

Advanced Satellite Charging System

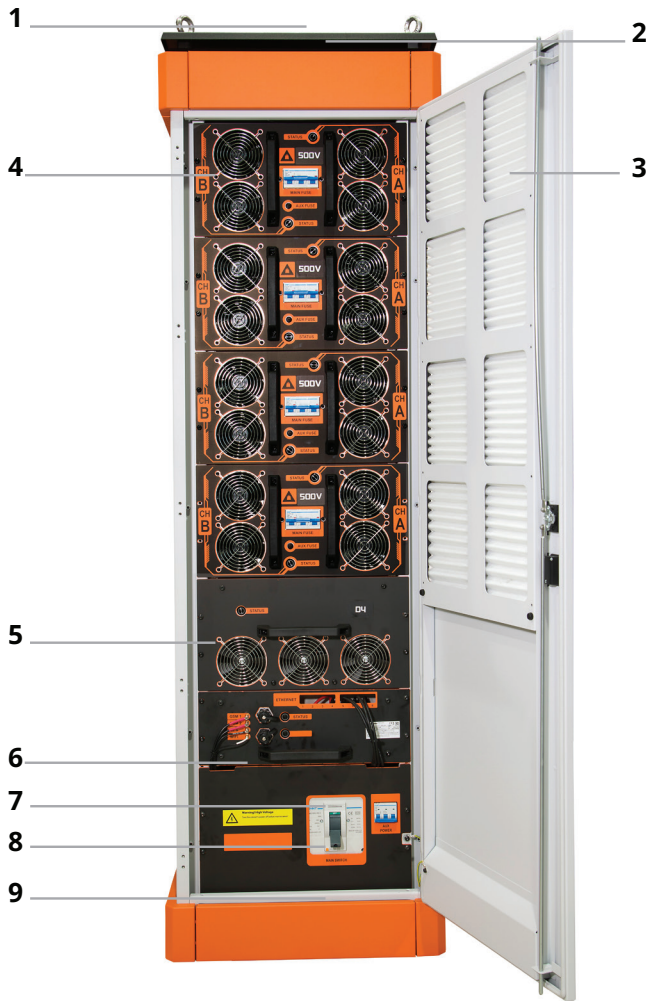
C-Series C500 Charging Power Unit

Technical Datasheet, North America



The heavy-duty, electromechanical design of Kempower Charging Power Units (CPU) consists of control, dynamic and power modules. Each cabinet utilizes 1 to 4 power modules, each of which providing a maximum charging power of up to 50 kW. A full CPU provides a maximum total power of up to 200/400/600 kW, depending of the CPU version. The charging power management can be set as dynamic, utilizing different dynamic logics, or as static. With dynamic, the maximum charging power is automatically distributed and optimized between up to 8 charging outputs simultaneously. With static, each power module is assigned for a specific S-Series charging satellite or pantograph, providing pre-set charging power to each charging output.

- Dynamic Charging Power Management (pat. pend.) for intelligent, adaptive and automatic charging power distribution
- Scalability with add-on power modules
- The charging power can be routed to up to 8 charging outputs, 4 x S-Series double or 8 x single charging satellites and/or pantographs
- Recommended max. DC cabling between C-Series charging power unit and S-Series charging satellite is 262 feet / 80 meters
- The door is equipped with a swing handle with a tumbler lock for easy & safe enclosure



1. WiFi / cellular / GPS antenna
2. Air outlet
3. Air inlets
4. Power module (1 to 4 pcs per CPU)
5. Static/dynamic power distribution module
6. Control module
7. Main switch
8. AC cable entry
9. DC output

Product code interpretation examples:

C501P160NS8L
C501P160NS8LC0

C501	C-Series 500 V single cabinet
P160	Charging power (P160 = 160 kW)
N	Options, N = neutral
S8	Number and type of power distribution modules S = static, D = dynamic
L	ETL approved
C0	Unbranded, black roof & base

