

Lead-Acid Chargers for **Material Handling**

550W to 3500W scalable, offboard or onboard
Lead-Acid and Li-Ion battery charging solutions



FEATURES

- Universal AC Input: 90-264Vac
- High Efficiency: Up to 92%
- All-Around Protections: OVP, OCP, SCP, OTP
- IP67 Waterproof Rating
- Fan Cooled for Wide Ambient Temperature Operation

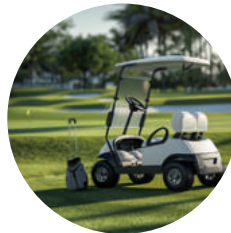
APPLICATIONS



Material Handling



Outdoor Power Equipment



Golf



Mobile Elevated Work Platforms



Floor Care



E-vehicles



E-Mobility



Construction

Lead-Acid Battery Chargers for Material Handling

550W to 3500W scalable, offboard or onboard lead-acid battery and Li-Ion battery charging solutions

Powerland's Lead-Acid Chargers for Material Handling are designed with ultra-high efficiency. The low power dissipation and extraordinary performance directly result in higher reliability and a longer lifetime, both crucial benefits in forklift and material handling applications.



Sapphire Series

Output Power 550W
Output voltage 27-54.6V



750W Diamond Series

Output Power 750W
Output voltage 10-30V



EVCM-60-1000

Output Power 1000W
Output voltage 27-59V



EVCM-84-1000

Output Power 1000W
Output voltage 40-86V



1500W Diamond Series

Output Power 1500W
Output voltage 28-58.8V



1800W Diamond Series

Output Power 1800W
Output voltage 43-84V



2400W Diamond Series

Output Power 2400W
Output voltage 28-59V



3500W Ruby Series

Output Power 3500W
Output voltage 35-60V



Products Overview

Sapphire Series

Powerland's Sapphire Series chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



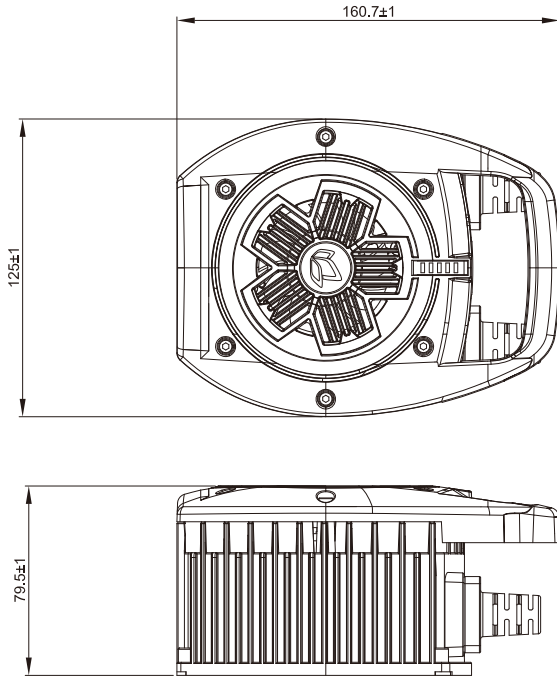
SPECIFICATIONS



Model No.	EVCM-54-550
Factory No.	PLD550-EVCS01-48
Vo nom (VDC)	48V
Watts	550W
Input Voltage	90-264Vac
Output Voltage	27-54.6V
Output Current	10A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	≥ 0.98
Efficiency	90%@115Vac, 92%@230Vac
Communication	CAN
Protections	OVP/OCP/SCP/OTP
Ingress Protection	IP64 (IP67 Optional)
Working Temperature	-10~50°C
Voltage Accuracy	±0.5%
EMI	Comply with FCC PART 15B / EN55014
Surge Protection	1kV/2kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	160 * 125 * 80 mm (6.3 * 4.92 * 3.15 in)
Weight	≤ 3.0 kg (6.61 lbs.)
Life Time	15,000 Hours at 25° C, 230Vac Input, and Continuous Full Load Output

