■ Features

- Charger for lithium batteries (Li-ion,LiFePO4 and lithium manganese) and Lead-Acid batteries
- Built- in 4 stage charging curve(For Lithium batteries) and 4 stage charging curve(For Lead-Acid batteries)
- Universal AC input / Full range(90-264VAC), 600W output Max.
- Built- in active PFC function, 93% efficiency
- Protection: Short circuit / Over voltage /Over temperature /Battery over voltage / Battery reverse polarity protection

■ Applications

- EV, robot and AGV
- Energy storage system
- Industrial applications
- Electric motorcycle\Electric sweeper

■ Description

G630 is a single output max.600W AC/DC desktop type charger with 4 and 3 stage charging curve In addition to the embedded pre-defined charging curves, the default curve is programmable and thus able to accommodate different types of batteries, such as Lead- acid batteries (gel, flooded and AGM) and Lithium batteries(Li-ion,LiFePO4 and Lithium manganese). G630 can be set different charging voltage value, charging current value and charging end current value through CAN bus, according to customer's own requirements.

■ Model serial P/N

G630-XXXYYY

- YYY: Output current, 5A~30A，yyy=125 means 12.5A
- XXX: Output voltage, 10V~99V, xxx=252 means 25.2V
- G630: Serial name

Li-ion battery charger (Only the adopted models are listed in table, for other output please reach our sales)

MODEL		G630-168300	G630-294200	G630-420150	G630-588100	G630-84070
OUTPUT	Charge voltage	16.8V±1%	29.4V±1%	42.0V±1%	58.8V±1%	84.0V±1%
	Charge voltage range	10-16.8V	20.0-29.4V	25-42V	35-58.8V	50.0-84.0V
	Charge current @AC230V	30.0A±10%	20.0A±10%	15.0A±10%	10A±10%	7.0A±10%
	Pre-charge current	6A±10%	4A±10%	3.0A±10%	2.0A±10%	1.5A±10%
	Charge-end current	≤3A ±20%	≤2.0A ±20%	≤1.5A ±20%	≤1.0A ±20%	≤0.7A ±20%
	Max. output@AC220V	500W	600W	600W	600W	600W
	Recommended battery capacity Note.3	30 - 300Ah	20 - 200Ah	15 - 150Ah	10 - 100Ah	7 - 70Ah
	Leakage current from battery (Typ.)	≤1mA				
CHARGE INDICATOR	Bi-color LED or LCD panel	Red charging, Green charged, RED-FLASHING ERRORS; LCD digital panel is an optional part.				
COMMUNICATION FUNCTION	CAN / 485 ; CAN is default	Charging parameters (voltage, current, battery type) can be set via CAN port. User can use PC terminal or our LCD display panel accessary to set these parameters.				
INPUT	Rated input voltage	100 - 240VAC 50 / 60Hz				
	Input voltage range Note.4	90 - 264VAC				
	Power factor (Typ.)	PF>0. 96 @Full load				
	Input current (Typ.)	7A@100VAC				
	Inrush current (Typ.)	Cold start 75A @230VAC				
	Standby input power	< 4W				
	Efficiency (full load @ AC230V.)	92%	93%	93%	93%	93%
PROTECTION	Short circuit Note.5	Protection type : Shut down output				
	Over voltage	110% max. output				
	Reverse polarity	By internal relay				
	Over temperature	Shut down output, recovers automatically after temperature goes down				
ENVIRONMENT	Working temperature	-10 - +40℃ (Refer to " Derating Curve")				
	Working humidity	0 - 90% RH				
	Storage temperature, humidity	-40 - +70℃, 0 - 95% RH				
	Cooling	Fan convection				
	Vibration resistance	10 – 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes				
SAFETY & EMC (Note.6)	Max. temperature rise	< 40℃ on casing				
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)				
	Safety standards	IEC62368				
	EMC Emission	Parameter	Standard			Test Level I Note
		Conducted	EN55032 FCC PART15			Class B
		Radiated	EN55032 FCC PART15			Class B
		Harmonic Current	EN61000-3-2			.....
		Voltage Flicker	EN61000-3-3			.....
	EMC IMMUNITY	EN61000-4-2，EN61000-4-3，EN61000-4-4，EN61000-4-5，EN61000-4-6，EN61000-4-8，EN61000-4-11				
OTHERS	MTBF	30000H				
	Dimension	195*95*48mm (L*W*H)				
	Weight	860g				

NOTE

1. Modification for charger specification may be required for different battery specification. Please contact battery vendor or Green digital power for details.
2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
3. This is general suggested. Please consult your battery manufacturer about maximum charging current limitation.
4. Derating is needed at AC100~120V input or above 40℃ ambient. Please check the derating curve for more details.
5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.
6. The battery charger is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EM I testing of component power supplies."

