Engineering Report 66535-1

Water Test

for

Data Panel

Prepared by

Drew Beier, Technical Writer

Approved by

Nathan R. Simmons, Operations Manager

Revision history

Revision	Total pages	Date	Description
--	19	April 23, 2025	Original

Table of contents

1.0 Administrative data

Prepared for	Data Panel 7313 Washington Avenue South Minneapolis, MN 55439
Attention	Scott Schmitz
Test performed	Water Test
Test facility	Element Materials Technology 9725 Girard Avenue South Minneapolis, MN 55431
Item(s) tested	Can Splitter
Part number(s)	DP-40044-08-000
Serial number(s)	25100435B, 25100433B, 25100437A, 25100434B
Sample identifier(s)	1 through 4
Primary specification(s)	ISO 20653 (2013), IPX9K
PO number	40690
Purchase date	3/20/2025
Element test report number	66535-1
Project start date	4/16/2025
Project completion date	4/18/2025
Test report completion date	4/23/2025
As received	This document describes procedures and results of testing performed to the specification(s) and/or requirement(s) detailed herein. The results described in this report relate only to the specific items as received and tested.
Decision rule	Whenever stating in/out of tolerance or pass/fail results, Element applies “Simple Acceptance”; statements of compliance do not consider measurement uncertainty.

2.0 Instrumentation, procedure, and results

2.1 Instrumentation

All instrumentation is calibrated regularly by instruments directly traceable to the National Institute of Standards and Technology, and in accordance with *ANSI/NCSL Z540.1, ANSI/NCSL Z540.3-2006,* and *ISO/IEC 17025: 2017*.

Table 2-1: Instrumentation list

Equipment Number	Description	Manufacturer	Model Number	Last Calibration	Due Calibration	Range
1500-013	Hot Water Pressure Washer	Landa	PHW4-22024H	N/A	N/A	2,200 psi, 4.0 GPM, 225°F (max)
200-306	Digital Thermometer	Fluke	52 II	11/5/2024	11/5/2025	-200 C to+ 1372 C Type K; -250 to+400 C Type T
210-524	Multimeter	Fluke	87 III	11/4/2024	11/4/2025	0 to 1000V; 0 to 10A; 0 to 100 kHz; 0 to 40 MΩ
400-097	Stopwatch	Extech	365510	8/8/2023	8/8/2025	24 hrs
710-330	Pressure Gage	WIKA	233.34	9/22/2022	9/22/2025	0 to 5000 psig
717-054	Flowmeter	Omega Instruments	FL-75B	1/15/2025	1/15/2027	LTD 2 to 10 GPM
770-062	Digital Protractor	Smarttool Technologies	PRO 360	6/25/2024	6/25/2025	0 to 360 degrees
770-086	Measuring Tape	Starrett	TX1-26ME	1/9/2025	1/9/2030	0 to 26 ft; 8m

2.2 Procedure

The test units were subjected to Water Testing as outlined in Document ISO 20653 (2013), IPX9K. Refer to Appendix A for test details.

2.3 Results

No water penetration.

Refer to Appendix A for data, figures, and photographs.

The test units were returned to Data Panel.

Appendix A: Water Test

element

Data sheet
Pressurized Jet Spray // Pressure Wash

Company name	Data Panel	**Performed by**	JMT
Project number	66535-1	**Specification**	*ISO 20653 (2013), IPX9K*
DUT description	Can Splitter	**Test date(s)**	4/16/2025 to 4/18/2025

Device under test information

Description	Model / part number	Serial number	Sample identifier
Can Splitter	DP-40044-08-000	25100435B	1
		25100433B	2
		25100437A	3
		25100434B	4

Equipment list

770-086	710-330	1500-013	717-054	400-097	200-306
210-524	770-062				

IPX9K Test conditions

Requirement	Actual
Water temperature = 80°C ±5°C	80.4°C
Flow delivery rate = 14 to 16 L/min (±5%)	15.1 L/min (4 gal/min)
Water pressure = ~8000 to 10,000 kPa	8960 kPa (1300 PSI)
Fan angle = 30 degrees ±10 degrees	30 degrees
Distance = 100 to 150 mm from nozzle to unit	130 mm
Duration = 30 seconds per position	30 seconds per position (at 0, 30, 60, and 90 degree positions)
Turntable rotational speed = 5 rpm (±1 rpm)	5 rpm

Additional instructions: Conduct functional check of pin resistances before cutting open for water inspection.

