MATRIX
— Since 2003

MEL-400 Series

High Performance Programmable DC Electronic Load Specification



MATRIX TECHNOLOGY INC.



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High Performance Programmable DC Electronic Load

· The MEL-400 series load is a highly reliable, high-density, high-performance DC electronic load. It comes with three voltage ranges of 150 V, 600 V and 1200 V (1600 V available on custom order). Boasting a compact 4U height for a 6 kW single unit, it covers power ratings from 4 kW to 72 kW and supports master-slave parallel connection for maximum power expansion up to 720 kW. Equipped with multi-range voltage and current measurement, it delivers 1 MHz high-speed sampling, control and capture capabilities to realize fast loop response and high-speed current rise/fall rates, featuring dynamic mode resolution of 1 μs and a frequency range of 50 kHz. It supports multiple operating modes and over 20 test functions. Besides, it is fitted with abundant remote communication, digital and analog monitoring interfaces to satisfy various load application requirements of customers.

· The MEL-400 series electronic load is widely used in the design, verification and production testing of power systems, fuel cell tests, DC industrial power supplies, server power supplies, DC charging piles, on-board chargers, contactors, relays and other power electronic products.

Features:

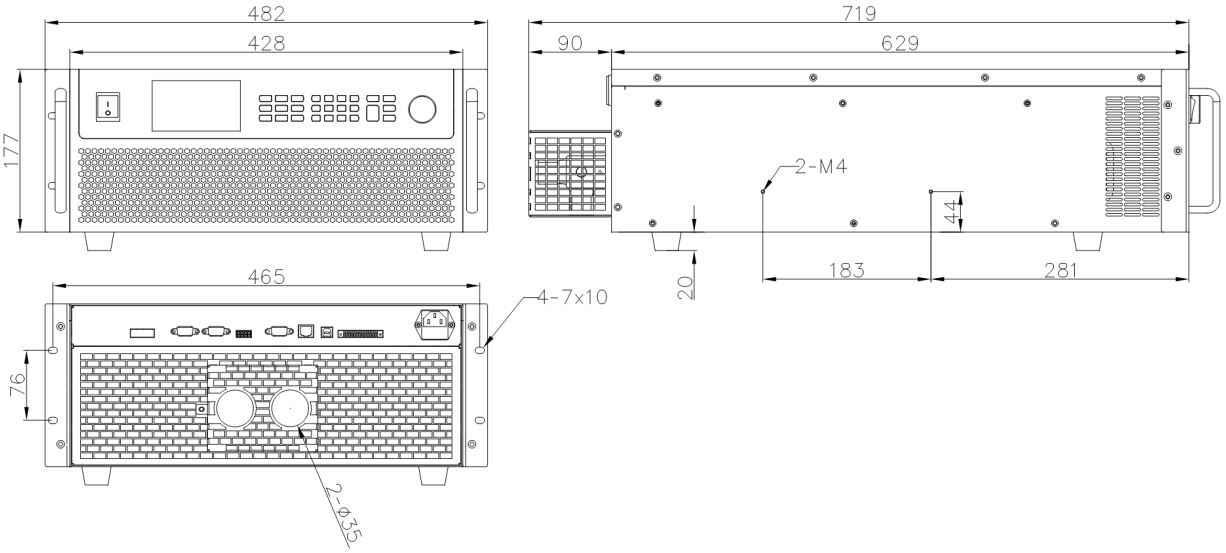
- Single Unit Input Power: 4kW~72kW, 6kW/4U
- Power: Expandable up to 720kW (Other customizable)
- Voltage Range: 150V, 600V, 1200V (1600V customizable)
- Current Range:0~3000A (Other customizable)
  100A/1kW(150V), 70A/1kW (600V) ,
  40A/1kW(1200V)
- Voltage Accuracy: 0.025%F.S.;
  Current Accuracy: 0.05%F.S.
- Short-time load capacity up to twice the rated power
- 1 MHz high-speed voltage and current sampling rate, 1 μs control resolution
- 50 kHz high-speed dynamic mode, adjustable current rise and fall edges
- 1 kHz communication rate for voltage, current and other parameters, with adjustable CV loop speed to match different power supplies.
- Over 20 test functions: sequence test, automatic test, short circuit simulation, time measurement, discharge test, internal resistance test, overcurrent test, overpower test, frequency sweep test, load effect, LED simulation, sine wave function, etc.
- Multiple operating modes: CC、CV、CR、CP、CV+CC、CR+CC、CV+CR、CP+CC
- Sequence supports 50 files with 100 steps per file, and file linking is available.
- Standard: LAN, RS232, RS485; Optional: GPIB, USB, CAN. Equipped with isolated high-speed external digital and analog monitoring interfaces.
- Full-range protection functions: overvoltage, overcurrent, overpower, overtemperature, current oscillation protection, current limit, power limit, reverse connection alarm, etc

