



T DIVISION OF AST NZ LTD		The Andrews	NELISS	
TEST REPORT ANSI/UL 4200A-2023 Products Incorporating Button Batteries or Coin Cell Batteries				
Report Number:	ACTE202405100			
Date of issue:	19/06/2024			
Total number of pages	58			
Applicant's name:				
Address:				
Purchase order/Reference:				
Testing laboratory:				
Testing location:				
Test specification:				
Standard:	ANSI/UL 4200A-2023			
Test procedure:	Full Test			
Test Report Form No	ACT-TRF-UL_4200A			
Revision:	1.0			
Test item description:	Data Loggers			
Trade Mark:	LogTag; Control Solutions Inc.			
Model/Type reference::	LogTag Models TRED30-16R, TRED30-1 TREL30-16, and UHADO-16	6CP, TRID3	0-7R,	
	Control Solutions Inc. Models VFC400-3,	and VFC400	)-SP	
Ratings:	Refer to Marking Plate Section			
Summary of testing:	The received samples of LogTag Models TRED30-16CP, and TRID30-7R Tempera Model TREL30-16 Low Temperature Rec UHADO-16 USB PDF Temperature & Hu the requirements of the Standard ANSI/U	TRED30-16 ature Record order, and M midity Recor L 4200A-202	R, ers, lodel der, <u>fulfil</u> 23.	
	The received samples of Control Solution VFC400-3 and VFC400-SP Vaccine Tem Loggers <u>complied</u> with the Standard ANS	s Inc. Models perature Dat I/UL 4200A-2	s a 2023.	
	Tested by (name + signature):	Janan a	Mus	
	Charles Im	When y	/	
	Approved by (name + signature):	The	1:11	
	John Liu	Jun	LIU	



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Test item particulars:	Data Loggers	
Classification of installation and use	Class III	
Supply Connection:	3V CR2032 x 1	
Net Weight:	TRED30-16R: 44 g approximately TRED30-16CP: 44 g approximately TRID30-7R: 41 g approximately TREL30-16: 44 g approximately UHADO-16: 46 g approximately VFC400-3: 43 g approximately VFC400-SP: 44 g approximately	
Dimensions	93 L x 55 W x 9H mm approximately	
Possible test case verdicts:		
<ul> <li>test case does not apply to the test object:</li> </ul>	N/A	
<ul> <li>test object does meet the requirement</li> </ul>	P (Pass)	
- test object does not meet the requirement:	F (Fail)	
- object for information or notification only:	Noted	
Testing:		
Date of receipt of test item:	08/05/2024	
Date (s) of performance of tests	08/05/2024 – 17/06/2024	
General remarks:		
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report.		
Throughout this report a $\Box$ comma / $\boxtimes$ point is used as the decimal separator. All our IECEE testing equipment met the accuracy requirements in accordance with IECEE OD-5014:2019. if required, it is available in the ACT NZ LTD Testing laboratory at customer's request. Determination of the test results from IEC standards in CB scheme includes consideration of measurement uncertainty from the accuracy of these test equipment. For these testing standards which are outside the scope of IEC CB Scheme, the decision rule regarding measurement uncertainty is not taken into account when making compliance decisions.		



Clause	Requirement - Test	Result - Remark	Verdict

5	Products with Button/Coin Cell Batteries	Ρ
5.1	Products that use button/coin cell batteries shall be designed to minimize the risk of children removing and ingesting or aspirating the batteries. Products that allow user removal or replacement of button/coin cells shall comply with the requirements of 5.2 – 5.6.	Ρ
	Products with button/coin cells that are not intended to allow user removal/replacement of the cells shall comply with 5.7.	N/A
5.2	To reduce the likelihood of unintentional access, products with removable or replaceable button/coin cell batteries shall not allow the button/coin cell to be contacted by Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures – Probes for Verification, IEC 61032 when applied as described in 5.3.	Ρ
5.3	The probe shall be applied to any depth that the opening will permit and shall be rotated or angled before, during, and after insertion through the opening to any position that is necessary to examine the enclosure.	Ρ
	The probe shall be used as a measuring instrument to judge the accessibility provided by an opening, and not as an instrument to judge the strength of a material. The probe shall be applied with the minimum force necessary to determine accessibility.	Ρ
5.4	During the examination of a product to determine whether it complies with the requirements in 5.3, a part of the enclosure that may be opened or removed by the user, either without using a tool or with less effort than two independent and simultaneous movements by hand, is to be opened or removed.	N/A



