



IP65 TEST REPORT

IEC 60529:1989+A1:1999+A2:2013

Degrees of protection provided by enclosures (IP Code)

MEASUREMENT AND TEST REPORT



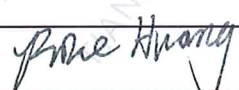
For

CLOUD EMBEDDED TECHNOLOGY LIMITED

4th Floor, Sanhe International Building, Dalang Street, Longhua District, Shenzhen, China


MODEL: KLD-2182K

2021-08-20

This Report Concerns: <input checked="" type="checkbox"/> Original Report	Equipment Type: Industrial Panel PC
Test By: Eric Tao/ 	
Report Number: TH2108182-C01-R01	
Test Date: 2021-08-15 to 2021-08-20	
Reviewed By: Prince Huang/ 	
Approved By: Prince Huang/ 	
Prepared By: Shenzhen Tian Hai Test Technology Co.,Ltd. 4F, A3 BLDG, The Silicon Valley Power Intelligent Terminal Industrial Park, Guan Lan Street, Longhua District, Shenzhen Tel: +86-755-86615100 Fax: +86-755-86615105	

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen Tian Hai Test Technology Co.,Ltd.



Test report IEC 60529:1989+A1:1999+A2:2013 Degrees of protection provided by enclosures (IP Code)	
Report	
Report reference No.	TH2108182-C01-R01
Tested by (+signature)	Eric Tao
Reviewed by (+signature)	Prince Huang
Approved by (+signature)	Prince Huang
Date of issue	2021-08-20
	
Testing laboratory	
Name	Shenzhen Tian Hai Test Technology Co.,Ltd.
Address	4F, A3 BLDG, The Silicon Valley Power Intelligent Terminal Industrial Park, Guan Lan Street, Longhua District, Shenzhen
Test location	Same as above
Client	
Name	CLOUD EMBEDDED TECHNOLOGY LIMITED
Address	4th Floor, Sanhe International Building, Dalang Street, Longhua District, Shenzhen, China
Description	Industrial Panel PC
Model no.	KLD-2182K
Rating(s)	DC12V, 5A, 60W
Trade Mark:	CESIPC
Manufacturer	CLOUD EMBEDDED TECHNOLOGY LIMITED
Address	4th Floor, Sanhe International Building, Dalang Street, Longhua District, Shenzhen, China
Note:	--
Test specification	
Standard	IEC 60529:1989+A1:1999+A2:2013
Level of protection	IP65
Test result	IP65 Pass
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A



IEC 60529:1989+A1:1999+A2:2013			
Clause	Requirement – Test	Result – Remark	Verdict
10	Marking		P
	model	KLD-2182K	P
	specifications	DC12V, 5A, 60W	P
	Product standards to mark method to make the appropriate regulation		--
	As part of the shell and the other part of the protection grade is not at the same time		--
	When installing position impact protection grade		--
	Must explain the largest qinshui depth and time		--
11	Test general requirements		P
11.1	Waterproof and dustproof test environmental conditions	24.6°C, 64%, 98kPa	P
11.2	sample		P
	Test samples should be clean and new products, all the parts according to the manufacturer set in place		P
	Sample quantity	1	--
	Installation condition		--
	Pre-processing method		--
	When the test is charged or not		--
	When test the moving parts work or not	No such appliance	N/A
11.3	Determine test requirements and test result		P
11.4	The first characteristic digital test condition combination (see table 5)		P
11.5	An empty shell		N/A
12	The first characteristic Numbers represent to close to the dangerous parts protection test		P
12.1	Close to the dangerous parts protection test in test are shown in table 6		P
12.2	Test conditions (table 6).		P
12.3	Accept the conditions (see appendix A)		P
12.3.1	For low voltage equipment (exchange does not exceed 1 kV, dc is not more than 1.5 kV)		P



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Clause	Requirement – Test	Result – Remark	Verdict
12.3.2	For high voltage equipment (communication more than 1 kV, more than 1.5 kV dc)		N/A
12.3.3	Danger of mechanical parts of equipment		N/A
13	The first feature indicated by the Numbers to prevent solid foreign body into the test		P
13.1	Test method (see table 7)		P
13.2	The first characteristic digital test conditions		P
	0—Does not require the test		N/A
	1—No handle and the guard plate rigid ball diameter of $50 \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$ mm		N/A
	2—Not the diameter of the handle and the guard plate rigid ball of $12.5 \begin{smallmatrix} +0.2 \\ 0 \end{smallmatrix}$ mm		N/A
	3—Edge burr of the rigid rod diameter of $2.5 \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$ mm		N/A
	4—Edge burr of the rigid line $1.0 \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$ mm in diameter		N/A
	5—Figure 2 dust-proof box, with or without negative pressure		N/A
	6—Figure 2 dust-proof box, and negative pressure		P
13.3	The first characteristic digital accept conditions (1, 2, 3, 4)		N/A
13.4	The first characteristic Numbers for dust test 5 and 6		P
13.5	The first characteristic Numbers for special conditions of 5		N/A
13.6	The first characteristic Numbers for special conditions of 6	IP6X	P
14	The second feature indicated by the Numbers to prevent water into the test		P
14.1	Test method (see table 8)		P
	0 - don't need to test		N/A
	1 - use figure 3 drops of water tank, the shell on the turntable		N/A



