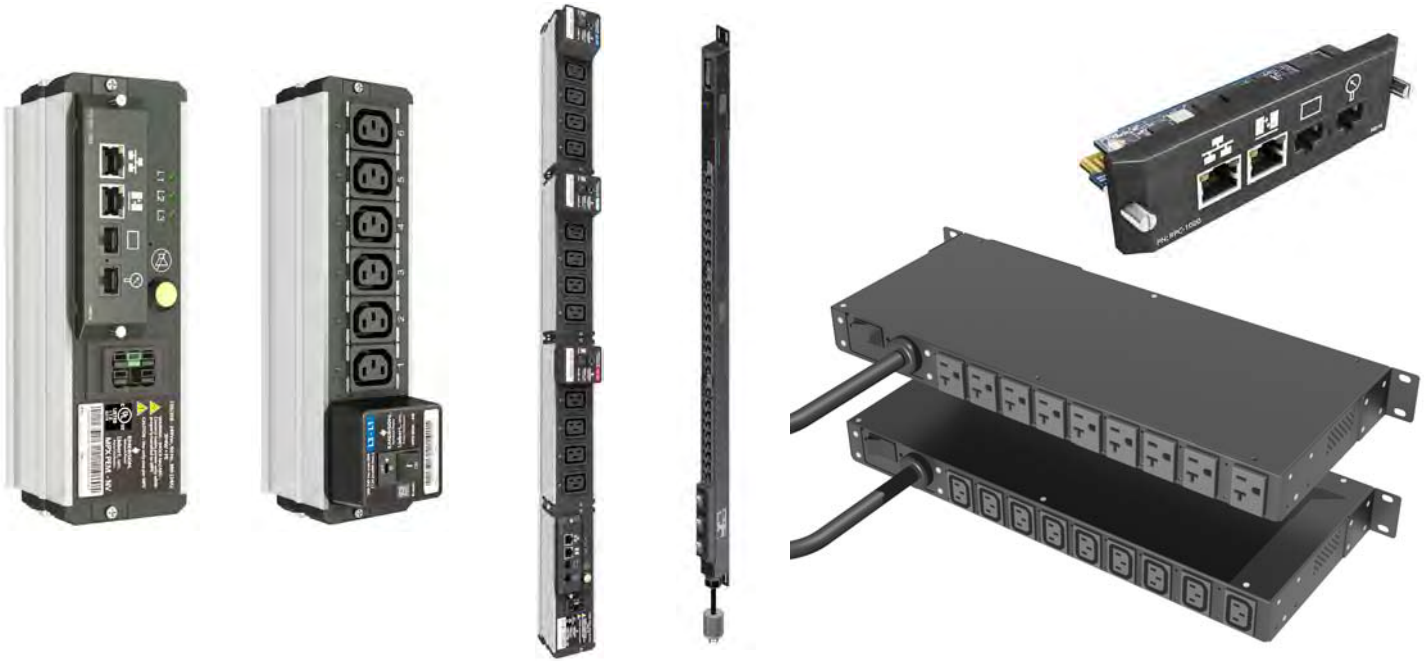
AC Power
For *Business-Critical Continuity™*

Emerson Network Power Rack PDU Systems

Product Selection Guide - North America Models



EMERSON
Network Power

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1.0 EMERSON NETWORK POWER RACK PDU SYSTEMS

Emerson Network Power's Rack PDU Systems is a family of products that delivers power and management to connected IT equipment through a global and comprehensive offering including Basic, Managed and Adaptive Rack PDU systems.

Each PDU type offers simplified installation and easy operation. Each type is compatible with standard rack enclosures. These Emerson Rack PDUs provide easy low-cost installation, simple relocation, security and proven design and performance.

Emerson Rack PDUs can be set up with varying degrees of power-monitoring and management. When power or management requirements grow, the adaptive PDUs are scalable, enabling them to grow with the installation.

Emerson PDUs are available for the entire spectrum of power needs of every type of rack equipment.

- **Knurr® DI-STRIP** - Basic Rack PDU systems, provide a broad range of power distribution capacities and connectivity solutions in a robust package.
- **Liebert MPH™** - Managed Rack PDUs with single-phase or three-phase capability for fixed power input/output with remote management support; one-piece unit with monitoring at the branch level and control at the receptacle level; available in rack-mount and zero U configurations.
- **Liebert MPX™** - Adaptive Rack PDUs built with modular and scalable components that can be installed and reconfigured on-site to meet changing input and output power connectivity needs; with remote monitoring at the branch level and receptacle management and control at the receptacle level.

1.1 Safety and Agency Compliance

Where a conflict arises between the following documents and statements made herein, the statements in this specification will govern.

North American Units - 120V & 208V (Single-Phase & Three-Phase)

- UL 60950-1 Information Technology Equipment
- CAN/CSA-C22.2 No. 60950-1-03 Information Technology Equipment
- FCC, Title 47, Part 15 Subpart B for Class A operation as defined by ANSI Standard C63.4
- ISTA Procedure 1A and 2A
- RoHS Compliant

2.0 DETERMINING THE RIGHT EMERSON PDU FOR YOUR APPLICATION

Each of the Rack PDU systems Emerson offers is well-suited for delivering power to sensitive, high-capacity, rack-mounted equipment. Determining which is best for a particular installation requires knowing the basic power requirements of the equipment in the rack, deciding on the acceptable or preferable level of monitoring and control and then balancing those considerations against site requirements.

The Emerson Rack PDU product line includes models to fit all types of installations: new or established; stable or rapidly changing; contracting or expanding. Each type of installation may require any or all types of Emerson Rack PDUs.

After determining your requirements, refer to the data and specifications for each product.

3.0 KNURR DI-STRIP PRODUCT SELECTION GUIDE - BASIC RACK PDUS

3.1 Overview - Basic Rack PDUs

The Knurr DI-STRIP, a Basic Rack PDU system, provides a broad range of power distribution capacities and connectivity solutions in a robust package.

The Knurr DI-STRIP includes an input power cord with appropriate input plug connection and hydraulic-magnetic branch rated overload protection as appropriate; basic rack mounting provisions are also provided. Knurr DI-STRIP Rack PDUs are available in rack mount and vertical zero-U form factors.

The Knurr DI-STRIP fits most standard 600mm width network equipment rack enclosures. Product fit should be confirmed for each application.

Knurr DI-STRIP								
	INPUT						OUTPUT	
Part Number	Voltage	Rated Amps	Max Continuous Amps	kW*	Phase	Plug	Receptacle/Socket Configuration	Form Factor
035351011	120	15	12	1.4	1	NEMA 5-15	(9) NEMA 5-15R	Rack mount or Vertical
035351021	120	15	12	1.4	1	NEMA 5-15	(12) NEMA 5-15R	Vertical
035351031	120	15	12	1.4	1	NEMA 5-15	(18) NEMA 5-15R	Vertical
035351041	120	20	16	1.9	1	NEMA L5-20	(9) NEMA 5-20 T-Slot	Vertical
035351051	120	20	16	1.9	1	NEMA 5-20	(12) NEMA 5-20 T-Slot	Vertical
035351061	120	20	16	1.9	1	NEMA L5-20	(12) NEMA 5-20 T-Slot	Vertical
035351081	120	30	24	2.8	1	NEMA L5-30	(24) NEMA 5-20 T-Slot	Vertical
035352011	208-240	20	16	3.3	1	NEMA L6-20	(9) IEC-C13 sockets	Vertical
035352031	208-240	20	16	3.3	1	NEMA L6-20	(12) IEC-C13 sockets	Vertical
035352041**	208-240	20	16	3.3	1	IEC-C20 inlet	(12) IEC-C13 sockets	Vertical
035352051	208-240	30	24	4.9	1	NEMA L6-30	(4) IEC-C19 sockets	Vertical
035352061	208-240	30	24	4.9	1	NEMA L6-30	(24) IEC-C13 sockets	Vertical
035352078	208-240	30	24	4.9	1	NEMA L6-30	(20) IEC-C13 + (4) IEC-C19 sockets	Vertical
035353011	208-240	30	24	8.6	3	NEMA L21-30	(6) IEC-C19 sockets	Vertical
035353021	208-240	20	16	5.7	3	NEMA L21-20	(18) IEC-C13 + (6) IEC-C19 sockets	Vertical
035353031	208-240	20	16	5.7	3	NEMA L21-20	(27) IEC-C13 + (6) IEC-C19 sockets	Vertical
035353041	208-240	20	16	5.7	3	NEMA L21-20	(27) 5-20 T-Slot	Vertical
035353051	208-240	30	24	8.6	3	NEMA L21-30	(18) IEC-C13 + (6) IEC-C19 sockets	Vertical
035353061	208-240	30	24	8.6	3	NEMA L21-30	(27) IEC-C13 + (6) IEC-C19 sockets	Vertical
035353078	208-240	60	48	17.3	3	IEC60309	(42) IEC-C13 + (6) IEC-C19 sockets	Vertical
035353088	208-240	43	34	24.4	3	(2) IEC60309	(42) IEC-C13 + (6) IEC-C19 sockets	Vertical

All input cords are 10 ft. (3m) in length.

* Formulas used to calculate the kW:
For single-phase: input voltage x max continuous amps = watts
For three-phase: input voltage x max continuous amps x 1.73 = watts

** Knurr DI-STRIP output expansion modules require the use of a cord set for input power.

3.2 Basic Rack PDU Optional Accessories

Output Cord Sets

Output cord sets versions are available to support conversion of Rack PDU power output receptacles to alternative power output connections and to support Rack PDU output expansion capabilities.

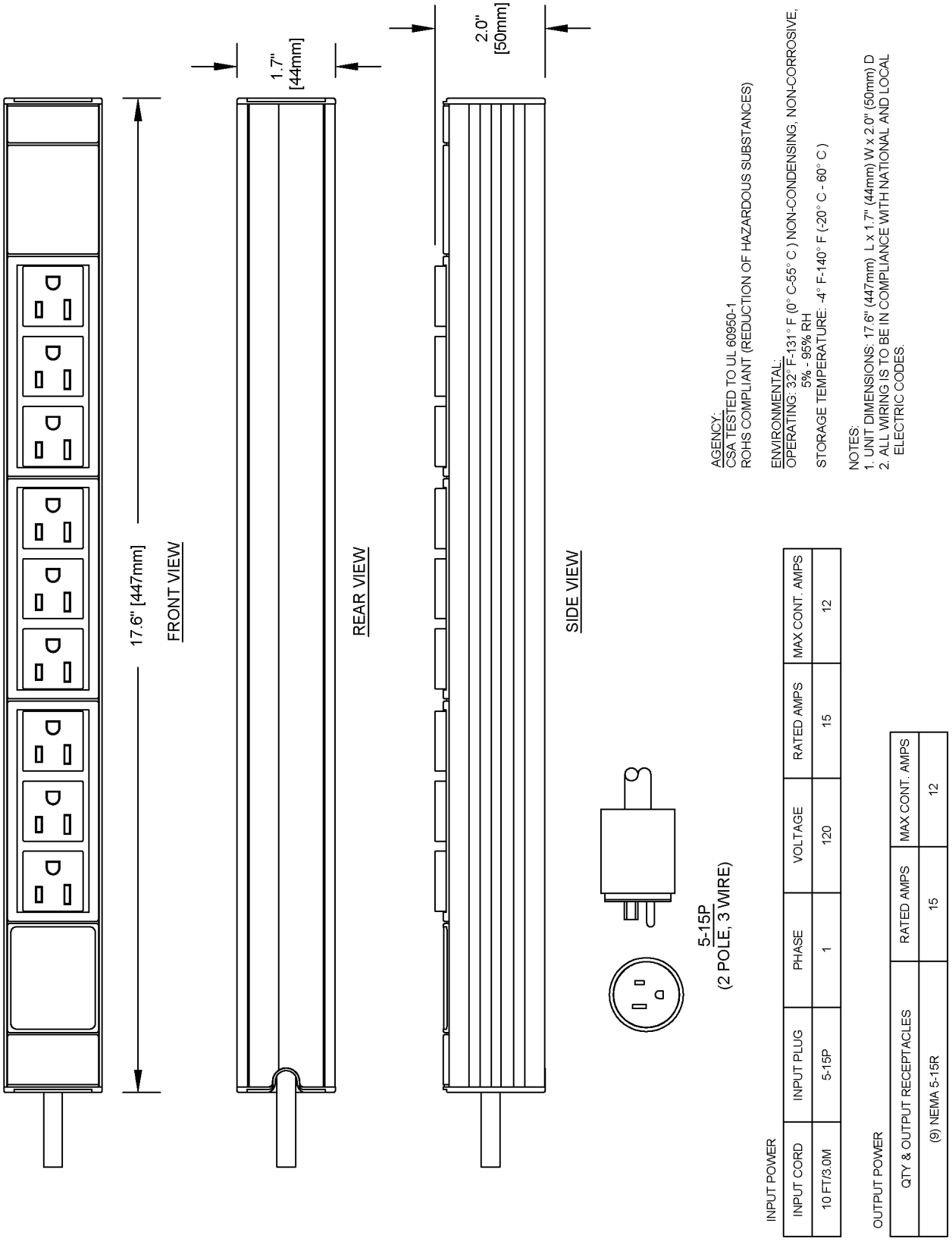
Conversion of power output connections can be provided on Rack PDUs with IEC-C19 receptacles. The output cord set for these systems includes an IEC-C20 plug to connect to the IEC-C19 receptacle, a 3 ft. (1m) power cord and receptacle to connect to user equipment. Available receptacles include: IEC-C13 to connect to IEC-C14 equipment plugs and IEC-C19 to connect to NEMA L6-20P equipment plugs.

Knurr DI-STRIP output expansion modules are powered via an IEC-C20 input connection. These systems provide output expansion capabilities when connected to a receptacle on a separate Rack PDU. The output cord set for these systems includes an IEC-C19 receptacle to connect to the IEC-C20 plug on the output expansion Knurr DI-STRIP, a 3 ft. (1m) power cord and plug to connect to the Rack PDU receptacle providing power. Available plugs include: IEC-C20 to connect to an IEC-C19 Rack PDU receptacle.

Output Cord Sets	
Output Cord Sets - Power Output Conversion	
539031G5	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 3 ft. (1m)
539031G6	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 10 ft. (3m)
539031G9	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 3 ft. (1m)
539031G10	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 10 ft. (3m)
Output Cord Sets - Power Output Expansion	
539031G7	Output Cord Set - Power Output Expansion - IEC-C20 to IEC-C19, 3 ft. (1m)
539031G8	Output Cord Set - Power Output Expansion - IEC-C20 to IEC-C19, 10 ft. (3m)
539031G3	Output Cord Set - Power Output Expansion - IEC-C14 to IEC-C19, 3 ft. (1m)
539031G4	Output Cord Set - Power Output Expansion - IEC-C14 to IEC-C19, 10 ft. (3m)

3.3 DImensional Drawings - Basic Rack PDUs

Figure 1 Knurr DI-STRIP 35351011



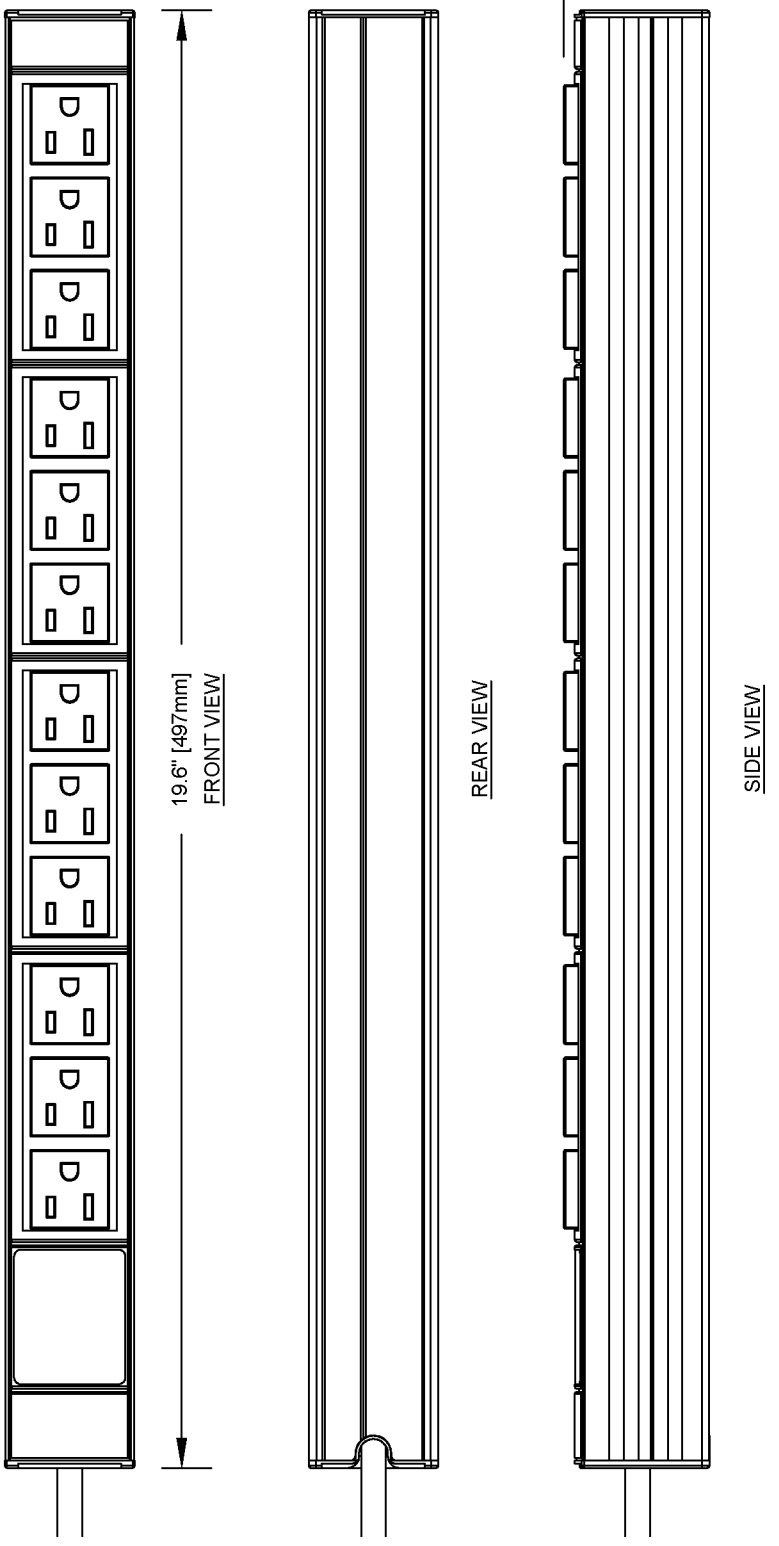
INPUT POWER

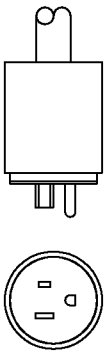
INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	5-15P	1	120	15	12

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(9) NEMA 5-15R	15	12

Figure 2 Knurr DI-STRIP 35351021





5-15P
(2 POLE, 3 WIRE)

AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE,
5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 19.6" (497mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