MECHANICAL

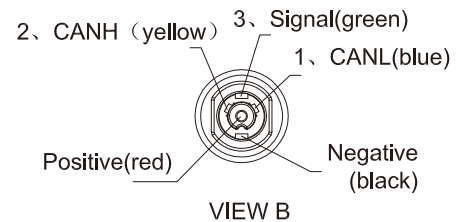
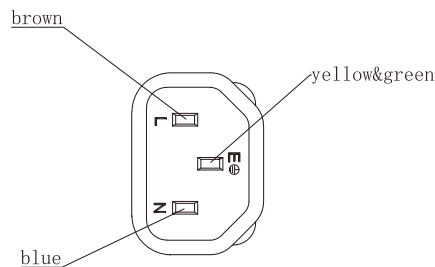
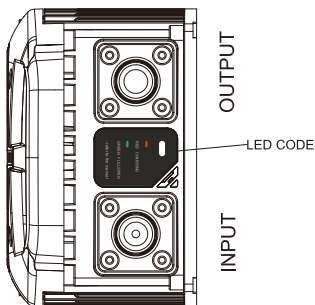
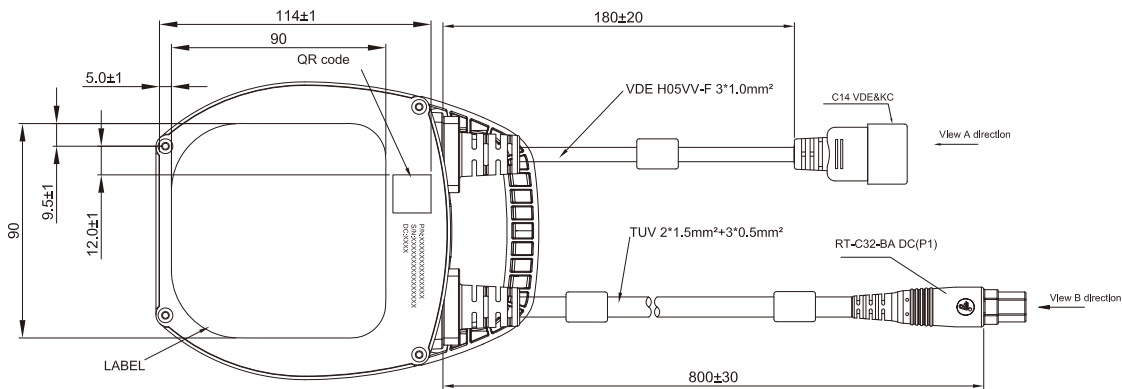
Dimension and Outline Drawing



Dimensions:

160*125*80mm (LxWxH)

Weight: ≤ 3.0 kg (6.61 lbs.)



P1 Plug connectin mode

PIN	Wire specification	colour	Definition
Positive	1.5mm ²	red	Vout(+)
Negative	1.5mm ²	black	Vout(-)
1	0.5mm ²	blue	CANL
2	0.5mm ²	yellow	CANH
3	0.5mm ²	green	Signal

750W Diamond Series

Powerland's 750W Diamond Series chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



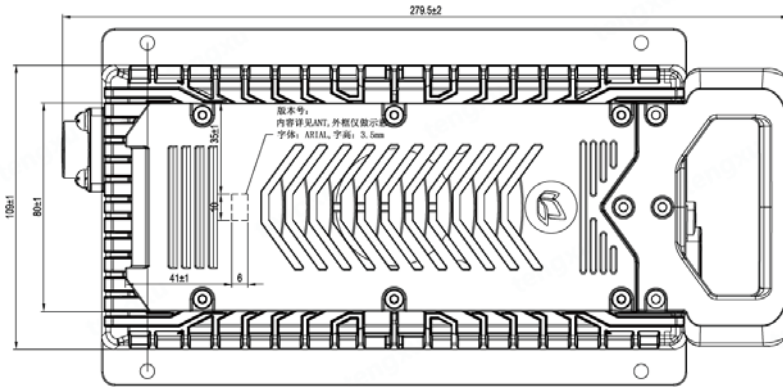
SPECIFICATIONS



Model No.	EVCM-30-750
Factory No.	PLD750-EVCS01-24
Vo nom (VDC)	24V
Watts	750W
Input Voltage	90-264Vac
Output Voltage	10-30V
Output Current	0-25A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	≥ 0.98
Efficiency	92%
Communication	CAN
Protections	OVP/OCP/SCP/OTP
Ingress Protection	IP65 (excluding input/output terminals)
Working Temperature	-40 to 85° C / 60° C (±5° C) case (On / Off-board Version)
Voltage Accuracy	±0.5%
EMI	Comply with EN55032 / EN55014
Surge Protection	2kV/4kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	225 * 137 * 73 mm
Weight	3.0 kg (6.61 lbs.)
Life Time	80,000 Hours at 25° C, 230Vac Input, and Continuous Full Load Output