Number of cabinets

C501	Single cabinet
C502	Double cabinet
C503	Triple cabinet

Power distribution modules

S4	Up to 4 static outputs
S8	Up to 8 static outputs
D4	Up to 4 dynamic outputs
D8	Up to 8 dynamic outputs

General electric specifications

Input voltage (AC)	400/480 V _{AC} ±10%
Input frequency	50...60 Hz
Output voltage	200...575 V _{DC}
Power factor (at full load)	0.92
Efficiency (at full load)	94%
Idle power	20 VA
Standby power	C501: 50 W C502: 100 W C503: 150 W
Over voltage class (OVC)	III
I _{cc}	35 kA
Network type	TN-S, TN-C, TN-C-S, TT

Connections

WiFi	802.11 b/g/n (2.4/5 GHz)
Cellular / GPS	LTE-FDD, LTE-TDD, WCDMA, GSM
Ethernet	RJ45, IEEE 802.3 / 802.3u
OCP	1.6 J / 2.0
Connectivity	Kempower ChargeEye remote maintenance and management dashboard

Electrical protections

Over/under voltage
Surge protection
Short circuit
Overload protection
Earth leakage current
Device over temperature

Environmental specifications

Operating temperature	-22...+122°F / -30...+50°C (with CHAdeMO up to +104°F / +40°C)
Current derating	-1.5% of max. charging current per 1.8 °F / 1°C (above +104°F / +40°C)
Maximum altitude	2000 m / 6562 ft
Altitude derating	-1.4% of max. charging current per 328 ft / 100 m (above 6562 ft / 2000 m)
Storage temperature	-40...+140°F / -40...+60°C
Enclosure	Suitable for outdoor use
Operational noise level	< 60 dB (at 3.28 ft / 1 m distance)
Ambient air humidity	< 95% relative humidity

Compliance to standards

Electrical safety	IEC 61851-1, IEC 61851-23
EMC, harmonics	IEC 61851-21-2
Conforms to	UL Std. 2202, 2231-2
Certified to	CSA Std. C22.2 No. 281.2, C107.1

