QPS EVALUATION SERVICES INC.

US FIELD EVALUATION
LETTER OF COMPLIANCE

Company Name:	Spectrum Manufacturing Inc.,
File Number:	QFE38011-68N
Company Contact:	J. F. Canuel
Company Address:	565 Orwell St., Mississauga ON L5A 2W4
Inspection Location: (same as above ☒)	
Date: Sept 09, 2021	
Product Evaluated:	Power Distribution Rack
Model Number:	MLD-120C
Electrical Rating:	120/208 Vac, 24A, 60Hz, 3Ph, 6000W, 5W

QPS has completed our evaluation of the product identified above using the following Standard(s): UL 60950
NEC Code NFPA 70 Edition2020

Please retain a copy of this Letter of Compliance and the Field Evaluation Report in your files for a minimum of 7 Years.

If you have any questions, please do not hesitate to call.

Regards,

QPS EVALUATION SERVICES INC.

US FIELD EVALUATION REPORT

CUSTOMER INFORMATION			
Company Name:	Spectrum Mfg.	PO Number:	
Company Contact:	J. F. Canuel		
Company Location:	565 Orwell St., Mississauga ON L5A 2W4	Location of Inspection: ☒ Same as Customer	
Date of Inspection:	Sept 9, 2021	Service Agreement:	☐ On File ☒ Signed
Time of Arrival:	12:00 p.m.	Time of Departure:	5:00 p.m.

EQUIPMENT INFORMATION					
Equipment Type:	Ethernet Switch – (Mfg Luminex)				
Model Number(s):	LU0100036-POE				
Installation Destination (If known)	Unknown				
UL Standards: (Referenced as a guide)	UL60950				
NEC edition	2020				
Electrical Rating	120/208 V ☒AC	60Hz	24 ☒A ☐W ☐VA	3Ph	6000 HP
	SCCR 10 kA RMS at 208 Volts	☐ Cord ☒ Cord Set Connected ☐ Permanently Connected ☐ Battery Operated		5 Conductors	

Model Number	Serial Number	Label Number
MLD-120C	Sept 2021	QFU433090 thru 433139

REPORT INFORMATION			
Inspector Name: (Report Prepared By)	Todd Langstaff	Inspector Signature:	
Report Reviewed By:		Reviewer Signature:	

REPORT CONTENTS	
Section No	
1	Purpose
2	Summary
3	Conditions of Acceptance
4	Product Evaluation Procedures
5	Test Procedures
Appendix	
A	Product Evaluation Checklist
B	Electrical Wiring Diagrams
C	Photos
D	Illustrations
E	Bill of Materials
Attachments	Field Evaluation Certificate *(optional – only provided upon request)*

REPORT	
1.0	**PURPOSE**
1.1	The purpose of this inspection is to provide assurance that the equipment being evaluated meets the requirements of the applicable codes and safety standards as outlined in this report.
1.2	These requirements are required by the local AHJ (Authority Having Jurisdiction) when equipment is not listed or recognized by a Third Party Nationally Recognized Testing Laboratory “NRTL”. This evaluation addresses only the electrical aspects of the equipment with respect to electrical fire and electrical shock hazards. The environment where the equipment will be used and installed has been taken into consideration during the evaluation of the product.
1.3	In some jurisdictions, the authority having jurisdiction (AHJ) may have established requirements and/or practices for field evaluation and labelling. QPS’ policy is to comply with such additional requirements in those jurisdictions.
1.4	The field evaluation has also taken into consideration those requirements outlined in The National Electrical Code Sections 90.7 & 110.3 (A).
1.5	This document can be used by the AHJ to assess the completeness and the adequacy of the evaluation process performed by QPS during the field labelling process of the equipment identified in this report.
1.6	The field evaluation process was applied to this particular product since it was not a “listed” product.
1.7	The field evaluation process for the product listed in this report was for one-of–a-kind, limited production, used, or modified products that were not listed or labelled under a full listing and certification program.
1.8	This process could have been completed at the point of manufacturing, interim points of distribution, in the company’s facilities or at the final installation site or a combination of the above. The labeling location is identified in this report.