MECHANICAL

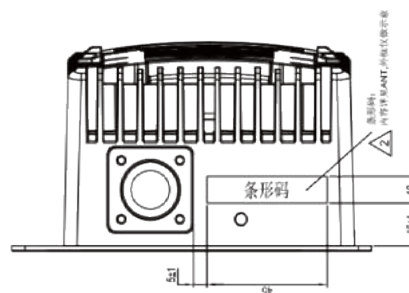
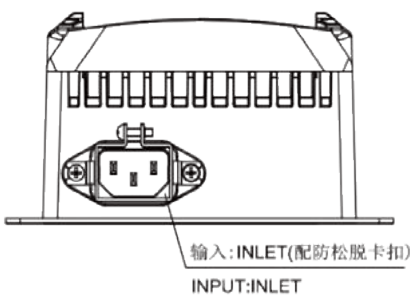
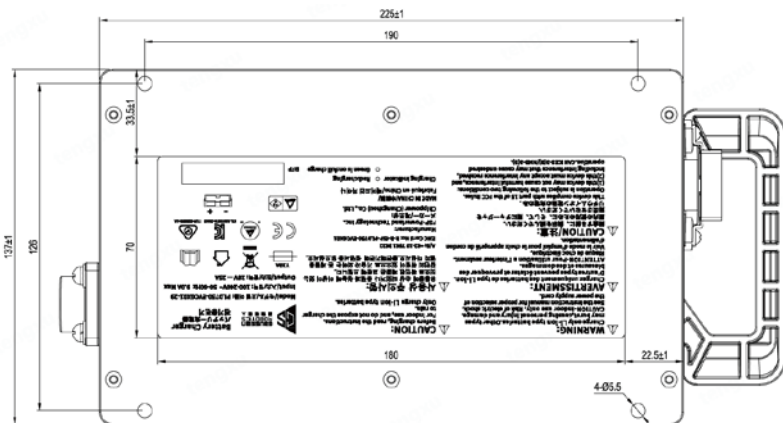
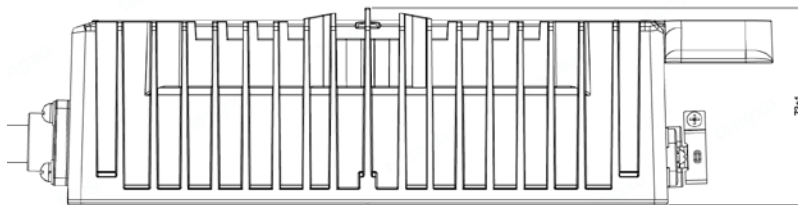
Dimension and Outline Drawing



Dimensions:

225*137*73mm(LxWxH)

Weight: 3.0 kg (6.61 lbs.)



PLD1000-EVCS01-48 (Coming Soon)

Powerland's PLD1000-EVCS01-48 chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



SPECIFICATIONS



Model No.	EVCM-60-1000
Factory No.	PLD1000-EVCS01-48
Vo nom (VDC)	48V
Watts	1000W
Input Voltage	90-264Vac
Output Voltage	27-59V
Output Current	0-17A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	≥ 0.98
Efficiency	92%
Communication	CAN
Protections	OVP/OCP/SCP/OTP
Ingress Protection	IP67 (excluding input/output terminals)
Working Temperature	-40 to 85° C / 60° C (±5° C) case (On / Off-board Version)
Voltage Accuracy	±0.5%
EMI	Comply with EN55032 / EN55014
Surge Protection	2kV/4kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	214 * 94 * 68.6 mm (8.43 * 3.70 * 2.70 in)
Weight	2.2 kg (4.85 lbs.)
Life Time	80,000 Hours at 25° C, 230Vac Input, and Continuous Full Load Output



MECHANICAL

Dimension and Outline Drawing

COMING SOON

PLD1000-EVCS01-72 (Coming Soon)

Powerland's PLD1000-EVCS01-72 chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