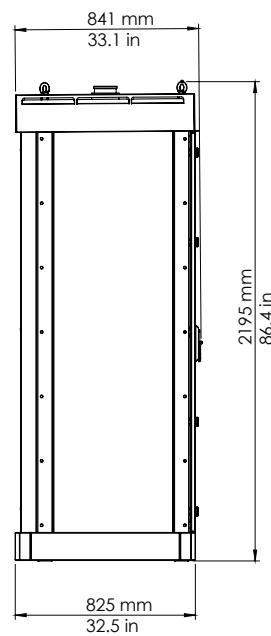
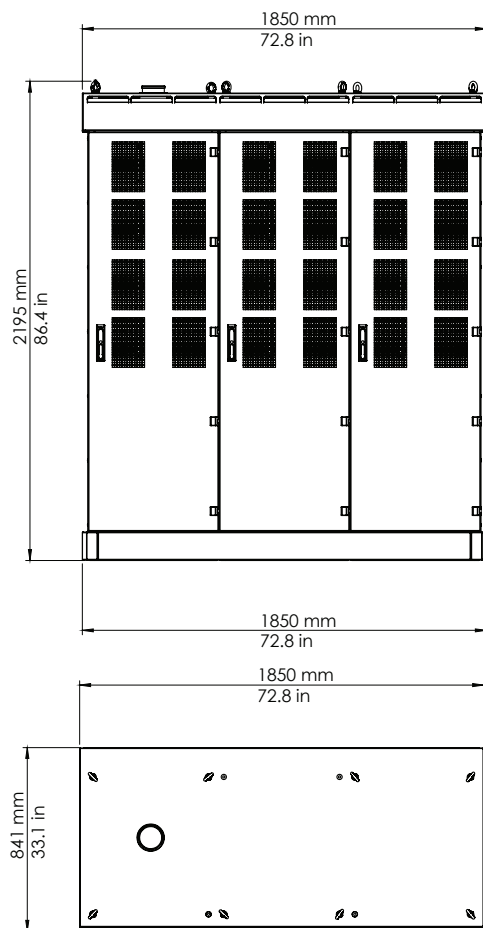
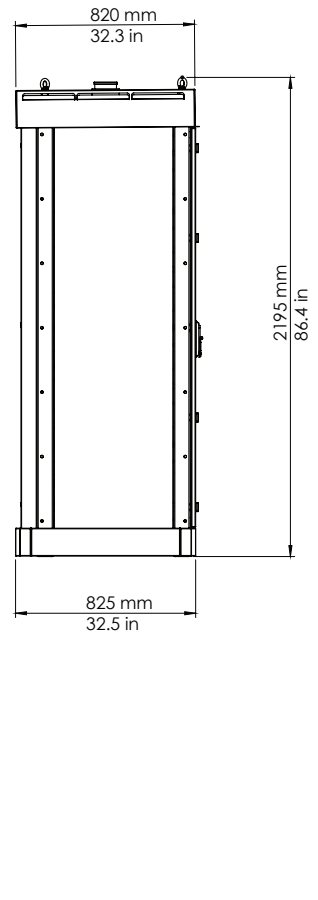
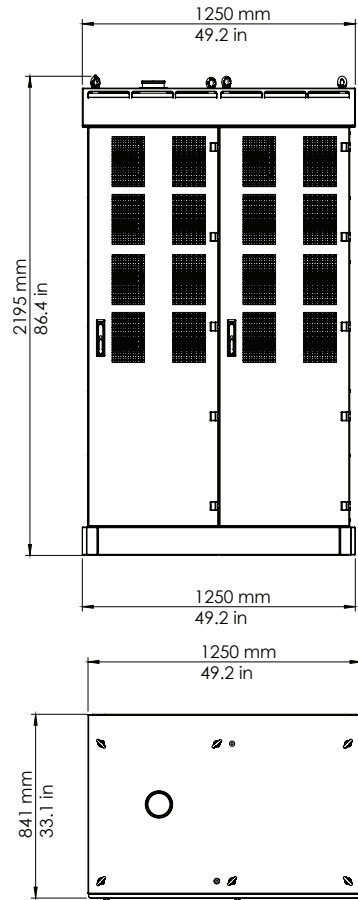
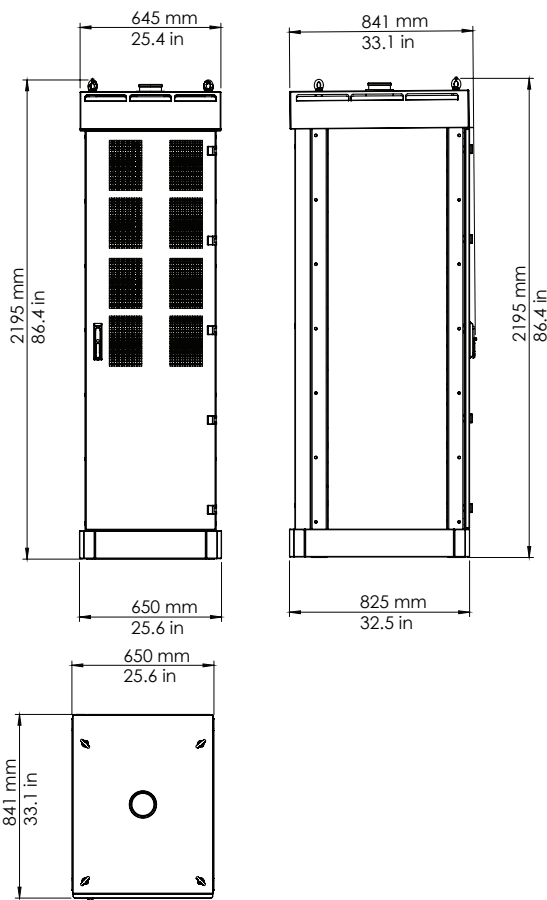
Intermittent operation, 50 kW output / power module