Quick Selection Table

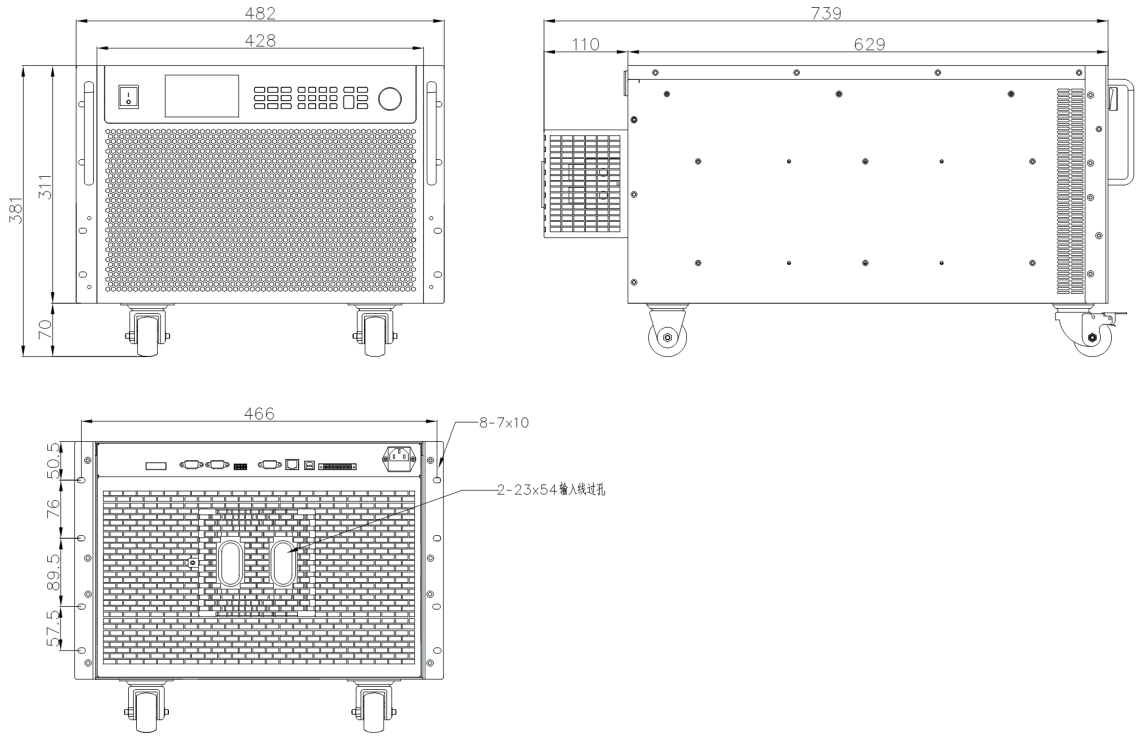
Input Parameters	150V	600V	1200V	Height
4KW	MEL-404S-150-400	MEL-404S-600-280	MEL-404S-1200-160	4U
6KW	MEL-406S-150-600	MEL-406S-600-420	MEL-406S-1200-240	4U
8KW	MEL-408S-150-800	MEL-408S-600-560	MEL-408S-1200-320	7U
10KW	MEL-410S-150-1000	MEL-410S-600-700	MEL-410S-1200-400	7U
12KW	MEL-412S-150-1200	MEL-412S-600-840	MEL-412S-1200-480	7U
18KW	MEL-418S-150-1800	MEL-418S-600-1260	MEL-418S-1200-720	11U
24KW	MEL-424S-150-2400	MEL-424S-600-1680	MEL-424S-1200-960	14U
30KW	MEL-430S-150-3000	MEL-430S-600-2100	MEL-430S-1200-1200	16U
36KW	MEL-436S-150-3000	MEL-436S-600-2520	MEL-436S-1200-1440	22U
42KW	MEL-442S-150-3000	MEL-442S-600-2940	MEL-442S-1200-1680	22U
48KW	MEL-448S-150-3000	MEL-448S-600-3000	MEL-448S-1200-1920	32U
54KW	MEL-454S-150-3000	MEL-454S-600-3000	MEL-454S-1200-2160	32U
60KW	MEL-460S-150-3000	MEL-460S-600-3000	MEL-460S-1200-2400	32U
72KW	MEL-472S-150-3000	MEL-472S-600-3000	MEL-472S-1200-2880	39U