Clause	Requirement - Test	Result - Remark	Verdict
	·		·
5.4A	If a part of the battery compartment enclosure is protected by pliable material such as fabric, paper, foam, or vinyl, or a pliable material with a seam, apply the Tension Test for Seams in Stuffed Toys and Beanbag-Type Toys test in the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to determine whether the battery compartment enclosure can become exposed or accessible, using a force of at least 70.0 N (15.7 lbf).	No pliable material	N/A
	If a new part of the battery compartment enclosure becomes exposed or accessible, repeat 5.4 and remove any further pliable material that is then exposed until no new part of the battery compartment enclosure becomes exposed or accessible, and then conduct the test in 5.3.		N/A
5.5	Products that locate removable or replaceable button/coin cell batteries inside a battery compartment shall be designed to prevent children from removing the battery by one of the following methods in (a) or (b) below. Compliance is checked by the tests of Section 6.		Ρ
	a) A tool, such as a screwdriver or monetary coin, is required to open the battery compartment. For a battery compartment secured by a screw or a twist-on access cover, a minimum torque of 0.5 Nm and a minimum angle of 90 degrees of rotation shall be required to open the compartment or the fastener shall engage a minimum of two full threads; or	The plastic cover requires a small screwdriver or a knife to peel off.	Ρ
	b) The battery compartment door or cover requires the application of a minimum of two independent and simultaneous movements to open by hand. The movements to open shall not be combinable to a single movement with a single finger or digit.	The main cover requires two digits to press down and rotate to open without tools	Ρ
5.6	If screws or similar fasteners are used to secure the door or cover providing access to a battery compartment, the fasteners shall be captive to the door, cover, or device.	Screw fasteners not used	N/A



Clause	Requirement - Test	Result - Remark	Verdict
	- ·		
	Exception No. 1: Applies to products containing button batteries or coin cell batteries not intended to be replaced by the consumer. Products containing button batteries or coin cell batteries that can only be accessed through the removal of multiple enclosures or panels using a tool do not need captive screws. Such products shall have instructions and warnings that clearly state the battery is not to be replaced by the consumer	Battery is intended to be replaced by the consumer	N/A
	Exception No. 2: Applies to products containing batteries not intended to be replaced by the consumer. Products that are only to be opened by a professional service center (where children are not present) are not required to have secured screws. Such products shall have instructions and warnings that clearly state the battery is not to be replaced by the consumer.	Battery is intended to be replaced by the consumer	N/A
5.7	Products that incorporate button/coin cells that are not intended for user removal or replacement shall effectively prevent removal of the battery by the user or children. The button/coin cell shall be:	Battery is intended to be removed or replaced by the consumer	N/A
	a) Made inaccessible by an enclosure or similar means that passes the applicable tests of 6.2 and 6.3; or		N/A
	b) Held fully captive by the use of soldering, fasteners such as rivets, or equivalent means. The securement method shall pass the Secureness Test of 6.4.		N/A

6	Protection from Ingestion or Aspiration of Button/Coin Cell Batteries	Ρ
6.1	General	Ρ
6.1.1	Products shall not present a risk of unintentional access by children to button/coin cells.	Ρ