Product code	Charging power (P _{DC}) [kW]	Max. charging current (400 V _{DC}) [A]	Input power [kVA]	Input current 400 V _{AC} [A]	Input current 480 V _{AC} [A]	Rec. grid fuse [A]
C501P40...L	50	125	58	83	70	100
C501P80...L	100	250	116	167	139	200
C501P120...L	150	375	173	250	209	315
C501P60...L	200	500	231	334	278	400
C502P200...L	250	625	289	417	348	500
C502P240...L	300	750	347	501	417	2 x 315
C502P280...L	350	875	400	578	487	2 x 315
C502P320...L	400	1000	459	660	556	2 x 400
C503P360...L	450	1125	515	743	626	2 x 400
C503P400...L	500	1250	572	826	695	2 x 500
C503P440...L	550	1375	629	908	765	2 x 500
C503P480...L	600	1500	685	991	835	2 x 630

Continuous operation, 40 kW output / power module

Product code	Charging power (P _{DC}) [kW]	Max. charging current (400 V _{DC}) [A]	Input power [kVA]	Input current 400 V _{AC} [A]	Input current 480 V _{AC} [A]	Rec. grid fuse [A]
C501P40...L	40	100	46	67	56	100
C501P80...L	80	200	93	134	111	200
C501P120...L	120	300	139	200	167	250
C501P60...L	160	400	185	267	223	315
C502P200...L	200	500	231	334	278	400
C502P240...L	240	600	278	401	334	500
C502P280...L	280	700	324	467	389	500
C502P320...L	320	800	370	534	445	2 x 315
C503P360...L	360	900	416	601	501	2 x 315
C503P400...L	400	1000	463	668	556	2 x 400
C503P440...L	440	1100	509	734	612	2 x 400
C503P480...L	480	1200	555	801	668	2 x 500

- Notice: Over 500 A requires at least two charging outputs
- The charging power in the intermittent operation table are available for 30 minutes, at +40°C / +105°F ambient temperature
- After this, the maximum output power is dropped to the continuous operation level
- The duration of intermittent charging power depends on the ambient temperature; as the temperature increases, the duration of intermittent charging power gets shorter
- In continuous operation, the charging power is available continuously within the specified (max. +40°C / +104°F) ambient temperature
- At higher ambient temperatures, current derating is applied according to table above
- Fuses recommendation applies only for continuous operation



Mechanical dimensions (WxHxD, footprint)

C801: 25.6 x 86.4 x 33.1 in / 650 x 2195 x 841 mm

C802: 49 x 86.4 x 33.1 in / 1250 x 2195 x 841 mm

C803: 73 x 86.4 x 33.1 in / 1850 x 2195 x 841 mm

Note: if an optional base is used, the CPU height increases 7.87 inch / 200 mm, in all versions

Weight

C801P40...L 618 lbs 280 kg

C801P80...L 706 lbs 320 kg

C801P120...L 793 lbs 360 kg

C801P160...L 881 lbs 400 kg

C802P200...L 1499 lbs 680 kg

C802P240...L 1588 lbs 720 kg

C802P280...L 1676 lbs 760 kg

C802P320...L 1763 lbs 800 kg

C803P360...L 2380 lbs 1080 kg

C803P400...L 2469 lbs 1120 kg

C803P440...L 2558 lbs 1160 kg

C803P480...L 2646 lbs 1200 kg


Options

C-Series steel base

Installation kit for a single CPU cabinet, for flat surface assembly

Customized branding (colors, stickers)

Consult your sales representative at Kempower for customer branding options (colors, stickers), pricing and MOQ.

 Refer to the operating manual for warnings, functions and features.