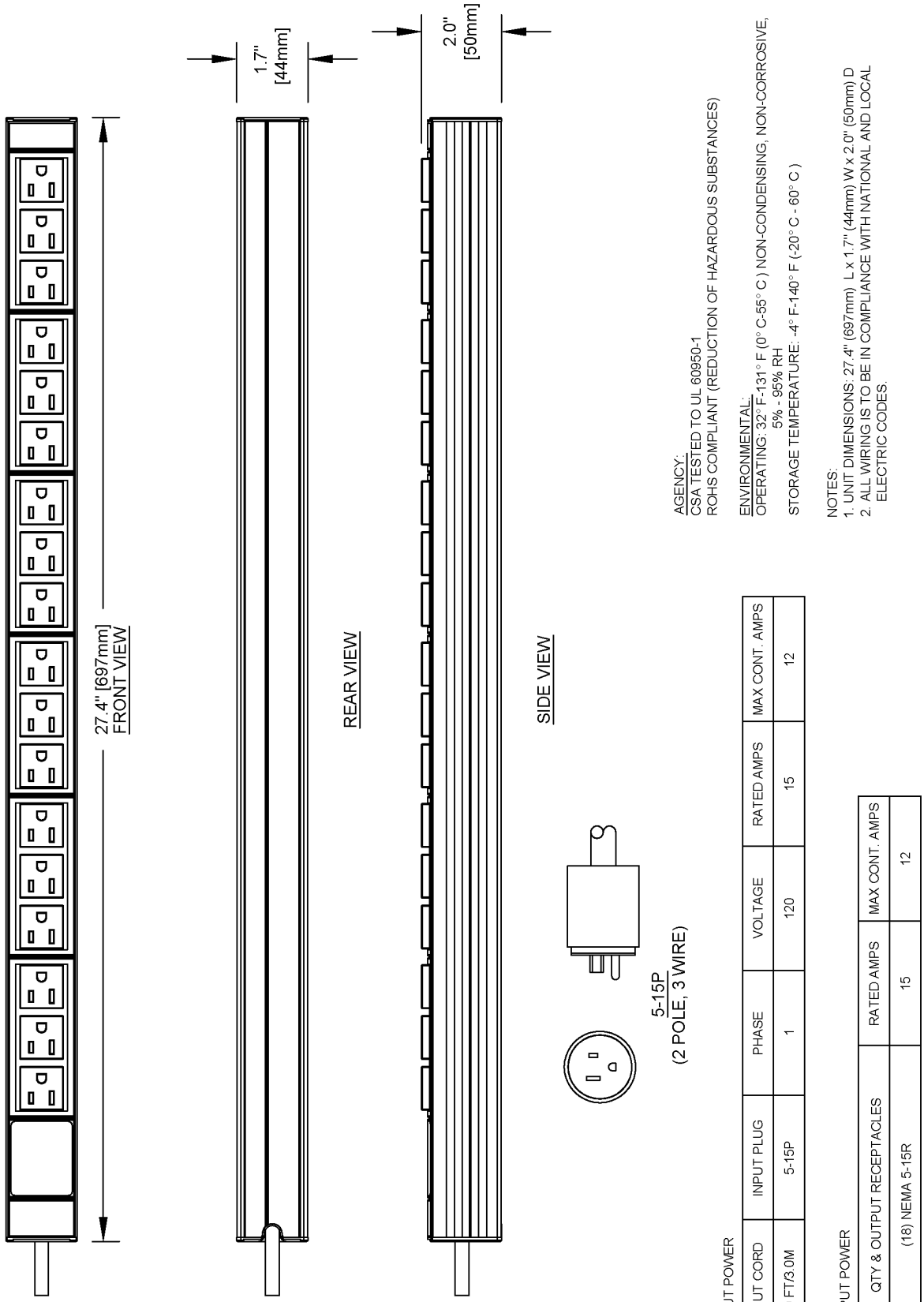
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	5-15P	1	120	15	12

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(12) NEMA 5-15R	15	12

Figure 3 Knurr DI-STRIP 35351031



AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 27.4" (697mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

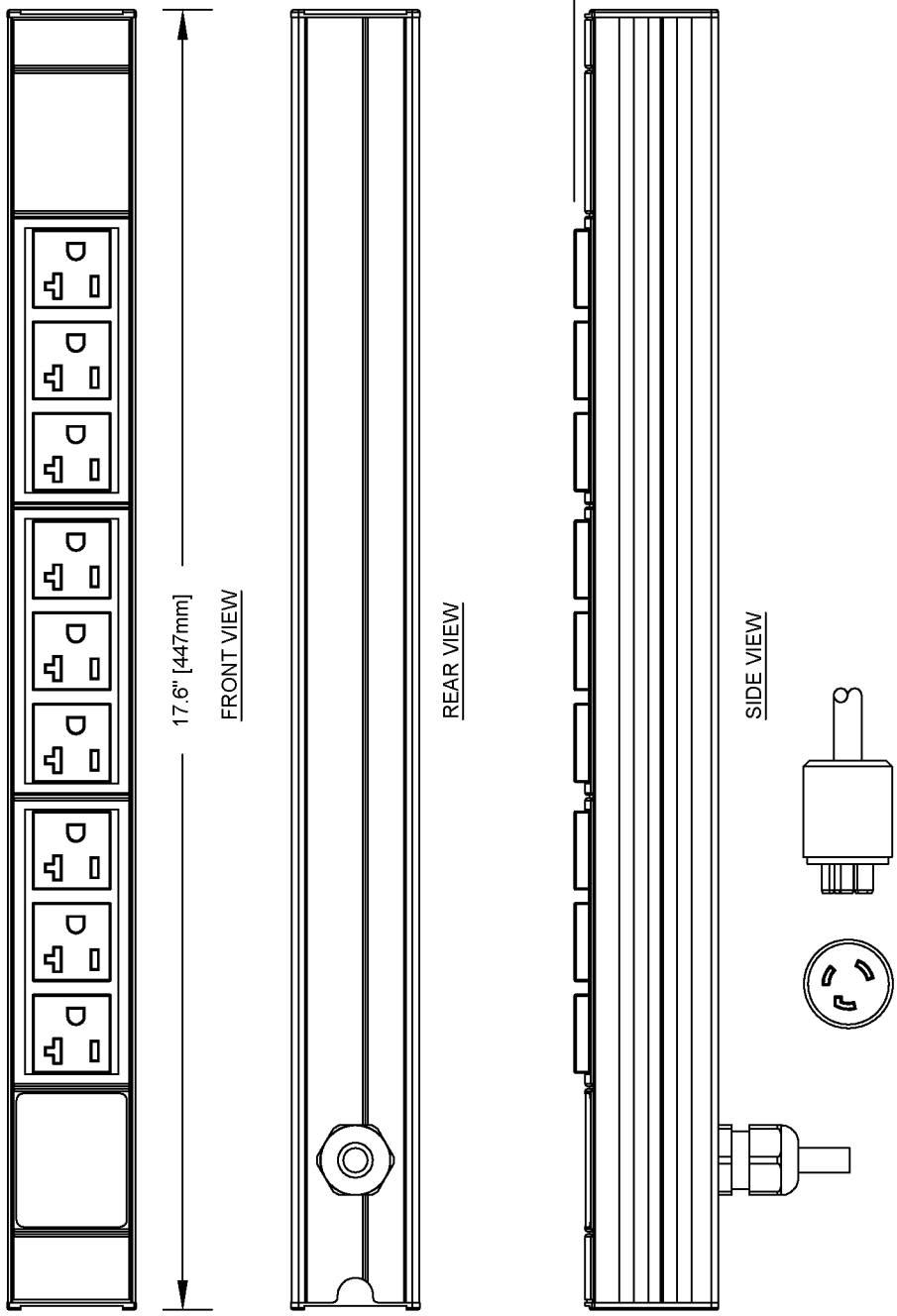
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	5-15P	1	120	15	12

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(18) NEMA 5-15R	15	12

Figure 4 Knurr DI-STRIP 35351041



AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131 ° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 17.6" (447mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

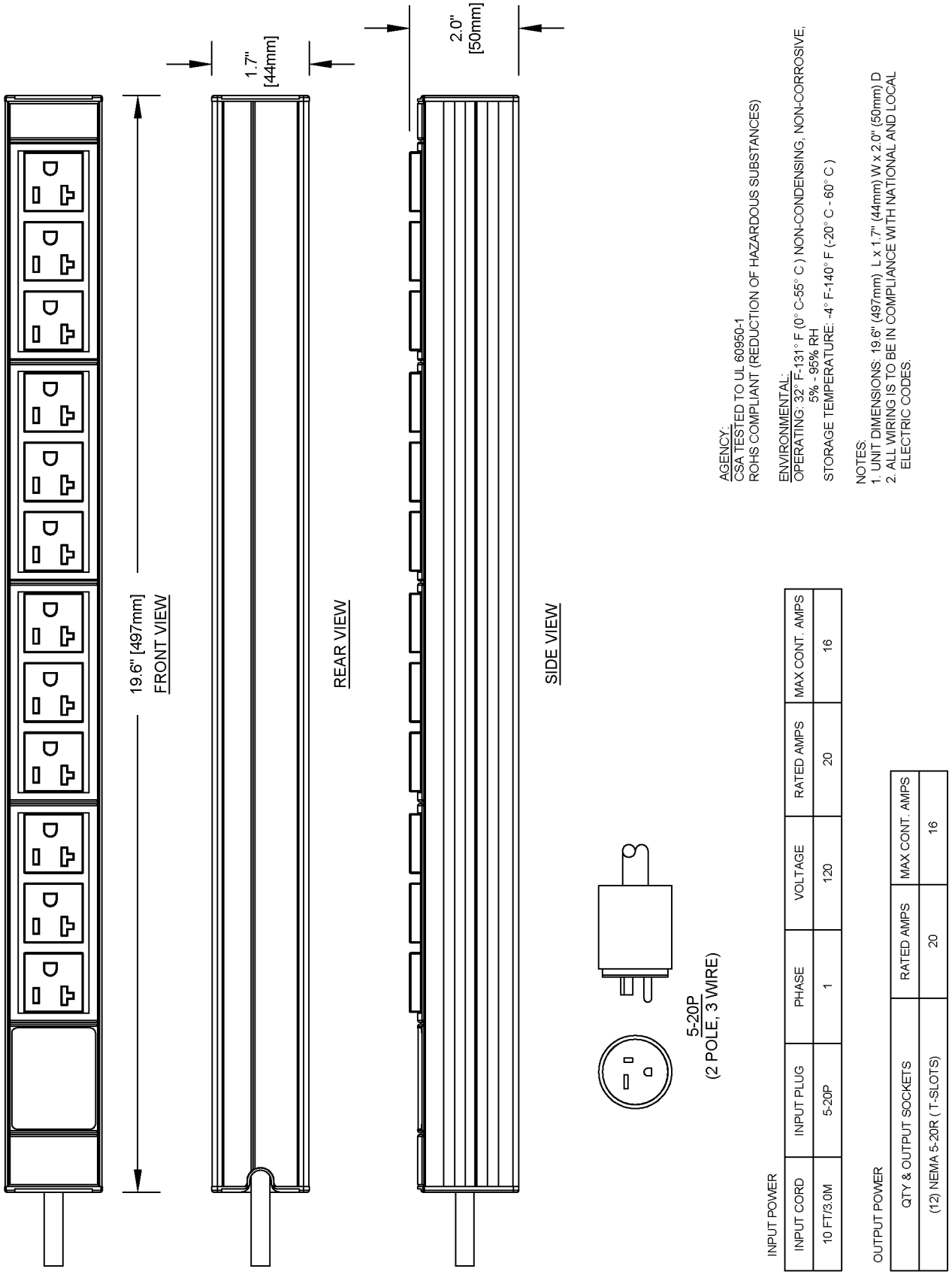
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L5-20P	1	120	20	16

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(9) NEMA 5-20R (T-SLOT)	20	16

Figure 5 Knurr DI-STRIP 35351051



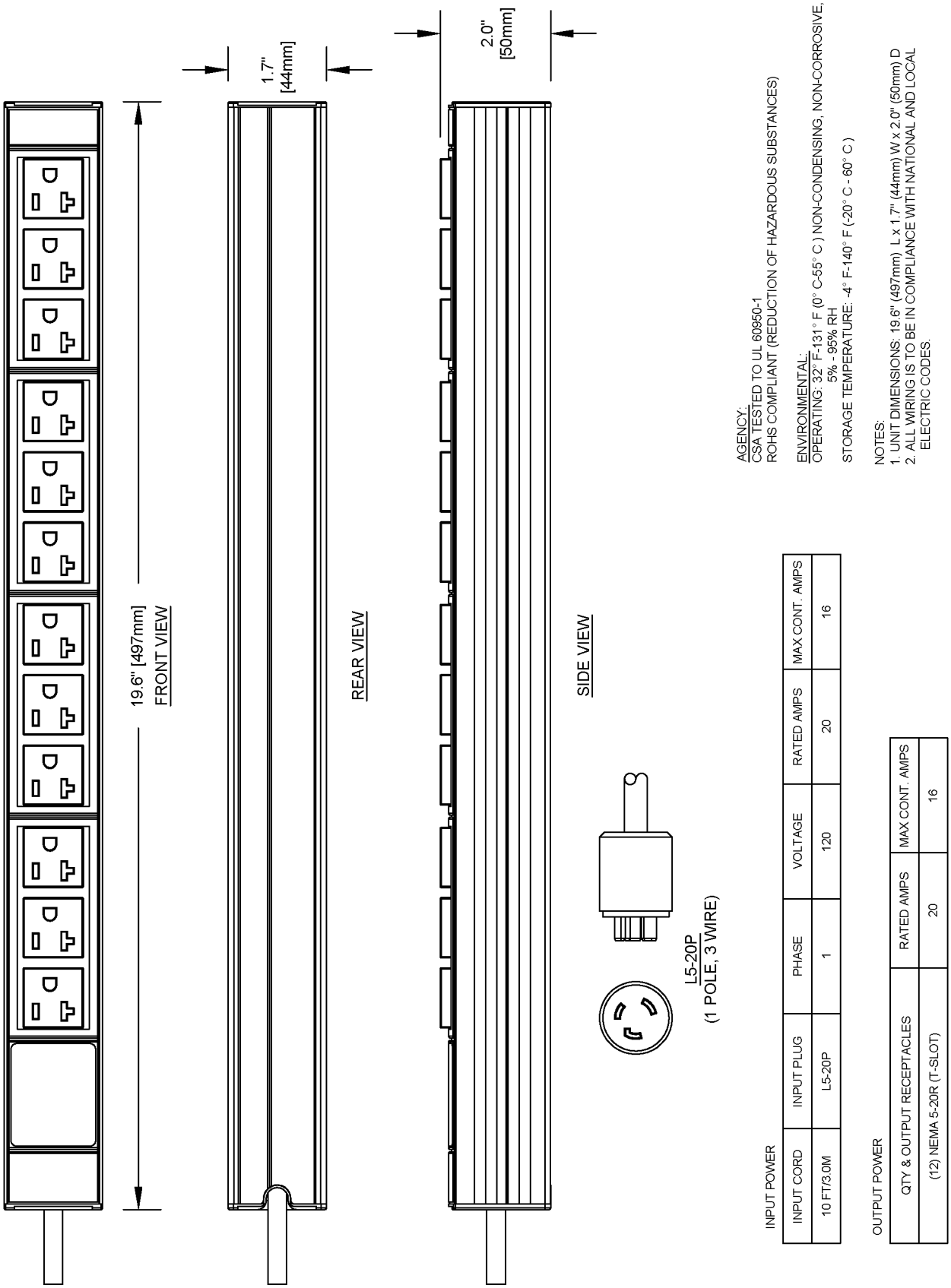
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	5-20P	1	120	20	16

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(12) NEMA 5-20R (T-SLOTS)	20	16

Figure 6 Knurr DI-STRIP 35351061



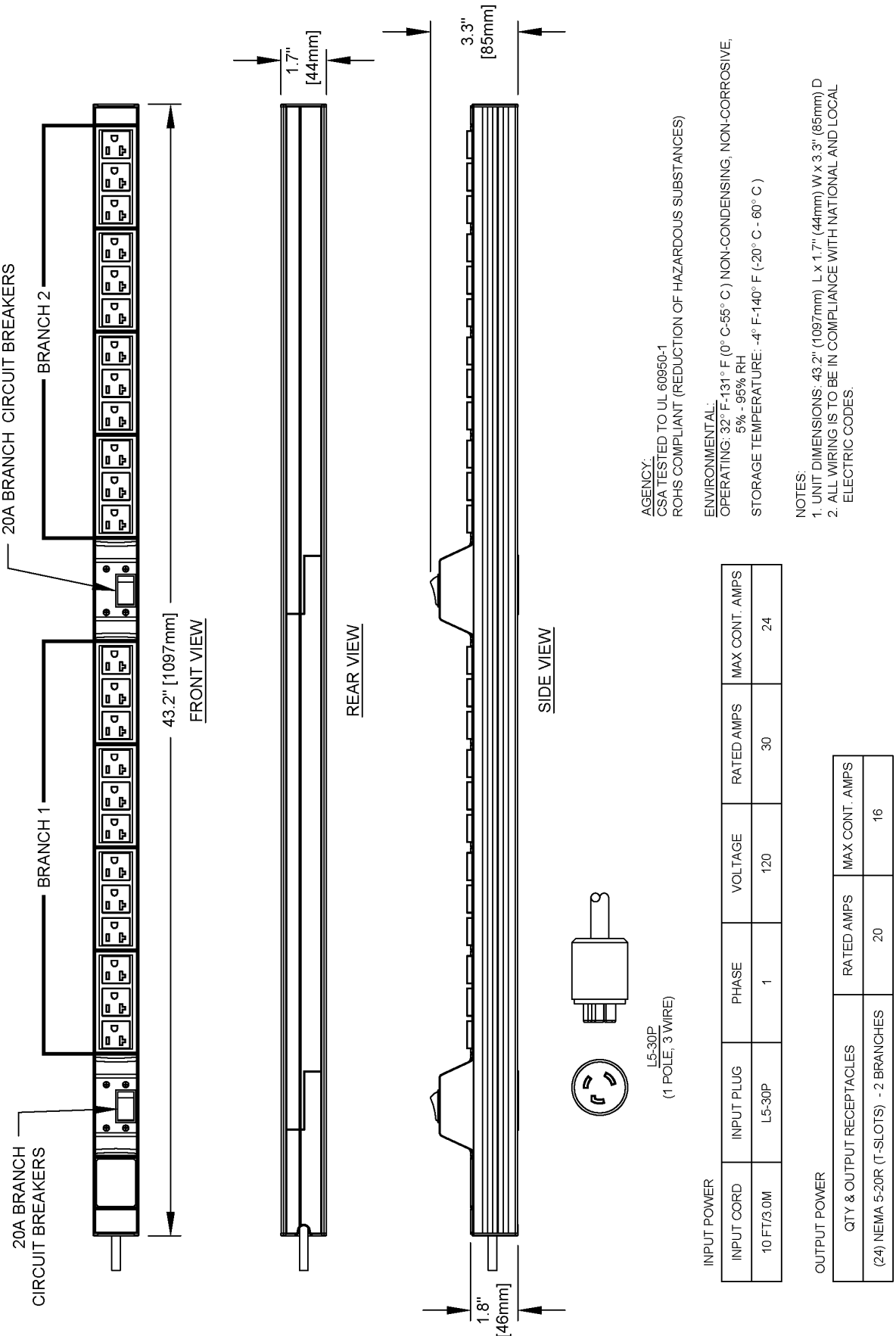
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L5-20P	1	120	20	16

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(12) NEMA 5-20R (T-SLOT)	20	16

Figure 7 Knurr DI-STRIP 35351081



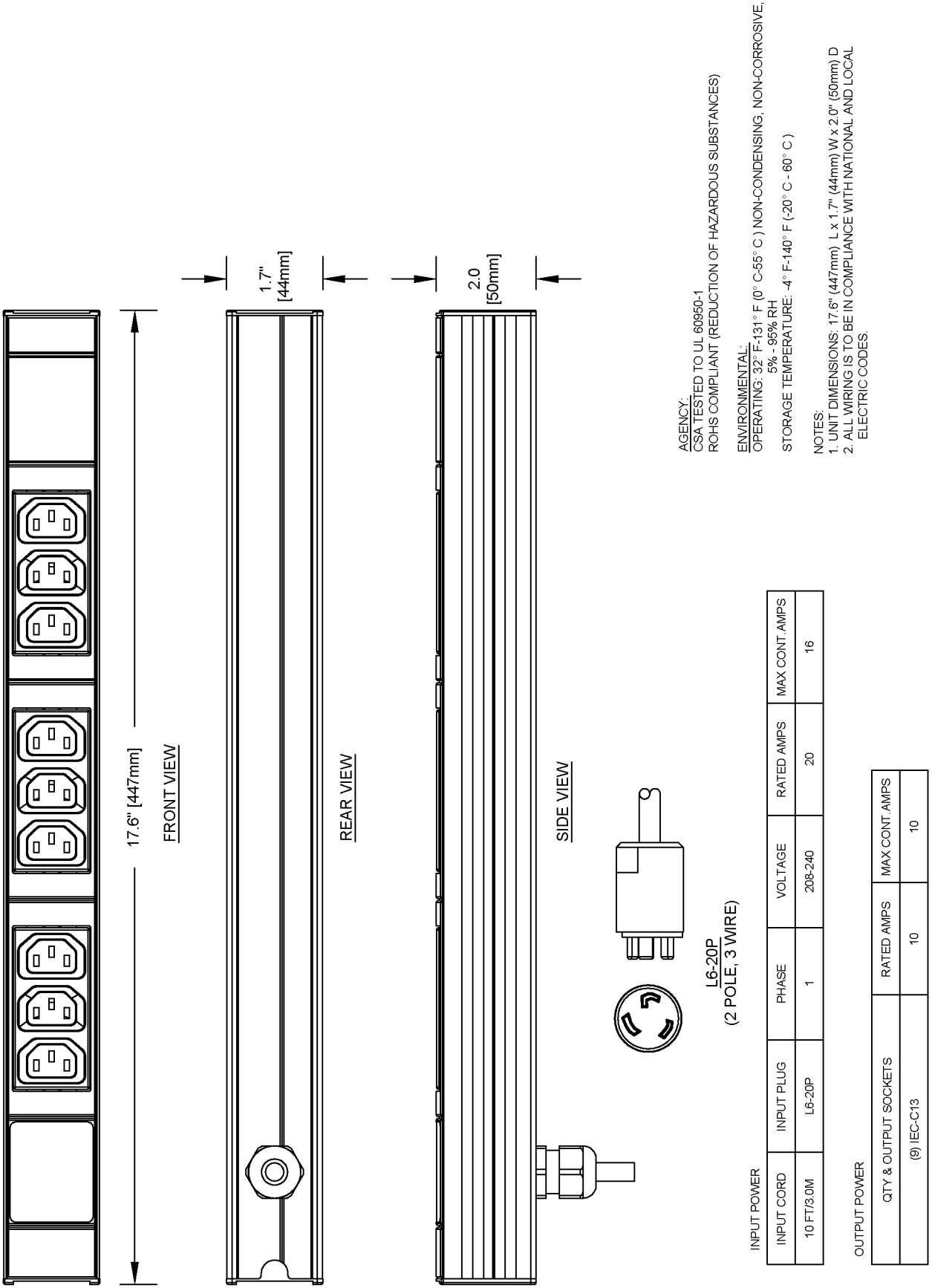
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L5-30P	1	120	30	24