Clause	Requirement - Test	Result - Remark	Verdict

		1	1
	Button/coin cell batteries shall not be accessible or liberated from the product as a result of mechanical abuse tests in applicable safety standards for the product, and products with button/coin cells shall comply with the tests in $6.2 - 6.4$ .		P
6.2	Pre-conditioning		Р
6.2.1	One test sample shall be subjected to the following pre-conditioning conditions in sequence prior to testing in 6.3 and 6.4, as applicable:	(See table 6.2.1 a)	Ρ
	a) Stress Relief Test – A product with an enclosure, battery compartment door/cover or battery compartment door/cover opening mechanism made of molded or formed thermoplastic materials shall be subjected to a stress relief test.		Ρ
	A sample of the complete product is to be placed in a circulating air oven for a period of 7 h. The oven temperature is to be set to the higher of (1) or (2) below. After removal from the oven, the sample is permitted to cool to room temperature.		P
	1) 70°C (158°F); or		N/A
	2) 10°C (18°F) higher than the maximum temperature of thermoplastic enclosures, battery compartment door/covers, or battery	80(70 + 10) °C for model UHADO-16 75(65 + 10) °C for other	Ρ
	compartment door/cover mechanisms during the most stringent normal operation of the device.	models	
	b) Battery Replacement Test – The battery compartment door/cover shall be opened and closed, and the battery removed and replaced, for a total of ten cycles.	(See table 6.2.1 b)	Ρ
	The process shall simulate replacement according to the manufacturer's instructions.		Ρ



Clause	Requirement - Test	Result - Remark	Verdict
	If the battery compartment is secured with a screw(s), the screw(s) is to be loosened and then tightened by means of a suitable screwdriver, applying a continuous linear torque according to the Torque to be Applied to Screws table, Table 20, of the Standard for Audio, Video and Similar Electronic Apparatus – Safety Requirements, UL 60065.		N/A
6.3	Abuse tests		Р
6.3.1	General		Ρ
6.3.1.1	The tests in $6.3.2 - 6.3.4$ shall be performed sequentially, as applicable, on one pre- conditioned sample of the product. After all test conditions have been completed, compliance is checked by $6.3.5$ .		Ρ
6.3.2	Drop test for portable devices and hand-held products	(See table 6.3.2)	Ρ
6.3.2.1	Portable devices are subjected to drop tests from a height of 1.0 m (39.4 in) onto a horizontal hardwood surface in positions likely to produce the maximum force on the battery compartment or enclosure.		Ρ
	Portable devices are subjected to three drops, except hand-held products are subjected to ten drops.	Hand-held products, ten drops per model	P
	The hardwood surface shall be at least 13-mm (1/2-in) thick, mounted on two layers of nominal 19- mm (3/4-in) thick plywood, placed on a concrete or equivalent non-resilient surface.		Ρ
6.3.3	Impact test	(See table 6.3.3)	Р
6.3.3.1	The enclosure or battery compartment door/cover shall be subject to three, 2-J (1.5-ft·lbf) impacts.		P



Clause	Requirement - Test	Result - Remark	Verdict
	This impact is to be produced by dropping a steel sphere, 50.8 mm (2 inches) in diameter, and weighing approximately 0.5 kg (1.1 lb) from the height required to produce the specified impact, as shown in Figure 6.1, or the steel sphere is to be suspended by a cord and swung as a pendulum, dropping through the vertical distance required to cause it to strike the surface with the specified impact as shown in Figure 6.2.	Steel sphere drop method was used	Ρ
	The steel sphere is to strike the battery compartment door/cover perpendicular to the enclosure surface.		Ρ
6.3.4	Crush test	(See table 6.3.4)	Р
6.3.4.1	The sample is to be supported by a fixed rigid supporting surface, in positions likely to produce the most adverse results as long as the position can be self-supported.		Ρ
	A crushing force of $330 \pm 5 \text{ N}$ (74.2 $\pm 1.1 \text{ lbf}$ ) is applied for a period of 10 s to the exposed surfaces.		Ρ
	The force is to be applied by a flat surface measuring approximately 100 by 250 mm (3.9 by 9.8 in).		Ρ
6.3.4A	Torque test		N/A
6.3.4A.1	If a child can grasp any part of the battery compartment enclosure on a consumer product, including the door or cover, with at least the thumb and forefinger, or using teeth, apply the Torque Test for Removal of Components from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to the battery compartment enclosure, using a torque of at least 0.50 Nm (4.4 in-lbf).	Nothing graspable with a child's fingers or teeth	N/A
6.3.4B	Tension test		N/A