SPECIFICATIONS



Model No.	EVCM-84-1000
Factory No.	PLD1000-EVCS01-72
Vo nom (VDC)	72V
Watts	1000W
Input Voltage	90-264Vac
Output Voltage	40-86V
Output Current	0-12A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	≥ 0.98
Efficiency	92%
Communication	CAN
Protections	OVP/OCP/SCP/OTP
Ingress Protection	IP67 (excluding input/output terminals)
Working Temperature	-40 to 85° C / 60° C (±5° C) case (On / Off-board Version)
Voltage Accuracy	±0.5%
EMI	Comply with EN55032 / EN55014
Surge Protection	2kV/4kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	214 * 94 * 68.6 mm (8.43 * 3.70 * 2.70 in)
Weight	2.55kg (5.62 lbs.)
Life Time	80,000 Hours at 25° C, 230Vac Input, and Continuous Full Load Output

MECHANICAL

Dimension and Outline Drawing

COMING SOON

1500W Diamond Series

Powerland's 1.5kW Diamond series chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



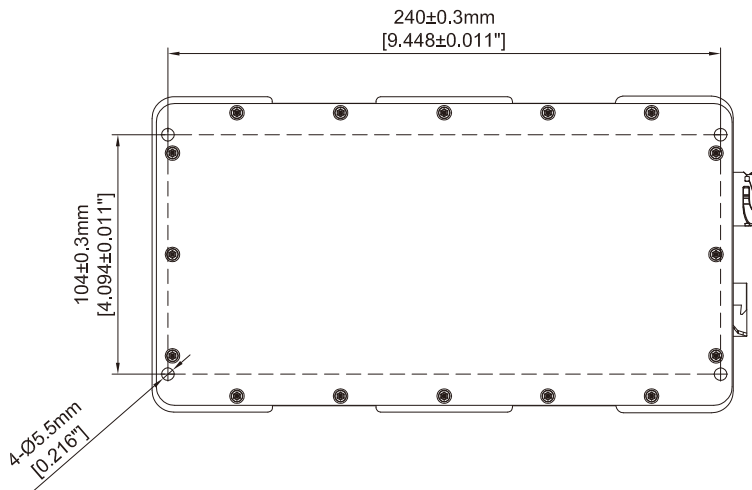
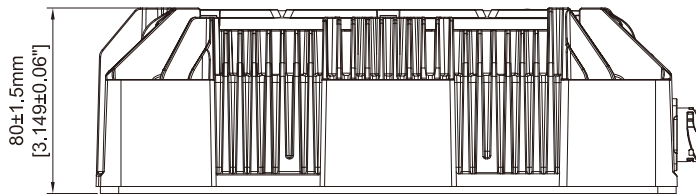
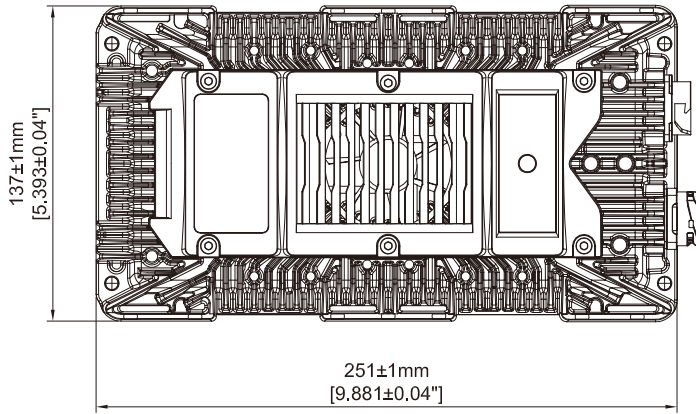
SPECIFICATIONS



