.

Open Rack V3 Meta AC WHIP Power Cable

Revision 1.0

Author: Dmitriy Shapiro, Mechanical Engineer, Meta
Author: Ben Kim, Compliance Engineer, Meta

Contents

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1.2 Acknowledgements

The Contributors of this Specification would like to acknowledge the following companies for their feedback:

Amphenol
Volex
Harting
Positronic

2. Compliance with OCP Tenets

Please describe how this Specification complies to the following OCP tenets. Compliance is required for at least three of the four tenets. The ideals behind open sourcing stipulate that everyone benefits when we share and work together. Any open source project is designed to promote sharing of design elements with peers and to help them understand and adopt those contributions. There is no purpose in sharing if all parties aren't aligned with that philosophy. The IC will look beyond the contribution for evidence that the contributor is aligned with this philosophy. The contributor actions, past and present, are evidence of alignment and conviction to all the tenets.

2.1. Openness

The measure of openness is the ability of a third party to build, modify, or personalize the device or platform from the contribution. OCP strives to achieve completely open platforms, inclusive of all programmable devices, firmware, software, and all mechanical and electrical design elements. Any software utilities necessary to modify or use design contributions should also be open sourced. Barriers to achieving this goal should be constantly addressed and actions taken to remove anything that prevents an open platform. Openness can also be demonstrated through collaboration and willingness to share, seek feedback, and accept changes to design and specification contributions under consideration.

ORV3 AC WHIP: The entire design of the ORV3 AC WHIP cable is fully open and all of the lessons learned from the development are incorporated into the design and spec in order to allow for successful design implementation by the community.

2.2. Efficiency

Continuous improvement has been a fundamental value of the industry. New contributions (and updates to existing contributions) shall be more efficient than existing or prior generation contributions. Efficiency can be measured in many ways - OpEx and CapEx reduction, performance, modularity, capacity, power or water consumption, raw materials, utilization, size or floorspace are some examples. The goal is to express efficiency with clear metrics, valued by end-users, when the contribution is proposed.

ORV3 AC WHIP: The core principle behind the ORV3 AC WHIP is it eliminates the need for a PDU, which as used in ORV2 for power distribution. Many of the functions of the PDU are now incorporated into the ORV3 Power Shelf, which increases the efficiency of power delivery to the entire rack. Voltage losses and potential failure points are now reduced with the implementation of this design.

2.3. Impact

OCP contributions should have a transformative impact on the industry. This impact can come from introducing new technology, time-to-market advantage of technology, and/or enabling technology through supply chains that deliver to many customers in many regions of the world. New technologies are impactful when such technology is enabled through a global supply channel. One example is the NIC 3.0 specification which achieved global impact by having over 12 companies author, adopt, and supply products that conformed to the specification. Another example is emerging and open security features that establish and verify trust of a product.

<u>ORV3 AC WHIP: This product and spec are part of the larger ORV3 ecosystem, which is revolutionary and will be adopted by the entire industry as the next generation standard rack. The ORV3 AC WHIP is what enables power delivery to the rack and is an integral part of this shift forward.</u>

2.4. Scale

OCP contributions must have sufficient enabling, distribution and sales support (pre and post) to scale to Fortune 100 as well as large hyperscale customers. Demonstration of this tenet can be accomplished by providing sales data or by providing go-to-market plans that involve either platform/component providers or systems integrator/VAR (direct and/or channel).
Platform/component providers or systems integrators/VARs that can use this contribution to obtain product recognition (OCP Accepted™ or OCP Inspired™) and create Integrated Solutions which would also demonstrate scale. Software projects can also demonstrate this tenet when software is adopted across business segments or geographies, when software is a key factor in accelerating new technology, or when software provides scale of new hardware which meets OCP tenets.

<u>ORV3 AC WHIP: This product is designed to be highly serviceable in currently planned as well as potential future configurations of ORV3. The supply chain for the cable as well as the main connector in the cable have been thoroughly developed by OCP members and the proper investments have been made in order to deploy it at scale.</u>

3. Version Table

Date	Version #	Author	Description
08/17/22	1.0	Dmitriy Shapiro	Initial Release

4. Scope

This specification defines the technical requirements for a custom ORV3 AC WHIP used for AC power delivery in Meta's Open Rack V3 design.

5. Overview

The AC WHIP is designed to accept an input voltage of 3-phase WYE wiring (4 wires + ground). The input wires will be housed in a cable and terminated via an OCP 7-Pin Universal Input Connector with custom over molding. The assembly will be used to deliver power to the ORV3 Power Shelf. The AC WHIP will have various lengths to accommodate different positions of the ORV3 power shelf within the ORV3 rack.

There are two basic versions on the WYE cable assembly:

1. 277/480 V_{AC}, 20A NEC cable assembly with L22-20P plug for North America applications.
2. 200-240/346-415 V_{AC}, 32A IEC cable assembly with IEC 309 plug for IEC applications.

Figure 1: Application of AC WHIP in ORV3 rack

6. Electrical

6.1 Basic Functional Schematic

The AC WHIP has either an L22-20P or an IEC 309 input, depending on the type of cable. The output uses a custom OCP 7-Pin Universal Input Connector. Figure 2 below shows the diagram of the WYE wiring configuration, which shows termination of the input wires at the output connector. The colors of the diagram differ based on NA power cord (left) and EU power cord (right).

