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Component Title: Relays, latching, type M402

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Sant I					, ,							Appl. No	١.
		ecutive Member: CNES					Date: 25/05/2018				317C		
Components (includ	ing series and famili	es) submi	itted for E	xtension	of Qualification A	Approval	:						).
ESCC COMPONENT NO.	VARIANTS		RANGE	OF COM	MPONENTS BASED ON		) [	TEST VEHICLE / S		COMPONENT SIMILAR			
NO. 3602 004 04,06,09, 14,16 and 19		and Co	Coil voltage : 28 and 12 VDC Type M 40:			M 402					all other variants in CSCC 3602 004		
		İ											
Component M	anufacturer	2	Location	on of Mar	nufacturing Plant(	s)	3		-	***			-
Leach Internation	nal Europe	2	rue Go	ethe				Date of original qualification approval: Date: 01/02/2012					
		57	'430 SAI	RRALBI	E			Certif	icate Ref No.	317			
ESCC Specifications Maintenance of qual			eviations t	o LVT tes	sting and Detail S	pecifica	6 tion		fication Extens				7
Generic: 3602	Issue: 0	2000		Yes	☐ (supply de	etails in	Box	1500000 000	19714 EC , 19/				
Detail(s): 3602 004 Issue: 03 Deviation f				15) eviation from current Specifications:				RT-1:	219614 EC , 26	6/04/2018			
		No	o ⊠	Yes	☐ (Supply d	letails)							_
Summary of procure	ment or equivalent	test result	s during c	current va	lidity period in su	pport of	this ap	plicatio	n (those to ES	CC listed firs	st)		8
Project Name	Testing Le	evel		LAT		ate cod	le			Quantity [	Delivered		
Cf RT-1219614 p 11 (9.summary of manufactured batch													
PID changes since s	start of qualification			9	Current PID V	erified b	oy:		CNE	S			10
None					enantine (PAntel				ame of Excutiv	e Represen	tative		
Minor* ⊠					1 NO 224 224 225 NO 225		(XX-86	0 (DR-1	1156610)	222	및본45		
Major* □	*Provide details in	box:			Issue: 1 Rev Date: 1	8/04/20	18			Date:	18/0	04/2018	
Current Manufacturi	ng faciliti <mark>es</mark> surveye	d by:			ESA & CNE	S		on		27/1	10/2014	6	11
				(Name	e of Executive Re	presenta	ative)			((	Date)		
Satisfactory:	Yes ⊠		No 🗆	) Exp	blain								
			<b>3</b> 0 -91825-			05	- 0	0 0	121.2	Carrie	24.	15	
Report Reference:	_TECQES-N	IIN2014-	Leach0	1_+6	SA-TEC	76-7	-K	7-00	27.590	CACA	اه	てノ	

	APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL					Page 2
<b>ESCC</b>	Component title:	Relays, latchir	ng, type M402			Appl. No.
	Executive Member:	CNES		Date:	25/05/2018	317C
Failure Analysis, DPA, NCCS ava	nilable: Yes	□ No	⊠ (Supply data)			12
Ref. No's and purposes:						
The undersigned hereby certifies on behalf that the appropriate documentation has be (except as stated in box 15;) - that the report CNES as the responsible Executive Memi	en evaluated; - that ful orts and data are availa	compliance to ble at the ESC	all ESCC requirements of C Executive and therefore	is eviden re applies	on behalf of	13
Date: 29/05/2018				-/8	JP. BUSSENO	
				(5	gnature of the Executive (	Coordinator)
Continuation of Boxes above: Box 9 : PID change						14
Modification of form, no technical evolutio	n:					
§4.3.1 / §4.3.2 / §4.3.3 / §4.	.3.4 /					
§4.3.5 / §5.2.1 / §5.2.5 / §5.	.2.6 / §5.3 / An	nexes 1,	2, 4, 5, 6, 7 et 8	1		



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Non compliance to ESCC requirements:

Non compliance Paragraph Specification THIS PRODUCT IS NOT 1 ESCC 3602 8.8.3 CAPABLE OF PASSING 2 ESCC 3602 8.9.2 HIGH LEVEL VIBRATION AND HIGH LEVEL SHOCK, AS REPORTED AS WELL AT THE TISVE OF CERTIFICATE 3175 NW.1.

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

A MANUFACTURER-SPECIFIC DEVIATION is INCLUDED IN EXCL 3602/004. THE IMPLEMENTATION OF DESIGN IMPROVEMENTS IS IN PROGRESS AND MAY REJULT IN A RUGGEDIZED VERSION OF THESE RELAYS, WITH THE CAPABILITY TO WITHSTAND SATISFACTORICY ALL ESC 3602 QVACIFICATION TEST LEVELS.