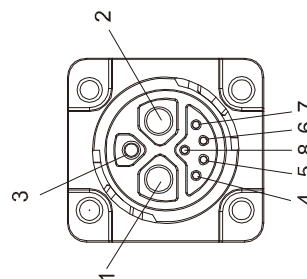
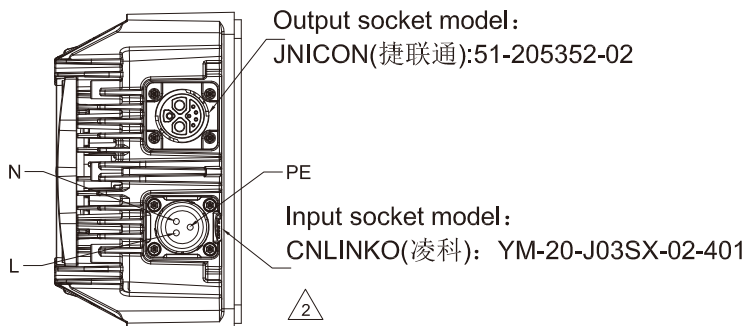
Model No.	EVCM-60-1500M
Factory No.	PLD1500-EVCS01-58M
Vo nom (VDC)	48V
Watts	1500W
Input Voltage	90-264Vac
Output Voltage	28-58.8V
Output Current	0-25.5A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	0.98
Efficiency	92%
Communication	CAN
Protections	AC BROWN-OUT, DC UVP&DC OVP&SCP&OCP&RPP, OTP, Timing Protection
Ingress Protection	IP65 (Excluding input socket, output terminal)
Working Temperature	-40°C to +50°C
Voltage Accuracy	±0.4V
EMI	Comply with EN55032
Surge Protection	1kV/2kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	251 * 137 * 80 mm (9.88 * 5.39 * 3.15 in)
Weight	3.8 kg (8.38 lbs.)
Life Time	at least 100,000 hours at 25°C , full load and nominal input condition

MECHANICAL

Dimension and Outline Drawing



Dimensions:
251*137*80mm(LxWxH)
Weight: 3.8 kg (8.38 lbs.)



NO.	FUNCTION
1	BAT+
2	BAT-
3	12V+/NC
4	Wake up/NC
5	Wake up/NC
6	CAN_H
7	CAN_L
8	12V-/NC

1800W Diamond Series

Powerland's 1.8kW Diamond series chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



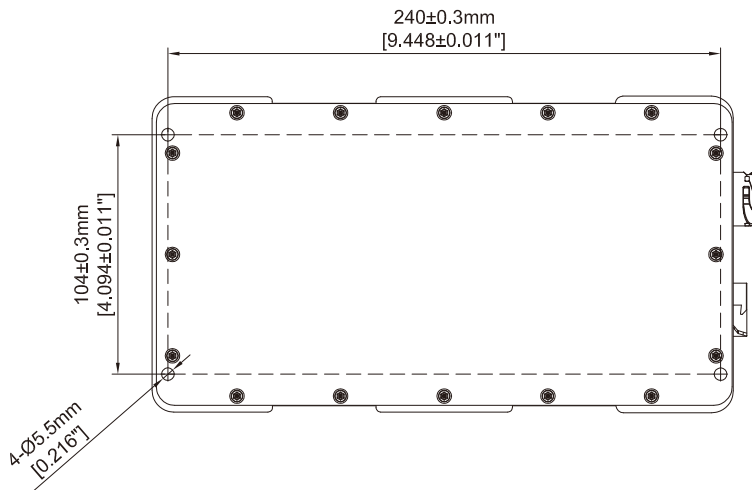
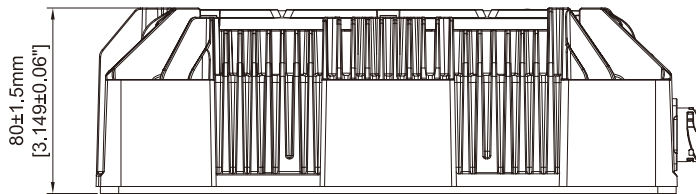
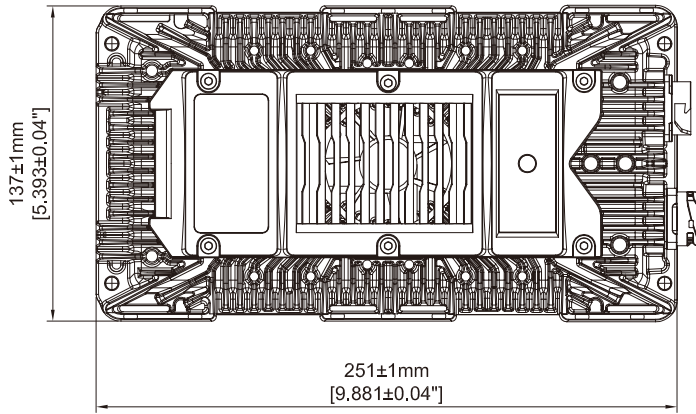
SPECIFICATIONS