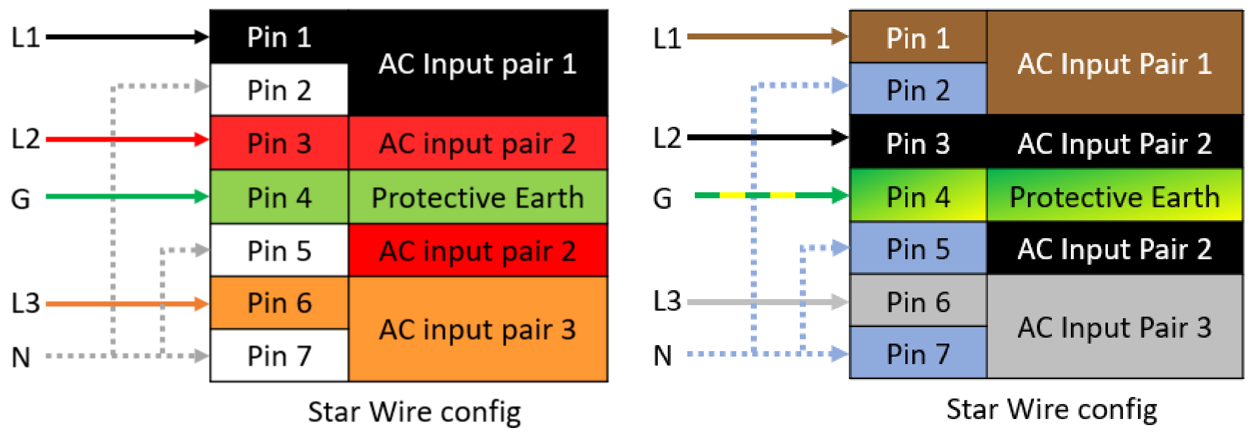


Figure 2: WYE Wire Configuration (NA on the left, EU on the right)

6.2 Input

The Input plug can be either custom overmolded or assembled onto the cable. Overmolding is preferred for cost and reliability reasons. If the plug is overmolded, proper strain relief must be in place at the cable mating interface.

The input plug can be either a NEMA L22-20P or IE C309 connector, depending on the cable and its use case. L22-20P plugs are used for North America applications, and IEC309 for IEC applications.

6.2.1 NEMA

Input for a NEMA plug is a 3-phase WYE wiring configuration, 277/480 V_{AC} RMS, 50-60Hz. The nominal max continuous input current per phase is 20A (16A, de-rated 80%) RMS at 45°C ambient temperature.

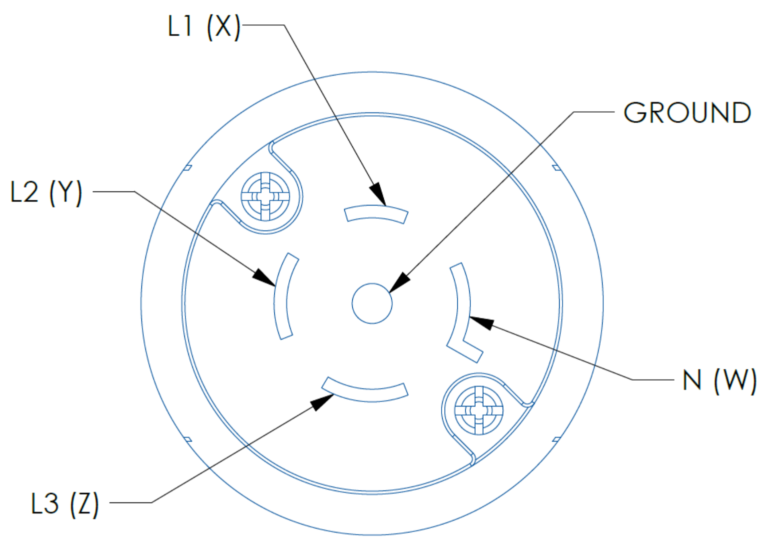


Figure 3: NEMA L22-20P

6.2.2 IEC

Input for an IEC plug is a 3-phase WYE wiring configuration, 200-240/346-415 V_{AC} RMS, 50-60Hz. The nominal max continuous input current per phase is 32A RMS for EU at 45°C ambient temperature.

The IEC 309 plug is to be in a 180° / 6h ground position, 5 Pole (3P+N+E) configuration. No IP67 protection cover is necessary for the IEC 309 plug.