Clause	Requirement - Test	Result - Remark	Verdict
			•
6.3.4B.1	If a child can grasp any part of the battery compartment enclosure on a consumer product, including the door or cover, with at least the thumb and forefinger, or using teeth, apply the Tension Test for Removal of Components from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to the battery compartment enclosure, using a force of at least 72.0 N (16.2 lbf).	Nothing graspable with a child's fingers or teeth	N/A
6.3.4C	Compression test		N/A
6.3.4C.1	If any surface of the battery compartment enclosure is accessible to a child and inaccessible to a flat surface contact during the Drop test in 6.3.2, apply the Compression Test from the Standard Consumer Safety Specification for Toy Safety, ASTM F963, to that surface, using a force of at least 136 N (30.6 lbf).	Battery compartment accessible to the flat surface contact	N/A
6.3.5	Compliance		Р
6.3.5.1	After the tests of 6.3.2 – 6.3.4B, a force of 50 +10/-0 N (11.2 +2.2/-0 lbf) is applied for 10 s to the battery compartment door/cover or enclosure by a rigid test finger according to Test Probe 11 of the Standard for Protection of Persons and Equipment by Enclosures – Probes for Verification, IEC 61032.		P
	The probe is applied at the most unfavorable place and in the most unfavorable direction. The force shall be applied in only one direction. A battery compartment door/cover shall not open and shall remain functional. The battery shall not be accessible.	Battery remained inaccessible	Ρ
6.4	Secureness test		N/A
6.4.1	Button/coin cells that are not intended for user removal or replacement, and are accessible based on 5.3 and 5.4, shall comply with the following test.	Battery is intended to be removed or replaced by the consumer	N/A



Clause	Requirement - Test	Result - Remark	Verdict
	Compliance is checked by application of a test hook as shown in Figure 6.3, with a force of 20 $\pm 2$ N (4.5 $\pm 0.4$ lbf), directed outwards, applied for 10 s at all points where this is possible. During the test, the button/coin cell shall not become separated from the product.		N/A

7A	General		Р
7A.1	All warning statements or icons shall be prominent, legible, easily discernable under normal lighting conditions, and permanently marked.		Ρ
7A.2	Unless otherwise specified, instructional safeguards do not have to be in multiple colors.	Markings are black and white	Ρ
	If an instructional safeguard is present in more than one color to indicate hazard severity, the color shall be in accordance with the ISO 3864 series.		N/A
7A.3	Printed or screened markings shall also be permanent.		Р
7A.4	Legibility of markings is determined by inspection. Permanency is determined by the tests of Section 7D, Permanence of Markings.		Ρ
7A.5	Markings must be in the official language(s) of the country where the product is sold or in English if there is no official language(s).	English	Ρ
7A.6	The safety alert symbol, an exclamation mark in a triangle, when used with the signal word, must precede the signal word.		Ρ
	The base of the safety alert symbol must be on the same horizontal line as the base of the letters of the signal word.		Ρ
	The height of the safety alert symbol must equal or exceed the signal word letter height.	Heights are equal	Ρ
7A.7	Certain text in the message panel must be in bold and in capital letters as shown in the example warning labels to get the attention of the reader.		P