OUTPUT POWER

QTY & OUTPUT RECEPTACLES	RATED AMPS	MAX CONT. AMPS
(24) NEMA 5-20R (T-SLOTS) - 2 BRANCHES	20	16

Figure 8 Knurr DI-STRIP 35352011



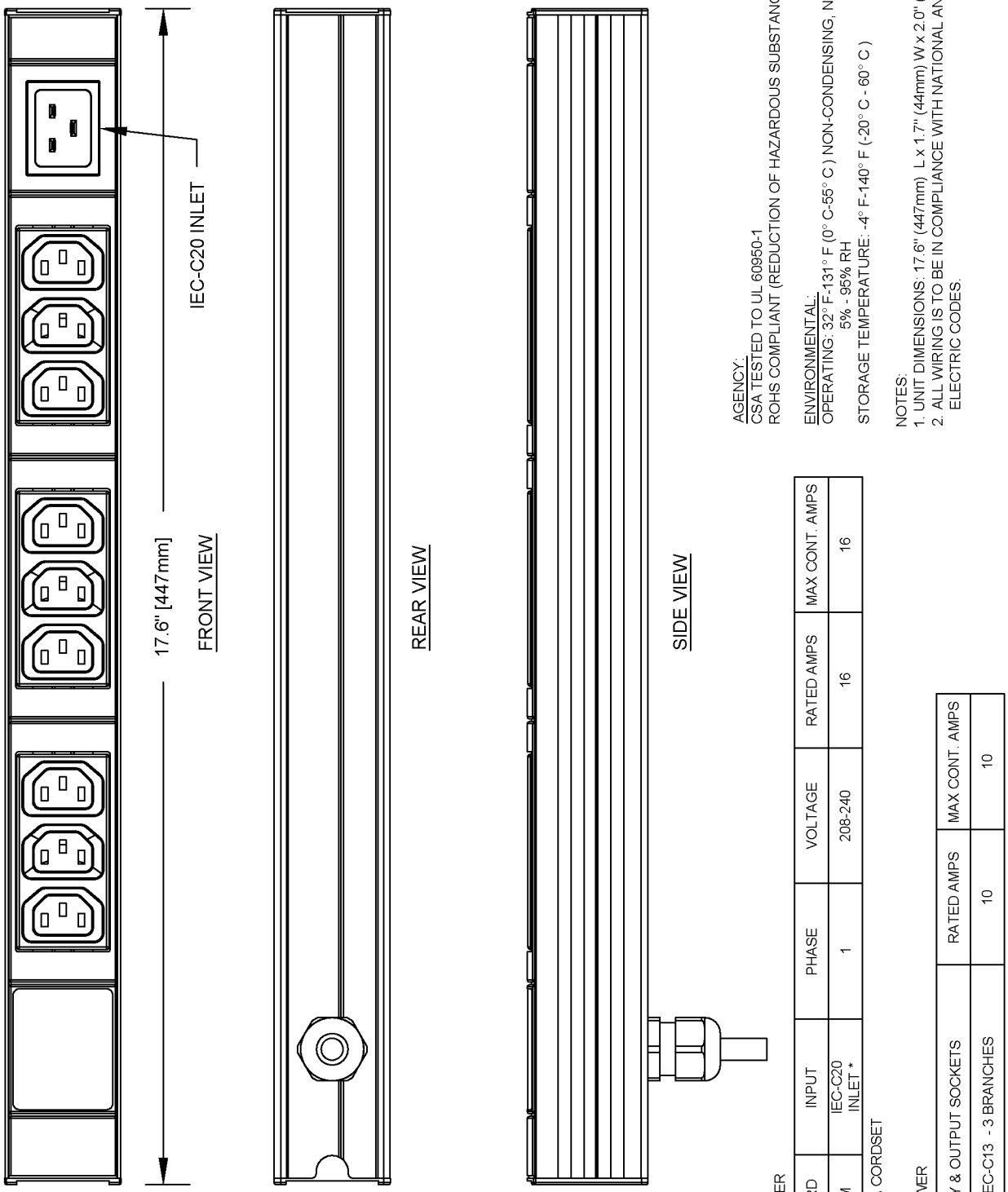
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT.AMPS
10 FT/3.0M	L6-20P	1	208-240	20	16

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT.AMPS
(9) IEC-C13	10	10

Figure 9 Knurr DI-STRIP 35352021



AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131° F (0° C-55° C.) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 17.6" (447mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

INPUT POWER

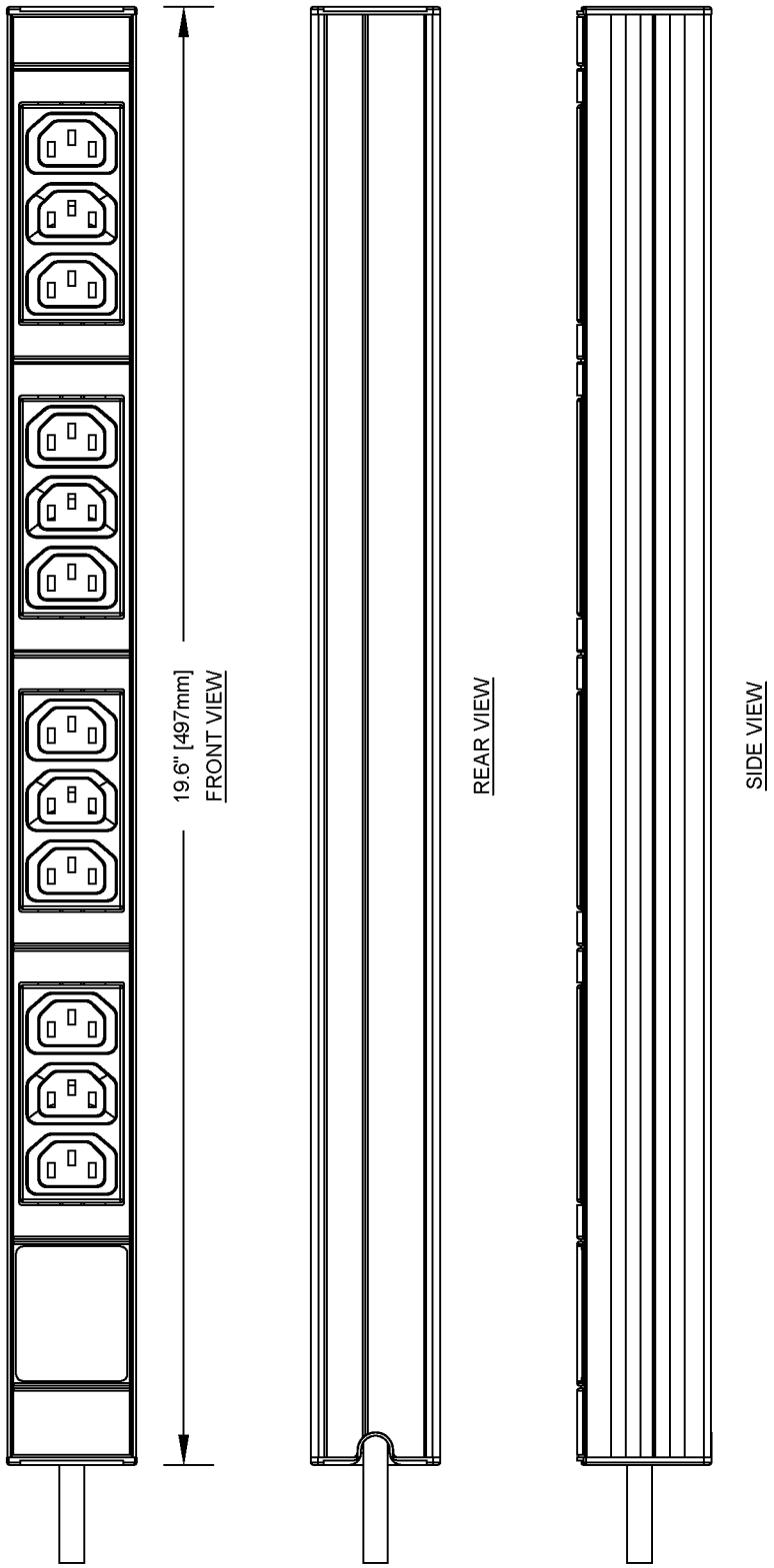
INPUT CORD	INPUT	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	IEC-C20 INLET *	1	208-240	16	16

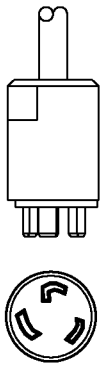
* REQUIRES A CORDSET

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(9) IEC-C13 - 3 BRANCHES	10	10

Figure 10 Knurr DI-STRIP 35352031





L6-20P
(2 POLE, 3 WIRE)

AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131 ° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 19.6" (497mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

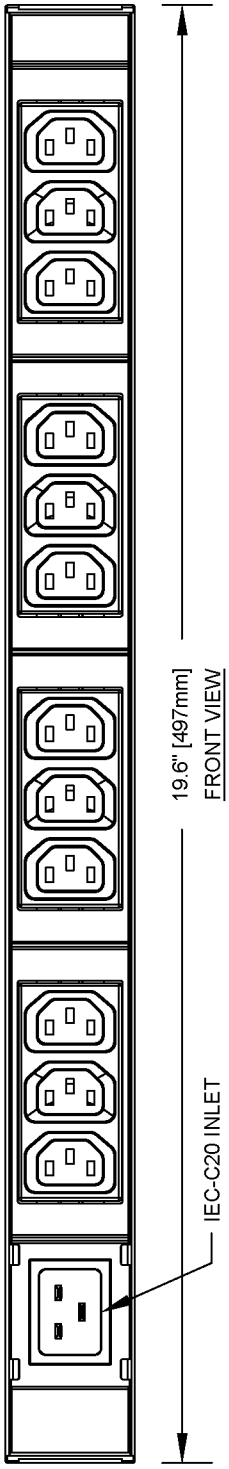
INPUT POWER

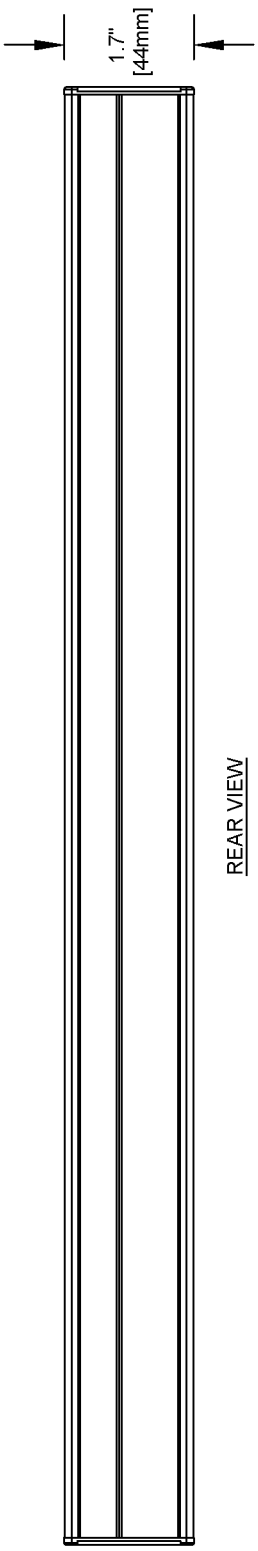
INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L6-20P	1	208-240	20	16

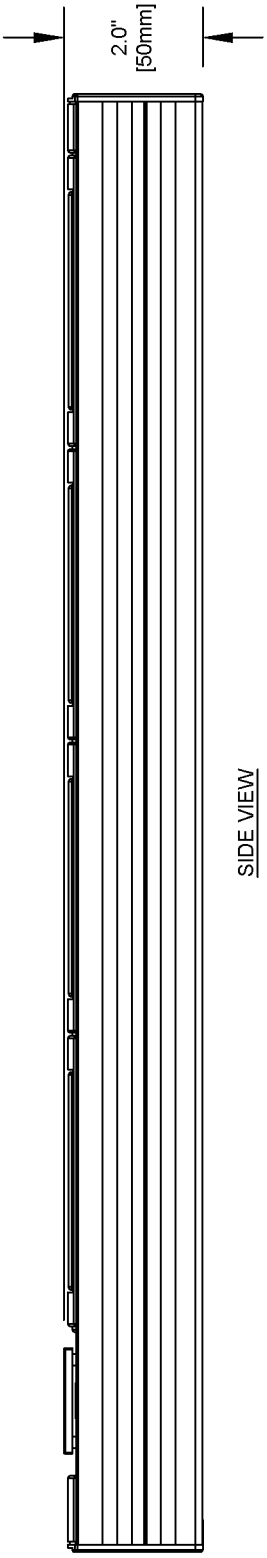
OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(12) IEC-C13	10	10

Figure 11 Knurr DI-STRIP 35352041







AGENCY:
CSA TESTED TO UL 60950-1
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 19.6" (497mm) L x 1.7" (44mm) W x 2.0" (50mm) D
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

INPUT POWER

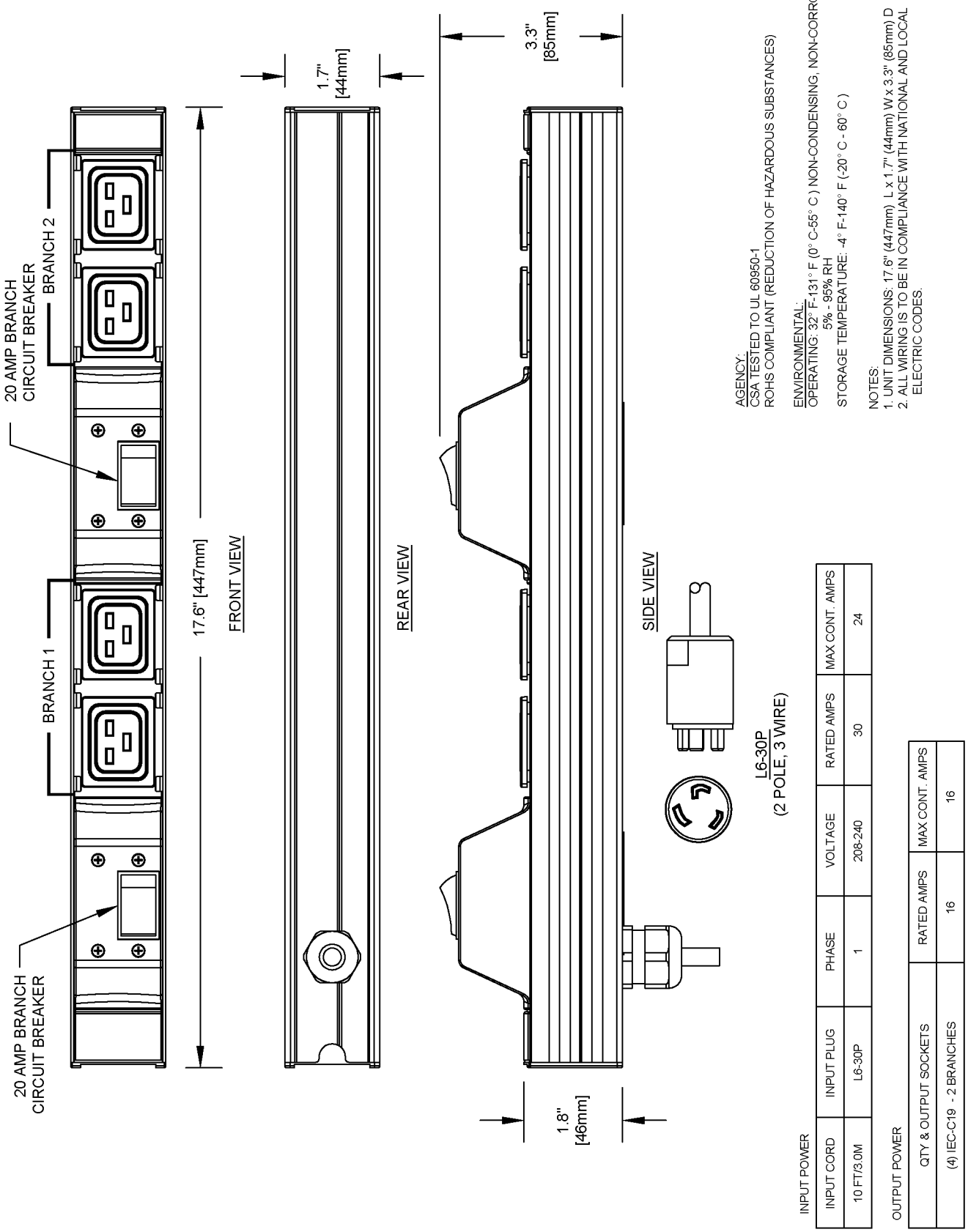
INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	IEC-C20 INLET *	1	208-240	20	16

* REQUIRES A CORDSET

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(12) IEC-C13	10	10

Figure 12 Knurr DI-STRIP 35352051



INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L6-30P	1	208-240	30	24

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(4) IEC-C19 - 2 BRANCHES	16	16