External Dimensions & Structure

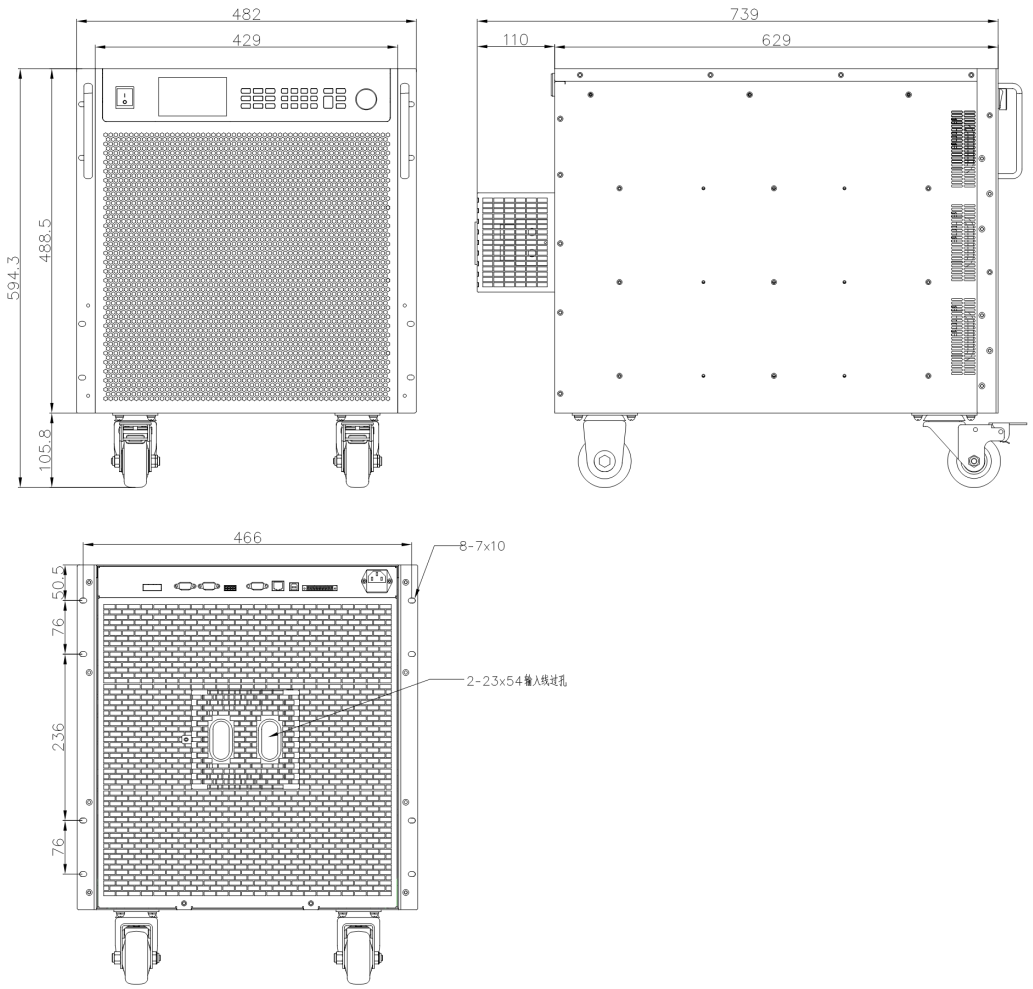
4U 4kW/6kW