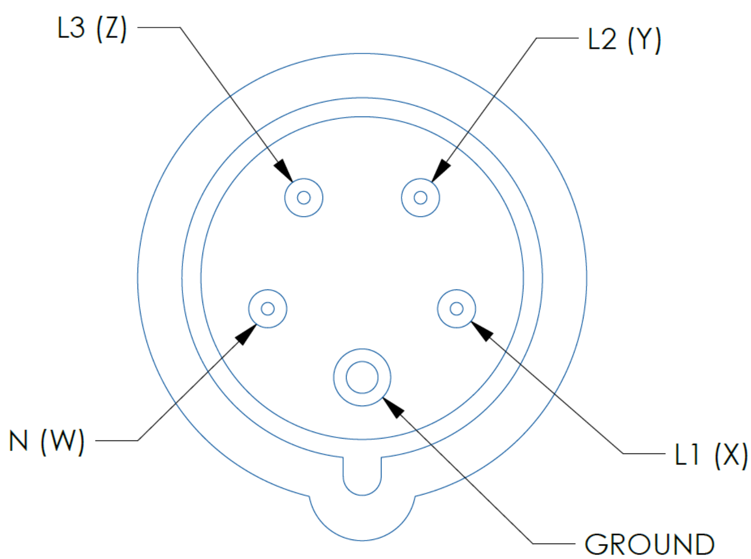


Figure 4: IEC 309

Per electrical standards, the 5-wires of a 3-Phase WYE system are denoted as following:
Line 1 is denoted as 'X' (Black)
Line 2 is denoted as 'Y' (Red)

Line 3 is denoted as ‘Z’ (Blue)
The neutral wire is denoted as ‘W’ (White)
The ground wire is denoted as ‘G’ (Green)

6.3 Power Cord

The power cord used for the AC WHIP depends on the input connection being utilized.

For NEMA L22-20P plug, the power cord to be used is either SOOW AWG#12 5C (five conductor) or STW AWG #12 5C. SOOW is preferred due to flexibility of rubber jacket vs. STW’s PVC jacket.

For IEC309 plug, the power cord to be used is either H07RN-F 5G4 of H07RN-F 5G6. These both utilize 5 conductors of $4mm^2$ and $6mm^2$ cross-sectional area each, respectively. $6mm^2$ is recommended from an electrical and safety standpoint. If $6mm^2$ is infeasible (likely due to routing within rack), it may be acceptable to use $4mm^2$ as long as it can meet all technical requirements in EN and IEC standards. The cable is to have a rubber jacket material.

Both cords should be a suitable industrial-grade power cable and conform to the proper compliance certifications as listed in Section 5. The five conductors shall be enclosed in a further insulating layer so that externally it resembles a single cable. Both cords shall be made with the smallest possible OD in order to reduce bend radius, but conform to all standards.

6.4 Output

6.4.1 Output Connection

The wires from the cable mentioned in Section 3.3 shall be terminated to Positronic connector SP10RSSS1F0001/AA-2268. The North America cable using AWG#12 wires shall utilize Positronic crimp contact FC4012DS/AA-2272. The EU cable using $4mm^2$ wires shall utilize Positronic crimp contact FC4010DS/AA-2272. For more details on this connector and contacts, please reference specification Open Rack V3 Power Shelf Universal Input Connector. Connectors from alternative suppliers are allowed with customer’s Engineering approval.

6.4.2 Output Polarity

The output polarity of the OCP 7-Pin Universal Input Connector should be as follows.

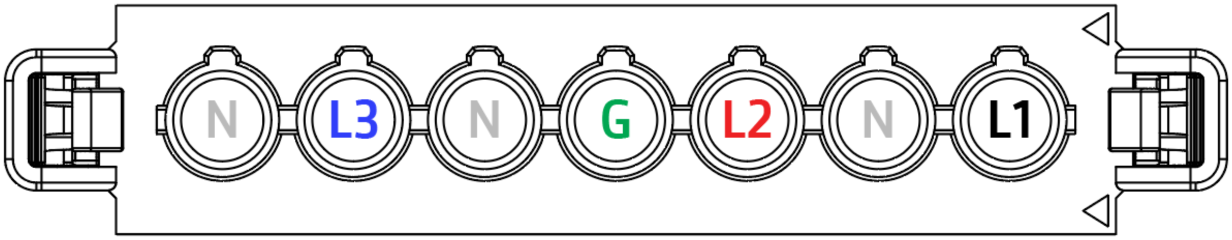


Figure 5: Female Positronic SP10RSSS1F0001/AA-2268 (looking at the female connector head on)

7. Mechanical

7.1 Cable Lengths

There are 7 total variations of length for the AC WHIP, depending on location of power shelf in rack and type of cable. The dimensions shown below in Table 1 are from the output of the OCP 7-Pin Universal Input Connector housing to the tip of the input connector. See mechanical drawings in Section 8 for reference.

Power Shelf Location	NEMA AC WHIP	EU AC WHIP
Top	1600mm	2100mm
Middle	2700mm	3200mm
Bottom	3800mm	4300mm
Special Use Case	4500mm	

Table 1: AC WHIP cable length variations

7.2 Connector Housing Hood

The OCP 7-Pin Universal Input Connector can be encapsulated in one of two ways. It can either be surrounded by a screw-on/snap-on plastic hood or overmolded.

7.2.1 Plastic Hood

The screw-on/snap-on plastic hood is included with Positronic SP10RSSS1F0W01/AA-2268. This is a two piece design that has features to snap the two pieces together and two screws for final mating. The two pieces have teeth at the front that mate with the cutouts on the OCP 7-Pin Universal Input Connector, securely holding it in place. Please reference specification Open Rack V3 Power Shelf Universal Input Connector for more details on this design. If using this plastic hood, there must an overmold between the cable and connector in all areas where individual wire is exposed. A proper strain relief must be in place at the cable mating interface.