Test log

Test units were mounted to a test stand and subjected to the test conditions specified above.

After completion of exposure, the test units were functionally checked, then cut open and visually inspected for water intrusion.

Results / comments

Visual inspection upon completion of the test revealed:

|X| No water penetration.

|( )| Water penetration was found (describe here):

|( )| Other (describe here):

Functional check involved checking the resistance between pins. All resistance between connected pins were < 1 ohm, for all units.

Units showed some peeling of their plastic labels, but otherwise no damage seen.

DUT disposition [ ] Retained at Element [X] Returned to customer [ ] Other (describe):

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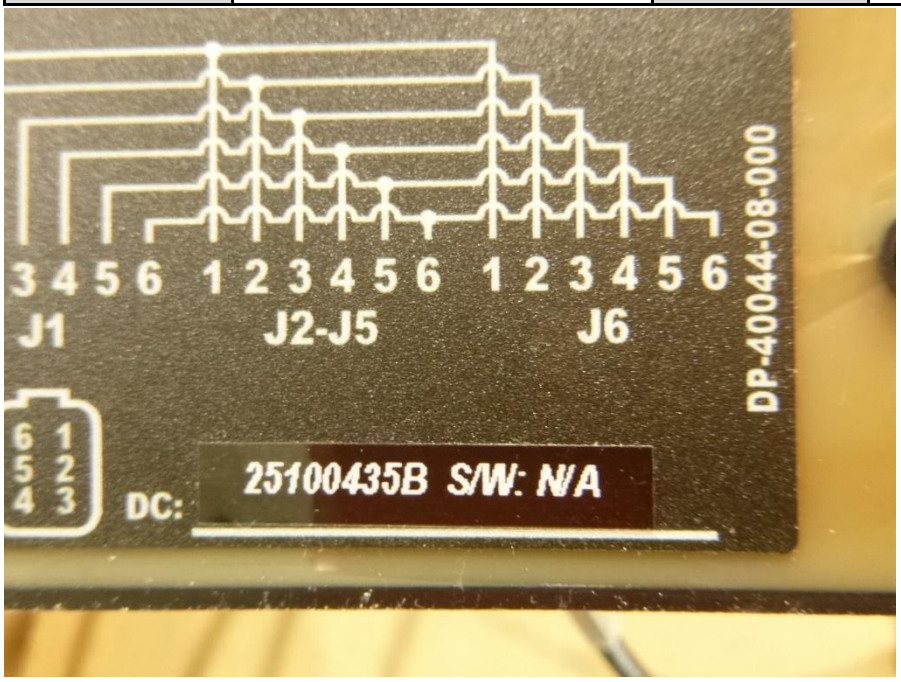
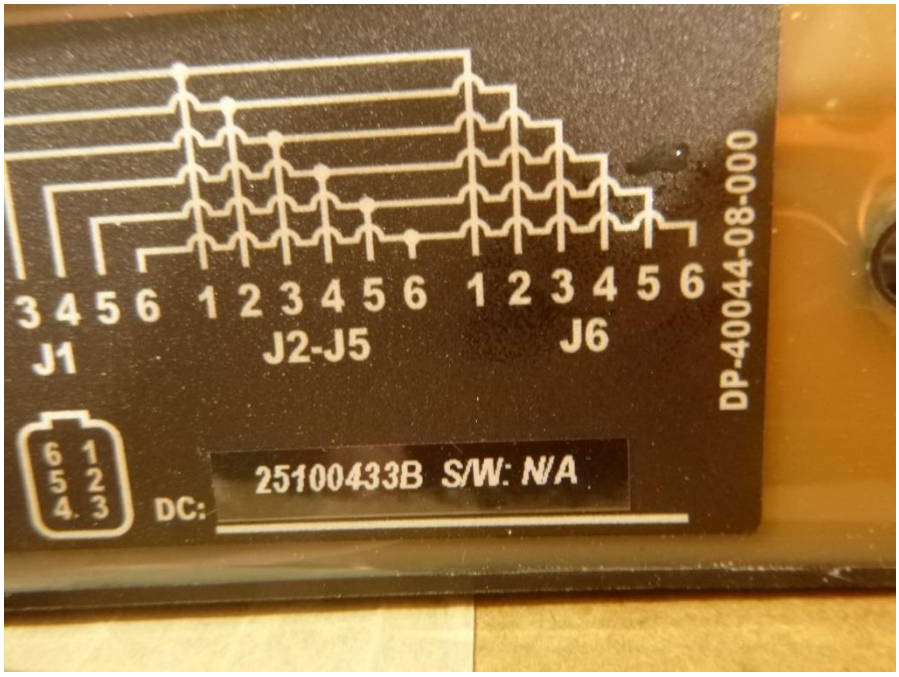