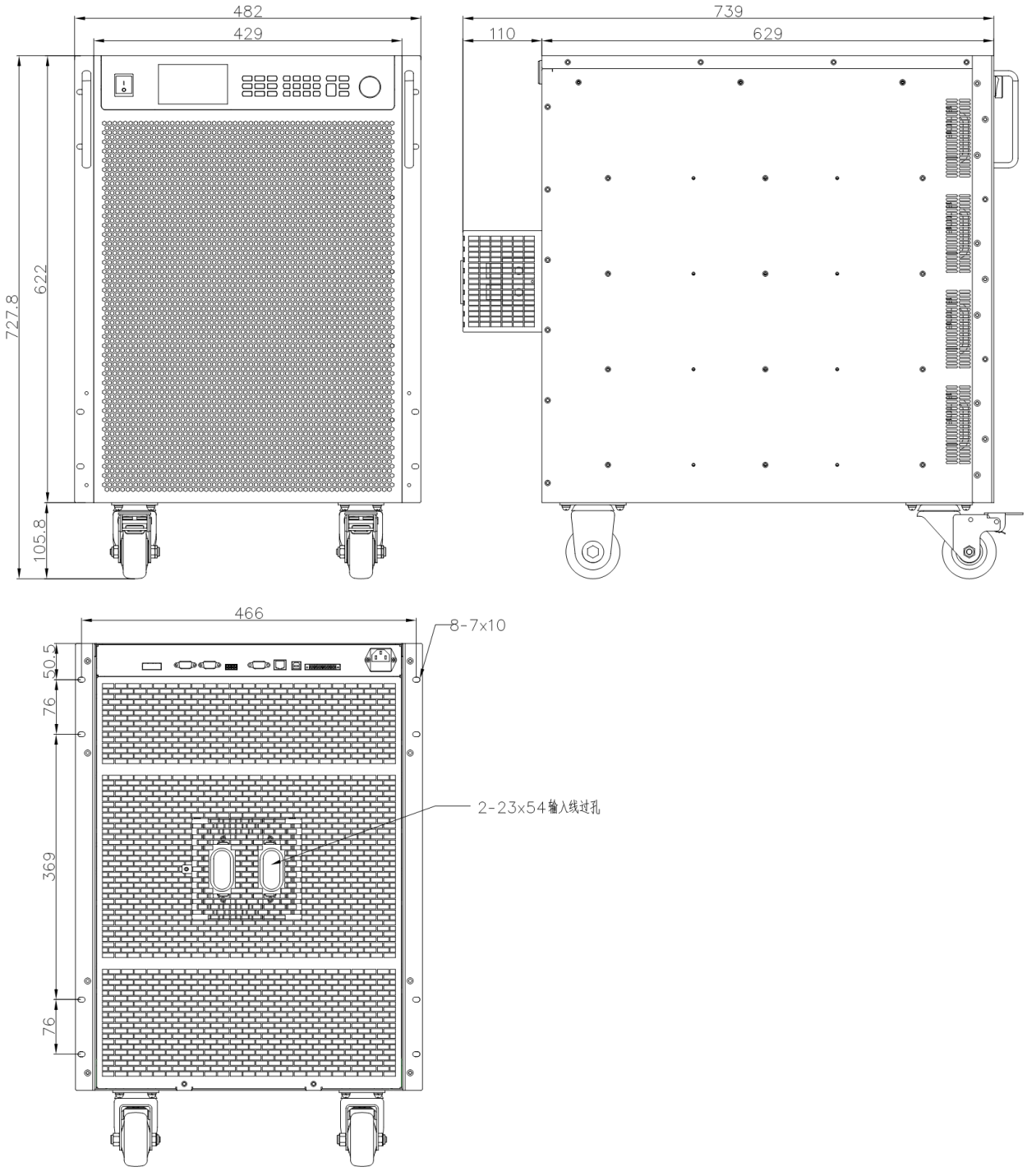
7U 8kW/10kW/12kW



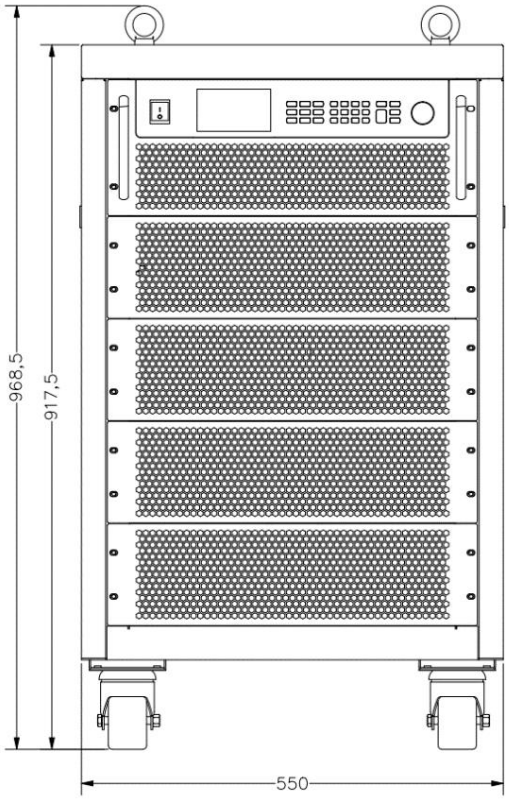
11U 14kW/16kW/18kW