Clause	Requirement - Test	Result - Remark	Verdict
7A.8	For labels that are provided on a sticker, hang	On the manual:	Р
	tag, instructions or manual, the safety alert symbol and the signal word "WARNING" must be at least 0.2 in (5 mm) high. The remainder of the text must be in characters whose upper	The safety alert symbol and the signal word: 6.5 mm	
	case must be at least 0.1 in (2.5 mm), except where otherwise specified.	The remainder of the text: 3 mm	
7A.9	For labels that are required to be on the packaging of consumer products and directly	Principal display panel: 51cm <sup>2</sup>	Ρ
	on consumer products, text size shall be dependent on the area of the principal display	On packaging label:	
	panel. Text size shall be determined based on	Signal Word: 3.3mm	
	Table 7A.1.	Statement of Hazard:1.6mm	
		Other texts:1.6mm	
		On product label:	
		Signal Word: 2.7mm	
		Statement of Hazard: 1.6mm	
		Other texts: 1.6mm	
7B	Packaging Markings		Р
7B.1	Except as allowed in 7B.2 and 7B.3, the principal display panel shall contain the warning label in Figure 7B.1 or Figure 7B.2.	Figure 7B.1	Ρ
	The icon in Figure 7B.1 shall be at least 7 mm	9.3 mm width	Р
	in width and 9 mm in height.	12.4 mm height	
	The icon in Figure 7B.2 shall be at least 8 mm (0.31 in) in diameter. The text in the warning label shall be as shown in Figure 7B.1 or Figure 7B.2.		N/A
	When on a printed label using more than one color the marking must use colors as shown in Figure 7B.1 or Figure 7B.2.	Black and white	N/A
7B.2	Consumer products that are not contained in packaging shall have the warning label in Figure 7B.1 or Figure 7B.2 affixed to the consumer product with a hang tag or a sticker label.		N/A



Clause	Requirement - Test	Result - Remark	Verdict
7B.3	When space on the principal display panel of the consumer product packaging does not permit the warning label in Figure 7B.1 or Figure 7B.2, the principal display panel shall include the warning in Figure 7B.3 in a conspicuous location.		N/A
	The icon shall be at least 7 mm in width and 9 mm in height. The remaining warning statements must be on a secondary display panel, as shown in Figure 7B.4.		N/A
	The text in the warning labels shall be as shown in Figure 7B.3 and Figure 7B.4.		N/A
	When on a printed label using more than one color the marking must use colors as shown in Figure 7B.3 and Figure 7B.4.		N/A
7B.4	The principal display panel or secondary display panel of the consumer product packaging, or if there is no consumer product packaging, the accompanying hang tag or sticker label, shall include the following text:		Ρ
	a) For products with non-replaceable batteries, include a statement indicating the product contains non-replaceable batteries;		N/A
	b) Battery type ( e.g., LR44, CR2032); and	CR2032	Р
	c) Nominal voltage.	3 V	Р
7C	Product Markings		Р
7C.1	Except as provided in 7C.2 and 7C.3, consumer products shall be marked with a warning label on the product display panel that alerts the consumer of the presence of a button cell or coin battery.		Ρ
	The warning text shall include the safety alert symbol, signal word, and text, as shown in Figure 7C.1.		P
	When on a printed label using more than one color the marking must use the color as shown in Figure 7C.1.	Black and white	N/A



Clause	Requirement - Test	Result - Remark	Verdict
7C.2	When space on the product is limited, use the "Warning: contains coin battery" icon shown in Figure 7C.2, without text.		N/A
	The icon must be at least 7 mm in width and 9 mm in height and must be on the product display panel.		N/A
	When on a printed label using more than one color the marking must use the color as shown in Figure 7C.2.		N/A
	The icon shall be defined in accompanying printed materials such as instructions, manual, insert, or hangtag.		N/A
7C.3	When the product itself is too small to include the warning with text in Figure 7C.1 or the icon in Figure 7C.2, the product shall:		N/A
	a) Have packaging containing the warning label following the requirements in Section 7B, Packaging Markings; or		N/A
	b) Contain a hangtag or sticker label with the full warning label using requirements in Section 7B, Packaging Markings.		N/A
7D	Permanence of Markings		Р
7D.1	General		Р
7D.1.1	Each required printed or screened marking shall be tested.		Ρ
	However, if the data sheet for a label confirms compliance with the test requirements, the test need not be performed.		N/A
7D.2	Testing procedure		Р
7D.2.1	The test is conducted by rubbing the marking by hand without appreciable force for 15 s with a piece of cloth soaked with water and at a different place or on a different sample for 15 s with a piece of cloth soaked with the petroleum spirit specified in 7D.3.		P
7D.3	Petroleum spirit		Р
7D.3.1	Petroleum spirit is a reagent grade hexane with a minimum of 85 % n-hexane.		Р