2.0	**SUMMARY**	
2.1	The equipment was labelled as indicated on page 2 of this report and modifications outlined in the Alterations section or in the field evaluation checklist were completed prior to the equipment being labelled.	
2.2	The equipment listed in this field evaluation report complies with the requirements as outlined in this report and the field evaluation shall not be considered as the equivalent of a listing or a certification. The equipment listed in this report is suitable for the installation location as identified in this report as applicable.	
3.0	**CONDITIONS OF ACCEPTANCE**	
3.1	Procedures used to approve the equipment described in this report comply with International Accreditation Service (IAS) accreditation criteria AC354 and are based on the NFPA 790 Standard for Competency of Third-party Field Evaluation Bodies and NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation.	
3.2	The product that has been field evaluated and labelled shall not be altered in any way; otherwise this will negate the Field Evaluation label that was applied. (If the product is altered in any manner, please contact your local QPS inspector for guidance.)	
3.3	A re-inspection of the product is required when any electrical refurbishing takes place or primary components that are not direct replacements are substituted.	
3.4	The equipment evaluation is based on sound engineering practices and upon compliance with the specific standards referenced in this document.	
3.5	The acceptance of this report applies to the electrical circuits and components only, as referenced in this report. Unless otherwise noted, it specifically excludes the examination for the suitability of the use of equipment involving toxic or corrosive gases; steam and locations defined as hazardous locations by the National Electrical Code.	
3.6	The equipment is marked with short circuit current rating as required for industrial control equipment, HVAC equipment, Meter Disconnect switches, and motor controllers where applicable.	☒ N/A
3.7	Referenced Electrical ANSI/UL Standard(s)	UL60950
	Referenced Edition of National Electrical Code:	NFPA 70 - 2020
3.8	It may be necessary to perform an on site evaluation to re-inspect the wiring, etc. if the equipment is disassembled for shipment to the point where the wiring was disturbed.	On Site Evaluation Required: ☐ Yes ☒ No
4.0	**PRODUCT EVALUATION PROCEDURES**	
4.1	Inspection	
4.1.1	The following major components in the primary circuits were verified and marked with a listing of an “NRTL” or were evaluated by QPS for acceptance in this field evaluation project. Detailed information on the components can be found in the BOM. Note: The components that are in the primary circuit or a safety circuit were inspected to ensure that they bear the Listing or Recognition mark of an “NRTL”. This designation ensures that the component complies with the relevant standard. If there was no listing mark, the component would have been separately evaluated for acceptance in the application, taking into consideration the relevant UL standard.	

4.2	Components Reviewed (Safety Critical)		
	Component	**Acceptable**	**Comments**
	Circuit Breakers	☒ Yes ☐ No ☐ N/A	UL489 Schneider Electric P/N M9F42120, 20A/277Vac, 10kA
	Motor Contactors	☐ Yes ☐ No ☒ N/A	
	Fuses	☐ Yes ☐ No ☒ N/A	
	Disconnect Switches	☐ Yes ☐ No ☒ N/A	
	Transformers	☐ Yes ☐ No ☒ N/A	
	Overload Relays	☐ Yes ☐ No ☒ N/A	
	Motors	☐ Yes ☐ No ☒ N/A	
	AC Drives	☐ Yes ☐ No ☒ N/A	
	DC Drives	☐ Yes ☐ No ☒ N/A	
	Fans	☒ Yes ☐ No ☐ N/A	
	Wiring	☒ Yes ☐ No ☐ N/A	Internal wiring is Type TEW 105 deg C. #12 Awg throughout. Flexible power cable is Carol #10/5 Awg Type SOOW, 600Vac, 90 deg. Pin & Sleeve Locking plug Globetron P/N 530P9 Rated 220Vac/30A UL Listed.
	Control Relays	☒ Yes ☐ No ☐ N/A	
	Power Supplies	☐ Yes ☐ No ☒ N/A	
	Hardware or firmware components and wiring for safety interlock circuits	☐ Yes ☐ No ☒ N/A	
4.3	Critical Components: The components listed above and any other additional critical safety components not mentioned above are identified in the BOM and described in detail.		
4.4	Supplementary Protectors: are to be strictly used for overload protection in a circuit based on the certification/listing criteria applicable to the particular device. They are not to be used for branch circuit protection.	☐ Yes ☐ No ☒ N/A	
4.5	Visual Inspection		
4.5.1	The equipment was visually inspected with particular attention in the following areas:		
		Acceptable	**Comments (If necessary)**
	Use of “Approved” Components	☒ Yes ☐ No ☐ N/A	All components UL Listed or Equivalent and suitably rated for their purpose.