7.2.2 Overmolded Hood

If a custom overmold is used to encapsulate the connector, it should follow the same general length, width, and height dimensions as the plastic hood. This height of the overmolded housing can be 24mm max (compared to 23mm for plastic hood) to account for internal wiring complexity and mold thickness. A custom overmold is preferred by Meta for reliability reasons.

7.2.3 AC Input Connector Cover Interference

Regardless of the method, the housing shall not interfere with the AC input connector cover on the ORV3 power shelf when it is being installed or removed.

7.2.4 Material

Material used for the plastic hood as well as the overmold must by UL 94 V0 rated.

7.3 Cable Exit from Housing

The cable coming out of the OCP 7-Pin Universal Input Connector housing shall ideally run parallel to the rear wall of the power shelf, which equates to a 90° angle exit. This is in order to properly route the cable through the rack. A 100° maximum is allowed for this exit to provide for connector housing design flexibility.

7.4 Wire Splitting

Various methods may be used to achieve the connection of the Neutral wire to Pins 1, 5 and 7 on the OCP 7-Pin Universal Input Connector, as shown in Figure 1. These include, but are not limited to, wire splicing or contact bridging. All methods must pass proper continuity and wire pull tests as outlined in Section 5.2 and be approved by the customer beforehand.

7.5 Safety Warning Label

The connector housing hood shall include a label on both top and bottom side that states “Not for current interrupting. Do not hot plug.” This statement must be visible on both sides of the housing when the cable is installed into the power shelf. Ideally, this label would be placed inside of an emboss on an overmolded housing to ensure label does not get accidentally detached.

7.6 Assembly Label

The AC WHIP shall have a label on the cord that specifies the items listed below. See mechanical drawing in Section 11 for approximate location of label.

1. Electrical Rating
2. CE Marking
3. Manufacturer Name

In addition, the following items must be included with Code128-AUTO bar code.

4. Manufacturer PN
5. Meta PN
6. Serial Number. This shall be in Meta's serial number format "WWYYABCDEFGxxxxx"
    a. "WWYY" will be date code (Work Week and Year)
    b. "ABCDFEG" will be assigned by Meta to supplier
    c. "xxxxx" will be 00001-99999

8. Regulatory Compliance Approvals

8.1 Agency Approval

The AC WHIP must be safety certified (RU recognition) by UL (Underwriters Laboratories, Inc.) or other equivalent NRTL in accordance with UL/CSA 62368-1 safety standards. It must also be CE certified in accordance with the applicable harmonized standards. The following additional standards are applicable to parts of the AC WHIP:

Standard	Parts
UL 1682	IEC 309 AC connector to the branch circuitry
UL498	NEMA AC connector to the branch circuitry
UL1977	Output connector that mates with connector in the power shelf
UL62, UL817, EN50525	Flexible power cord that can be used for AC wiring
UL 94 V0	All components
IEC/EN 61984	Connector safety requirements and tests
IEC60512	Connector for electrical equipment – Test and measurements
IPC/WHMA-A-620 REV D	Entire assembly

8.2 Safety Design Considerations & Testing

8.2.1 AC Cord Strain Relief

A cord pull test shall be conducted to ensure there is no significant conductor displacement. There shall not be any damage to the AC power cord or conductors when the cord pull test is performed on the rack.

100N is applied for 1 sec and repeated 25 times. After that, 0.25Nm is applied for 1 min. The conductor displacement shall not exceed 2mm. This test is to be done in both a straight pull as well as in the most unfavorable angled direction.

8.2.2 Power Cord Size

Power cord shall meet UL/CSA SOOW/STW and EU CENELEC <HAR> H07RN-F standards with +75C temperature rating. It must be evaluated per UL62 standard for heat shock, cold bend, aging, dielectric, tensile and elongation tests., etc. The following wire size (minimum) shall be used.

20 Amps NEMA: 12AWG min

32 Amps IEC: 6mm^2 is recommended. If 6mm^2 is infeasible, it may be acceptable to use 4mm^2 as long as it can meet all technical requirements in EN and IEC standards.

8.2.3 Power Cord Sheath

Heat shock, cold bend, elongation and tensile tests must be performed to ensure that the power cord sheath is resistant to cracking under severe bend radius and a high temperature environment.

8.2.4 Dielectric strength

AC WHIP shall be designed to comply with the following dielectric strength requirement and the test data must be provided. The dielectric strength of power cord assembly shall not be broken down when 5,000V_{DC} is applied between lines and neutral, and lines and primary ground pins for 90 sec minimum.

8.2.5 Connector Pins

A connector enclosure shall be constructed to reduce the risk of unintentional contact with any live parts. Any pins in the female connector shall not be accessible when testing with the probe as defined at UL standard. A minimum of 3.2mm air gap should be maintained between an uninsulated live pin and any other metal part (if any) in the connector.

8.2.6 Insertion Test

Adding to the pull test specified above in Section 5.2.1, the OCP 7-Pin Universal Input Connector to the power shelf should be subject to a maximum of 25 cycles of repeated insertion and removal. During the tests, the connector pins shall not be damaged. This is checked by visual inspection of the connector pins. After the test, there shall not be any visible damage to the pins.