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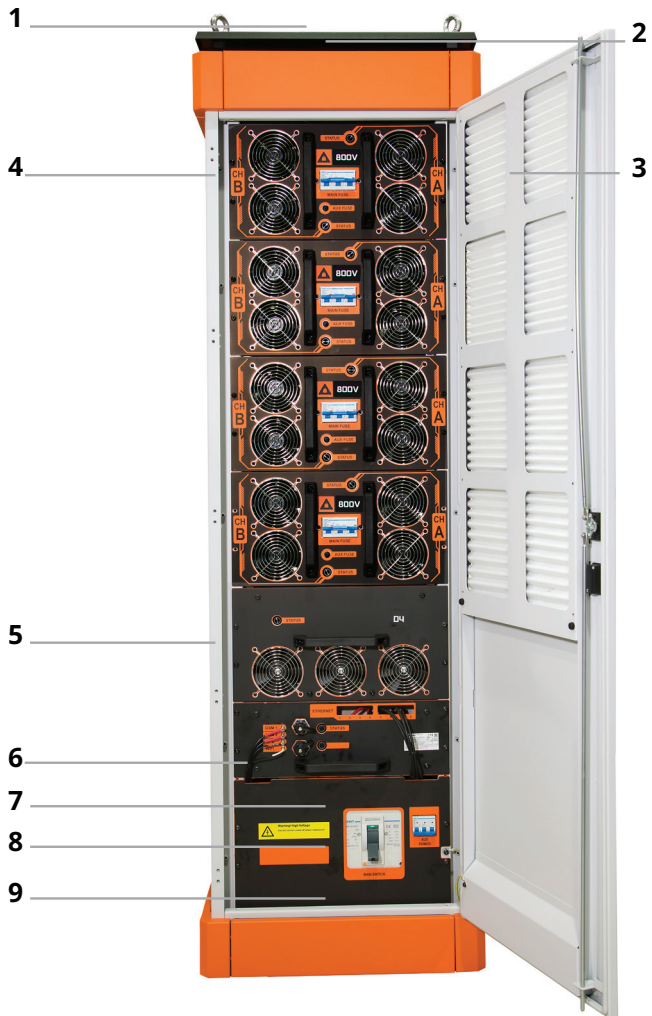
C-Series C800 Charging Power Unit

Technical Datasheet, North America



The heavy-duty, electromechanical design of Kempower Charging Power Units (CPU) consists of control, dynamic and power modules. Each cabinet utilizes 1 to 4 power modules, each of which providing a maximum charging power of up to 50 kW. A full CPU provides a maximum total power of up to 200/400/600 kW, depending of the CPU version. The charging power management can be set as dynamic, utilizing different dynamic logics, or as static. With dynamic, the maximum charging power is automatically distributed and optimized between up to 8 charging outputs simultaneously. With static, each power module is assigned for a specific S-Series charging satellite or pantograph, providing pre-set charging power to each charging output.

- Dynamic Charging Power Management (pat. pend.) for intelligent, adaptive and automatic charging power distribution
- Scalability with add-on power modules
- The charging power can be routed to up to 8 charging outputs, 4 x S-Series double or 8 x single charging satellites and/or pantographs
- Recommended max. DC cabling between C-Series charging power unit and S-Series charging satellite is 262 feet / 80 meters
- The door is equipped with a swing handle with a tumbler lock for easy & safe enclosure



1. WiFi / cellular / GPS antenna
2. Air outlet
3. Air inlets
4. Power module (1 to 4 pcs per CPU)
5. Static/dynamic power distribution module
6. Control module
7. Main switch
8. AC cable entry
9. DC output

Product code interpretation examples:
C801P160NS8L
C801P160NS8LC0

C801	C-Series 800 V single cabinet
P160	Charging power (P160 = 160 kW)
N	Options, N = neutral
S8	Number and type of power distribution modules S = static, D = dynamic
L	ETL approved
C0	Unbranded, black roof & base

Number of cabinets

C801	Single cabinet
C802	Double cabinet
C803	Triple cabinet

Power distribution modules

S4	Up to 4 static outputs
S8	Up to 8 static outputs
D4	Up to 4 dynamic outputs
D8	Up to 8 dynamic outputs