LiFePO4 battery chargers (Only the adopted models are listed in table, for other output please reach our sales)

MODEL		G630-144300	G630-288200	G630-432150	G630-576100	G630-72080
OUTPUT	Charge voltage	14.4V±1%	28.8V±1%	43.2V±1%	57.6V±1%	72.0V±1%
	Charge voltage range	10.0-14.4V	20-29V	30.0-43.2V	40.0-57.6V	50.0-72.0V
	Charge current @AC230V	30.0A±10%	20.0A±10%	15A±10%	10.0A±10%	8A±10%
	Pre-charge current	6A±10%	5A±10%	3A±10%	2.0A±10%	2A±10%
	Charge-end current	≤3A ±20%	≤2A ±20%	≤1.5A ±20%	≤1.0A ±20%	≤0.8A ±20%
	Max. output@AC220V	450W	600W	600W	600W	600W
	Recommended battery capacity Note.3	30 - 300Ah	20 - 200Ah	15 - 150Ah	10 - 100Ah	8 - 80Ah
	Leakage current from battery (Typ.)	≤1Ma				
CHARGE INDICATOR	Bi-color LED or LCD panel	Red charging, Green charged, RED-FLASHING ERRORS; LCD digital panel is an optional part				
COMMUNICATION FUNCTION	CAN / 485 ; CAN is default	Charging parameters (voltage, current, battery type) can be set via CAN port. User can use PC terminal or our LCD display panel accessary to set these parameters.				
INPUT	Rated input voltage	100 - 240VAC 50 / 60Hz				
	Input voltage range Note.4	90 - 264VAC				
	Power factor (Typ.)	PF>0. 96 @full load				
	Input current (Typ.)	8A@100VAC				
	Inrush current (Typ.)	Cold start 75A @230VAC				
	Standby input power	< 4W				
	Efficiency (Typ.)	92%	93%	93%	93%	93%
PROTECTION	Short circuit Note.5	Protection type : Shut down output				
	Over voltage	>3.3V*N				
	Reverse polarity	By internal relay				
	Over temperature	Shut down output, recovers automatically after temperature goes down				
ENVIRONMENT	Working temperature	-10 - +40℃ (Refer to " Derating Curve")				
	Working humidity	0 - 90% RH				
	Storage temperature, humidity	-40 - +70℃, 0 - 95% RH				
	Cooling	Fan convection				
	Vibration resistance	10 – 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes				
SAFETY& EMC (Note.6)	Max. temperature rise	< 40℃ on casing				
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)				
	Safety standards	IEC62368				
	EMC Emission	Parameter	Standard			Test Level I Note
		Conducted	EN55032 FCC PART15			Class B
		Radiated	EN55032 FCC PART15			Class B
		Harmonic Current	EN61000-3-2			.....
		Voltage Flicker	EN61000-3-3			.....
	EMC IMMUNITY	EN61000-4-2，EN61000-4-3，EN61000-4-4，EN61000-4-5，EN61000-4-6，EN61000-4-8，EN61000-4-11				
OTHERS	MTBF	30000H				
	Dimension	195*95*48mm (L*W*H)				
	Weight	860g				

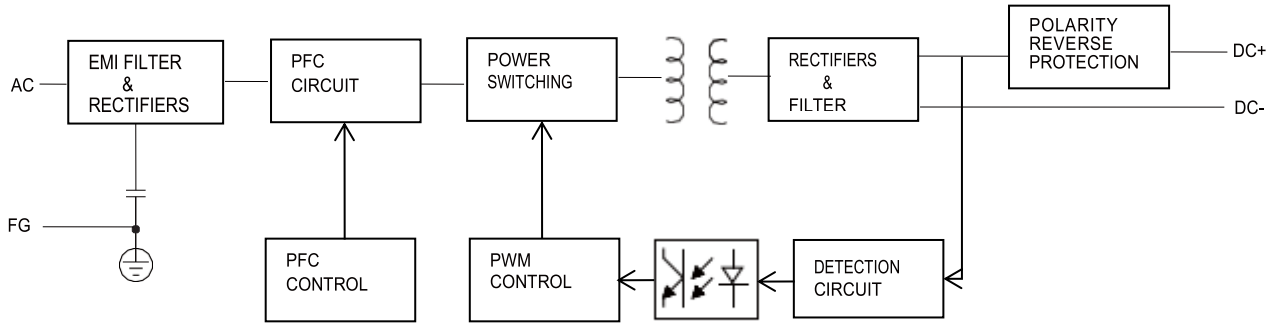
NOTE

1. Modification for charger specification may be required for different battery specification. Please contact battery vendor or Green digital power for details.
2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
3. This is general suggested. Please consult your battery manufacturer about maximum charging current limitation.
4. Derating is needed at AC100~120V input or above 40℃ ambient. Please check the derating curves.
5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on.
6. The battery charger is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EM I testing of component power supplies."