Figure 13 Knurr DI-STRIP 35352061

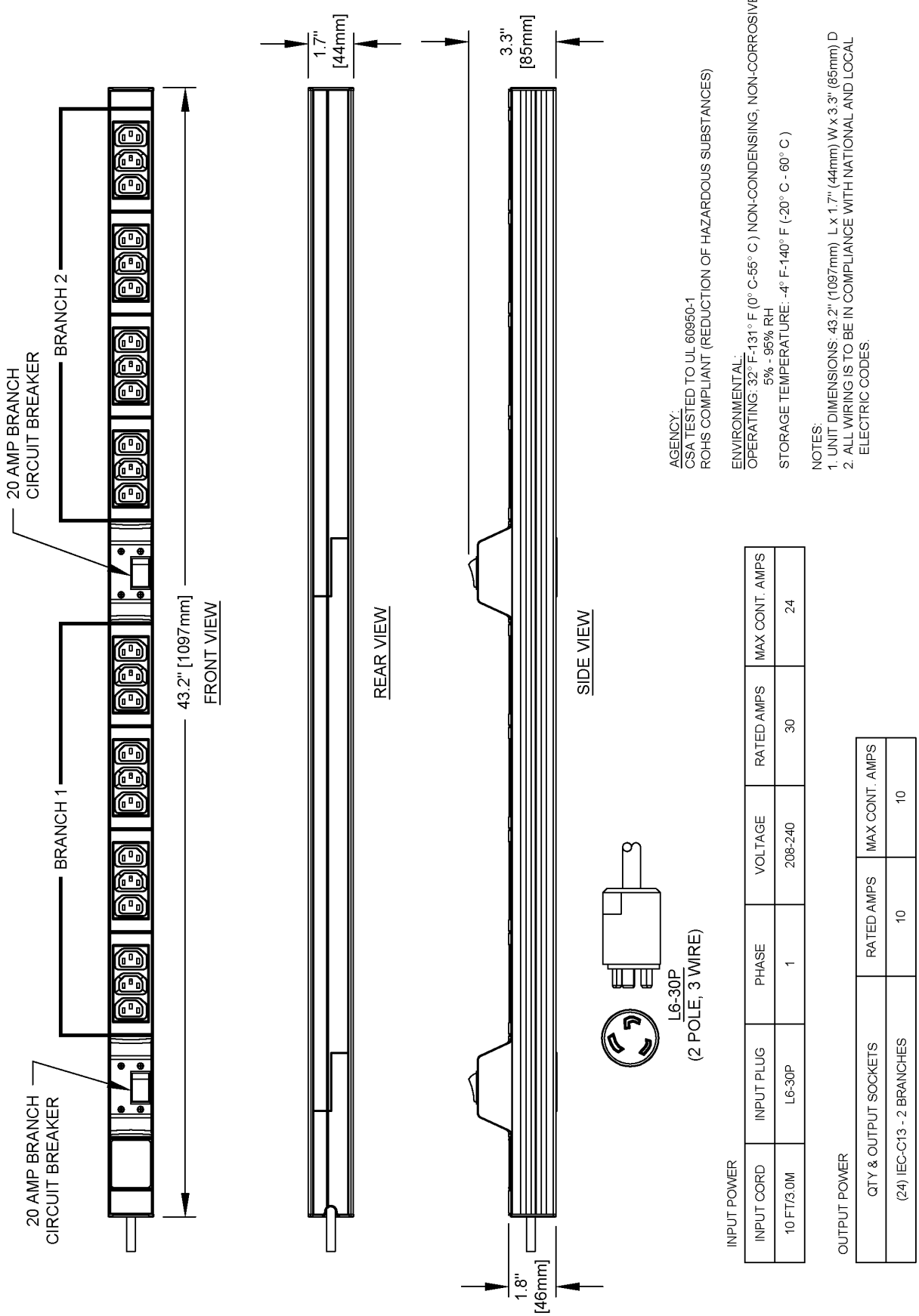
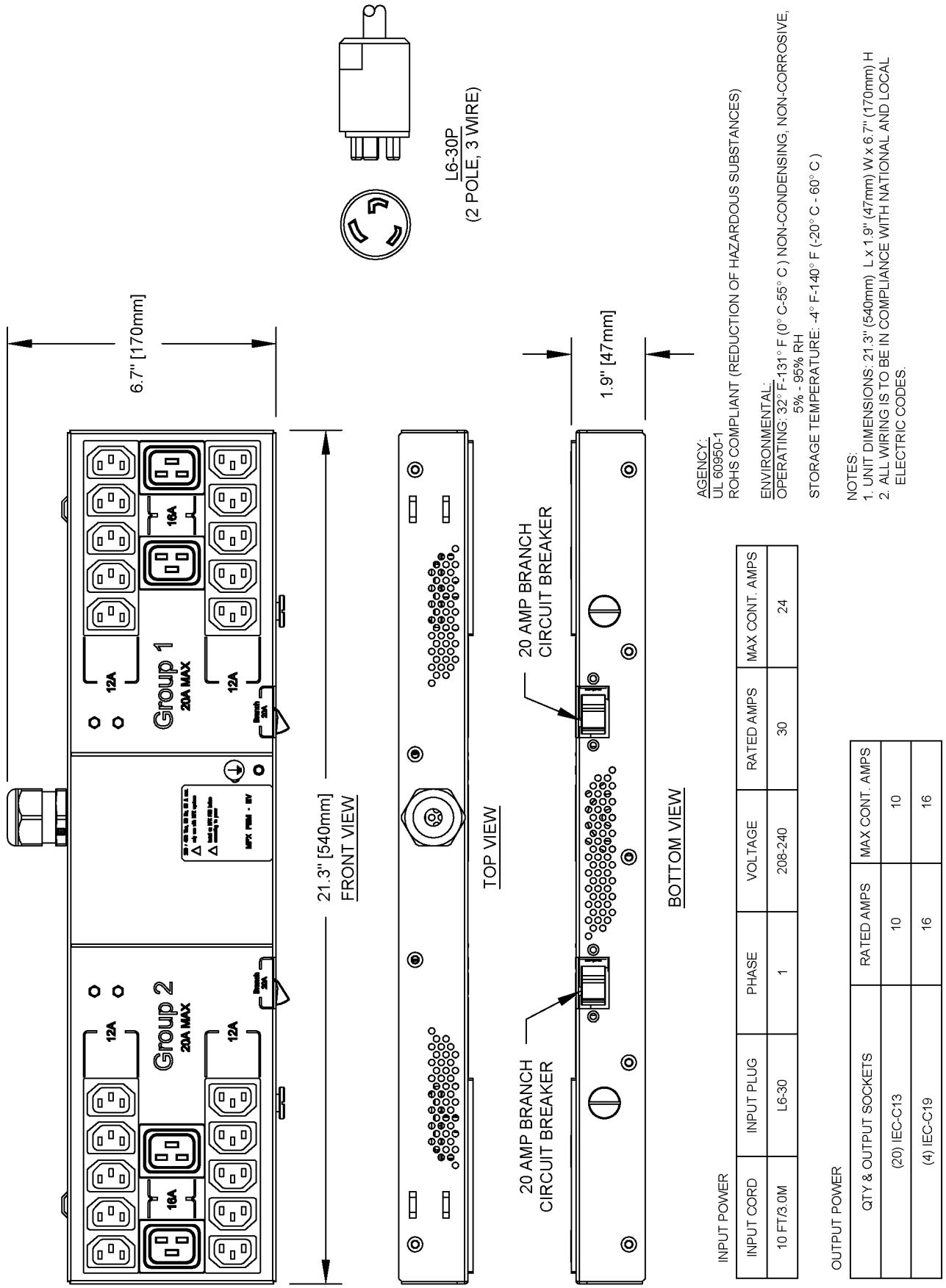


Figure 14 Knurr DI-STRIP 35352078



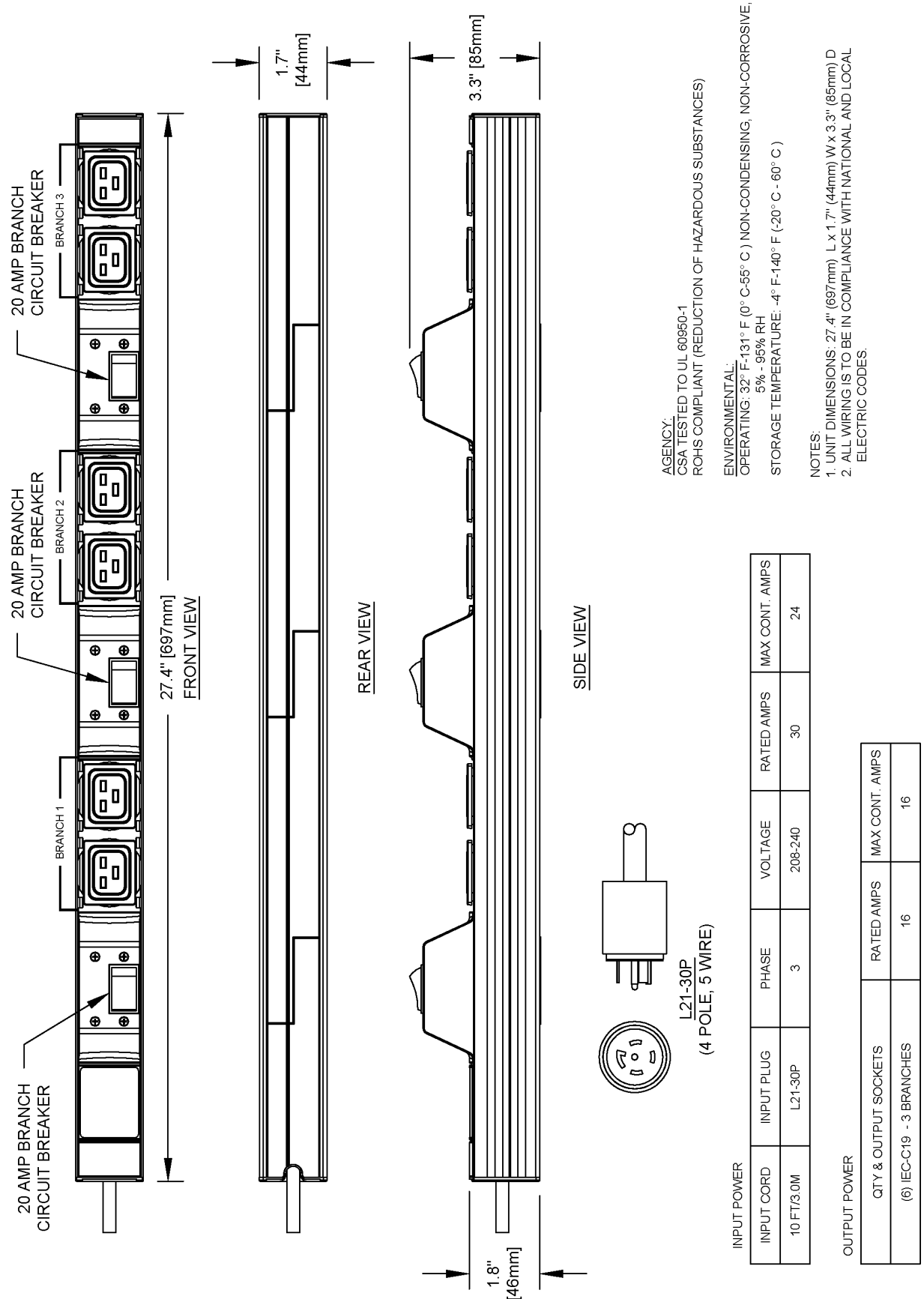
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L6-30	1	208-240	30	24

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(20) IEC-C13	10	10
(4) IEC-C19	16	16

Figure 15 Knurr DI-STRIP 35353011



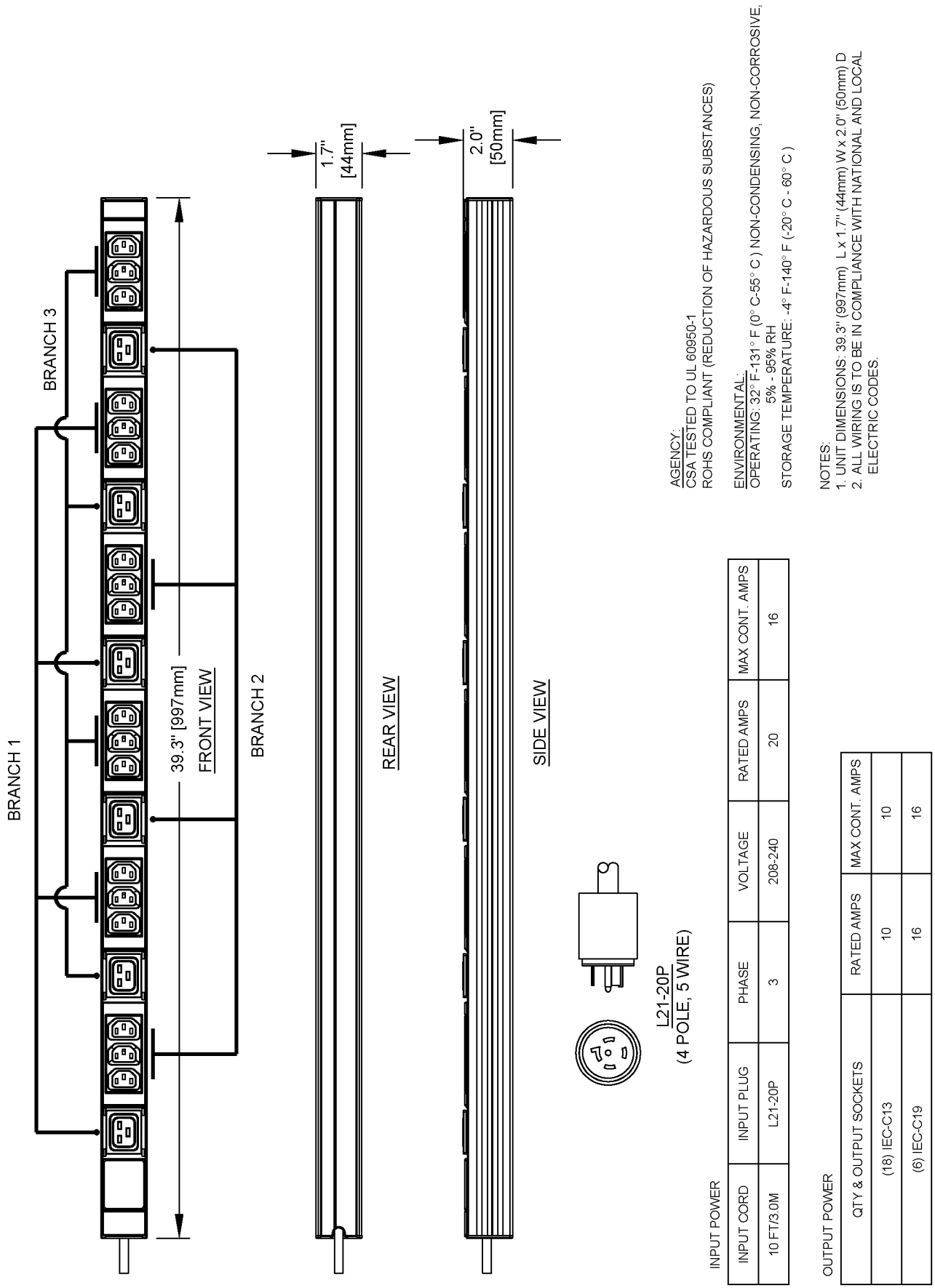
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L21-30P	3	208-240	30	24

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(6) IEC-C19 - 3 BRANCHES	16	16

Figure 16 Knurr DI-STRIP 35353021



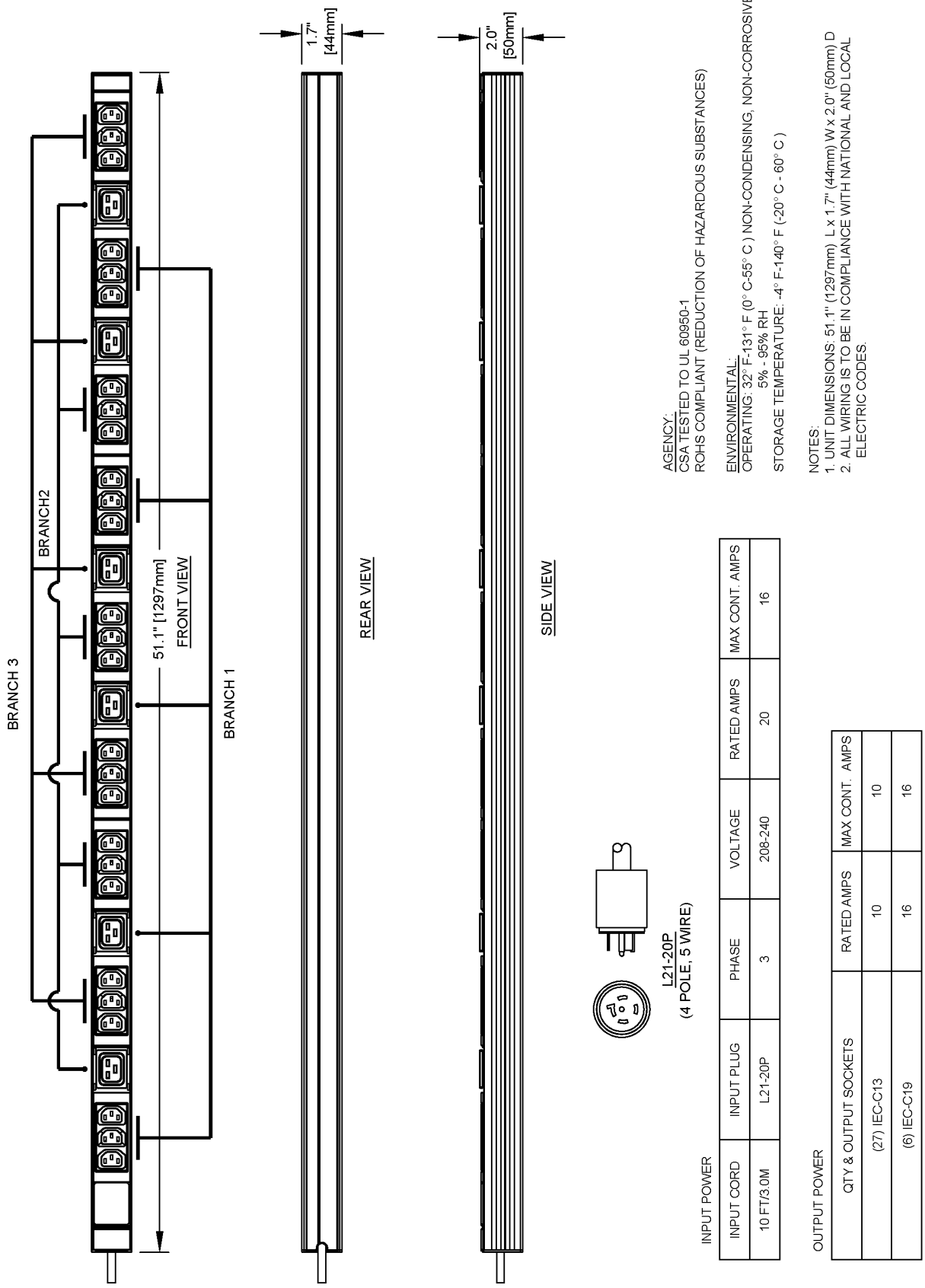
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L21-20P	3	208-240	20	16

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(18) IEC-C13	10	10
(6) IEC-C19	16	16

Figure 17 Knurr DI-STRIP 35353031



INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L21-20P	3	208-240	20	16

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(27) IEC-C13	10	10
(6) IEC-C19	16	16