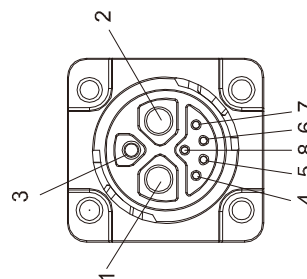
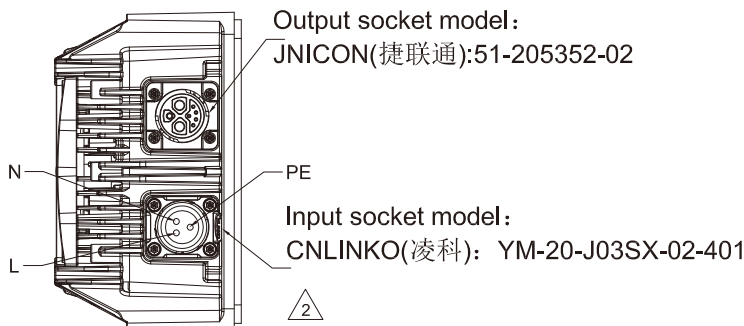
Model No.	EVCM-84-1800M
Factory No.	PLD1800-EVCS55-84M
Vo nom (VDC)	72V
Watts	1800W
Input Voltage	90-264Vac
Output Voltage	60-90V
Output Current	0-21.5A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	0.98
Efficiency	93%
Communication	CAN
Protections	AC BROWN-OUT, DC UVP&DC OVP&SCP&OCP&RPP, OTP, Timing Protection
Ingress Protection	IP65 (Excluding input socket, output terminal)
Working Temperature	-40°C to +50°C
Voltage Accuracy	±0.4V
EMI	Comply with EN55032
Surge Protection	1kV/2kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	251 * 137 * 80 mm (9.88 x 5.39 x 3.15 in)
Weight	3.8 kg (8.38 lbs.)
Life Time	at least 100,000 hours at 25°C , full load and nominal input condition

MECHANICAL

Dimension and Outline Drawing



Dimensions:
251*137*80mm(LxWxH)
Weight: 3.8 kg (8.38 lbs.)



NO.	FUNCTION
1	BAT+
2	BAT-
3	12V+/NC
4	Wake up/NC
5	Wake up/NC
6	CAN_H
7	CAN_L
8	12V-/NC

2400W Diamond Series

Powerland's 2.4kW Diamond series chargers feature a fully enclosed metal housing for superior durability. They deliver ultra-high efficiency, exceptional reliability, and an extended service life. These chargers are widely used across a range of applications, including electric vehicles, e-bikes, e-motorcycles, and electric boats.



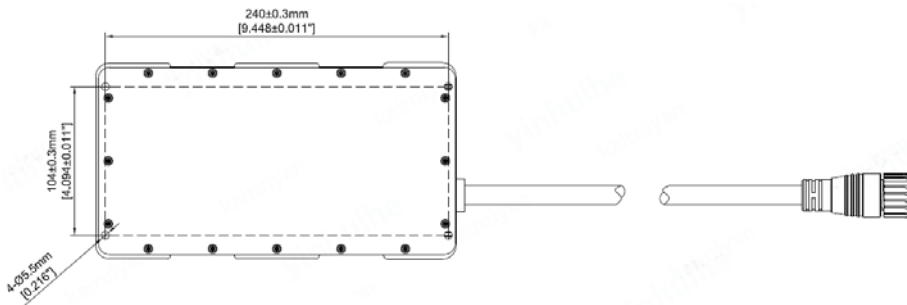
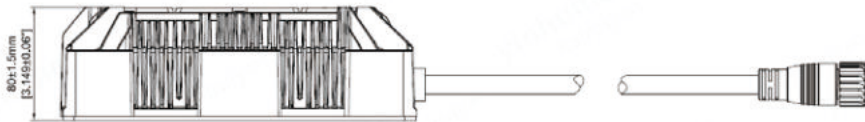
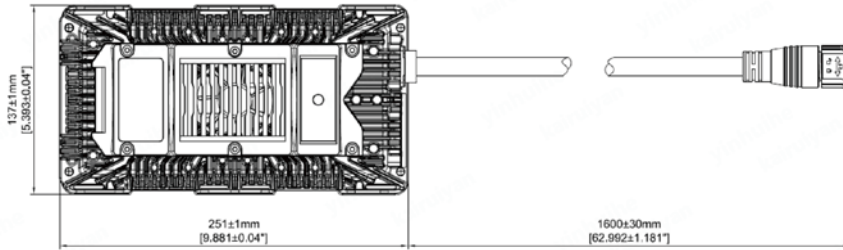
SPECIFICATIONS