**Executive Manager Disposition** 

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Application Approval: Yes ☑ No □ Action / Remarks:

THE COMPLETION OF TESTS ON THE RULLEDIZED VENTION OF THESE RELAYS WILL BE FOLLOWED- UP BY THE ESCL FXECUTIVE IN 2018-19.

Date:

Signature, ESA Representative

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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:

3602 004 16B 28V, 16-37A	
3602 004 16B 28V, 17-12A and 17-14A	

Detail Specification reference:

3602 004 Issue X 3

Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
Subgroup	Thermal Shock	×	MIL-STD-202, Test Method 107	17-12A	6	0	LAT 1 sequence refers
	Low Level Sine Vibration	⊠	MIL-STD-202, Test Method 204	17-12A	6	0	
	Random Vibration		MIL-STD-202, Test Method 214				N/A
/ Mechani (Column 1)	Low Level Mechanical Shock	×	MIL-STD-202, Test Method 213	17-12A	6	0	
ental / I	Resistance to Soldering Heat	⊠	MIL-STD-202, Test Method 210	17-12A	6	0	
Environmental / Mechanical (Column 1)	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	17-12A	6	0	
Ē	External Visual Inspection	×	ESCC Basic Specification No. 20500	17-12A	6	0	
Environmental Mechanical Subgroup (Column 2)	High Level Sine Vibration	0	MIL-STD-202, Test Method 204				Deviation new specification : test ready before next VOQ
	High Level Mechanical Shock		MIL-STD-202, Test Method 213				Deviation new specification : test ready before next VOQ
	Seal (Fine and Gross Leak)	0	MIL-STD-202, Test Method 112				Deviation new specification : test ready before next VOQ
/ Mec	External Visual Inspection		ESCC Basic Specification No. 20500				Deviation new specification : test ready before next VOQ
Endurance Subgroup 1 (Column 1)	Low Level Life	Ø	ESCC 3602 Para. 8.11.1	17-12A	3	0	
	Inductive Life	×	ESCC 3602 Para. 8.11.2	17-12A	3	0	
rance Subgr (Column 1)	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	17-12A	3	0	
Endur	External Visual Inspection	×	ESCC Basic Specification No. 20500	17-12A	3	0	

& See This manifecturer's specific deviations as agreed in Excc 3602/004 355.3.



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Chart F4	Test	Tick when done	Conditions	Date Code	Tested Qty	No. of Rejects	Comments if not performed. Comments on Rejection
	Coil Life		ESCC 3602 Para. 8.12				to not perform this
Endurance Subgroup 1 (Column 2)	Seal (Fine and Gross Leak)		MIL-STD-202, Test Method 112				deviation Exc(3602/
Sub (Col	External Visual Inspection		ESCC Basic Specification No. 20500				
dno	Intermediate Current	⊠	ESCC 3602 Para. 8.13	17-14A	3	0	
Subgro	Mechanical Life	⊠	ESCC 3602 Para. 8.14	17-14A	3	0	
(Colur	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	17-14A	3	0	
Endurance Subgroup 1 (Column 3)	External Visual Inspection	×	ESCC Basic Specification No. 20500	17-14A	3	0	
Endurance Subgroup 2	Resistive Life	×	ESCC 3602 Para. 8.11.3	16-37A, 17-14A	12	0	
	Seal (Fine and Gross Leak)	⋈	MIL-STD-202, Test Method 112	16-37A, 17-14A	12	0	
	External Visual Inspection	⊠	ESCC Basic Specification No. 20500	16-37A, 17-14A	12	0	¥.
	Solderability	×	MIL-STD-202, Test Method 208	16-37A, 17-14A	6	0	
Assembly Capability Subgroup	Overload	×	ESCC 3602 Para. 8.16	16-37A, 17-14A	6	0	
	Permanence of Marking		ESCC Basic Specification No. 24800	16-37A, 17-14A			
Assen	Terminal Strength	×	MIL-STD-202, Test Method 211	16-37A, 17-14A	6	0	
	Seal (Fine and Gross Leak)	×	MIL-STD-202, Test Method 112	16-37A, 17-14A	6	0	
T.	Electrical Measurments	×	ESCC 3602 para 9.3	16-37A, 17-14A	6	0	
Additional Tests	Seal (Fine and gross leak	×	MIL-STD-202 Method 112	16-37A, 17-14A	6	0	
Add	External Visual inspection	⊠	ESCC Basic specification No.20500	16-37A, 17-14A	6	0	



Box 22

Additional Comments.

# APPLICATION FOR EXTENSION OF ESCC QUALIFICATION APPROVAL

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)	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.