General electric specifications

Input voltage (AC)	400/480 V _{AC} ±10%
Input frequency	50...60 Hz
Output voltage	200...920 V _{DC}
Power factor (at full load)	0.92
Efficiency (at full load)	94%
Idle power	20 VA
Standby power	C801: 50 W C802: 100 W C803: 150 W
Over voltage class (OVC)	III
I _{cc}	35 kA
Network type	TN-S, TN-C, TN-C-S, TT

Connections

WiFi	802.11 b/g/n (2.4/5 GHz)
Cellular / GPS	LTE-FDD, LTE-TDD, WCDMA, GSM
Ethernet	RJ45, IEEE 802.3 / 802.3u
OCPP	1.6 J / 2.0
Connectivity	Kempower ChargeEye remote maintenance and management dashboard

Electrical protections

Over/under voltage
Surge protection
Short circuit
Overload protection
Earth leakage current
Device over temperature

Environmental specifications

Operating temperature	-22...+122°F / -30...+50°C (with CHAdeMO up to +104°F / +40°C)
Current derating	-1.5% of max. charging current per 1.8 °F / 1°C (above +104°F / +40°C)
Maximum altitude	2000 m / 6562 ft
Altitude derating	-1.4% of max. charging current per 328 ft / 100 m (above 6562 ft / 2000 m)
Storage temperature	-40...+140°F / -40...+60°C
Enclosure	Suitable for outdoor use
Operational noise level	< 60 dB (at 3.28 ft / 1 m distance)
Ambient air humidity	< 95% relative humidity

