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40 Sep		2	<u> </u>
St. Adminis		`	

Component Title: Relays, electromagnetic, latching, type M402

Page 1 Appl. No.

	500					6/10/2023	Appl	I. INO.
		Executive Member: CNES			Date: 0	31	317E	
Components (include	ling series and families	s) submitted for Extension	on of Qualification	Approval:				_ 1
ESCC COMPONENT NO.	VARIANTS	RANGE OF CO	RANGE OF COMPONENTS			TEST EHICLE / S	COMPONENT SIMILAR	
3602 004	04,06,09, 14,16 and19	Rated coil Voltage		M402 relays	3602 0	04 16 28V x2	All variants	
Component N Leach International		2 Location of M 2 rue Goethe 57430 Sarralbe	lanufacturing Plar	nt(s) 3	Date of origina Date: Certificate Ref	al qualification ap 01/02/2012 f No. 317	proval:	4
ESCC Specifications Maintenance of qual Generic: 3602  Detail(s): 3602/00	s used for ification testing: Issue: 5	Deviations to LVT used:  No	⊠ (supply 15)	details in Box	reference and	extension Report date: 1402 RT_132028	4 09/2022	7
Summany of progura	mont or equivalent too	t results during aureant	volidity posted in a	want of this on	aliantian (those )	10 FCOO Estad S		8
Project Name	Testing Leve		esults during current validity period in support of this ap  LAT Date code			Quantity Delivered		
PID changes since s	tart of qualification	9	Current PID	Verified by:		L. Baczkowski, C	NES	10
None □ Minor* ⋈ Major* □	*Provide details in bo	ix:	Issue:	DR_1156610 2 22/09/2020	Name of Ex	xcutive Represen	15/05/2018	3
Current Manufacturin	ng facilities surveyed b		ine, CNES	on		10/2022 Date)	11	
Satisfactory:	Yes ⊠ 2022.0014775-0 Qualifications -L	CR-Fontaine- EACH-	xplain					
Report Reference:	Septembre-2022	2						

# APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL Page 2 Component title: Relays, electromagnetic, latching, type M402 Appl. No. Executive Member: CNES 06/10/2023 317E 12 Failure Analysis, DPA, NCCS available: Yes × No (Supply data) 2CLEA302 : During the test for MOQ, (period March 2020 to February 2022, Leach report RT\_1320284) some sticking during inductive life test where detected. DCR 1554 was implemented and NCCS was closed. Ref. No's and purposes: 2CLEA307 Delay of qualification renewal. CLOSED 13 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. Gianandrea Quadre 06/11/2023 Date: (Signature of the Executive Coordinator) 14 Continuation of Boxes above:



Component title:

Relays, electromagnetic, latching, type M402

Page 3

Appl. No.

Executive Member: CNES

Date: 06/10/2023

Non comp	pliance to ESCC requirements:			15
No.:	Specification	Paragraph	Non compliance	
	ESCC 3602	8.11.2	The Number of Cycles of Operation shall be: 100 minimum instead of 20000, as agreed in appendi of ESCC 3602/004.	000 ix A
			1 20 -1	
Additional	tasks required to achieve full compliance for	ESCC qualification or rationale for acceptabilit	y of	
noncompli				16
see NCCS	2CLEA302 and DCR1554		L	
Executive	Manager Disposition			17
Application Action / Re				
Date:			B. Schade: Head of the Product Assurance	

and Safety Department



Component Title: Relays, electromagnetic, latching, type M402

Page 4
Appl. No.

Executive Member: CNES Date: 06/10/2023

317E

18

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

Tests conducted in compliance with:

ESCC 3602 generic specification; Chart F4 (for ESCC/QPL parts);

Or PID-TFD (for ESCC/QML parts)

Tests vehicle identification/description:

36020041628V (M402-D2A-H-860) DC 2020

36020041628V (M402-D2A-H-860) DC 2126

Detail Specification reference:

3602/004

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
(Column 1)	Thermal Shock	×	MIL-STD-202, Test Method 107	2126	6	0	
	Low Level Sine Vibration	×	MIL-STD-202, Test Method 204	2126	6	0	
Subgroup	Random Vibration	_	MIL-STD-202, Test Method 214				Only applicable to relays with Rated Resistive Load Contact Current less than 5A
anical 9	Low Level Mechanical Shock	×	MIL-STD-202, Test Method 213	2126	6	0	
/ Mech	Resistance to Soldering Heat	×	MIL-STD-202, Test Method 210	2126	6	0	
Environmental / Mechanical Subgroup (Column 1)	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	2126	6	0	
	External Visual Inspection	×	ESCC Basic Specification No. 20500	2126	6	0	
Environmental / Mechanical Subgroup (Column 2)	High Level Sine Vibration	×	MIL-STD-202, Test Method 204	2126	6	0	
	High Level Mechanical Shock	×	MIL-STD-202, Test Method 213	2126	6	0	
	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	2126	6	0	
	External Visual Inspection	×	ESCC Basic Specification No. 20500	2126	6	0	
Endurance Subgroup 1 (Column 1)	Low Level Life	0	ESCC 3602 Para. 8.11.1				Only applicable to relays with Rated Resistive Load Contact Current less than 5A
	Inductive Life	×	ESCC 3602 Para. 8.11.2	2126	3	0	The Number of Cycles of Operation shall be: 10000 minimum as per 3602/004 agreed deviation
	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	2126	3	0	
	External Visual Inspection	×	ESCC Basic Specification No. 20500	2126	3	0	



Relays, electromagnetic, latching, type M402 Component title:

Executive Member:

CNES Date: 06/10/2023 Appl. No. 317E

Page 5

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Endurance Subgroup 1 (Column 2)	Coil Life		ESCC 3602 Para. 8.12				Not required for periodic testing except in the case of significant change of the design
	Seal (Fine and Gross Leak)		MIL-STD-202, Test Method 112				
	External Visual Inspection	_	ESCC Basic Specification No. 20500				
dp	Intermediate Current	⋈	ESCC 3602 Para. 8.13	2126	3	0	
Subgro nn 3)	Mechanical Life	⋈	ESCC 3602 Para. 8.14	2126	3	0	
Endurance Subgroup 1 (Column 3)	Seal (Fine and Gross Leak)	⋈	MIL-STD-202, Test Method 112	2126	3	0	
	External Visual Inspection	☒	ESCC Basic Specification No. 20500	2126	3	0	
Endurance Subgroup 2	Resistive Life	⋈	ESCC 3602 Para. 8.11.3	2020 2126	6 6	0	
	Seal (Fine and Gross Leak)	⊠	MIL-STD-202, Test Method 112	2020 2126	6 6	0	
	External Visual Inspection	⊠	ESCC Basic Specification No. 20500	2020 2126	6 6	0	
Assembly Capability Subgroup	Solderability	×	MIL-STD-202, Test Method 208	2020 2126	3 3	0	
	Overload	⊠	ESCC 3602 Para. 8.16	2020 2126	3 3	0	
	Permanence of Marking		ESCC Basic Specification No. 24800				Not applicable for laser marking
	Terminal Strength	⊠	MIL-STD-202, Test Method 211	2020 2126	3 3	0	
	Seal (Fine and Gross Leak)	⊠	MIL-STD-202, Test Method 112	2020 2126	3 3	0	
nal							
Additional							



Component title: Relays, electromagnetic, latching, type M402

Page 7 Appl. No.

Executive Member: CNES

Date: 06/10/2023

317E

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

	24
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.