



LUMAWISE Power Input Terminal Block (TB)

1. SCOPE

1.1. Content

This specification covers performance, tests, and quality requirements for the TE Connectivity (TE) LUMAWISE Power Input Terminal Block (TB) Assembly. This terminal block assembly has three polarities with a single input for each and three lever actuated output.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Qualification testing on the subject product line has not been completed. The Qualification Test Report number will be issued upon completion of qualification testing.

2. APPLICABLE DOCUMENTS AND FORMS

The following documents constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies.

2.1. TE Documents

- [114-160073](#): LUMAWISE Power Input Terminal Block (TB) Application Specification
- 501-134129: Qualification Test Report

2.2. Industry Documents

- EIA-364

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction, materials, and physical dimensions specified on the applicable product drawings.

3.2. Ratings:

	Voltage	Current	Wire Size	Temperature
Output	480VAC	15A (12-14AWG Output)	18-12 AWG	-40° to 105°C
Input		10A (16-18AWG Output)	6-16AWG	

3.3. Performance and Test Description

Product is designed to meet the electrical, mechanical, and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions

3.4. Test Requirements and Procedures Summary.

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Initial examination of product	Meets requirements of product drawing and Application Specification 114-160073	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product	Meets visual requirements.	EIA-364-18. Visual inspection.
ELECTRICAL		
Low Level Contact Resistance (LLCR).	Δ 30 milliohms maximum.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Insulation Resistance.	100 meg-ohms minimum	EIA-364-21. 500 volts DC, 2-minute hold. Test between adjacent contacts of mated specimens.
Withstanding Voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. 2500 volts AC at sea level. Test performed between adjacent positions within terminal block (L1-G, L2-G)
Temperature Rise vs Current.	30°C maximum temperature rise at specified current. Refer to section 3.2 for current value.	EIA-364-70, Method 1. Stabilize at a single current level until 3 readings at 5-minute intervals are within 1°C. L1 and L2 energized during testing.
Current Cycle	30°C T-rise maximum during the "ON" period of the cycle.	EIA-364-55, Condition C Apply 10 (18/16AWG output) or 15 (14AWG output) amperes to L1 and L2 contacts for 25 cycles each consisting of 20 hours "ON", 4 hours "OFF". Testing to be completed with minimum wire sizes.
MECHANICAL		
Vibration.	No discontinuities of 1 microsecond or longer duration. See Note (a).	The specimens shall be subjected to a simple harmonic motion having an amplitude of either 0.250 in double amplitude (maximum total excursion) or 3.5 g peak, whichever is less. The vibration frequency shall be varied logarithmically between the approximate limits of 5 Hz and 55 Hz. The entire frequency range of 5 Hz to 55 Hz and return to 5 Hz shall be traversed at a rate of one octave/minute. This cycle shall be repeated for one hour in each of three mutually perpendicular directions, so that the motion shall be applied for a total period of 3 hours.

Figure 1 (continued)

Mechanical Shock.	No discontinuities of 1 microsecond or longer duration.	EIA-364-27, Condition H. Subject mated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.																					
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Durability	See Note (a)	Subject connector to 3 wire insertions and 2 wire extractions cycles before performing subsequent test. <ul style="list-style-type: none"> • Insertion cycle consists of actuating lever to open contact, insert wire(s) and then close lever. • Extraction cycle consists of actuating lever to open contact and remove wire. 																					
Connector Mounting Security Force	Minimum Force: 125 N	EIA 364-29, Method C Force to break mounting features. Wire inserted and pulled 90 degrees to measure force. See Figure 5.																					

ENVIRONMENTAL

Thermal Shock.	See Note (a)	EIA-364-32. Subject mated specimens to 150 cycles between -40 and 105°C with 30-minute dwells at temperature extremes and 1 minute transition between temperatures.
Humidity/Temperature Cycling.	See Note (a)	EIA-364-31, Method IV. Subject mated specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH
Temperature life	See Note (a)	EIA-364-17 Method A (without load), (105° ±2°C), Time Condition B (500 hrs.)



NOTE (a):

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.

Figure 1 (end)

3.5. Product Qualification and Requalification Test Sequence

TEST OR EXAMINATION	Test Group (a)						
	A	B	C	D	E	F	G
	Test Sequence (b)						
Initial examination of product	1	1	1	1	1	1	1
LLCR	2,6	2,5,7,9	2, 7	2, 5			
Insulation Resistance			3,8				
Withstanding Voltage			4, 9				
Temperature Rise vs Current		3,10		3, 6			
Random Vibration	4	8					
Mechanical Shock	5						
Wire Extraction Force (Input)					2		
Wire Extraction Force (Output)						3	
Current Cycling				4			
Connector Mounting Security Force							2
Durability						2	
Thermal Shock			5				
Humidity/Temperature Cycling		4	6				
Temperature Life		6					
Final examination of product	7	11	10	7	3	4	3



NOTE

- (a) See paragraph 4.1.A
- (b) Numbers indicate sequence in which tests are performed.

FIGURE 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Specimen selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Minimum specimen quantities are shown in Figure 3.