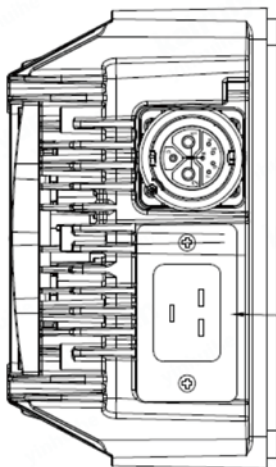
Model No.	EVCM-60-2400MW
Factory No.	PLD2400-EVCS28-59MW
Vo nom (VDC)	48V
Watts	2400W
Input Voltage	90-264Vac
Output Voltage	28-60V
Output Current	0-40A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	0.98
Efficiency	92%
Communication	CAN
Protections	AC BROWN-OUT, DC UVP&DC OVP&SCP&OCP&RPP, OTP, Timing Protection
Ingress Protection	IP67 (Excluding input socket, output terminal)
Working Temperature	-40°C to +50°C
Voltage Accuracy	±0.4V
EMI	Comply with EN55032
Surge Protection	1kV/2kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	251 * 137 * 80 mm (9.88 * 5.39 * 3.15 in)
Weight	3.8 kg (8.38 lbs.) (Flying Lead Version without Handle)
Life Time	at least 100,000 hours at 25°C , full load and nominal input condition

MECHANICAL

Dimension and Outline Drawing



Dimensions:
251*137*80mm(LxWxH)
Weight: 3.8 kg (8.38 lbs.)



Input socket model:
IEC-C20



Output socket model:
JNICON: M23 (51-105311-01-0001)

NO.	FUNCTION
1	BAT+
2	BAT-
3	12V+/NC
4	Wake up/NC
5	Wake up/NC
6	CAN_H
7	CAN_L
8	12V-/NC

3500W Ruby Series

Powerland's Ruby Series supports a constant current, constant voltage, and constant power charging. The charging current and voltage are controlled through CAN communication. The charger has been designed for a variety of applications including the On-Board charging of Electric Vehicles and battery systems contained within them.