			Socapex 19 Pin P/N SX2 SLGD EF 419 AR 16 44 RU connector is ***RU*** component 400Vac, 25A Max. Add label Max 6000W max as 3 x 2000W circuits can be operated simultaneously at 100%. Hubbell P/N HBL2310 Receptacle is CSA/UL approved 20A/125Vac
	Properly sized overcurrent protection for all motors and transformers	☐ Yes ☐ No ☒ N/A	
	Warning Markings	☒ Yes ☐ No ☐ N/A	"Disconnect Power Supply Before Servicing" and "6000W Max" is permanently labelled.
	Wiring Ampacities	☒ Yes ☐ No ☐ N/A	
	Grounding	☒ Yes ☐ No ☐ N/A	
	NFPA-70 Wiring Methods	☒ Yes ☐ No ☐ N/A	
	Guarding of Live Parts	☒ Yes ☐ No ☐ N/A	
	Damaged Components	☐ Yes ☐ No ☒ N/A	
	Electrical Clearances	☒ Yes ☐ No ☐ N/A	
	Wiring Bending Space	☒ Yes ☐ No ☐ N/A	
	Drawings verified to match equipment	☒ Yes ☐ No ☐ N/A	
	Environment Suitability	☒ Yes ☐ No ☐ N/A	Indoor Use Only
	Nameplate and Markings	☒ Yes ☐ No ☐ N/A	
TESTS			
5.0	Electrical testing may include but is not limited to the following:		
	Test	**Result**	**Comments**
	Dielectric Strength Test (Mandatory):	☒ Pass ☐ Fail ☐ N/A	1500 Vac for 1 minute
	Leakage Current Test:	☐ Pass ☐ Fail ☒ N/A	
	Flame Test (mandatory if applicable):	☐ Pass ☐ Fail ☒ N/A	Metal Construction
	Heat Rise Testing:	☐ Pass ☐ Fail ☒ N/A	
	Equipment Ground Resistance Test:	☐ Pass ☐ Fail ☒ N/A	
	Safety Circuit Functional Tests (interlocks and emergency off):	☐ Pass ☐ Fail ☒ N/A	
	Abnormal Testing	☐ Pass ☐ Fail ☒ N/A	
	Test Equipment Used	☒Dielectric Tester # 5311 Cal Due: Jan 05, 2022	☒ Safety Analyser # 5201 Cal Due: Oct 09, 2021

ALTERATIONS ☐ **NONE REQUIRED- THIS MODEL IS IN COMPLIANCE WITH ABOVE LISTED REQUIREMENTS**

WHEN IMPLEMENTATION OF THE ALTERATIONS IDENTIFIED CANNOT BE COMPLETED DURING THE INSPECTION VISIT, YOU ARE REQUIRED TO CONTACT QPS IN A REASONABLE AMOUNT OF TIME AFTER COMPLETION FOR A FOLLOW-UP INSPECTION

FOLLOW-UP INSPECTION REQUIRED: ☐**YES** ☒ **NO The alterations listed below have been incorporated in the labeled product**

1.	**Submitter's nameplate shall list model number, Sept 2021 date code, 120/208Vac, 24A, 60Hz, 3Ph (5 Wire), 6000W Max.**
2.	**Label 19 Pin Socapex connector 6000W MAX – Max 3 x 2000W circuits permissible.**
3.	**Add "DANGER: Disconnect Power Before Servicing" caution notices on each fixture.**
4.	
5.	
6.	
7.	
Notes:	
1.	Flame test N/A for Metal Enclosures
2.	Strain Relief N/A for Equipment connected with a Cord Set
3	
4.	
5.	
6.	