

Provider of Software Quality, Compliance Management & Testing Solutions

Established 1975

ISO 9001 certified company

Certified for use in safety related software development according to IEC 61508, EN 50128 & ISO 26262

Active participants in standards e.g. DO-178C, MISRA C/C++, CERT

	Product Servic
CERTIFI	CATE
No. Z10 13 08 84753	001
Holder of Certificate:	LDRA Ltd. Portside, Monks Ferry Wirral Menseyside CH41 5LH UNITED KINGDOM
Factory(ies):	84753
Certification Mark:	SUD L'UNIX
Product:	Software Tool for Safety Related Development
Model(s):	LDRA Tool Suite LDRArules LDRAcover LDRAunit
Parameters:	The certified tools, classified 12, fulfil the requirements for support tools according to EIC 61508-3 and EN 50128. The tools are qualified to be used in addry-valated software development according to EIC 61508, EN 50128 and ISO 28202. The test report is a mandatory part of this certificate.
Tested	IEC 61508-3:2010
according to:	ISO 26262-8:2011 EN 50128:2011
certification mark shown above of	untary basis and complies with the essential requirements. The an be affixed on the product, it is not permitted to after the addition the certification holder must not transfer the certificate verteaf.
Test report no.:	LW85043C
Date, 2013-08-28 Page 1 of 1	(Sudo Neumann)

CERTIFICAT

Save Time Performing Verification Activities





• Verify traceability with both functional and automated unit tests

- Automate software analysis with coding standards adherence, code coverage, quality metrics and data/control flow analysis
- Meet safety, security, and coding standards compliance such as MISRA, CERT C, DO-178B/C, ISO 26262, IEC 62304 and IEC 61508











Linking Your Requirements



¢·★ •	Type: Requirement × +		X v Q 216 found Load all	ii • 0	¥ •				
	Show Backlinked Vork Items having Any	▼ ro	le expanded to 2 • levels Include Commits Filter Linked Items						
Tunnel_Lighting_System •	ID	Status Priority As							
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Q Search	cə 🗹 🍸 🍞 TLS-105	5 LDRA TBmanager 9.5.1 © 2015 LDRA Ltd - F:\Projects\Polarion_Integration\TBM_Project\Polarion_Integration.tbp							
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pap .		*	Test Case Number Description		Test Inputs			Expecte 🔦	
 Testing 	TLS-104 TLS-66 TLS-78 +				Name	: Nominal Photometer in	nput data set		
	t ⇔ 🗑 TLS-105 - Cleanliness Factor				Purpose	: Ensure that the HMI ac	cepts nominal photometer range values as inputs		
Work Items	1 🕞 TLS-187 🕞 TLS-195 🕞 TLS-200 🕞 TLS-201 🕈	-			Description	: Range values from 4-20	MAmps must be accepted by the HMI valid inputs		
 Documents & Pages 	Type: 🝞 Requirement		Generated lamp output data will indicate	that the			······································	Expected	
▼ Expand	Reg. Type: S Functional Requirement Ass	-34	tunnel lighting software has accepted the		Simulated (Y/N)	: Y	test_inpu verified		
	Project: Tunnel Lighting System Initial E	- H	photometer input value as one in the acc range (4-20 mA)		Time/Event sequence	: This input must be provided once a Tunnel is powered up in nominal po		p mode	
	Author: System Administrator	<i>s</i>	lange († 20 miljin	Input Data Control : Data can be input by a user as witnessed during formal testing or be streame			Project\		
	Categories:	2	3	from a controlled input file	r bota can be input by a		-		
			· III						
	Description	•							
			Show TCI Properties						
	A percentage cleanliness factor shall be calculated dep the build up of grime: 100% shall represent complete c		Relationships	₽×	Map Source	e ×			
	figures indicate a reduction to 50% over a period of 182	5	(0) Item to Mappings (1) Item to TCI (0000			Map Source Files or Sets by dragging them to Requirements	<u>í</u>	
			< > - Select None (33) Any Item	< > - S	elect None • (34) TCI		Procedure	Para 📤	
		E.			20: Generated lamp output data		▲ ^C _D Cpp_tunnel_exe		
	Map Requirements to	4 <u>0</u>	🚊 TLS-103, Display Lumens)30: For HMI selection, photomete)50: After setting the number of d		 Cell.cpp Tunnel.cpp 	=	
	Source Code and Tests	0	Is TLS-106, Cleanliness efficiency factor		060: After setting the power failure		Systemdata.cpp		
	Tests	•	Requirement Body ×		20: The Tunnel software output p		TunnelData::SystemData::GetDaysBetween		
		ĥ			L30: The Tunnel software output p L40: The Tunnel software output p		TunnelData::SystemData::GetSoilingFactor TunnelData::SystemData::SystemData:	cons	
	×		A percentage cleanliness factor shall be calculated depending on time elapsed since cleaning. 0% shall represent totally obscurity of the luminaires through		140. The Tunnel software output p		 TunnelData::SystemData::SystemData TunnelData::SystemData::GetLampMinimur 		
			the build up of grime; 100% shall represent complete cleanliness. The rate of grime accumulation has been calculated by Waveworks Research Labs, their		170: The Tunnel software output p		TunnelData::SystemData:Instance		
		N.	figures indicate a reduction to 50% over a period of 182 days	TCI_02	210: The Tunnel software output fr	om photometer input 👻	TunnelData::SystemData::GetLampPowerRe TunnelData::SystemData::GetData::SinceClass		
		×					< III	4	

Reduce time and effort by mapping requirements to the source code for automatic verification



For Further Information:

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LDRA Software Technology

LDRA Limited



Delivering Software Quality and Security through Test, Analysis & Requirements Traceability