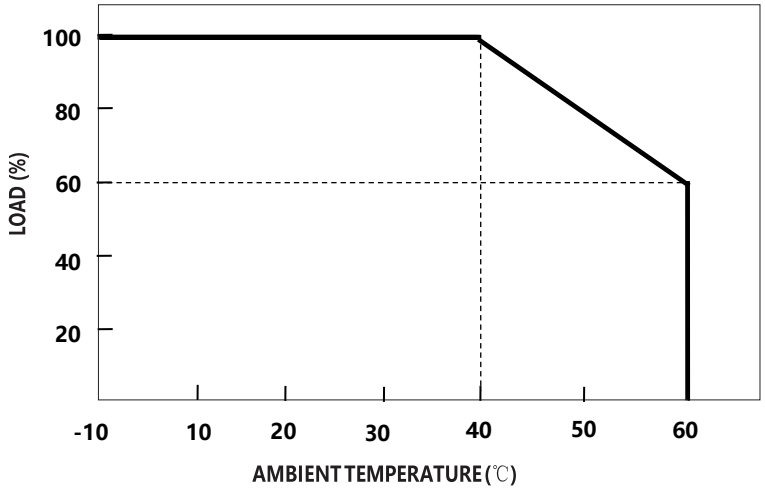
Lead-Acid battery charger (Only the adopted models are listed in table, for other output please reach our sales)

MODEL		G630-148300	G630-296200	G630-444135	G630-592100	G630-740080	G630-888070
OUTPUT	Charge voltage (High voltage)	14.8V±1%	29.6V±1%	44.4V±1%	59.2V±1%	74.0V±1%	88.8V±1%
	Charge voltage range	10.0-14.8V	20.0-29.6V	30.0-44.4V	40.0-59.2V	50.0-74.0V	60.0-88.8V
	Float charge（Low voltage）	13.8V±1%	27.6V±1%	41.4V±1%	55.2V±1%	69.0V±1%	82.8V±1%
	Charge current @AC230V	30.0A±10%	20.0A±10%	13.5A±10%	10.0A±10%	8.0A±10%	7.0A±10%
	Charge-end current	≤6.0A ±20%	≤4.0A ±20%	≤2.7A ±20%	≤2.0A ±20%	≤1.6A ±20%	≤1.4A ±20%
	Max. output@AC120~240V	500W	600W	600W	600W	600W	600W
	Recommended battery capacity Note.3	120 - 300Ah	80 - 200Ah	50 - 135Ah	40 - 100Ah	32 - 80Ah	28 - 70Ah
	Leakage current from battery (Typ.)	≤1Ma					
CHARGE INDICATOR	Bi-color LED or LCD panel	Red charging, Green charged, RED-FLASHING ERRORS; LCD digital panel is an optional part					
COMMUNICATION FUNCTION	CAN / 485 ; CAN is default	Charging parameters (voltage, current, battery type) can be set via CAN port. User can use PC terminal or our LCD display panel accessary to set these parameters.					
INPUT	Rated input voltage	100 - 240VAC 50 / 60Hz					
	Input voltage range Note.4	90 - 264VAC					
	Power factor (Typ.)	PF>0. 96 @full load					
	Input current (Typ.)	14A@100VAC					
	Inrush current (Typ.)	Cold start 75A @230VAC					
	Standby input power	< 6W					
	Efficiency (Typ.)	92%	93%	93%	93%	93%	93%
PROTECTION	Short circuit Note.5	Protection type : Shut down output					
	Over voltage	>15.5V*N					
	Reverse polarity	By internal relay					
	Over temperature	Shut down output, recovers automatically after temperature goes down					
ENVIRONMENT	Working temperature	-10 - +40℃ (Refer to " Derating Curve")					
	Working humidity	0 - 90% RH					
	Storage temperature, humidity	-40 - +70℃, 0 - 95% RH					
	Cooling	Fan convection					
	Vibration resistance	10 – 50Hz, 2G 10min. 1cycle, 60min. each along X, Y, Z axes					
SAFETY& EMC(Note.6)	Max. temperature rise	< 40℃ on casing					
	Hi-Pot Insulation	i/p to o/p: 3000V (1 min)					
	Safety standards	IEC62368					
	EMC Emission	Parameter	Standard				Test Level I Note
		Conducted	EN55032 FCC PART15				Class B
		Radiated	EN55032 FCC PART15				Class B
		Harmonic Current	EN61000-3-2				.....
		Voltage Flicker	EN61000-3-3				.....
	EMC IMMUNITY	EN61000-4-2，EN61000-4-3，EN61000-4-4，EN61000-4-5，EN61000-4-6，EN61000-4-8，EN61000-4-11					
OTHERS	MTBF	30000H					
	Dimension	195*95*48mm (L*W*H)					
	Weight	860g					
NOTE	1. Modification for charger specification may be required for different battery specification. Please contact battery vendor or Green digital power for details. 2. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 3. This is general suggested. Please consult your battery manufacturer about maximum charging current limitation. 4. Derating is needed at AV100~120V input or above 40℃ ambient. Please check the derating curves 5. This protection mechanism is specified for the case the short circuit occurs after the charger is turned on. 6. The battery charger is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the EMC directives. For guidance on how to perform these EMC tests, please refer to "EM I testing of component power supplies."						