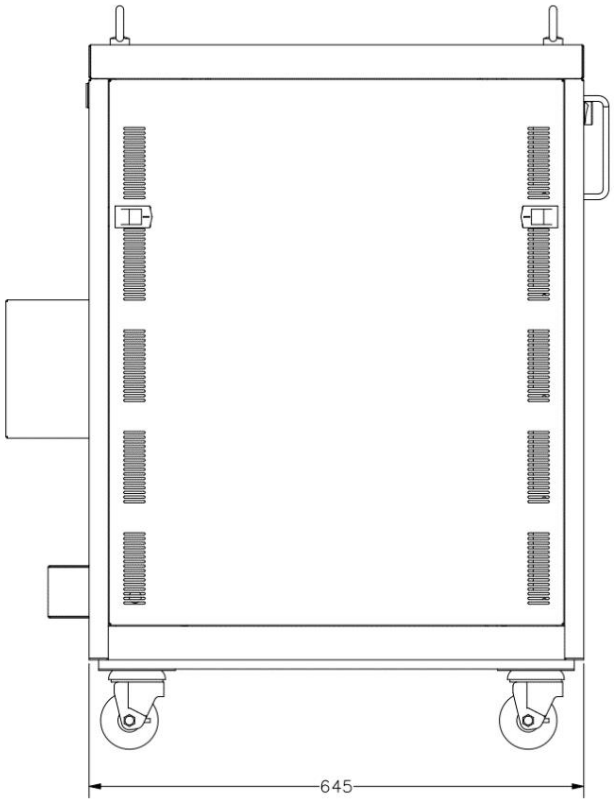


14U 20kW/22kW/24kW

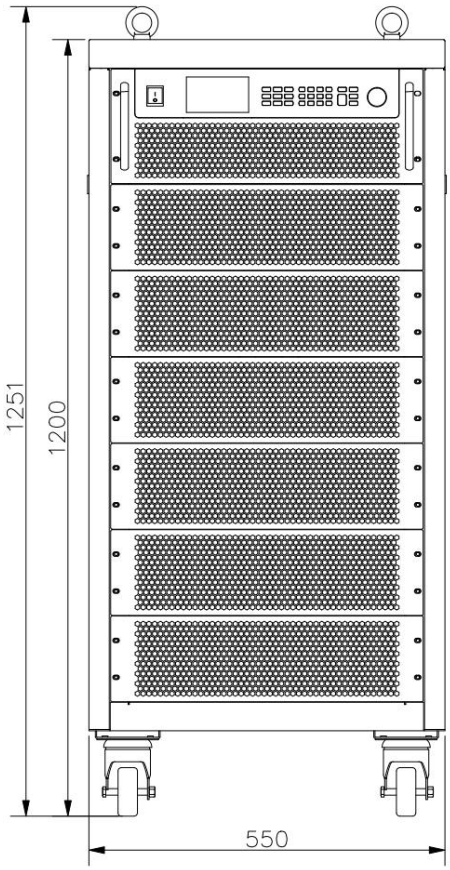