Photograph A-1: Test unit 1 identification



Photograph A-2: Test unit 2 identification

Data sheet
Pressurized Jet Spray // Pressure Wash

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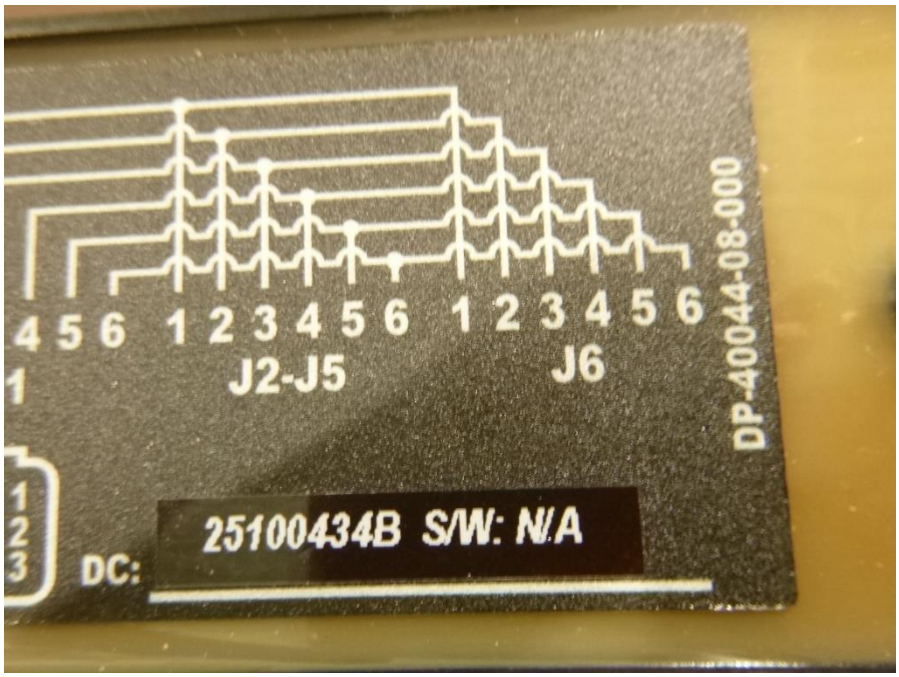
Photograph A-3: Test unit 3 identification



Photograph A-4: Test unit 4 identification

Data sheet
Pressurized Jet Spray // Pressure Wash

Company name	Data Panel	**Performed by**	JMT
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Photograph A-5: Test setup, unit 1

Photograph A-6: Representative view of 90° exposure (unit 1)

Data sheet
Pressurized Jet Spray // Pressure Wash

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Photograph A-7: Representative view of 60° exposure (unit 1)

Photograph A-8: Representative view of 30° exposure (unit 1)

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Photograph A-9: Representative view of 0° exposure (unit 1)

Photograph A-10: Test setup (unit 2)

Data sheet
Pressurized Jet Spray // Pressure Wash

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Photograph A-11: Test setup (unit 3)

Photograph A-12: Test setup (unit 4)

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Pressurized Jet Spray // Pressure Wash

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Photograph A-13: Post-test view of test unit 1