Figure 18 Knurr DI-STRIP 35353041

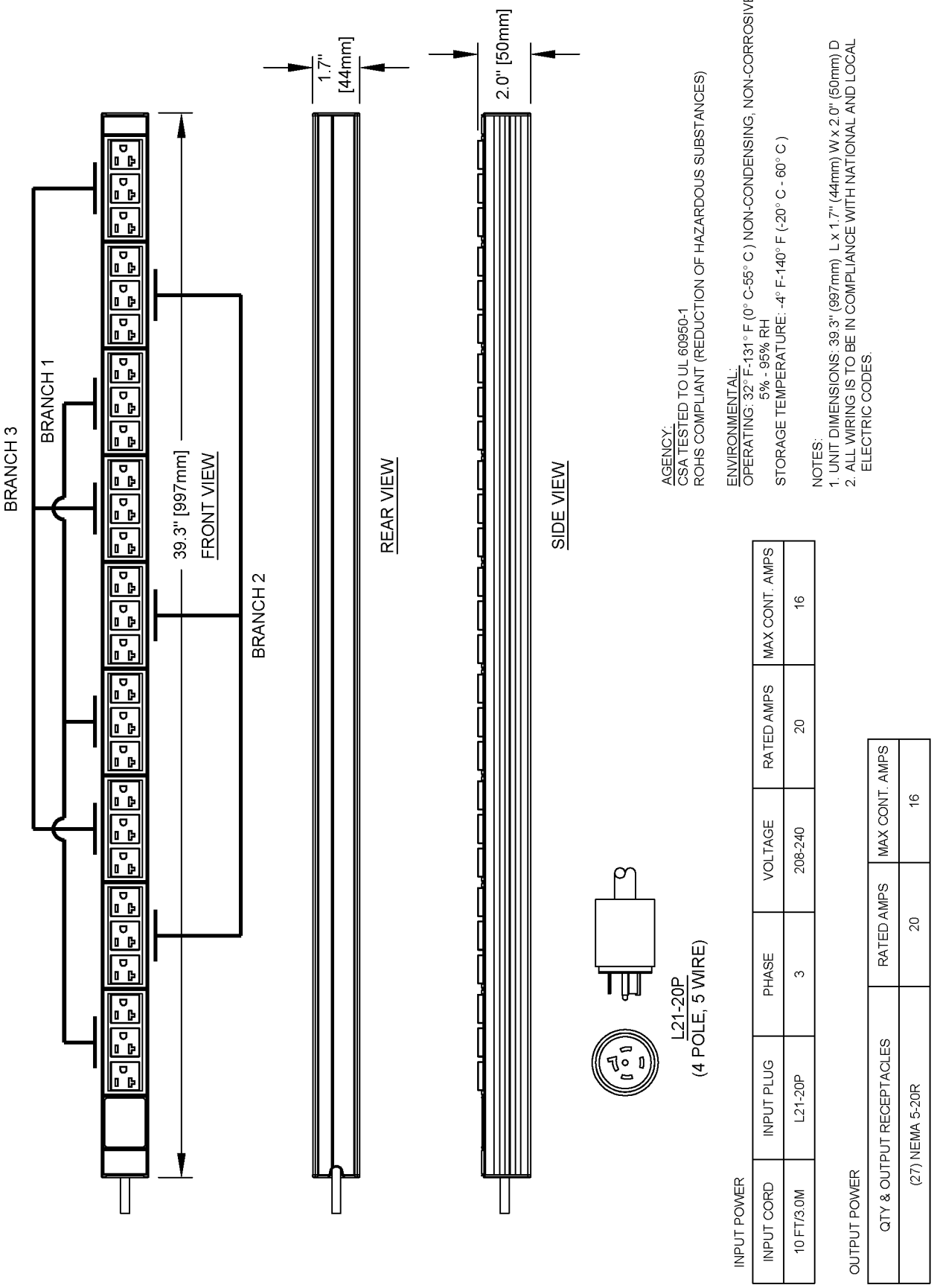
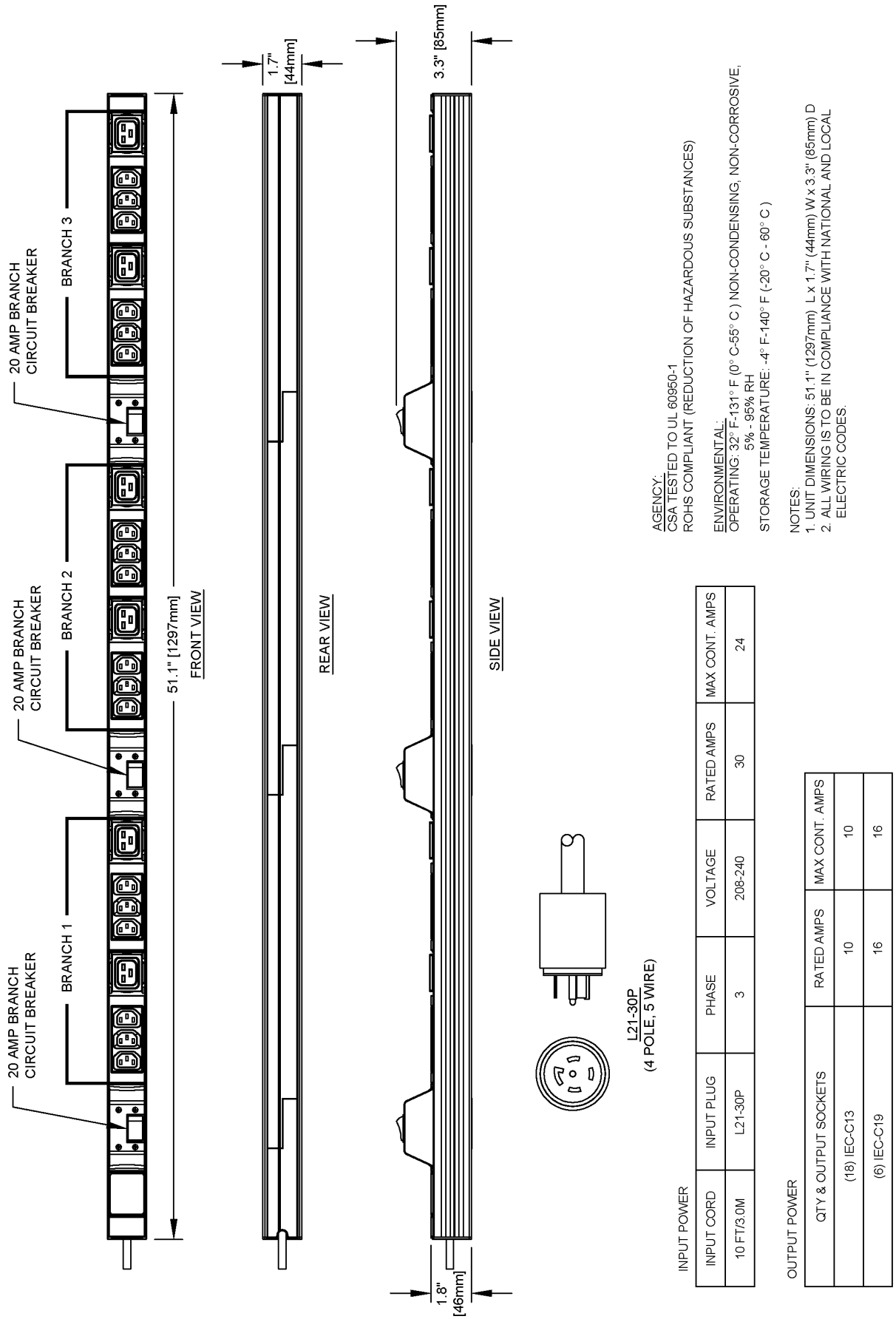


Figure 19 Knurr DI-STRIP 35353051



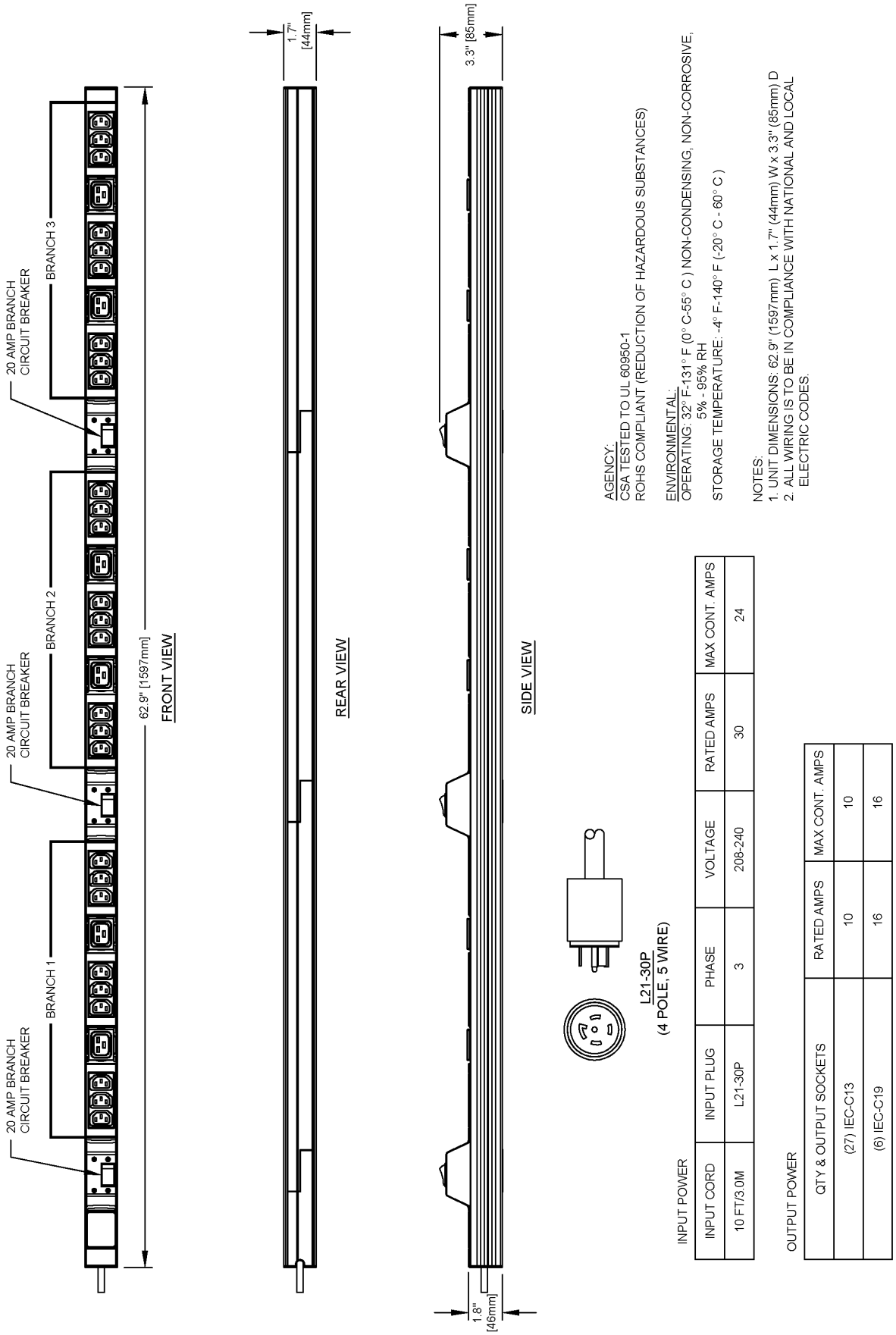
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L21-30P	3	208-240	30	24

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(18) IEC-C13	10	10
(6) IEC-C19	16	16

Figure 20 Knurr DI-STRIP 35353061



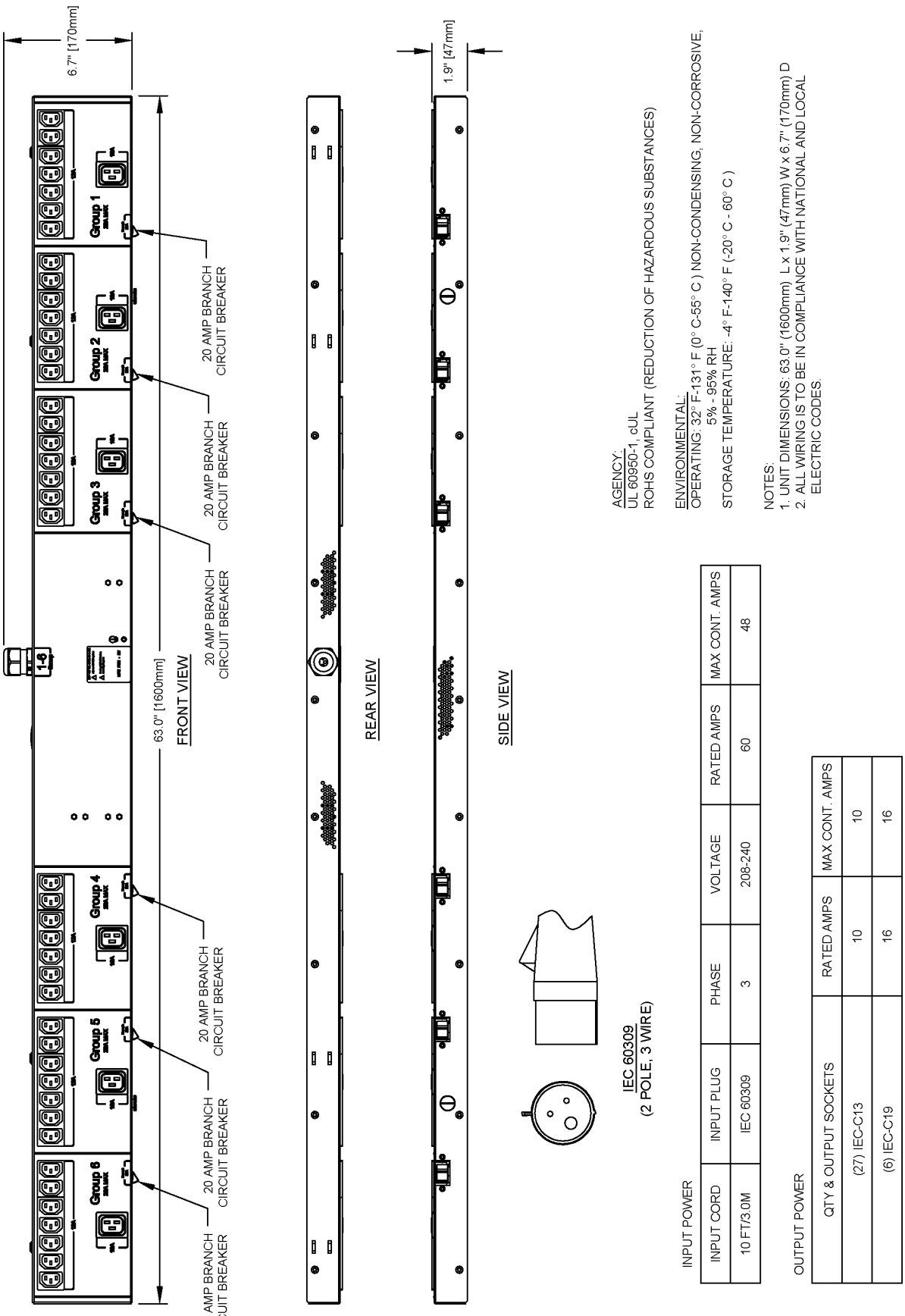
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	L21-30P	3	208-240	30	24

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(27) IEC-C13	10	10
(6) IEC-C19	16	16

Figure 21 Knurr DI-STRIP 35353078



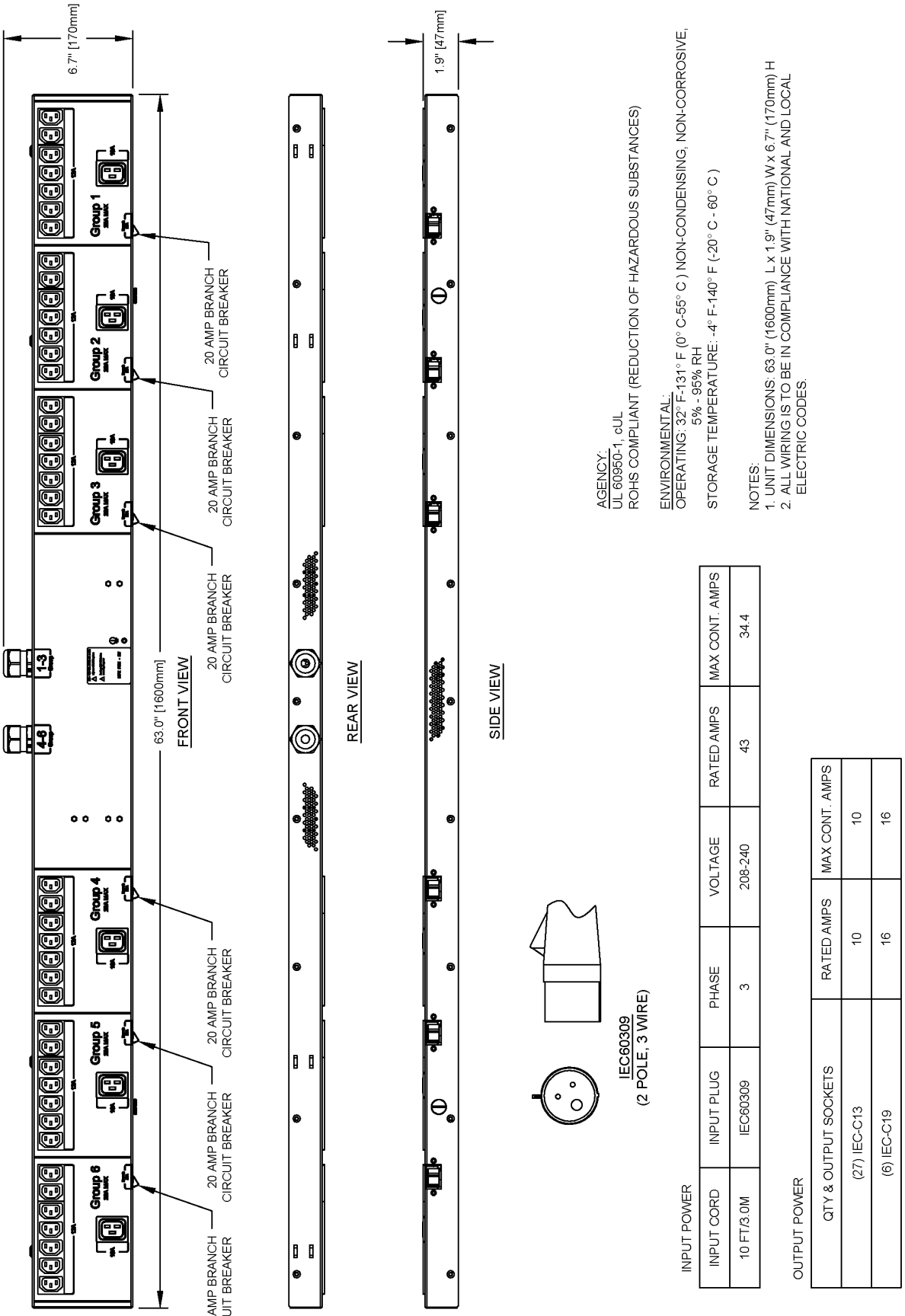
INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	IEC 60309	3	208-240	60	48

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(27) IEC-C13	10	10
(6) IEC-C19	16	16

Figure 22 Knurr DI-STRIP 35353088



AGENCY:
UL 60950-1, cUL
ROHS COMPLIANT (REDUCTION OF HAZARDOUS SUBSTANCES)

ENVIRONMENTAL:
OPERATING: 32° F-131° F (0° C-55° C) NON-CONDENSING, NON-CORROSIVE, 5% - 95% RH
STORAGE TEMPERATURE: -4° F-140° F (-20° C - 60° C)

NOTES:
1. UNIT DIMENSIONS: 63.0" (1600mm) L x 1.9" (47mm) W x 6.7" (170mm) H
2. ALL WIRING IS TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRIC CODES.

INPUT POWER

INPUT CORD	INPUT PLUG	PHASE	VOLTAGE	RATED AMPS	MAX CONT. AMPS
10 FT/3.0M	IEC60309	3	208-240	43	34.4

OUTPUT POWER

QTY & OUTPUT SOCKETS	RATED AMPS	MAX CONT. AMPS
(27) IEC-C13	10	10
(6) IEC-C19	16	16

4.0 LIEBERT MPH PRODUCT SELECTION GUIDE - MANAGED RACK PDUS

4.1 Overview - Managed Rack PDUs

The Liebert MPH Managed Rack PDU system delivers power distribution, branch monitoring and receptacle control for IT devices. Liebert MPH Rack PDUs, with remote monitoring and/or control capabilities for power distribution at the load/equipment level, are designed to support the growth in rack electrical needs while meeting the new demands for remote power management.

The Liebert MPH monitors electrical attributes of an individual Rack PDU, including real-time remote and (optional) local display of monitoring of aggregate and branch electrical parameters (status, thresholds, alarms) including voltage, amps, kW, and kW-hr. Liebert MPH features include branch load monitoring and control for continuous uptime and minimum disruptions; expandable monitoring interface providing simplified growth management; rugged construction; and the convenience of being factory-installed in the Knurr rack enclosure system.

The Liebert MPH includes an input power cord with appropriate input plug connection and hydraulic-magnetic branch rated overload protection as appropriate; basic rack mounting provisions are also provided. Liebert MPH Managed Rack PDUs are available in rack mount and vertical zero-U form factors and are painted black.

Liebert MPH – Managed Rack PDUs / Liebert MPH-NB Systems (Branch Monitoring Only)

Liebert MPH-NB series Rack PDUs provide local and remote monitoring of individual PDU volts, amps, watts, and kilowatt-hours.

Liebert MPH – Managed Rack PDUs / Liebert MPH-NC (Monitoring & Receptacle Control)

Liebert MPH-NC series power strips provide the same features and functionality as the Liebert MPH-NB series with the additional capability of remote on/off control of individual receptacles. Local receptacle power on-off status is provided through an LED display.

Liebert MPH – Managed Rack PDUs – ALL Liebert MPH Systems

All Liebert MPH systems are provided with a factory-integrated Liebert RPC (Rack PDU Card RPC-1000) that provides Web-based remote monitoring via a direct IP network connection, Rack PDU Array™ interface connection to three additional Liebert MPH or Liebert MPX systems to allow viewing of up to four Rack PDUs on a single IP connection, an environmental sensor port, and a port for connection to the optional local display. Local display monitoring is provided via the optional RPC BDM (Basic Display Module) and integrated audible alarm. See **5.5 - Adaptive Rack PDU Optional Accessories** for further details. Each Liebert MPH unit is provided with basic rack mounting provisions to meet a range of installation needs.

The Liebert MPH fits most standard 600mm width network equipment rack enclosures. Product fit should be confirmed for each application.

