In case of deviations this must be listed in Box 15. In case the referenced specification in Box 5 have currently a different issue and/or revision indicate also whether the test data deviates or not from such current documents.
Box 7	Must reference the report(s) supplied in support of the application.
Box 8	Should provide the details of procurement to the full ESCC System, documentation of all of which should already have been delivered to the ESCC Executive under the terms of the relevant Generic Specification. An appropriate table has been drawn in this box.
Box 9	If the PID evolved after the Original Qualification or after the last Extension of Qualification, adequate details of such evolution shall be provided together with the reasons for the changes. Major changes shall be clearly marked.
Box 10	Identify the current PID issue status, date and actual date of verification. The date of verification of the current PID should be arranged as close as possible to the required date of extension.
Box 11	This box can be completed only after a physical visit to the plant to confirm that no unexplained changes occurred and that the practices, procedures, material, etc. used in manufacturing the components are as described in the PID. This survey shall be carried out in accordance with the requirements of ESCC Basic Specification No. 20200 and its findings shall be recorded.
Box 12	Provide details of, or reference to, any Destructive Physical Analysis (DPA) and Failure Analysis reports as well as any Nonconformance(s) (NCCS) occurred during the qualification validity period, stating if established corrective action have produced satisfactory results.
Box 13	Enter only the name of the Executive Member (i.e., CNES, DLR, ESTEC, etc.) and the signature of the responsible Executive Coordinator.
Box 14	To be used when there is a need to expand any of the boxes from 1 through 12. Identify box affected and reference the Box 14 in the relevant Box. Box 14 can be broken into 14a, 14b, etc. if several boxes have to be expanded.
Box 15	Fill in Table as requested.
Box 16	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 17	All Executive Manager recommendations on the application itself, special conditions or restrictions, modifications of the QPL or QML entry, letters to the manufacturer, etc. shall be entered clearly in Box 19, signed by the representative for ESA, and dated.
Box 18	Fill in Table as requested.
Box 19	Confidential Details of PID changes including those of a confidential nature, shall be provided.
Box 20	State noncompliance with reference to specification(s) and paragraph(s). To simplify reference in Box 16 each nonconformance shall be sequentially numbered. If relevant state 'None'.
Box 21	Any additional action deemed necessary by the Executive Member to bring the submitted data to a standard likely to be accepted by the ESCC Executive should be listed herein or the reason(s) to accept the noncompliance.
Box 22	Additional Comments.