Photograph A-14: Post-test view of test unit 1

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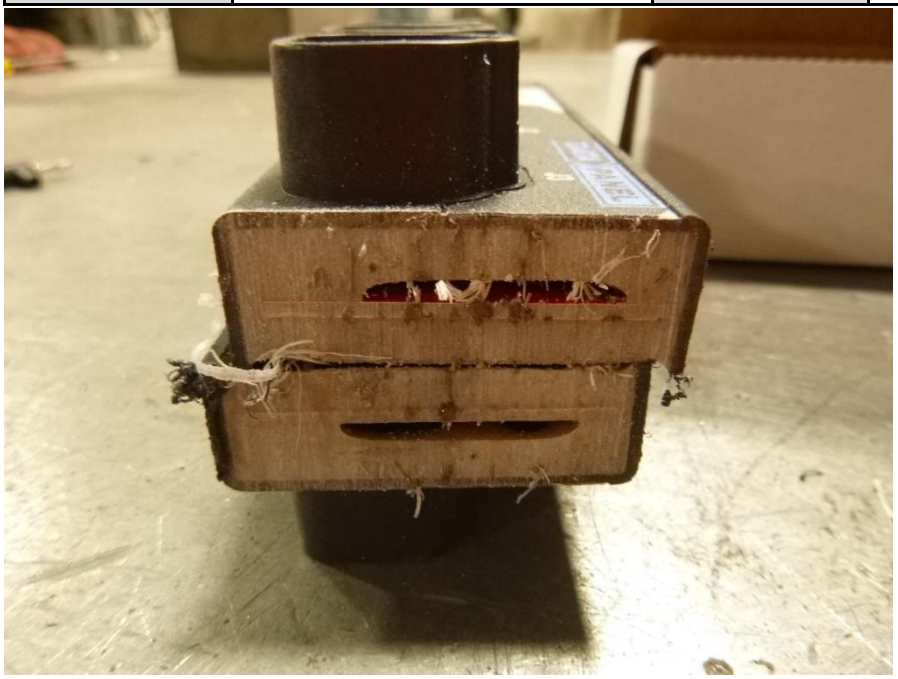

Photograph A-15: Post-test view of test unit 1 interior

Photograph A-16: Post-test view of test unit 2

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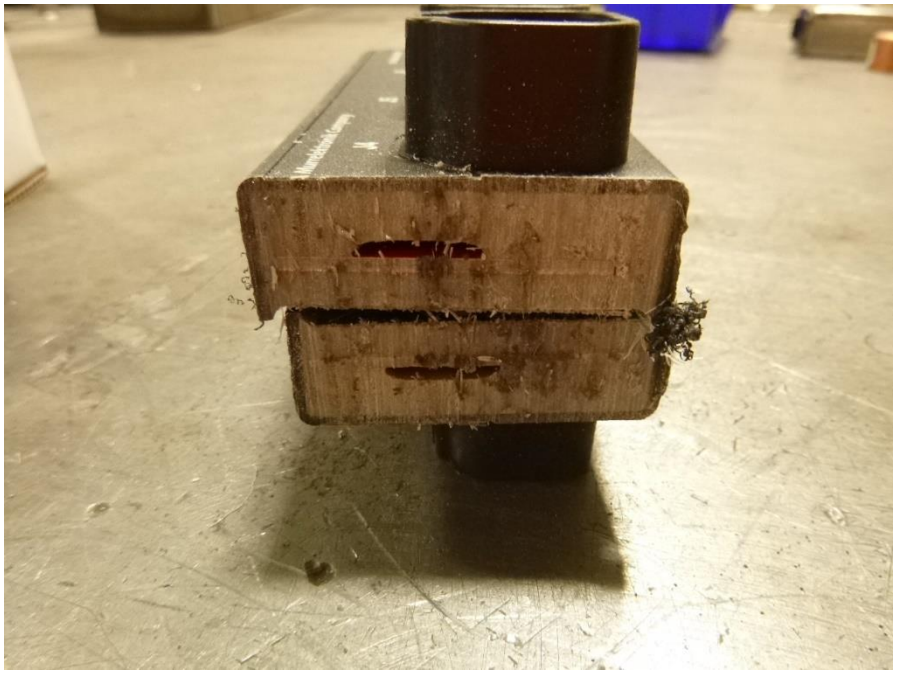
Photograph A-17: Post-test view of test unit 2



Photograph A-18: Post-test view of test unit 2 interior

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Photograph A-19: Post-test view of test unit 3