4.2 Specifications - Liebert MPH

Part Number	INPUT						OUTPUT	Form Factor
	Voltage	Rated Amps	Max. Continuous Amps	kW*	Phase	Plug	Receptacle/Socket Configuration	
Branch Monitoring								
MPH-NBR09AXXC30	120	20	16	1.9	1	NEMA L5-20	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NBR09AXXD30	120	30	24	2.8	1	NEMA L5-30	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NBV27AXXC30	120	20	16	1.9	1	NEMA L5-20	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBV27AXXD30	120	30	24	2.8	1	NEMA L5-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBR09NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(9) IEC-C13	Rack mount
MPH-NBR09NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(9) IEC-C13	Rack mount
MPH-NBV27NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(27) IEC-C13	Vertical
MPH-NBV27NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(27) IEC-C13	Vertical
MPH-NBV27NOXF30	208-240	30	24	4.9	1	NEMA L6-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NBV27AXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NBV27NXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) IEC-C13	Vertical
MPH-NBV27ANXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) NEMA 5-20R T-Slot	Vertical
MPH-NBV27NOXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) IEC-C19	Vertical
Receptacle Controlled								
MPH-NCR09AXXC30	120	20	16	1.9	1	NEMA L5-20	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NCR09AXXD30	120	30	24	2.8	1	NEMA L5-30	(9) NEMA 5-20R T-Slot	Rack mount
MPH-NCV27AXXC30	120	20	16	1.9	1	NEMA L5-20	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCV27AXXD30	120	30	24	2.8	1	NEMA L5-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCR09NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(9) IEC-C13	Rack mount
MPH-NCR09NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(9) IEC-C13	Rack mount
MPH-NCV27NXXE30	208-240	20	16	3.3	1	NEMA L6-20	(27) IEC-C13	Vertical
MPH-NCV27NXXF30	208-240	30	24	4.9	1	NEMA L6-30	(27) IEC-C13	Vertical
MPH-NCV27NOXF30	208-240	30	24	4.9	1	NEMA L6-30	(21) IEC-C13 & (6) IEC-C19	Vertical
MPH-NCV27AXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) NEMA 5-20R T-Slot	Vertical
MPH-NCV27ANXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) NEMA 5-20R T-Slot	Vertical
MPH-NCV27NXXH30	208/120	30	24	8.6	3	NEMA L21-30	(27) IEC-C13	Vertical
MPH-NCV27NOXH30	208/120	30	24	8.6	3	NEMA L21-30	(21) IEC-C13 & (6) IEC-C19	Vertical

All input cords are 10 ft. (3m) in length.

* Formulas used to calculate the kW:

For single-phase: input voltage x max continuous amps = watts

For three-phase: input voltage x max continuous amps x 1.73 = watts

4.3 Model Number Configuration - Liebert MPH

Example: **MPH N B R 09 AX XC 30**

- **Prefix:** MPH
- **Region:** N = North America
- **Type:** B = Branch Monitoring
  C = Controlled Receptacles
- **Mounting:** V = Vertical
  R = Rack mount
- **Output Power:**
  - **Quantity Receptacles (Total):**
    09 or 27
  - **Receptacle Type(s)—2 characters (each set):**
    A = 5-20R
    N = IEC-C13
    O = IEC-C19

  Note: Second character indicates a second receptacle type (X if no additional type chosen)
- **Input Power:**
  - **Plug Type:**
    - First character = X
    - Second character:
      C = L5-20P
      D = L5-30P
      E = L6-20P
      F = L6-30P
      H = L21-30P
  - **Cord Length:**
    30 = 3.0m (10 ft.)

4.4 Managed Rack PDU Optional Accessories

Output Cord Sets

Output cord sets versions are available to support conversion of Rack PDU power output receptacles to alternative power output connections and to support Rack PDU output expansion capabilities.

Conversion of power output connections can be provided on Rack PDUs with IEC-C19 receptacles. The output cord set for these systems includes an IEC-C20 plug to connect to the IEC-C19 receptacle, a 3 ft. (1m) power cord and receptacle to connect to user equipment. Available receptacles include: IEC-C13 to connect to IEC-C14 equipment plugs and IEC-C19 to connect to NEMA L6-20P equipment plugs.

Cable Restraints (Liebert MPH - Vertical Systems)

Cable restraints are available to secure user equipment power cord connections to IEC-C13 receptacles. The Liebert MPH supports all vertical-mount models with IEC-C13 receptacles or a combination of IEC-C13 plus IEC-C19 receptacles. The cable restraint system includes three tie-down brackets for receptacle groups along with cable ties to secure individual input user equipment power cables.

Output Cord Sets	
Output Cord Sets - Power Output Conversion	
539031G5	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 3 ft. (1m)
539031G6	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 10 ft. (3m)
539031G9	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 3 ft. (1m)
539031G10	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 10 ft. (3m)
Cable Restraints IEC-C13 (Liebert MPH - Vertical Systems)	
11858KIT	Cable Restraints - MPH Vertical Systems with IEC-C13 receptacles

4.5 DImensional Drawings - Managed Rack PDUs

Figure 23 Liebert MPH power strip

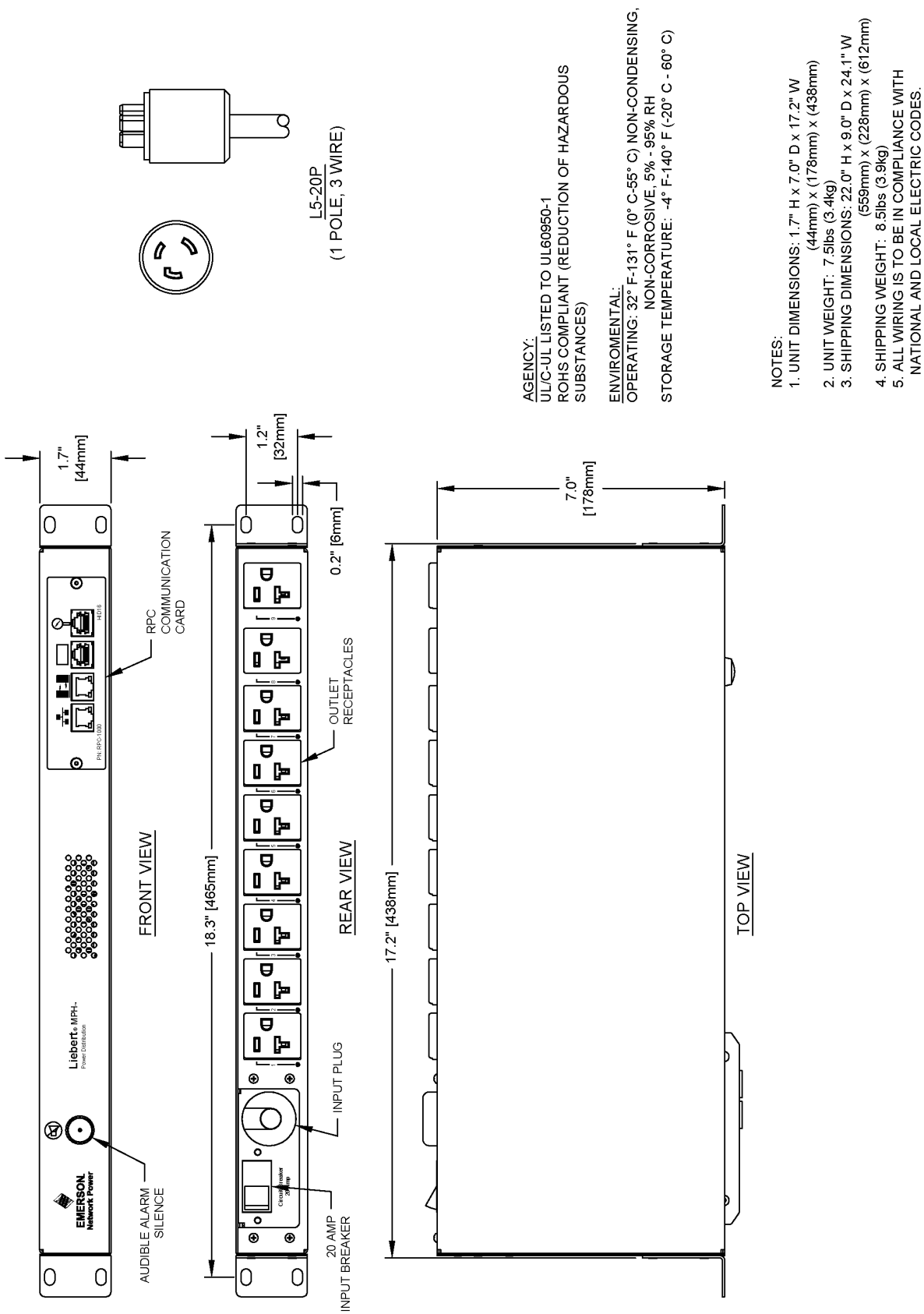
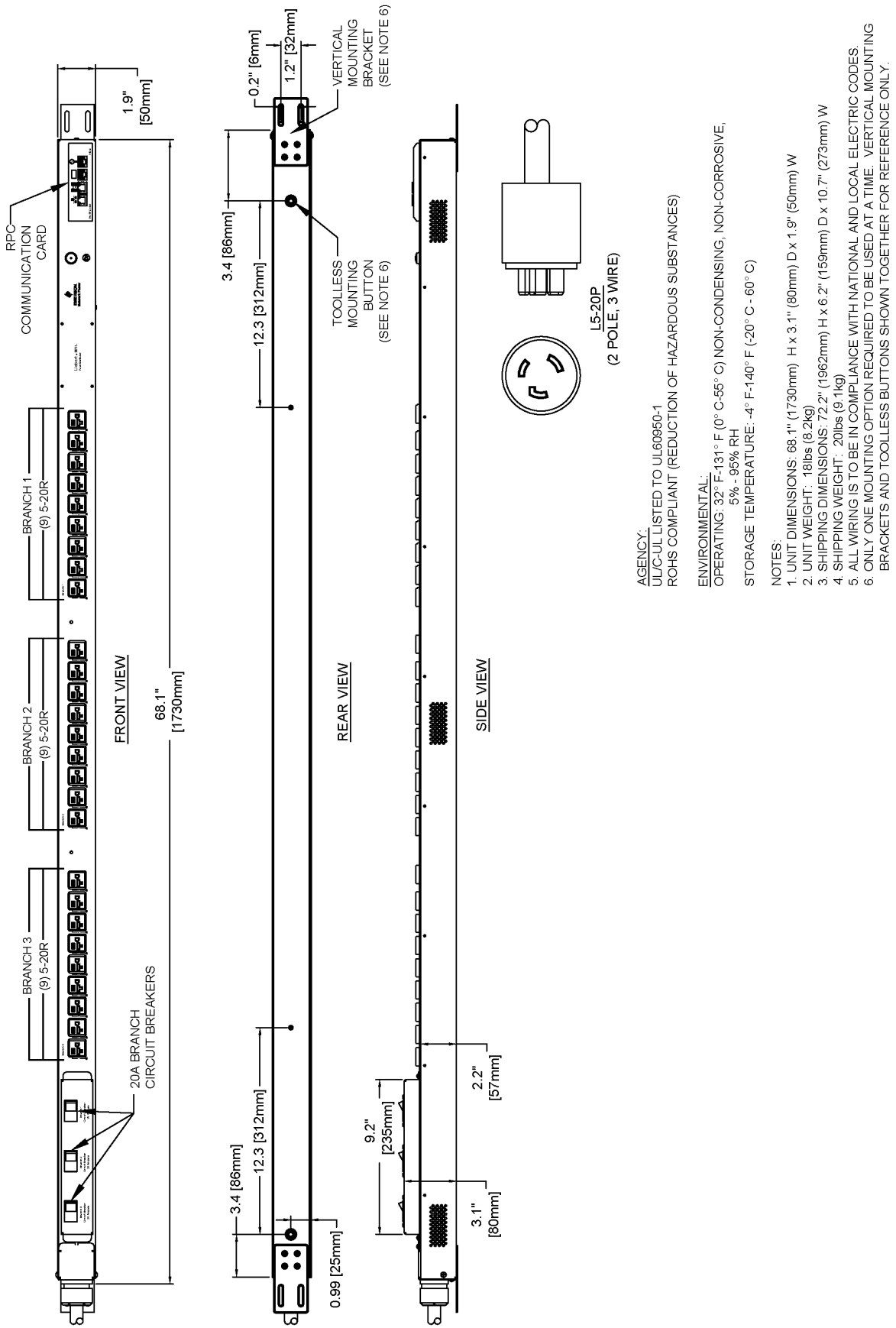


Figure 24 Liebert MPH power strip



5.0 LIEBERT MPX - ADAPTIVE RACK PDUS

5.1 Overview - Adaptive Rack PDUs

The Liebert MPX Adaptive Rack PDU system delivers break-through flexibility, availability and total cost of ownership. The Liebert MPX enables users to respond to and manage changing rack power and management environments. The Liebert MPX provides users the ability to size their Rack PDU system to support initial requirements and then adapt as connectivity, capacity and/or functionality needs change. The Liebert MPX is based on a patent-pending design built on a power / communication bus and input/output power module strategy.

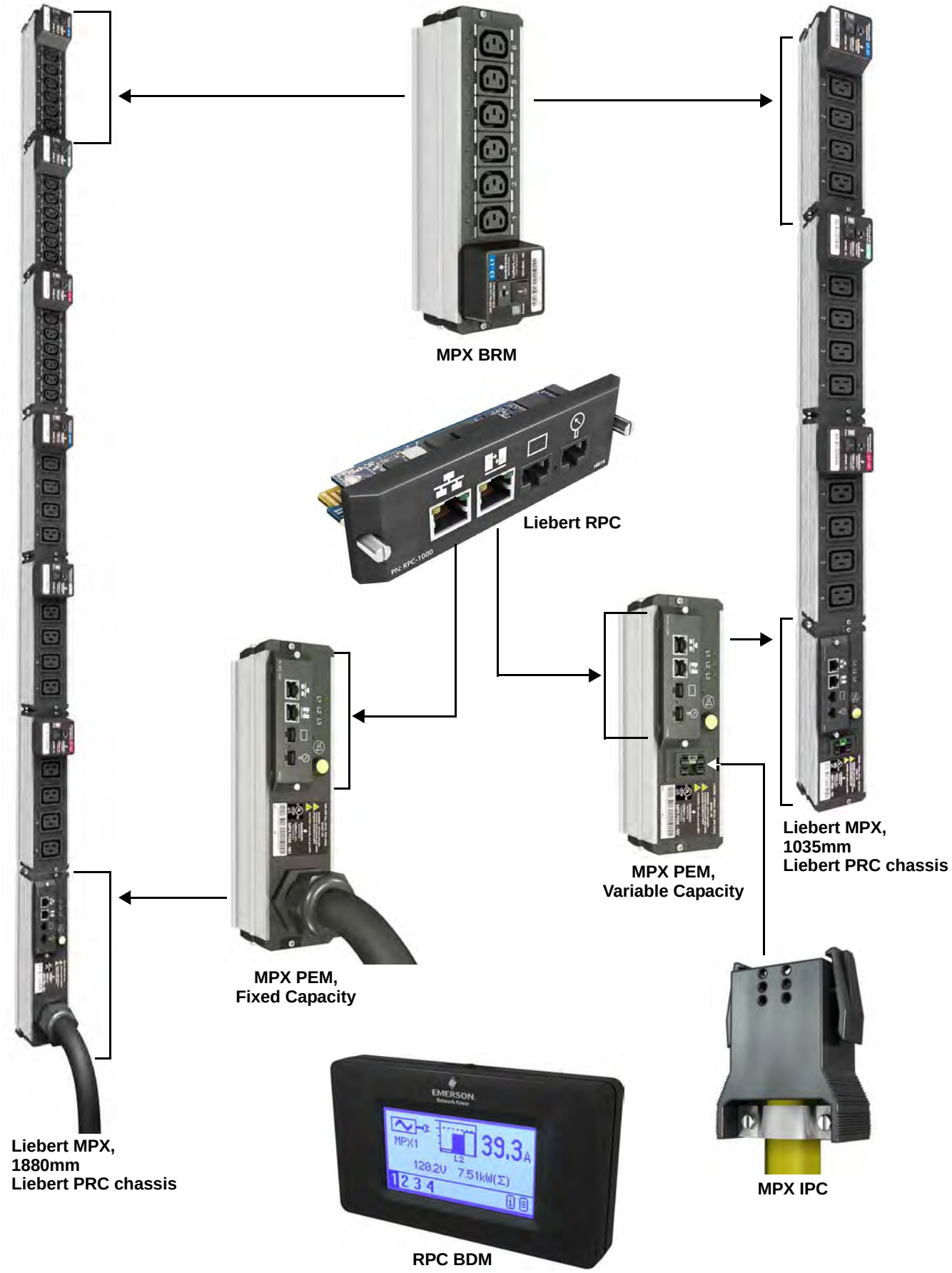
The Liebert MPX Adaptive Rack PDU is composed of several key building blocks and support modules. The Liebert MPX is built on the MPX PRC (Power Rail Chassis) that distributes power and communications to all support modules, acts as a backplane to mount support modules and offers provisions to physically mount the Liebert MPX in a network rack. Input power is connected and delivered to the Liebert MPX system via the MPX PEM (Power Entry Module). Output power connectivity and communications management level is defined by the MPX BRM (Branch Receptacle Modules). MPX BRM power connectivity includes NEMA receptacles and IEC sockets. MPX BRM communications include Branch Monitoring and Receptacle Management versions. Network communications, sensor and/or local display interface are provided by the Liebert RPC (Rack PDU Card) that mounts in the MPX PEM. The Liebert RPC provides connection to an optional RPC BDM (Basic Display Module) for local status / alarm viewing. Module versions for North American and European applications are available.

The Liebert MPX is provided as separate ship-loose modules for user on-site configuration. The Liebert MPX is designed for simple and quick configuration and reconfiguration. Preconfigured systems are available as an Special Feature Authorization (SFA) when ordered as factory installed in Knurr rack enclosure systems.

The major Liebert MPX system components are described in the following sections:

- **5.2 - MPX PRC (Power Rail Chassis)**
- **5.3 - MPX PEM (Power Entry Module) and MPX IPC (Input Power Cord)**
- **5.4 - MPX BRM (Branch Receptacle Module)**

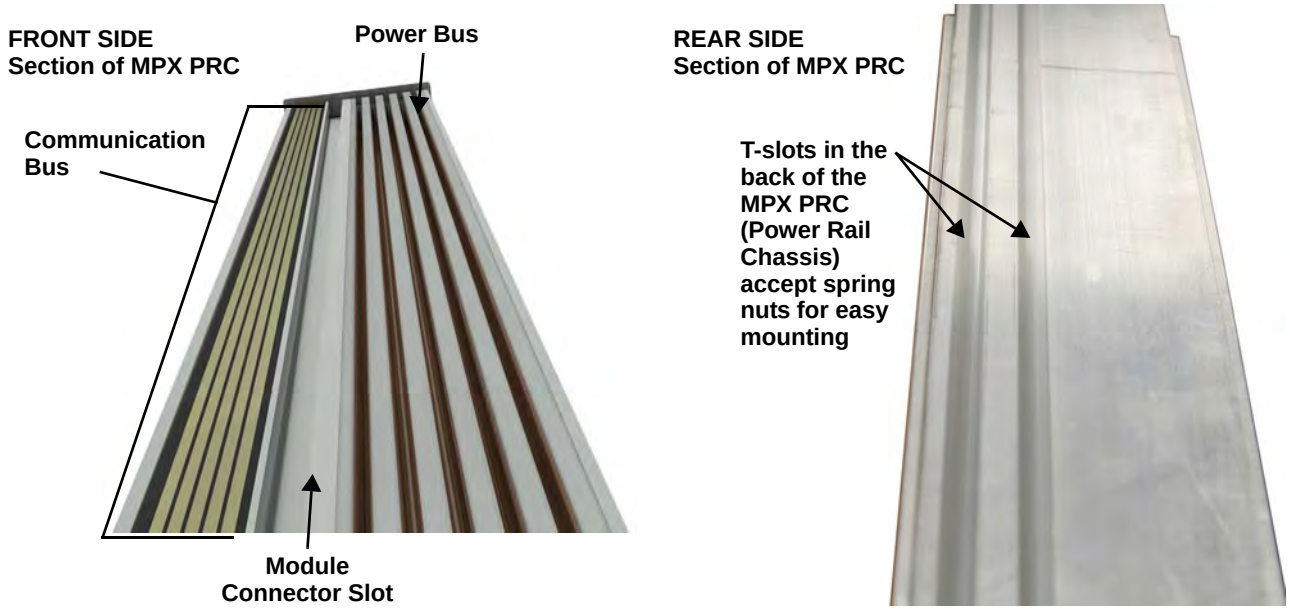
Figure 25 Liebert MPX 1880 and 1035 models and components



5.2 MPX PRC (Power Rail Chassis)

The MPX PRC distributes power and communications to the installed Liebert MPX modules. The MPX PRC supports both single-phase power input up to 20A and three-phase up to 60A. It includes provisions to mount and secure an input power module (MPX PEM) and output receptacle modules (MPX BRM). It is available in lengths to accommodate typical 23U or 42U network racks: 1035mm (40.75 in.) for 23U and 1880mm (74 in.) for 42U. The MPX PRC includes zero-U mounting provisions that accommodate most rack designs. The MPX PRC is provided with cover / spacers to assist users with positioning for future MPX BRM module additions.