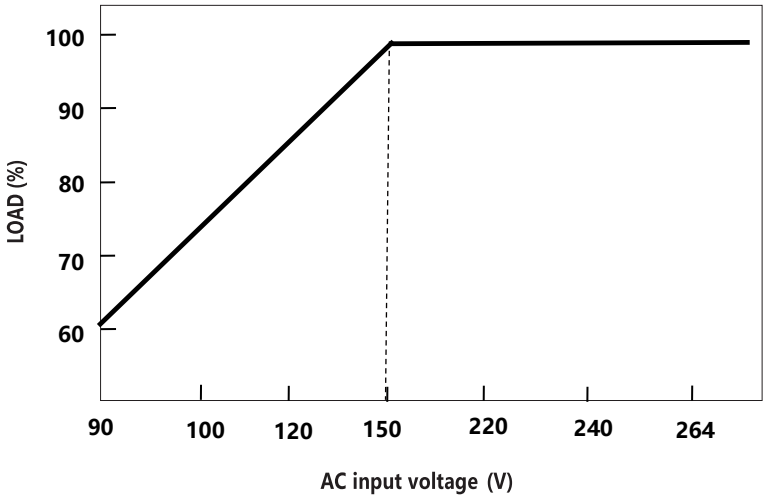
■ Block Diagram



■ Derating Curve for ambient

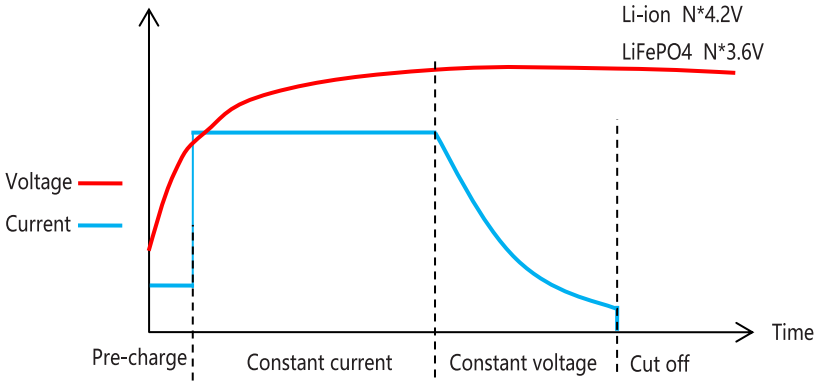


■ Derating curve for AC input voltage

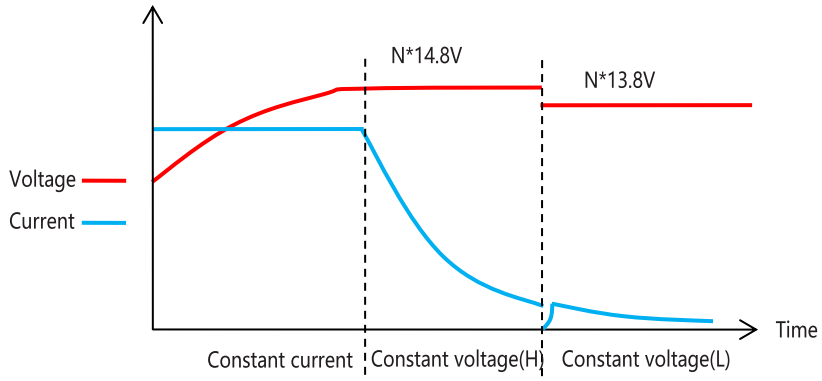