8.2.7 T-Rise Test

T-rise testing shall be conducted on the OCP 7-Pin Universal Input Connector contacts to ensure contact temperature does not rise above 30°C at maximum current. Testing shall be done per IEC60512-5-1.

8.2.8 Environmental Compliance

- RoHS Directive (2011/65/EU, including proof by Declaration of Conformity and any other supporting documentation required for Deliverables, Components and Products, unless there are legal exemptions allowed); including aims to reduce the environmental impact of EEE by restricting the use of certain substances during manufacture.

- REACH Regulation (EC) No 1907/2006; registration with the European Chemicals Agency (ECHA), evaluation, authorization and restriction of chemicals.

- Halogen Free: IEC 61249-2-21, Definition of halogen free: 900ppm for Br or CI, or 1500ppm combined requires companies using tin, tantalum, tungsten, and gold (“3TG”) in their products to verify and disclose the mineral source. AC power cord is **exempted from** this requirement.

- AC WHIP shall not include chemical substances regulated under the EPA TSCA requirement.

8.3 Production Line Test

8.3.1 Hi-pot Test

Full production, 100%, of the AC whips shall comply with the minimum Hi-Pot (High Potential) test described below. The test shall be applied between the AC input side (the three phase lines) and the earth GND (NEMA L22-20P or IEC 309 ground terminal).

Parameter	Setting
Voltage	1500Vac RMS or 2121Vdc (minimum)
Trip current sensitivity	10mA RMS (maximum)
Voltage ramp time	500V/S (minimum)
Dwell time	1 Second (minimum)
Breakdown arc detection	10µS (maximum)

8.3.2 Voltage Polarity Test

One hundred percent of the power strips should be verified for correct polarity see Section 3.4.2

9. Environmental Regulations & Requirements

9.1 Temperature

9.1.1 Operating Ambient Temperature

The ambient operating temperature range should be from -5°C to +45°C.

9.1.2 Storage

The storage temperature range should be from -40°C to 70°C.

9.1.3 Transit

The transportation temperature range should be from -40 °C to 70 °C (short term storage, 72 hours).

9.2 Humidity

9.2.1 Operating

Operating relative humidity, 10% to 90% (non-condensing).

9.2.2 Non-operating

5% to 95% relative humidity, 38.7°C maximum wet bulb temperature with no cosmetic damage.

9.3 Altitude

9.3.1 Operating

The operating altitude with no de-rating should be from 0 to 10,000 feet (0 to 3000 meters), altitude change rate between testing conditions to be at least 2000 ft/min.

9.3.2 Non-operating

0 to 49,000 feet (0 to 15,000 meters), altitude change rate between testing conditions to be at least 2000 ft/min.

10. Reliability, Quality, Miscellaneous

10.1 Spec Compliance, Quality, FA, Warranty

- The Vendor is responsible for the AC WHIP to meet the specifications as stand-alone unit as well as at System level, and for assuring that the AC WHIP shipped in production will conform to this specification, with no deviations.

- The Vendor is responsible to exceed in production quality standards achieved on the pilot run built, without fluctuations.
- Failure analysis on defective RMA units shall be provided to the customer with a corrective action plan, within two weeks from when units are received at Vendor facility.
- The Vendor shall warrant the AC WHIP for defects & workmanship for a period of two years from the date of shipment, when the device is operated within specifications. The warranty is fully transferable to any end user. A standard 'VOID' Warranty Sticker shall be applied.

10.2 Mass Production: First Article Samples

Prior to final project release and mass production, the Vendor will submit to the customer a few production pilot run samples, including the following documentation:

- All the pertinent development docs, production docs, and reports, necessary for the customer to release the product for mass production.
- The pilot samples shall be built in the allocated facility for mass production, and using hard tooled chassis and parts (where applies).
- Full specification compliance matrix, full test report, production line final test 'PASS' tickets
- Samples passed the burn-in process planned for production (if any).
- Samples are shipped using an approved for Production 'shipping box'
- A mechanical FAI report shall be submitted that shows compliance with all of the notes and dimensions in the mechanical drawing shown in Section 8 below.
- The units are certified, and the safety label is applied (*)

(*) 'Pending Certification' sticker may be allowed until the certification process is complete.

10.3 Quality Control, Process, Burn-In

- Incoming Quality: < 0.1% rejections
- Cpk values will exceed 1.33 (Pilot Build & Production)

10.4 Packaging

The AC WHIP shall be shipped using either custom or standard packaging. Quality of the packing assembly will be such that the AC WHIP will not get damaged during transportation: units will arrive in optimum conditions and be suitable for immediate use.

A shipping box 'shock test' shall be proposed by the Vendor and submitted to the customer for audit and approval.

10.5 Documentation

The Vendor shall provide the customer the following documentation (prototypes may not include portion of these documents) if applicable:

- BOM (including AVL)
- Mechanical Drawings (PDF format. Native 3D files and/or DXFs will be provided to perform collaborative work on the design, for a seamless device integration at system level chassis)
- Hi-Pot test, Ground Bond test, Isolation, Surge Test, Thermal Test

NOTE: The Vendor shall propose to customer's 'Qualification Test Plan' & 'Reliability Test Plan'.