Clause	Requirement - Test	Result - Remark	Verdict
7D.4	Compliance criteria		Р
7D.4.1	After each test, the marking shall remain legible. If the marking is on a separable label, the label shall show no curling and shall not be removable by hand.	Remained legible, no curling, not removable by hand	Ρ

	INSTRUCTIONS	Р
9	General	Р
9.1	Instructions and manuals, if provided, shall include all of the applicable markings in Figure 7B.1 or Figure 7B.2 and the statements noted below.	Ρ
	If instructions and manuals are not provided, the statements shall be present on the principal display panel or secondary display panel of the consumer product packaging, or if there is no consumer product packaging, the accompanying hang tag or sticker label.	N/A
	a) The statement "Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate."	Ρ
	b) The statement "Even used batteries may cause severe injury or death."	Р
	c) The statement "Call a local poison control center for treatment information."	Р
	d) A statement indicating the compatible battery type (e.g., LR44, CR2032)	Р
	e) A statement indicating the nominal battery voltage.	Р
	f) The statement "Non-rechargeable batteries are not to be recharged."	Р
	g) The statement "Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating) or incinerate. Doing so may result in injury due to venting, leakage or explosion resulting in chemical burns."	Ρ



Clause	Requirement - Test	Result - Remark	Verdict
9.2	Products with replaceable button/coin cell batteries shall additionally include:		Ρ
	a) The statement "Ensure the batteries are installed correctly according to polarity (+ and - )."		Ρ
	b) The statement "Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries."		Ρ
	c) The statement "Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations."		Ρ
	d) The statement "Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children."		Ρ
9.3	Products with non-replaceable button/coin cell batteries shall additionally include a statement indicating the product contains non- replaceable batteries.	Battery is intended to be removed or replaced by the consumer	N/A



TABLE: Components information						
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Ma con	ark(s) of formity <sup>1</sup> )
Coin battery	EVE	CR2032	3V	-	Tes p	sted with roduct

Supplementary information:

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<sup>1</sup>) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

6.2.1 a)	TABLE:	E: Thermoplastic stress relief test					
Tested model		Material	Oven Temperature (°C)	Com	ments		
TRED30	-16R	Thermoplastic	75	Battery co	over intact		
TRED30-	16CP	Thermoplastic	75	Battery co	over intact		
TRID30	-7R	Thermoplastic	75	Battery co	over intact		
TREL30	)-16	Thermoplastic	75	Battery co	over intact		
UHADO	D-16	Thermoplastic	80	Battery co	over intact		
VFC40	0-3	Thermoplastic	75	Battery co	over intact		
VFC400	)-SP	Thermoplastic	75	Battery cover intact			
Supplementary information: N/A							

Supplementary information: N/A

6.2.1 b)	TABLE: Battery	replacement test		Р
Tes	ted model	Battery Installation/Removal Cycle	Comment	S
TRE	ED30-16R	10	Battery cover	intact
TRED30-16CP		10	Battery cover intact	
TR	ND30-7R	10	Battery cover	intact
TR	EL30-16	10	Battery cover intact	
UF	IADO-16	10	Battery cover intact	
VI	-C400-3	10	Battery cover	intact
VF	C400-SP	10	Battery cover	intact
Supplementar	y information: N/A	<u> </u>		