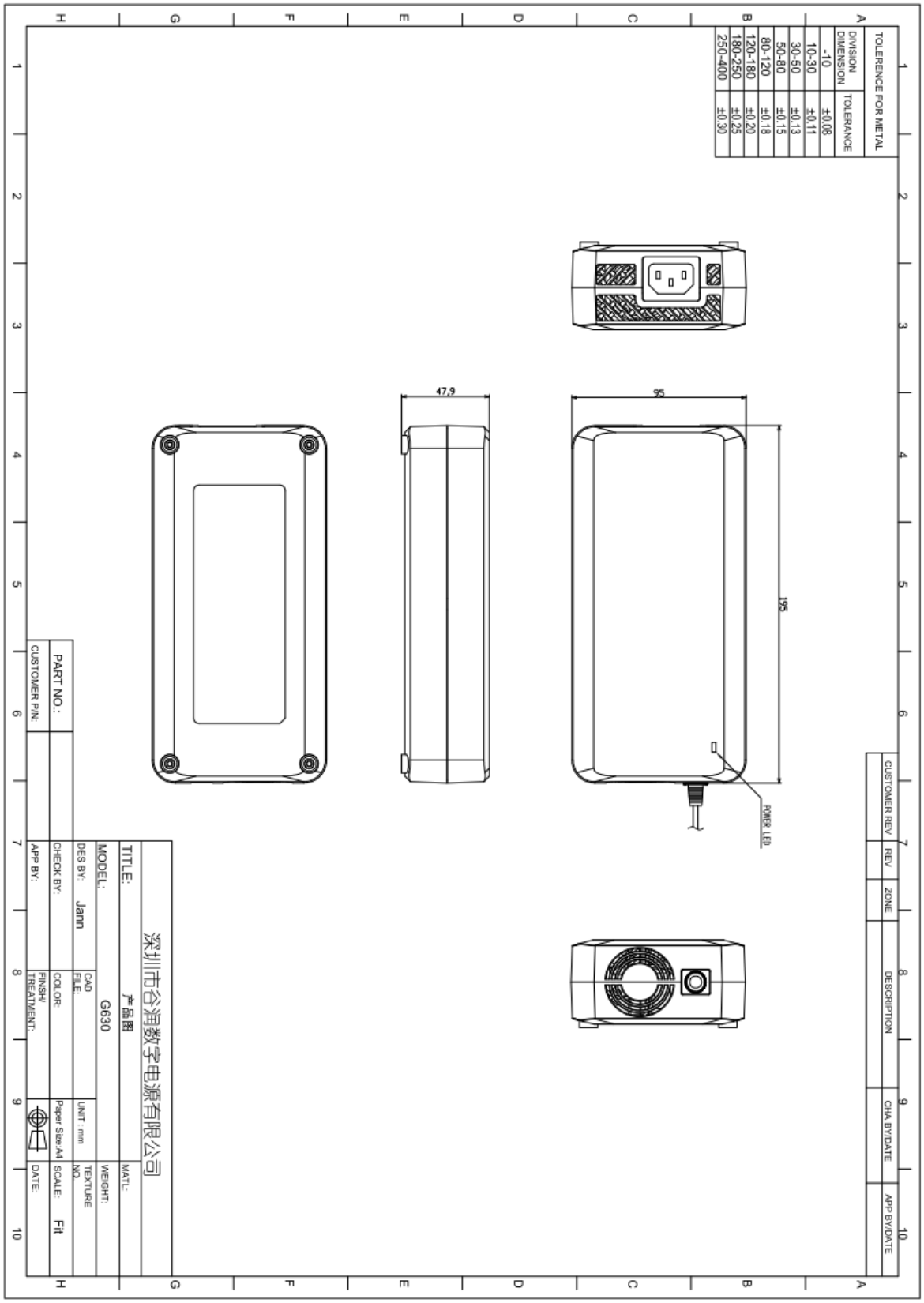


Charging Curve

◎ 4 stage charging curve(Li-ion battery charger)



◎ 3 stage charging curve(Lead-Acid battery charger)



■ Mechanical specification