10.6 Change Authorization, Revision Control

Once the project is released to mass production, no design changes, AVL changes, manufacturing process or materials changes are allowed without prior written authorization from the customer.

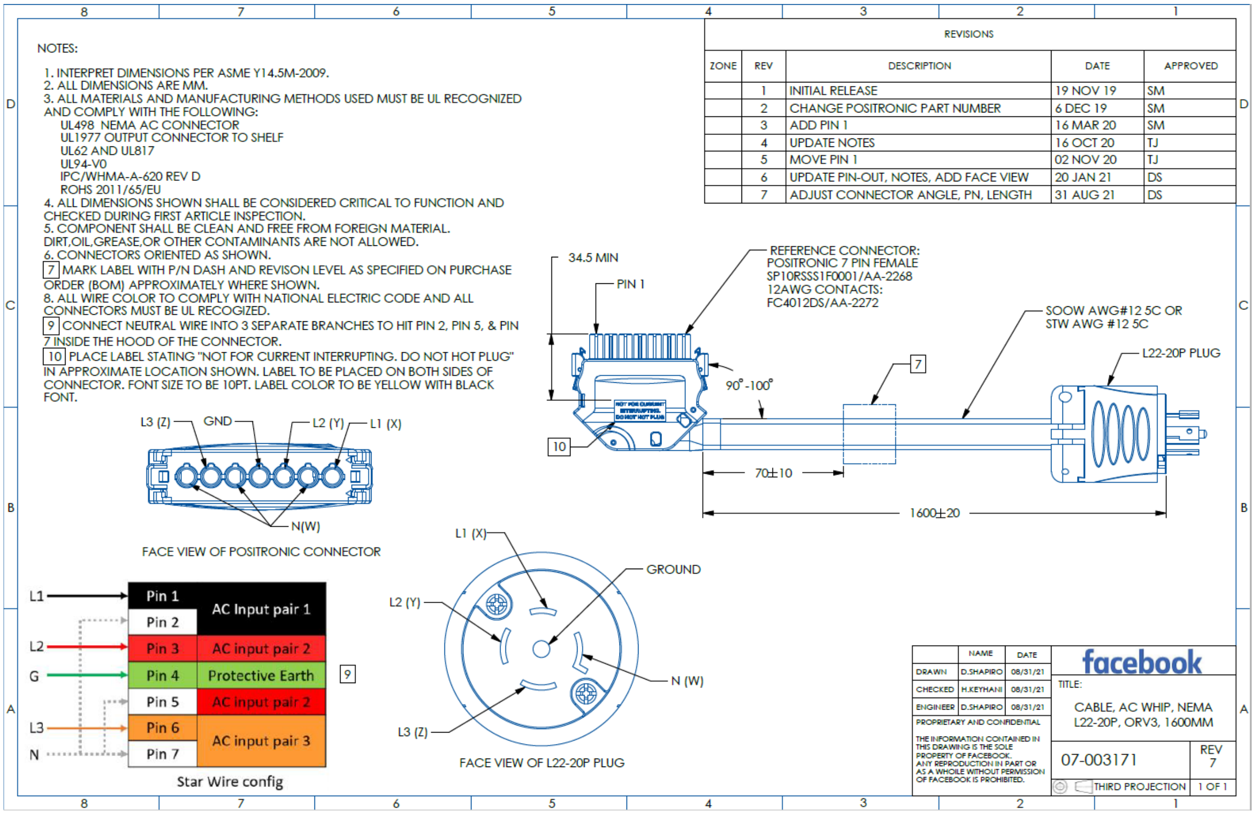
AVL is 'Approved Vendor List' of all the components listed in the BOM (the 'Bill of Material'). Any request for changes must be submitted to the customer with proper documentation showing the details of the changes, and reason for the changes, including changes affecting form, fit, function, safety, or serviceability of the product. Major changes in the product (or in the manufacturing process) will require re-qualification and/or re-certification to the Product. Hence a new set of first article samples may be required to complete the ECO process.

Any modifications after approval would 'phase-in' during production without causing any delays or shift of the current production schedule: enough ECO advance notice shall be given to the customer (and to all appropriate entities in the Supply Chain) in such occurrences.

All changes must go through a formal ECO process, starting from the pilot run and onward, and the revision (shown in the Safety Label) will increment accordingly.

Revision Control: copies of all ECOs affecting the product will be provided to the customer for sign off.