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Clause	Requirement – Test	Result – Remark	Verdict
	2 - use figure 3 drops of water tank, shell in four fixed location on tilt 15 DHS		N/A
	3 - using a tube is placed in figure 4, in the vertical direction or minus 60 DHS drench water, maximum distance of 200 mm or the use of figure 5 water spray nozzle, or minus 60 DHS pour water in vertical direction		N/A
	4 - the same number for the 3 test, Angle in the vertical direction or minus 180 DHS rain water		N/A
	5 - use figure 6 nozzle, the nozzle diameter of 6.3 mm, from 2.5 m to 3 m		P
	6 - use figure 6 nozzle, the nozzle diameter of 12.5 mm, from 2.5 m to 3 m		N/A
	7 - using the cofferdam, the water over the top at least 0.15 m, at the bottom of the shell at least 1 m under the water		N/A
	8 - use of cofferdam, the water height negotiated by the users and manufacturers		N/A
14.2	Test condition	Rinsing, 27.2°C	P
14.2.1	The second digit of 1 drop water tank experiment		N/A
14.2.2	The second digit of 2 rop water tank experiment		N/A
14.2.3	The second number for 3 set tube or water spray nozzle test		N/A
14.2.4	The second number for 4 set tube or water spray nozzle test		N/A
14.2.5	The second characteristic Numbers 5 for 6.3 mm nozzle test	IPX5	P
14.2.6	The second characteristic Numbers for 6 to 12.5 mm nozzle test		N/A
14.2.7	The second characteristic Numbers for 7 to 0.15 m ~ 1 m short time diving trials		N/A
14.2.8	The second characteristic Numbers for 8 continued diving test according to the agreement		N/A
	6 - use figure 6 nozzle, the nozzle diameter of 12.5 mm, from 2.5 m to 3 m		N/A



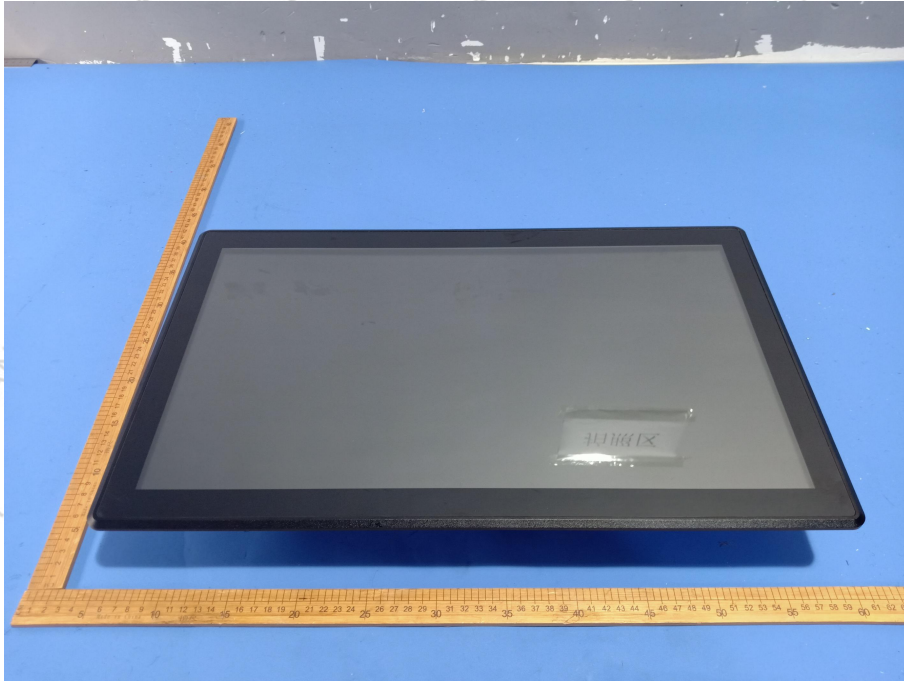
IEC 60529:1989+A1:1999+A2:2013			
Clause	Requirement – Test	Result – Remark	Verdict
	7 - using the cofferdam, the water over the top at least 0.15 m, at the bottom of the shell at least 1 m under the water		N/A
	8 - use of cofferdam, the water height negotiated by the users and manufacturers		N/A
14.3	Acceptable conditions	A little ingress of water; 500V high-voltage insulation test pass	P
15	Additional letters represent close to the dangerous parts protection test		N/A
15.1	Try (the) as stipulated in the table 6		N/A
15.1	Test condition		N/A
15.3	Acceptable conditions		N/A

Test equipment:

Instr. Code	Instrument Type	Range Used Or ***	Make and Model **	Calibration Date	
				Last	Due
TH-SE-063	Waterproof	IPX5, IPX6,	XINGRUI/X56	2021-03-12	2022-03-11
TH-SE-064	Dusttest chamber	IP5X, IP6X,	XIANGRUI/ XR-SC225	2021-03-12	2022-03-11



Appendix for EUT Photos





(IP6X test)



(IPX5 test)



**** END OF THE REPORT ****