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6.3.2	TABLE: Drop	test			Р
Tested model	Impact Area	Drop Distance (m)	Drop No.	Со	mments
TRED30-16R	Bottom surface with battery cover	1.0	10	Battery	cover intact
TRED30-16CP	Bottom surface with battery cover	1.0	10	Battery	cover intact
TRID30-7R	Bottom surface with battery cover	1.0	10	Battery	cover intact
TREL30-16	Bottom surface with battery cover	1.0	10	Battery	cover intact
UHADO-16	Bottom surface with battery cover	1.0	10	Battery	cover intact
VFC400-3	Bottom surface with battery cover	1.0	10	Battery	cover intact
VFC400-SP	Bottom surface with battery cover	1.0	10	Battery	cover intact
Supplementary info	rmation: N/A			<u>.</u>	

6.3.3	TABLE: Impa	ct test			Р
Tested model	Surface Tested	Impacts No.	Impact Energy (J)	Co	mments
TRED30-16R	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
TRED30-16CP	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
TRID30-7R	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
TREL30-16	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
UHADO-16	Bottom surface with battery cover	3	2.0	Battery	cover intact
VFC400-3	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
VFC400-SP	Bottom surface with battery cover	3	2.0	Battery	<sup>,</sup> cover intact
Supplementary info	ormation: Steel sphe	re drop method wa	is used.		



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6.3.4	3.4 TABLE: Crush test							
Tested model	Surface tested	Crushing Force (N)	Duration force applied (s)	Со	mments			
TRED30-16R	Bottom surface with battery cover	330.6	10	Battery	cover intact			
TRED30-16CP	Bottom surface with battery cover	330.6	10	Battery	cover intact			
TRID30-7R	Bottom surface with battery cover	330.6	10	Battery	cover intact			
TREL30-16	Bottom surface with battery cover	330.6	10	Battery	cover intact			
UHADO-16	Bottom surface with battery cover	330.6	10	Battery	cover intact			
VFC400-3	Bottom surface with battery cover	330.6	10	Battery	cover intact			
VFC400-SP	Bottom surface with battery cover	330.6	10	Battery	cover intact			
Supplementary information: N/A								



# Photographs: Lograg TRED30-16CP Temperature Recorder



**Top View** 



**Front View** 





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# **Right Side View**



Back View



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



View Inside Battery Compartment



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Internal PCB View



# Photographs: Lograg TRED30-16R Temperature Recorder



**Top View** 



**Front View** 



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**Right Side View** 



**Back View** 



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



**View Inside Battery Compartment** 



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**Internal PCB View** 



# Photographs: Lograg TREL30-16 Low Temperature Recorder



**Top View** 



**Front View** 



A

Report N



**Right Side View** 



**Back View** 



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



View Inside Battery Compartment



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Internal PCB View



# Photographs: Lograg TRID30-7R Temperature Recorder



**Top View** 



**Front View** 



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**Right Side View** 



**Back View** 



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



**View Inside Battery Compartment** 



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Internal PCB View



# Photographs: Lograg UHADO-16 USB PDF Temperature & Humidity Recorder



**Top View** 



**Front View** 



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**Right Side View** 



**Back View** 



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



View Inside Battery Compartment



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Internal PCB View



# Photographs: Control Solutions Inc. VFC400-3 Vaccine Temperature Data Logger



**Top View** 



**Front View** 

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A



**Right Side View** 



Back View



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



**View Inside Battery Compartment** 



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Internal PCB View



# Photographs: Control Solutions Inc. VFC400-SP Vaccine Temperature Data Logger



**Top View** 



**Front View** 



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**Right Side View** 



**Back View** 



Left Side View



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**Bottom View** 



Battery Compartment External View (Plastic Cover Removed)



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**Battery Compartment Internal View** 



View Inside Battery Compartment



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Internal PCB View



# Photographs: LvL CR2032 Coin Battery (Common Part for All Above Models)

A



**Top View** 



**Bottom View**