Figure 26 MPX PRC (Power Rail Chassis)



5.3 MPX PEM (Power Entry Module) and MPX IPC (Input Power Cord)

The MPX PEM provides input power to the Liebert MPX system and includes provisions for addition of the Liebert RPC (Rack PDU Card) to support remote and local communications. The MPX PEM is available in two versions: Variable Capacity and Fixed Capacity.

The MPX PEM Variable Capacity version allows the user to select and change power input via different MPX IPCs. The MPX IPC includes cord, MPX PEM connector, and input plug. The MPX IPC is available in multiple versions supporting up to 30 amps including single-phase North American 120VAC and 208VAC and three-phase North American 208/120VAC connections.

The MPX PEM Fixed Capacity version supports rated input capacities from 40 up to 60 amps with fixed cord and plug connections. All MPX PEMs include an audible over current alarm with local reset. One MPX PEM is required per Liebert MPX Rack PDU.

- **Variable Capacity** MPX PEMs are 220mm in length for application on both short (1035mm) and standard (1880mm) MPX PRC systems.
- **Fixed Capacity** systems are 266mm in length for application on standard (1880mm) MPX PRCs.

5.4 MPX BRM (Branch Receptacle Module)

The MPX BRM provides output power distribution to user load equipment and remote management / monitoring of that equipment. The MPX BRM includes output receptacles (NEMA & IEC) and is overload-protected. The MPX BRM is available in two versions: Branch Monitoring and Receptacle Management. The MPX BRM Branch Monitoring version supports monitoring of its aggregate branch electrical and energy parameters (status, thresholds, and alarms) including voltage, amps, kW, and kW-hr. The MPX BRM Receptacle Management version supports monitoring of individual receptacle electrical and energy parameters (status, thresholds, and alarms)—including voltage, amps, kW and kW-hr—and supports on-off power control of individual receptacles, along with the aggregate branch monitoring provided on MPX BRM Branch Monitoring systems.

MPX BRMs are hot-swappable to allow user installation without powering down the Liebert MPX system. Each MPX BRM includes a display that automatically assigns and displays a Branch identification number to the MPX BRM when added to an active Liebert MPX system. Each MPX BRM is overload-protected by 20 Amp branch-rated hydraulic magnetic circuit breakers that support UL60950 requirements. The breakers are protected from inadvertent tripping by requiring tool insertion to manually open and from accidental impact damage by a protection body/cover.

MPX BRMs are offered in line-to-line and line-to-neutral power configurations. These configurations support different power input requirements and provide support for load balancing for three-phase input power systems.

Up to three (3) MPX BRMs can be deployed on a Liebert MPX system utilizing the 1035mm MPX PRC for typical 23U racks and up to six (6) MPX BRMs for systems utilizing the 1880mm MPX PRC for typical 42U racks. All MPX BRMs are 266mm in length.

5.5 Adaptive Rack PDU Optional Accessories

5.5.1 Output Cord Sets

Output cord sets versions are available to support conversion of Rack PDU power output receptacles to alternative power output connections and to support Rack PDU output expansion capabilities.

Conversion of power output connections can be provided on Rack PDUs with IEC-C19 receptacles. The output cord set for these systems includes an IEC-C20 plug to connect to the IEC-C19 receptacle, a 3 ft. (1m) power cord and receptacle to connect to user equipment. Available receptacles include: IEC-C13 to connect to IEC-C14 equipment plugs and IEC-C19 to connect to NEMA L6-20P equipment plugs.

Cable Restraints (Liebert MPX Systems)

Cable restraints are available to secure user equipment power cord connections to IEC-C13 receptacles. The Liebert MPX supports all models of the MPX BRM with IEC-C13 receptacles and includes individual cable restraint clips to support individual receptacles. Twelve restraint clips are provided per option. The Liebert MPX cable restraint supports most IEC-C14 plugs that connect to the IEC-C13 receptacles.

Output Cord Sets	
Output Cord Sets - Power Output Conversion	
539031G5	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 3 ft. (1m)
539031G6	Output Cord Set - Power Output Conversion - IEC-C20 to IEC-C13, 10 ft. (3m)
539031G9	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 3 ft. (1m)
539031G10	Output Cord Set - Power Output Conversion - IEC-C20 to NEMA L6-20R, 10 ft. (3m)
Cable Restraints IEC-C13 (Liebert MPX Systems)	
039102169	Cable Restraints - MPX BRM with IEC-C13 receptacles (Set of 12)

5.5.2 Liebert RPC™ (RPC-1000) and Accessories

The Liebert RPC (Rack PDU Card) is a network interface card that provides network connectivity to the Liebert Rack PDU family of products.

The Liebert RPC can be installed in Adaptive and Managed versions of Liebert Rack PDUs to provide network monitoring and control capabilities. The Liebert RPC is a factory-installed standard feature of the Liebert MPH; it is an option for the Liebert MPX.

In addition, the Liebert RPC serves as the integration point for several rack accessory products. Available options that connect to the card include the RPC BDM (Basic Display Module) and a temperature/humidity sensor.

5.5.3 Part Numbers for Liebert RPC and Accessories

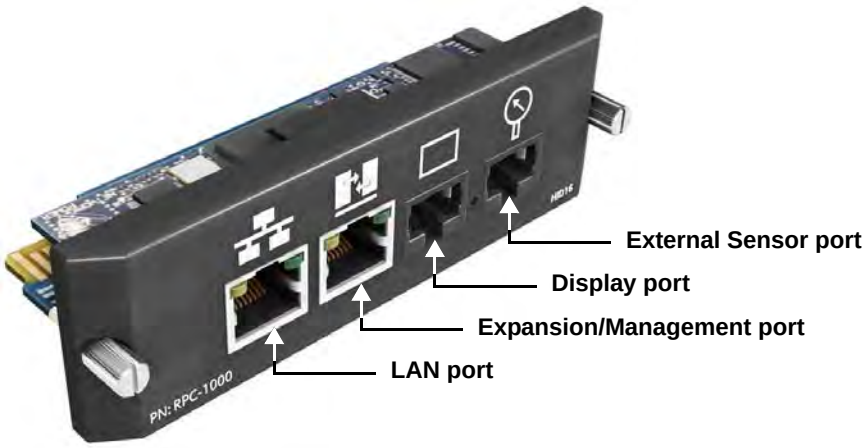
- **Liebert RPC** (Rack PDU Card):
  - RPC-1000
- **RPC BDM** (Basic Display Module):
  - RPC-BDM-1000
- **Liebert SN** Integrated Environmental Sensors:
  - SN-Z01 - Single Temperature Probe; 12 ft. (3.66m) length cable
  - SN-Z02 - Three Temperature Probes; 17 ft. (5.18m) length cable
  - SN-Z03 - Three Temperature Probes & Single Humidity Probe; 17 ft. (5.18m) length cable

5.5.4 Ports on the Liebert RPC

Figure 27 shows the four individual ports on the Liebert RPC.

Each port is designed for only one type of connection. See the Liebert RPC user manual, SL-20825, for details on using these ports.

Figure 27 Liebert RPC ports



5.5.5 Liebert RPC Capabilities and Benefits

The Liebert RPC offers the following capabilities and benefits:

Web Support

The Liebert RPC delivers Web management and control to Liebert Rack PDU equipment. All authorized users will be able to view status information on their network.

SNMP Support

The Liebert RPC enables SNMP management of Liebert Rack PDU equipment. To integrate the card into an SNMP implementation, compile the Liebert Global Products MIB on your Network Management System (NMS).

The Liebert Global Products MIB can be downloaded from:

www.liebert.com

Liebert Nform™

Utilizing the SNMP and Web technologies built into the Liebert RPC, Liebert Nform will centrally manage event notifications, access critical system information and manage the power delivered to your critical devices.

A downloadable edition is available online at:

nform.liebert.com

Liebert SiteScan® Web

The Liebert RPC integrates with Liebert SiteScan Web software to monitor and analyze trends to ensure high-availability operation of critical facilities.

For more information on Liebert SiteScan Web, visit the Web page at:

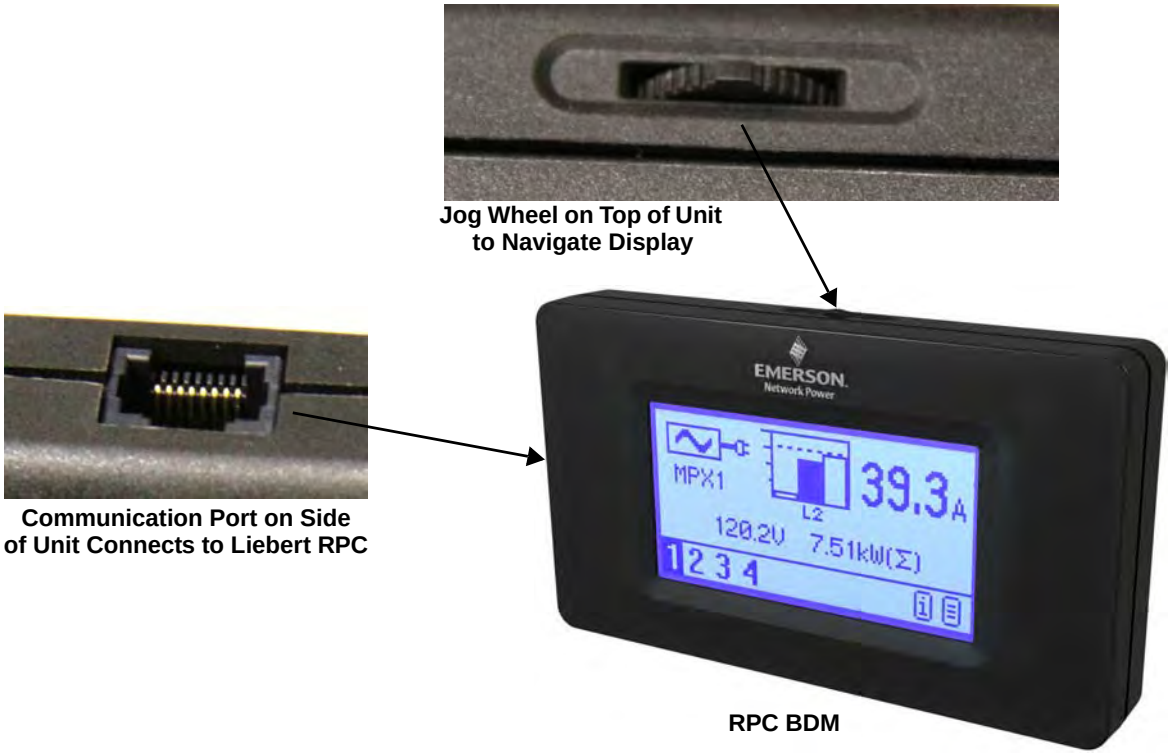
sitescan.liebert.com

5.5.6 RPC BDM—Basic Display Module

The RPC BDM is an optional device with an LCD for local viewing of status and alarms of up to four Liebert MPX or Liebert MPH PDUs. It connects to Liebert RPC with a factory-supplied cable that is 6.5 ft. (2m) long. The portable unit can be mounted on a wall for viewing particular units. The RPC BDM provides local display of electrical status for all connected Liebert MPX (and Liebert MPH) systems, MPX BRMs and individual receptacles, if the PDU version permits it. Information is accessed via a navigation switch on the RPC BDM.

For model number and other details, refer to **5.5.3 - Part Numbers for Liebert RPC and Accessories** and the Liebert RPC user manual, SL-20825, available at the Liebert Web site: www.liebert.com

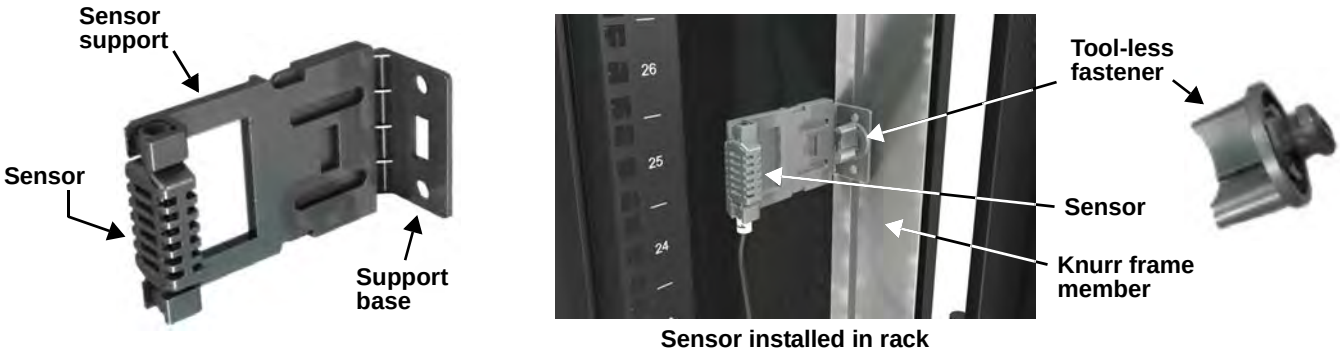
Figure 28 RPC BDM



5.5.7 Temperature/Humidity Sensor

A temperature/humidity sensor is available to monitor conditions in the rack. The sensor mounts without tools. It connects to the Liebert RPC with a factory-supplied Ethernet cable and can be monitored over a network.

Figure 29 Temperature/humidity sensor



Sensor installed in rack

6.0 LIEBERT MPX SYSTEM PRODUCT SELECTION GUIDE

6.1 STEP 1 - Select an MPX PRC (Quantity x 1)

To select an MPX PRC (Power Rail Chassis), refer to:

- The appropriate table in **6.5 - System Selection Guide**:
  - **Table 1 - Selections for Power Entry Module MPXPEM-NVAXXAXX**
  - **Table 2 - Selections for Power Entry Module MPXPEM-NHBXVA30**
  - **Table 3 - Selections for Power Entry Module MPXPEM-NHBXWA30**
- The following information:

MPXPRC-V1035XXX:	Max 8.6 kW, limited to 3 MPX BRM modules
Input:	Single-Phase & Three-Phase 5-wire / 20-30 Amp / 120/208-240 VAC
Rack Fit:	Typical 23U, most 600mm wide
MPXPRC-V1880XXX:	Max 17.2 kW, limited to 6 MPX BRM modules
Input:	Single-Phase & Three-Phase 5-wire / 20-30 Amp / 120/208-240 VAC
Rack Fit:	Typical 23U, most 600mm wide

Specifications - MPX PRC

MPX PRC (Power Rail Chassis)	
MPXPRC-V1035XXX	Power Rail Chassis - Liebert MPX power & communications bus, 1035mm length (23U)
MPXPRC-V1880XXX	Power Rail Chassis - Liebert MPX power & communications bus, 1880mm length (42U)

Model Number Configuration - MPX PRC

Example: MPXPRC-V1035XXX

- **Prefix:** MPXPRC
- **Mounting:** V = Vertical
- **Length:** 1035 = Short (40.75"; 1035mm)
  1880 = Standard (74"; 1880mm)
- **Placeholder:** XXX

Liebert MPX with 1035mm Liebert PRC chassis

Liebert MPX with1880mm Liebert PRC chassis

6.2 STEP 2 - Select an MPX PEM / MPX IPC (Quantity x 1)

To select an MPX PEM (Power Entry Module)—and an MPX IPC (Input Power Cord) for a Variable Capacity MPX PEM system—refer to:

- The appropriate table in **6.5 - System Selection Guide** for the MPX PEM (Power Entry Module):
  - **Table 1 - Selections for Power Entry Module MPXPEM-NVAXXAXX**
  - **Table 2 - Selections for Power Entry Module MPXPEM-NHBXVA30**
  - **Table 3 - Selections for Power Entry Module MPXPEM-NHBXWA30**
- The following information:

Input Power	MPX PEM Selection	MPX IPC	Input Plug
120VAC / 1-Phase / 30 Amp	MPXPEM-NVAXXAXX	MPXIPC-NXD30XXX	L5-30P
208VAC / 1-Phase / 30 Amp	MPXPEM-NVAXXAXX	MPXIPC-NXF30XXX	L6-30P
120/208VAC / 3-Phase / 20 Amp	MPXPEM-NVAXXAXX	MPXIPC-NXG30XXX	L21-20P
120/208VAC / 3-Phase / 30 Amp	MPXPEM-NVAXXAXX	MPXIPC-NXH30XXX	L21-30P
208VAC / 3-Phase / 50 Amp	MPXPEM-NHBXVA30	N/A	CS8365C
208VAC / 3-Phase / 60 Amp	MPXPEM-NHBXWA30	N/A	IEC60309

Specifications - MPX PEM

MPX PEM (Power Entry Module)	
MPXPEM-NVAXXAXX	Power Entry Module - Variable Capacity, North American, 120 or 208VAC single-phase &/or 208-240VAC three-phase input up to 30Amp
MPXPEM-NHBXVA30	Power Entry Module - Fixed Capacity, North American, 208-240VAC, three-phase 4-wire, 50Amp input, CS8365C plug, 10 ft. (3m) cord
MPXPEM-NHBXWA30	Power Entry Module - Fixed Capacity, North American, 208-240VAC, three-phase 5-wire, 60Amp input, IEC60309 Pin-Sleeve plug, 10 ft. (3m) cord

Model Number Configuration - MPX PEM

Example: MPXPEM-NVAXXAXX

- **Prefix:** MPXPEM
- **Region:** N = North America
- **Type:** V = Variable Capacity
  H = Fixed Capacity
- **Size:** A = Base (220mm) – Variable Capacity version
  B = Standard (266mm) – Fixed Capacity version
- **Communications:**
  X = Future Use
- **Input Power:**
  - **Available Capacity or Plug Type:**
    XA = 30 amps
    XV = 50 amps, 4-wire (CS8365C)
    XW = 60 amps, 5-wire (IEC60309)
  - **Cord Length:**
    XX = No integrated cord (Requires MPX IPC)
    30 = 3.0m (10 ft.)

MPX PEM, Variable Capacity

MPX PEM, Fixed Capacity

Specifications - MPX IPC (MPX PEM Variable Capacity Systems ONLY)

MPX IPC (Input Power Cord)	
120VAC – Single-Phase Input / Output	
MPXIPC-NXD30XXX	Input Power Cord - North America, 30Amp-120VAC-Single-Phase; NEMA L5-30P Locking plug; 10 ft. (3m) length cord
208VAC – Single-Phase Input / Output	
MPXIPC-NXF30XXX	Input Power Cord - North America, 30Amp-208VAC-Single-Phase; NEMA L6-30P Locking plug; 10 ft. (3m) length cord
208VAC – Three-Phase Input / 120/208VAC Single-Phase Output	
MPXIPC-NXG30XXX	Input Power Cord - North America, 20Amp-120/208VAC-Three-Phase; NEMA L21-20P Locking plug; 10 ft. (3m) length cord
MPXIPC-NXH30XXX	Input Power Cord - North America, 30Amp-120/208VAC-Three-Phase; NEMA L21-30P Locking plug; 10 ft. (3m) length cord

Model Number Configuration - MPX IPC (MPX PEM Variable Capacity Systems ONLY)

Example: MPXIPC-NXG30XXX

- **Prefix:** MPXIPC
- **Region:** N = North America
- **Input Power & Connection:**
  - **Plug Type:**
    XD = L5-30P
    XF = L6-30P
    XG = L21-20P
    XH = L21-30P
  - **Cord Length:**
    30 = 3.0m (10 ft.)
- **Placeholder:**
  XXX

MPX PEM, Variable Capacity

MPX IPC

6.3 STEP 3 - Select an MPX BRM

To select an MPX BRM (Branch Receptacle Module), refer to:

- The appropriate table in **6.5 - System Selection Guide** for the MPX PEM (Power Entry Module):
  - **Table 1 - Selections for Power Entry Module MPXPEM-NVAXXAXX**
  - **Table 2 - Selections for Power Entry Module MPXPEM-NHBXVA30**
  - **Table 3 - Selections for Power Entry Module MPXPEM-NHBXWA30**
- The following MPX BRM quantity definitions:

MPX PRC selected	Single-Phase Input	Three-Phase Input
MPXPRC-V1035XXX	3 MPX BRM modules maximum	1 x BRM per Lx-Lx* (total 3 max)
MPXPRC-V1035XXX	6 MPX BRM modules maximum	2 x BRM per Lx-Lx* (total 6 max)

* Required for phase load balancing

- If needed, refer to the MPX BRM specifications in **Table 4**

Model Number Configuration - MPX BRM

MPX BRM

Example: MPXBRM-NRBD4O31

- **Prefix:** MPXBRM
- **Region:** N = North America
- **Type:** B = Branch Monitoring
  R = Receptacle Management
- **Size & OL Protection:**
  - **Size:** B = Standard (266mm)
  - **Voltage Rating & OL Protection:**
    A = 120V/20A
    D = 208-240V/20A
- **Output Power:**
  - **Quantity Receptacles:**
    4, 6
  - **Receptacle Type:**
    A = 5-20R
    N = IEC-C13
    O = IEC-C19
- **Phase Configuration:**
  1N = L1-N
  2N = L2-N
  3N = L3-N
  12 = L1-L2
  23 = L2-L3
  31 = L3-L1

6.4 STEP 4 - Select Communication Options

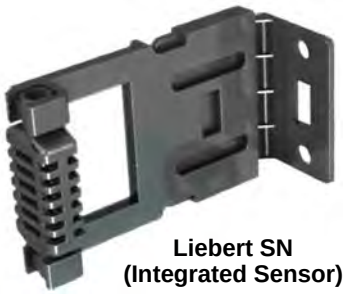
Choose from the following options for the Liebert MPX:

- Liebert RPC (Rack PDU Card) part number:
  - RPC-1000
- RPC BDM (Basic Display Module) part number:
  - RPC-BDM-1000
- Liebert SN Integrated Environmental Sensor part numbers:
  - SN-Z01 - Single Temperature Probe; 12 ft. (3.66m) length cable
  - SN-Z02 - Three Temperature Probes; 17 ft. (5.18m) length cable
  - SN-Z03 - Three Temperature Probes & Single Humidity Probe; 17 ft. (5.18m) length cable

The Liebert RPC is required for the other two options, the RPC BDM and Liebert SN integrated sensor.