Specimen Description	Test Group							Total QTY
	A	B	C	D	E	F	G	
	Quantity (Minimum)							
2382635-1	8	8	6	7	5	4	2	40
2382635-2	0	0	0	2	5	4	2	13
6AWG Stranded Cu Wire	12-I	6-I	18-I	-	3-I	-	12	51
8AWG Stranded Cu Wire	-	-	-	-	3-I	-	-	3
10AWG Stranded Cu Wire	-	-	-	-	3-I	-	-	3
10AWG Solid Cu Wire	-	6-I	-	-	3-I	-	-	9
12AWG Stranded Cu Wire	6-O	6-O	18-O	-	3-I	9-O	-	42
12AWG Solid Cu Wire	6-O	6-O	-	-	3-I	9-O	-	24
14AWG Stranded Cu Wire	6-I	6-I	-	12-I,6-O	3-I	9-O	-	42
14AWG Solid Cu Wire	6-I	6-I	-	6-I	3-I	9-O	-	30
16AWG Stranded Cu Wire	-	-	-	3-I, 3-O	3-I	9-O	-	18
16AWG Solid Cu Wire	-	-	-	-	3-I	9-O	-	12
18AWG Stranded Cu Wire	6-O	6-O	-	6-O	-	9-O	-	27
18AWG Solid Cu Wire	6-O	6-O	-	6-O	-	9-O	-	27



NOTE

“I” indicates wire used on input side (screw terminal) of terminal block
 “O” indicates wire used on output side (spring clamp) of terminal block

FIGURE 3

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 3.

4.2. Requalification testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality, and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

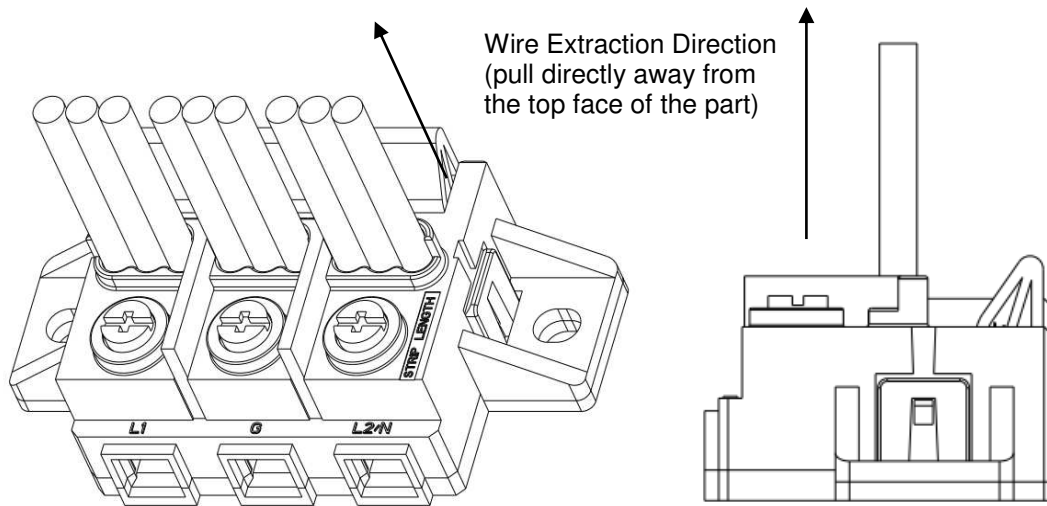


Figure 4a – Wire Extraction (Output)

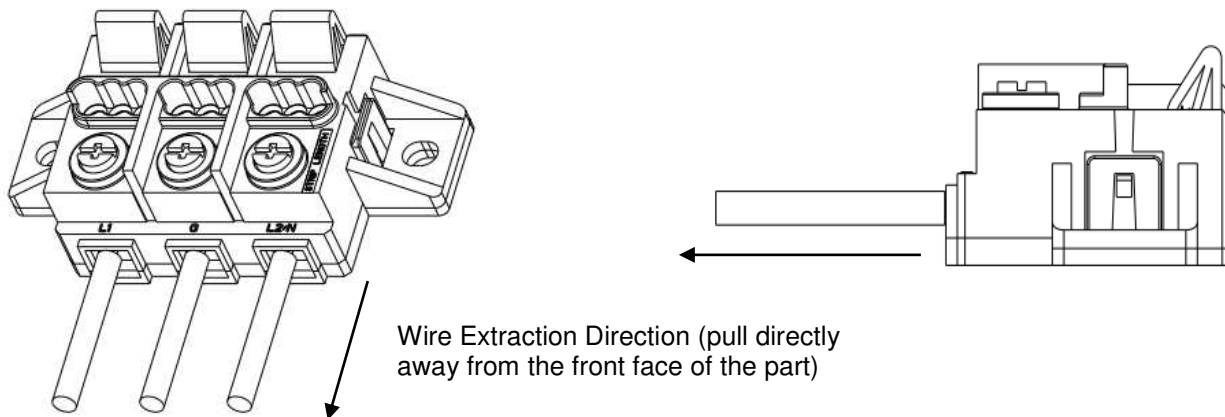


Figure 4b – Wire Extraction (Input)

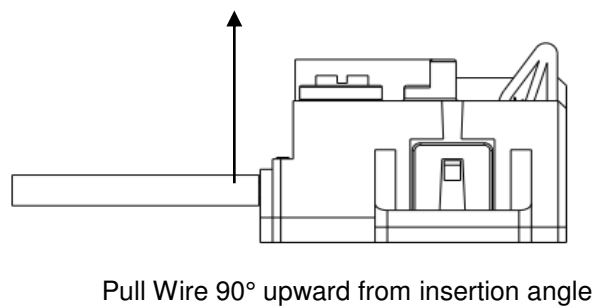


Figure 5 – Connector Mounting Security Force