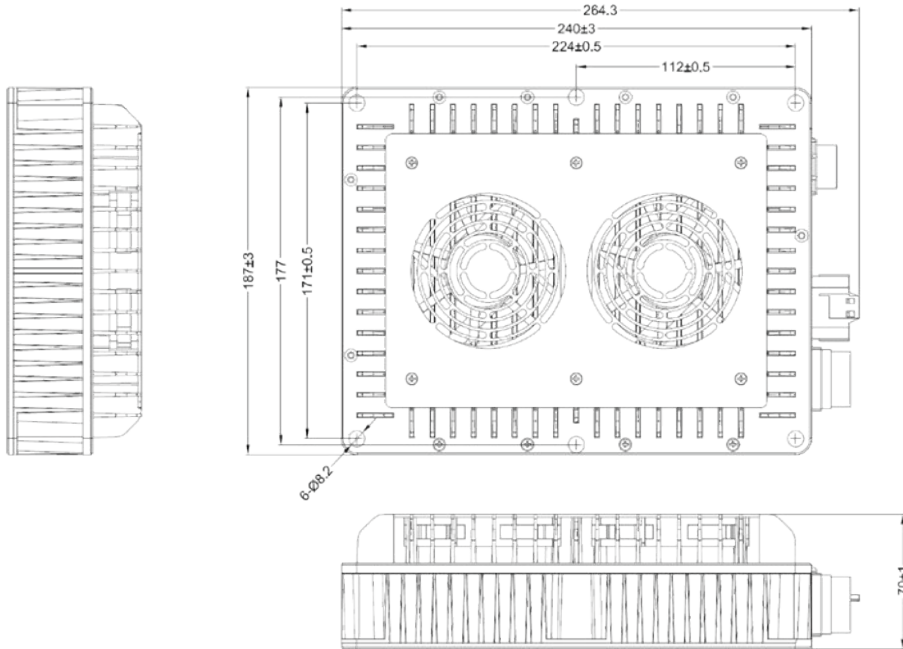


SPECIFICATIONS

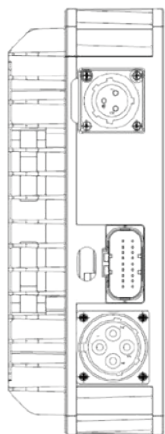
Model No.	EVCN-60-3500-FC
Factory No.	PLD3500-EVCS03-60
Vo nom (VDC)	48V
Watts	3500W
Input Voltage	90-264Vac
Output Voltage	35-60V
Output Current	8-60A
Cooling	Fan Cooling
Input Frequency	45Hz - 65Hz
Power Factor	≥ 0.97
Efficiency	92%
Communication	CAN
Protections	OVP/UVP/OCP/SCP/OTP
Ingress Protection	IP66 (excluding input/output terminals)
Working Temperature	-40°C to 85° C (±5°) case
Voltage Accuracy	±5%
EMI	Comply with EN55032
Surge Protection	2kV/4kV
Isolation	Primary to Secondary: 3000Vac 10mA max./60 seconds (3 seconds for production) Primary to Earth: 1500Vac 10mA max./60 seconds (3 seconds for production) Secondary to Earth: 500Vac 10mA max./60 seconds (3 seconds for production)
Dimensions (LxWxH)	240 * 187 * 70mm (9.45 * 7.36 * 2.76 in)
Weight	5.8kg (12.79 lbs.)
Life Time	15,000 Hours at 25° C, 230Vac Input, and Continuous Full Load Output

MECHANICAL

Dimension and Outline Drawing



Dimensions:
240*187*70mm(LxWxH)
Weight: 5.8kg (12.79 lbs.)



INPUT

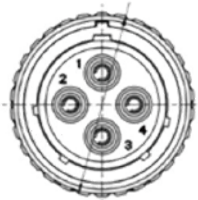
Connection: CNLINKO(凌科)
YW20-J03SX-02-001

SIGNAL OUTPUT

Connection: JAE
MX23A18NF1

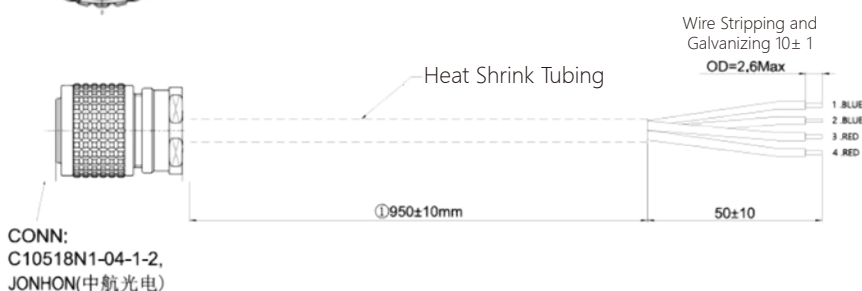
OUTPUT

Connection: JONHON(中航)
C10518N1-04-3-1



Wiring:

1. Connect H07V-K 6 mm² BLACK
2. Connect H07V-K 6 mm² BLACK
3. Connect H07V-K 6 mm² RED
4. Connect H07V-K 6 mm² RED



1.INPUT

CONN: YW20-J03SX-02-001, 凌科电气

CONN.No	DESCRIPTION
1	L
2	N
≡	PE

2.SIGNAL OUTPUT

CONN: JAE MX23A18NF1

CONN.No	DESCRIPTION	CONN.No	DESCRIPTION
1	Can_H	10	12VIN
2	Can_L	11	SLAVE_CHS
3	NC	12	PE
4	NC	13	PROXIMITY
5	NC	14	PILOT
6	TEST	15	NC
7	5VSB	16	SLAVE_ENA
8	NC	17	CHARGER_ENA
9	ISO_GND	18	12V_ISO

3. OUTPUT:

CONN: C10518N1-04-3-1, 中航

CONN.No	DESCRIPTION
1	V0-
2	V0-
3	V0+
4	V0+



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