Compliance to standards

Electrical safety	IEC 61851-1, IEC 61851-23
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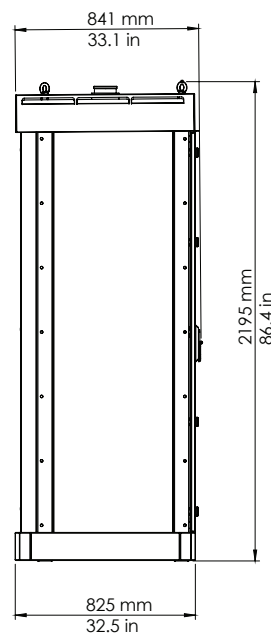
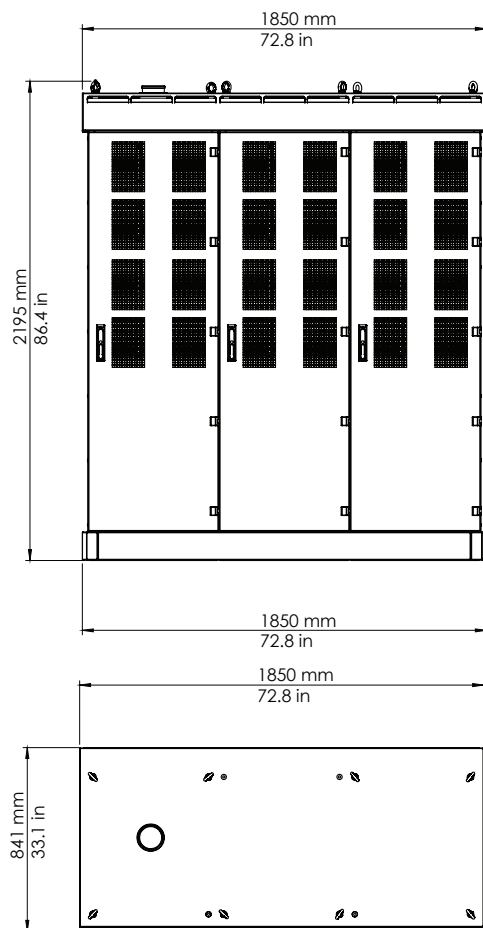
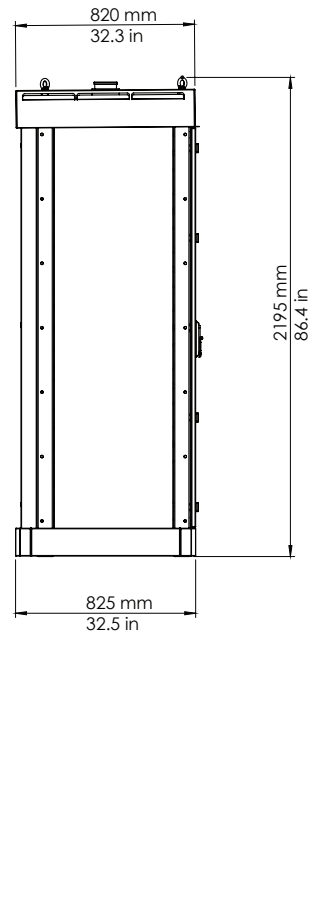
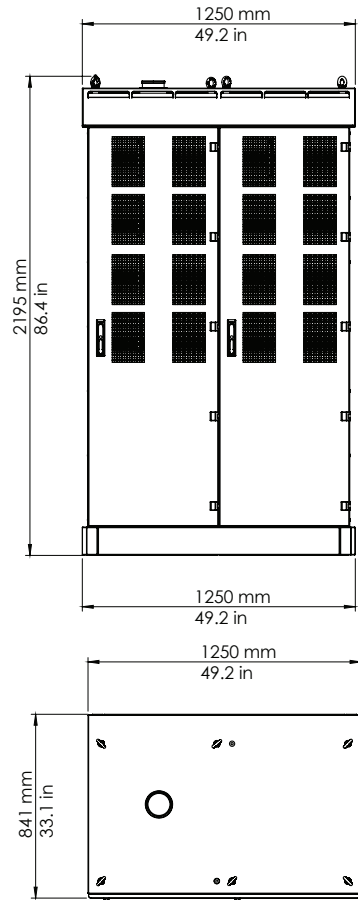
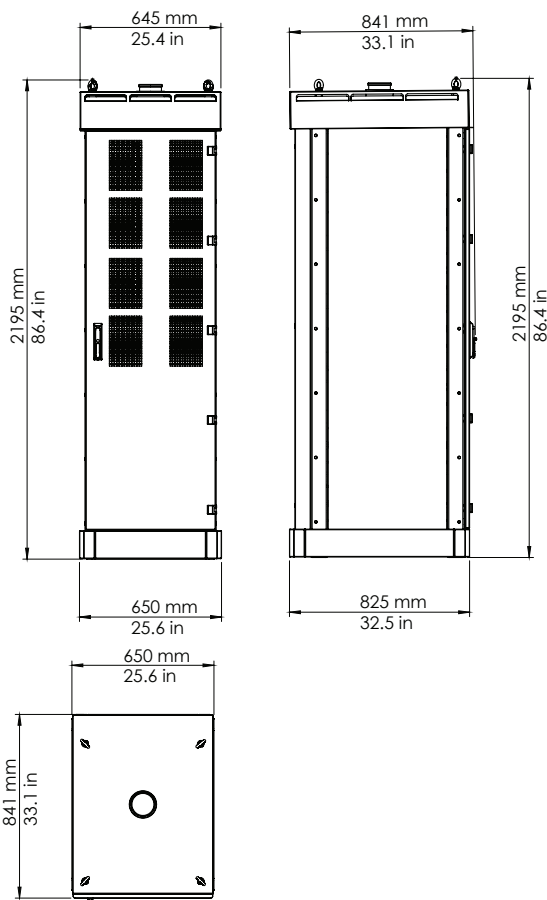
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Continuous operation, 40 kW output / power module

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C802P320...L	320	480	370	534	445	2 x 315
C803P360...L	360	540	416	601	501	2 x 315
C803P400...L	400	600	463	668	556	2 x 400
C803P440...L	440	660	509	734	612	2 x 400
C803P480...L	480	720	555	801	668	2 x 500

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