11. Mechanical Drawings


NOTES:
1. INTERPRET DIMENSIONS PER ASME Y14.5M-2009.
2. ALL DIMENSIONS ARE MM.
3. ALL MATERIALS AND MANUFACTURING METHODS USED MUST BE UL RECOGNIZED AND COMPLY WITH THE FOLLOWING:
UL498 NEMA AC CONNECTOR
UL1977 OUTPUT CONNECTOR TO SHELF
UL62 AND UL817
UL94-V0
IPC/WHMA-A-620 REV D
ROHS 2011/65/EU
4. ALL DIMENSIONS SHOWN SHALL BE CONSIDERED CRITICAL TO FUNCTION AND CHECKED DURING FIRST ARTICLE INSPECTION.
5. COMPONENT SHALL BE CLEAN AND FREE FROM FOREIGN MATERIAL. DIRT,OIL,GREASE,OR OTHER CONTAMINANTS ARE NOT ALLOWED.
6. CONNECTORS ORIENTED AS SHOWN.
7 MARK LABEL WITH P/N DASH AND REVISON LEVEL AS SPECIFIED ON PURCHASE ORDER (BOM) APPROXIMATELY WHERE SHOWN.
8. ALL WIRE COLOR TO COMPLY WITH NATIONAL ELECTRIC CODE AND ALL CONNECTORS MUST BE UL RECOGIZED.
9 CONNECT NEUTRAL WIRE INTO 3 SEPARATE BRANCHES TO HIT PIN 2, PIN 5, & PIN 7 INSIDE THE HOOD OF THE CONNECTOR.
10 PLACE LABEL STATING "NOT FOR CURRENT INTERRUPTING. DO NOT HOT PLUG" IN APPROXIMATE LOCATION SHOWN. LABEL TO BE PLACED ON BOTH SIDES OF CONNECTOR. FONT SIZE TO BE 10PT. LABEL COLOR TO BE YELLOW WITH BLACK FONT.
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	INITIAL RELEASE	19 NOV 19	SM
	2	CHANGE POSITRONIC PART NUMBER	6 DEC 19	SM
	3	ADD PIN 1	16 MAR 20	SM
	4	UPDATE NOTES	16 OCT 20	TJ
	5	MOVE PIN 1	02 NOV 20	TJ
	6	UPDATE PIN-OUT, NOTES, ADD FACE VIEW	20 JAN 21	DS
	7	ADJUST CONNECTOR ANGLE, PN, LENGTH	31 AUG 21	DS

34.5 MIN
PIN 1
REFERENCE CONNECTOR:
POSITRONIC 7 PIN FEMALE
SP10RSSS1F0001/AA-2268
12AWG CONTACTS:
FC4012DS/AA-2272
SOOW AWG#12 5C OR
STW AWG #12 5C
L22-20P PLUG
7
90°-100°
10
70±10
1600±20
L3 (Z)
GND
L2 (Y)
L1 (X)
N(W)
FACE VIEW OF POSITRONIC CONNECTOR
L1 (X)
GROUND
L2 (Y)
N (W)
L3 (Z)
FACE VIEW OF L22-20P PLUG
L1
L2
G
L3
N
Pin 1
Pin 2
AC Input pair 1
Pin 3
AC input pair 2
Pin 4
Protective Earth
Pin 5
AC input pair 2
Pin 6
Pin 7
AC input pair 3
9
Star Wire config
NAME DATE
DRAWN D.SHAPIRO 08/31/21
CHECKED H.KEYHANI 08/31/21
ENGINEER D.SHAPIRO 08/31/21
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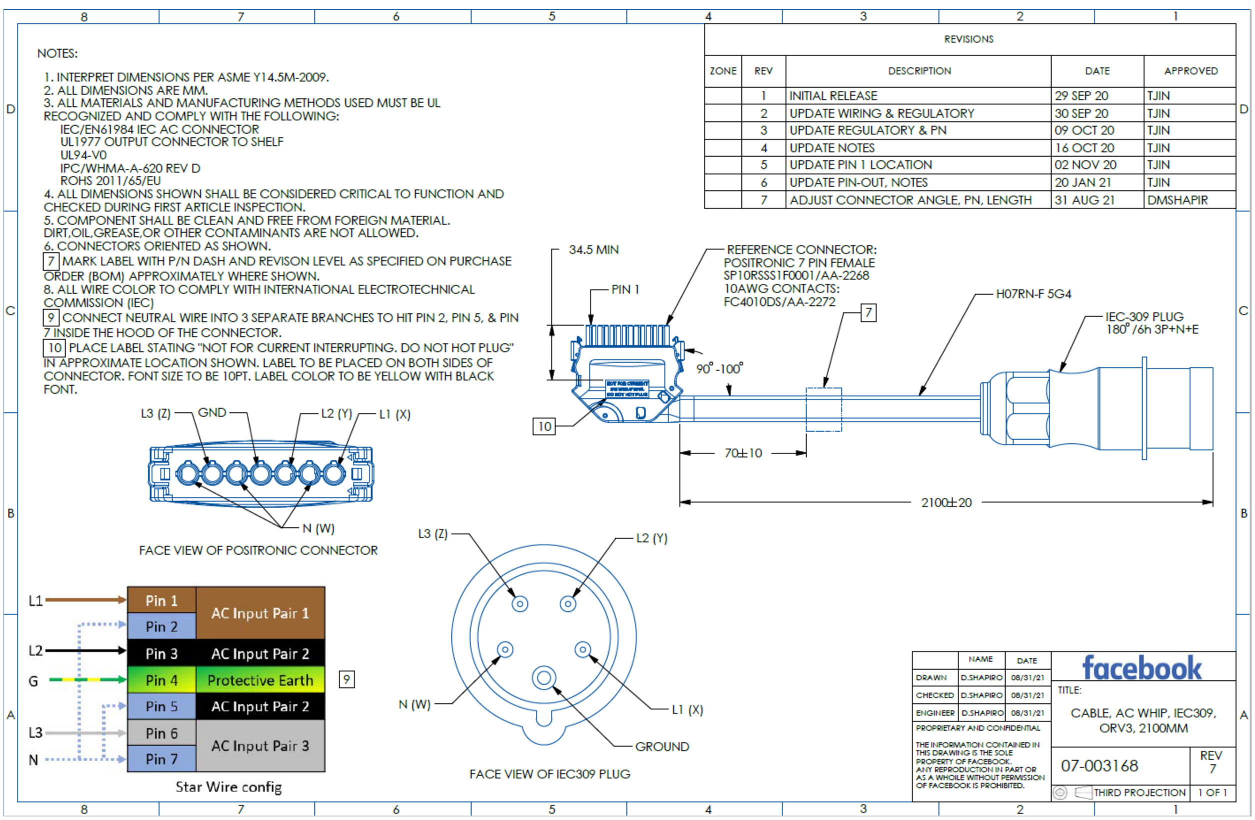
TITLE:
CABLE, AC WHIP, NEMA L22-20P, ORV3, 1600MM
07-003171
REV 7
THIRD PROJECTION
1 OF 1