Photograph A-20: Post-test view of test unit 3

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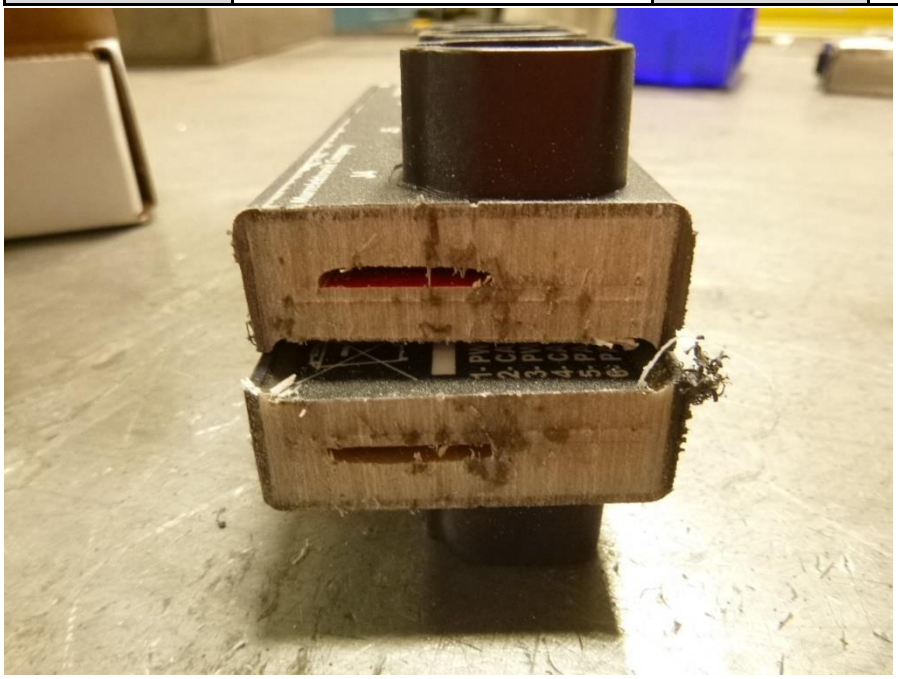

Photograph A-21: Post-test view of test unit 3 interior

Photograph A-22: Post-test view of test unit 4

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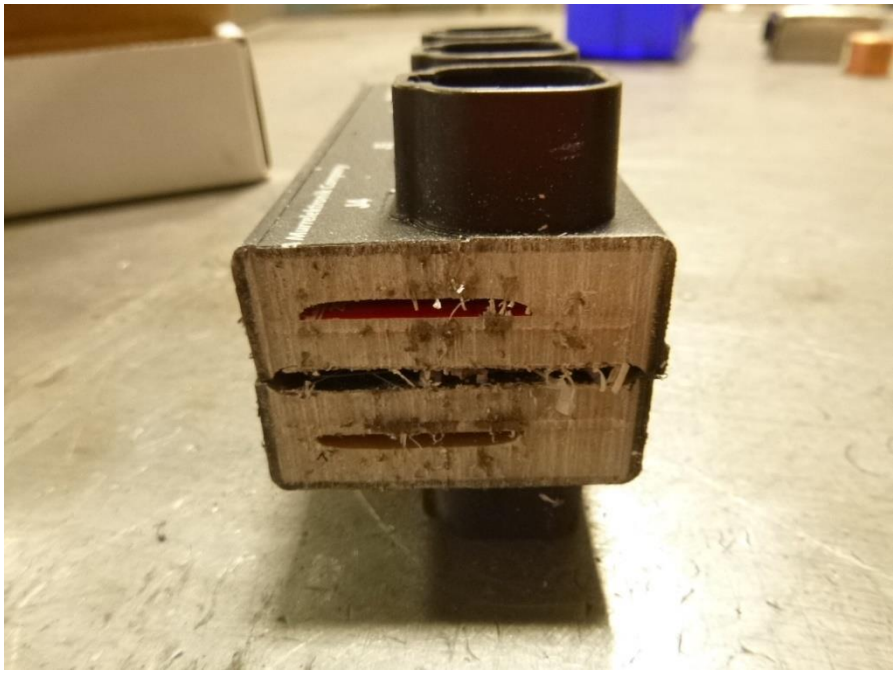
Photograph A-23: Post-test view of test unit 4



Photograph A-24: Post-test view of test unit 4 interior