Liebert RPC

RPC BDM



Liebert SN (Integrated Sensor)

6.5 System Selection Guide

Use the appropriate table as a guide to select components that are compatible with each MPX PEM:

- **Table 1 - Selections for Power Entry Module MPXPEM-NVAXXAXX**
- **Table 2 - Selections for Power Entry Module MPXPEM-NHBXVA30**
- **Table 3 - Selections for Power Entry Module MPXPEM-NHBXWA30**

Table 1 Selections for Power Entry Module MPXPEM-NVAXXAXX

MPX PEM Part Number	Module Voltage	Rated Amps	Max. Continuous Amps	Input Connection	Input Phases	Module Length (mm)
MPXPEM-NVAXXAXX*	208/120 or 208-240	30	24	Variable	Single-Phase or Three-Phase depending on the MPX IPC selection	220

* No fixed cord (requires MPX IPC)

Compatible MPX PRC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Max. # MPX BRMs Supported	Phase Configuration	Overall Length
MPXPRC-V1035XXX	208/120 or 208-240	60	48	3	Single-Phase & Three-Phase	1035mm, 23U
MPXPRC-V1880XXX				6		1880mm, 42U

Compatible MPX IPC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Input Plug	Phase Configuration	Cord Length ft. (m)
MPXIPC-NXD30XXX	120	30	24	NEMA L5-30	L1-N	10 (3.0)
Compatible MPX BRM for given MPX IPC:	**Module Voltage**	**Branch Rated Amps**	**Max. Continuous Amps**	**Quantity & Receptacle Type**	**Output Phase Configuration**	**Module Length (mm)**
Branch Monitoring						
MPXBRM-NBBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
Receptacle Management						
MPXBRM-NRBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266

Compatible MPX IPC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Input Plug	Phase Configuration	Cord Length ft. (m)
MPXIPC-NXF30XXX	208	30	24	NEMA L6-30P	L1-L2-N	10 (3.0)
Compatible MPX BRM for given MPX IPC:	**Module Voltage**	**Branch Rated Amps**	**Max. Continuous Amps**	**Quantity & Receptacle Type**	**Output Phase Configuration**	**Module Length (mm)**
Branch Monitoring						
MPXBRM-NBBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NBBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NBBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
Receptacle Management						
MPXBRM-NRBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NRBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NRBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266

Table 1 Selections for Power Entry Module MPXPEM-NVAXXAXX *(continued)*

Compatible MPX IPC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Input Plug	Phase Configuration	Cord Length ft. (m)
MPXIPC-NXG30XXX	208/120	20	16	NEMA L21-20P	L1-L2-L3-N	10 (3.0)
Compatible MPX BRM for given MPX IPC:	**Module Voltage**	**Branch Rated Amps**	**Max. Continuous Amps**	**Quantity & Receptacle Type**	**Output Phase Configuration**	**Module Length (mm)**
Branch Monitoring						
MPXBRM-NBBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NBBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NBBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NBBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NBBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NBBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NBBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NBBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NBBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266
Receptacle Management						
MPXBRM-NRBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NRBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NRBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NRBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NRBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NRBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NRBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NRBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NRBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266

Compatible MPX IPC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Input Plug	Phase Configuration	Cord Length ft. (m)
MPXIPC-NXH30XXX	208/120	30	24	NEMA L21-30P	L1-L2-L3-N	10 (3.0)
Compatible MPX BRM for given MPX IPC:	**Module Voltage**	**Branch Rated Amps**	**Max. Continuous Amps**	**Quantity & Receptacle Type**	**Output Phase Configuration**	**Module Length (mm)**
Branch Monitoring						
MPXBRM-NBBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NBBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NBBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NBBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NBBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NBBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NBBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NBBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NBBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266
Receptacle Management						
MPXBRM-NRBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NRBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NRBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NRBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NRBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NRBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NRBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NRBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NRBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266

Table 2 Selections for Power Entry Module MPXPEM-NHBXVA30

MPX PEM Part Number	Module Voltage	Rated Amps	Max. Continuous Amps	Input Connection	Input Phases	Module Length (mm)
MPXPEM-NHBXVA30	208-240	50	40	CS83665C 3-PH, 4-Wire	L1-L2-L3-G	266

Compatible MPX PRC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Max. # MPX BRMs Supported	Phase Configuration	Overall Length
MPXPRC-V1035XXX	208/120 or 208-240	60	48	3	Single-Phase & Three-Phase	1035mm, 23U
MPXPRC-V1880XXX				6		1880mm, 42U

Compatible MPX BRM for given MPX PEM:	Module Voltage	Branch Rated Amps	Max. Continuous Amps	Quantity & Receptacle Type	Output Phase Configuration	Module Length (mm)
Branch Monitoring						
MPXBRM-NBBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NBBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NBBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NBBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NBBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NBBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266
Receptacle Management						
MPXBRM-NRBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NRBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NRBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NRBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NRBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NRBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266

Table 3 Selections for Power Entry Module MPXPEM-NHBXWA30

MPX PEM Part Number	Module Voltage	Rated Amps	Max. Continuous Amps	Input Connection	Input Phases	Module Length (mm)
MPXPEM-NHBXWA30	208-240	60	48	IEC60309 3-PH, 5-Wire	L1-L2-L3-N-G	266

Compatible MPX PRC for given MPX PEM:	Voltages Supported	Rated Amps	Max. Continuous Amps	Max. # MPX BRMs Supported	Input Phases	Overall Length
MPXPRC-V1035XXX	208/120 or 208-240	60	48	3	Single-Phase & Three-Phase	1035mm, 23U
MPXPRC-V1880XXX				6		1880mm, 42U

Compatible MPX BRM for given MPX PEM:	Module Voltage	Branch Rated Amps	Max. Continuous Amps	Quantity & Receptacle Type	Output Phase Configuration	Module Length (mm)
Branch Monitoring						
MPXBRM-NBBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NBBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NBBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NBBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NBBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NBBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NBBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NBBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NBBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266
Receptacle Management						
MPXBRM-NRBA6A1N	120V	20	16	(6) NEMA 5-20R	L1-N	266
MPXBRM-NRBA6A2N	120V	20	16	(6) NEMA 5-20R	L2-N	266
MPXBRM-NRBA6A3N	120V	20	16	(6) NEMA 5-20R	L3-N	266
MPXBRM-NRBD6N12	208-240V	20	16	(6) IEC-C13	L1-L2	266
MPXBRM-NRBD6N23	208-240V	20	16	(6) IEC-C13	L2-L3	266
MPXBRM-NRBD6N31	208-240V	20	16	(6) IEC-C13	L3-L1	266
MPXBRM-NRBD4O12	208-240V	20	16	(4) IEC-C19	L1-L2	266
MPXBRM-NRBD4O23	208-240V	20	16	(4) IEC-C19	L2-L3	266
MPXBRM-NRBD4O31	208-240V	20	16	(4) IEC-C19	L3-L1	266

6.6 Specifications for Liebert MPX Components

Table 4 Specifications - MPX BRM

MPX BRM (Branch Receptacle Module)	
Single-Phase Liebert MPX System (MPX PEM) Input Selections	
Phase L1 to Neutral (120VAC) Output	
Branch Monitoring Support	
MPXBRM-NBBA6A1N	Branch Monitoring, (6) NEMA 5-20R (T-slot) receptacles; Line L1 to Neutral (120VAC)
Receptacle Management Support	
MPXBRM-NRBA6A1N	Receptacle Management, (6) NEMA 5-20R (T-slot) receptacles; Line L1 to Neutral (120VAC)
Line L1 to L2 (208VAC) Output	
Branch Monitoring Support	
MPXBRM-NBBD6N12	Branch Monitoring, (6) IEC-C13 receptacles; Line L1 to L2 (208-240VAC)
MPXBRM-NBBD4O12	Branch Monitoring, (4) IEC-C19 receptacles; Line L1 to L2 (208-240VAC)
Receptacle Management Support	
MPXBRM-NRBD6N12	Receptacle Management, (6) IEC-C13 receptacles; Line L1 to L2 (208-240VAC)
MPXBRM-NRBD4O12	Receptacle Management, (4) IEC-C19 receptacles; Line L1 to L2 (208-240VAC)
Three-Phase Liebert MPX System (MPX PEM) Input Selections	
Line L1 to L2 (208VAC) *or* Phase L1 to Neutral (120VAC) Output	
Branch Monitoring Support	
MPXBRM-NBBA6A1N	Branch Monitoring, (6) NEMA 5-20R (T-slot) receptacles; Phase L1 to Neutral (120VAC)
MPXBRM-NBBD6N12	Branch Monitoring, (6) IEC-C13 receptacles; Line L1 to L2 (208-240VAC)
MPXBRM-NBBD4O12	Branch Monitoring, (4) IEC-C19 receptacles Line L1 to L2 (208-240VAC)
Receptacle Management Support	
MPXBRM-NRBA6A1N	Receptacle Management, (6) NEMA 5-20R (T-slot) receptacles; Phase L1 to Neutral (120VAC)
MPXBRM-NRBD6N12	Receptacle Management, (6) IEC-C13 receptacles; Line L1 to L2 (208-240VAC)
MPXBRM-NRBD4O12	Receptacle Management, (4) IEC-C19 receptacles Line L1 to L2 (208-240VAC)
Line L2 to L3 (208VAC) *or* Phase L2 to Neutral (120VAC) Output	
Branch Monitoring Support	
MPXBRM-NBBA6A2N	Branch Monitoring, (6) NEMA 5-20R (T-slot) receptacles; Phase L2 to Neutral (120VAC)
MPXBRM-NBBD6N23	Branch Monitoring, (6) IEC-C13 receptacles; Line L2 to L3 (208-240VAC)
MPXBRM-NBBD4O23	Branch Monitoring, (4) IEC-C19 receptacles Line L2 to L3 (208-240VAC)
Receptacle Management Support	
MPXBRM-NRBA6A2N	Receptacle Management, (6) NEMA 5-20R (T-slot) receptacles; Phase L2 to Neutral (120VAC)
MPXBRM-NRBD6N23	Receptacle Management, (6) IEC-C13 receptacles Line L2 to L3 (208-240VAC)
MPXBRM-NRBD4O23	Receptacle Management, (4) IEC-C19 receptacles Line L2 to L3 (208-240VAC)
Line L3 to L1 (208VAC) *or* Phase L3 to Neutral (120VAC) Output	
Branch Monitoring Support	
MPXBRM-NBBA6A3N	Branch Monitoring, (6) NEMA 5-20R (T-slot) receptacles; Phase L3 to Neutral (120VAC)
MPXBRM-NBBD6N31	Branch Monitoring, (6) IEC-C13 receptacles; Line L3 to L1 (208-240VAC)
MPXBRM-NBBD4O31	Branch Monitoring, (4) IEC-C19 receptacles Line L3 to L1 (208-240VAC)
Receptacle Management Support	
MPXBRM-NRBA6A3N	Receptacle Management, (6) NEMA 5-20R (T-slot) receptacles; Phase L3 to Neutral (120VAC)
MPXBRM-NRBD6N31	Receptacle Management, (6) IEC-C13 receptacles Line L3 to L1 (208-240VAC)
MPXBRM-NRBD4O31	Receptacle Management, (4) IEC-C19 receptacles Line L3 to L1 (208-240VAC)

6.7 DImensional Drawings - Adaptive Rack PDUs

Figure 30 Liebert MPX MPXPRC-1035mm mixed modules

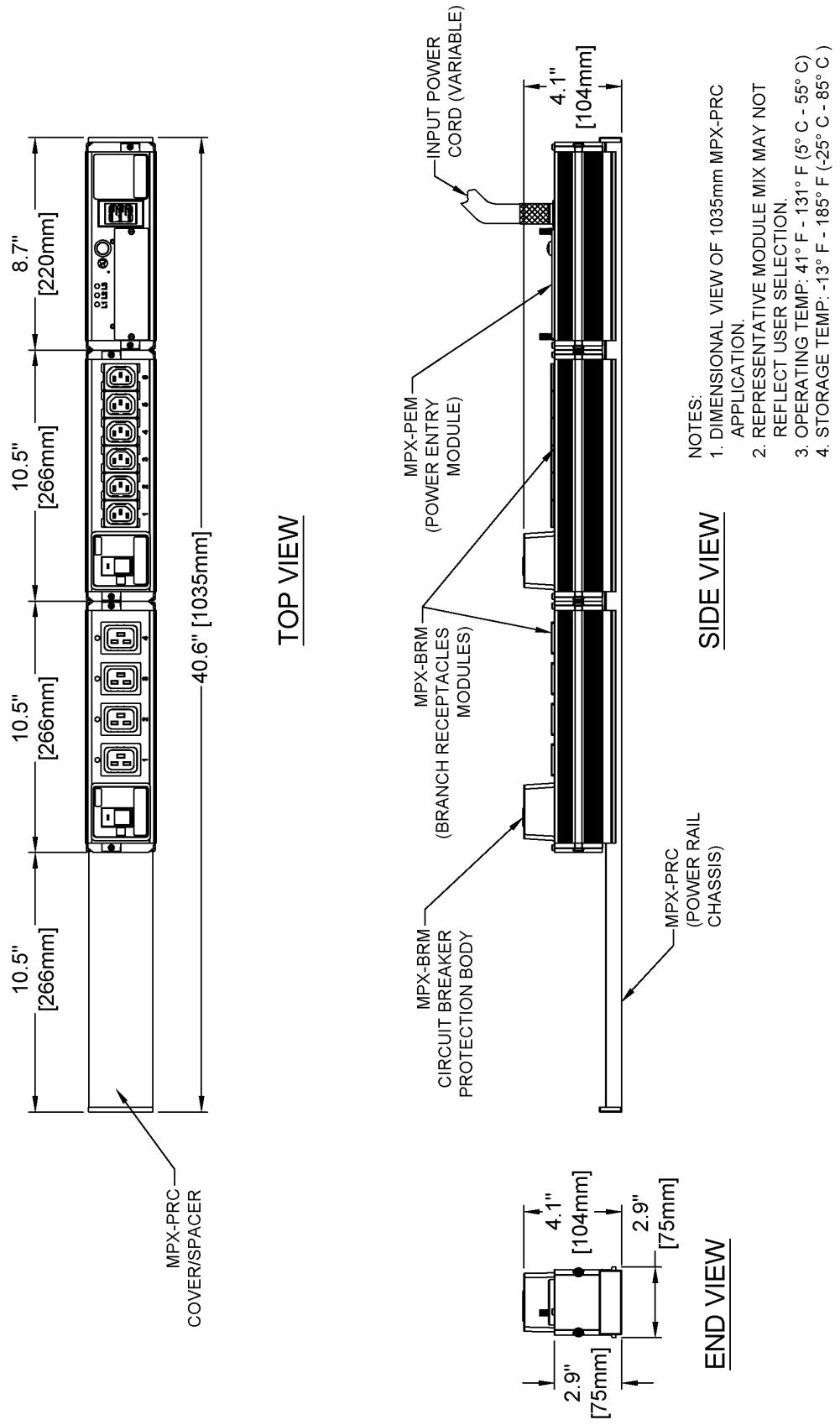
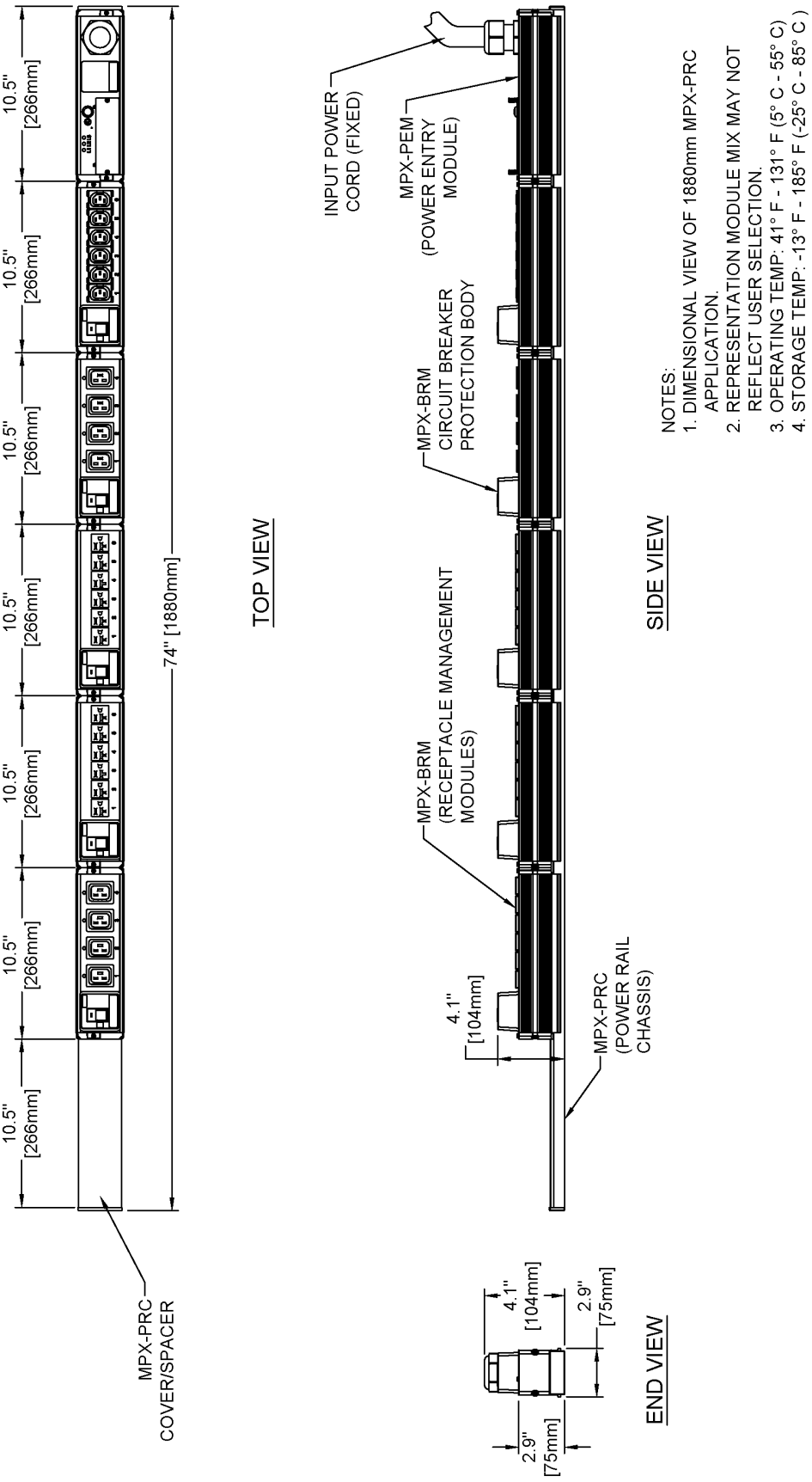


Figure 31 Liebert MPX MPXPRC-1880mm mixed modules



Notes

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