NOTES:
1. INTERPRET DIMENSIONS PER ASME Y14.5M-2009.
2. ALL DIMENSIONS ARE MM.
3. ALL MATERIALS AND MANUFACTURING METHODS USED MUST BE UL RECOGNIZED AND COMPLY WITH THE FOLLOWING:
IEC/EN61984 IEC AC CONNECTOR
UL1977 OUTPUT CONNECTOR TO SHELF
UL94-V0
IPC/WHMA-A-620 REV D
ROHS 2011/65/EU
4. ALL DIMENSIONS SHOWN SHALL BE CONSIDERED CRITICAL TO FUNCTION AND CHECKED DURING FIRST ARTICLE INSPECTION.
5. COMPONENT SHALL BE CLEAN AND FREE FROM FOREIGN MATERIAL. DIRT,OIL,GREASE,OR OTHER CONTAMINANTS ARE NOT ALLOWED.
6. CONNECTORS ORIENTED AS SHOWN.
7 MARK LABEL WITH P/N DASH AND REVISON LEVEL AS SPECIFIED ON PURCHASE ORDER (BOM) APPROXIMATELY WHERE SHOWN.
8. ALL WIRE COLOR TO COMPLY WITH INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
9 CONNECT NEUTRAL WIRE INTO 3 SEPARATE BRANCHES TO HIT PIN 2, PIN 5, & PIN 7 INSIDE THE HOOD OF THE CONNECTOR.
10 PLACE LABEL STATING "NOT FOR CURRENT INTERRUPTING. DO NOT HOT PLUG" IN APPROXIMATE LOCATION SHOWN. LABEL TO BE PLACED ON BOTH SIDES OF CONNECTOR. FONT SIZE TO BE 10PT. LABEL COLOR TO BE YELLOW WITH BLACK FONT.
REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	INITIAL RELEASE	29 SEP 20	TJIN
	2	UPDATE WIRING & REGULATORY	30 SEP 20	TJIN
	3	UPDATE REGULATORY & PN	09 OCT 20	TJIN
	4	UPDATE NOTES	16 OCT 20	TJIN
	5	UPDATE PIN 1 LOCATION	02 NOV 20	TJIN
	6	UPDATE PIN-OUT, NOTES	20 JAN 21	TJIN
	7	ADJUST CONNECTOR ANGLE, PN, LENGTH	31 AUG 21	DMSHAPIR

34.5 MIN
PIN 1
REFERENCE CONNECTOR:
POSITRONIC 7 PIN FEMALE
SP10RSSS1F0001/AA-2268
10AWG CONTACTS:
FC4010DS/AA-2272
H07RN-F 5G4
IEC-309 PLUG
180° /6h 3P+N+E
7
90°-100°
10
70±10
2100±20
L3 (Z)
GND
L2 (Y)
L1 (X)
N (W)
FACE VIEW OF POSITRONIC CONNECTOR
L3 (Z)
L2 (Y)
N (W)
L1 (X)
GROUND
FACE VIEW OF IEC309 PLUG
L1
L2
G
L3
N
Pin 1
Pin 2
AC Input Pair 1
Pin 3
AC Input Pair 2
Pin 4
Protective Earth
Pin 5
AC Input Pair 2
Pin 6
Pin 7
AC Input Pair 3
9
Star Wire config
NAME DATE
DRAWN D.SHAPIRO 08/31/21
CHECKED D.SHAPIRO 08/31/21
ENGINEER D.SHAPIRO 08/31/21
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TITLE:
CABLE, AC WHIP, IEC309, ORV3, 2100MM
07-003168
REV 7
THIRD PROJECTION
1 OF 1

Appendix A - Checklist for IC approval of this Specification

Complete all the checklist items in the table with links to the section where it is described in this spec or an external document .

Item	Status or Details	Link to detailed explanation
Is this contribution entered into the OCP Contribution Portal?	Yes	
Was it approved in the OCP Contribution Portal?	Yes	
Is there a Supplier(s) that is building a product based on this Spec? (Supplier must be an OCP Solution Provider)	Yes, Amphenol (OCP Solution Provider)	
Will Supplier(s) have the product available for GENERAL AVAILABILITY within 120 days?	Yes	