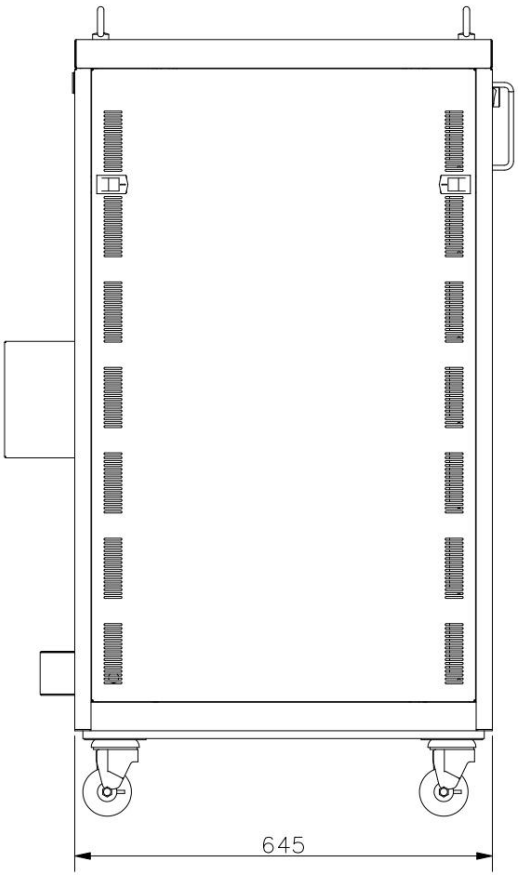
16U 26kW/28kW/30kW



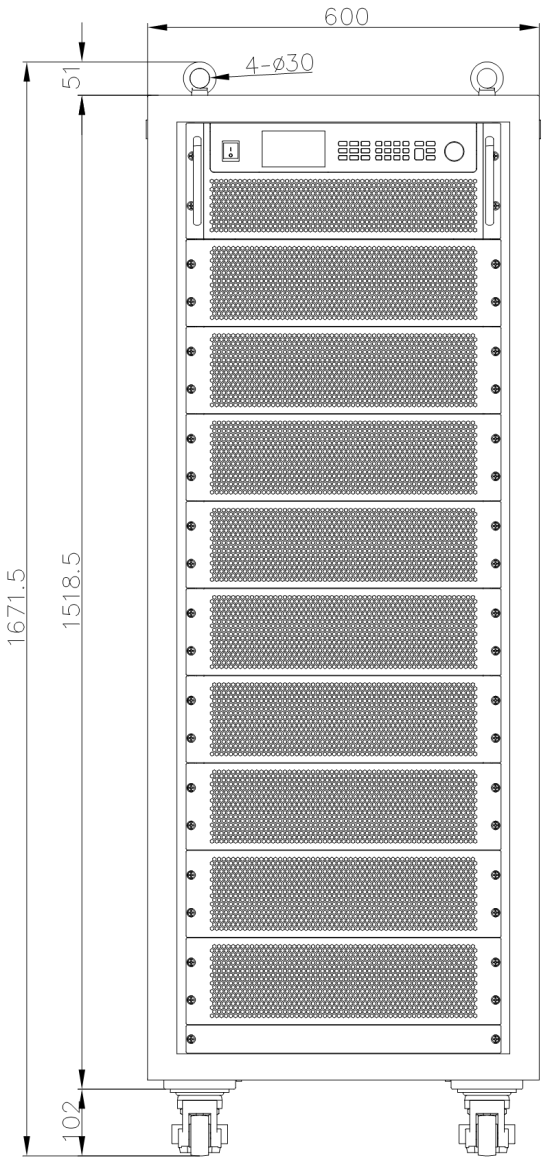


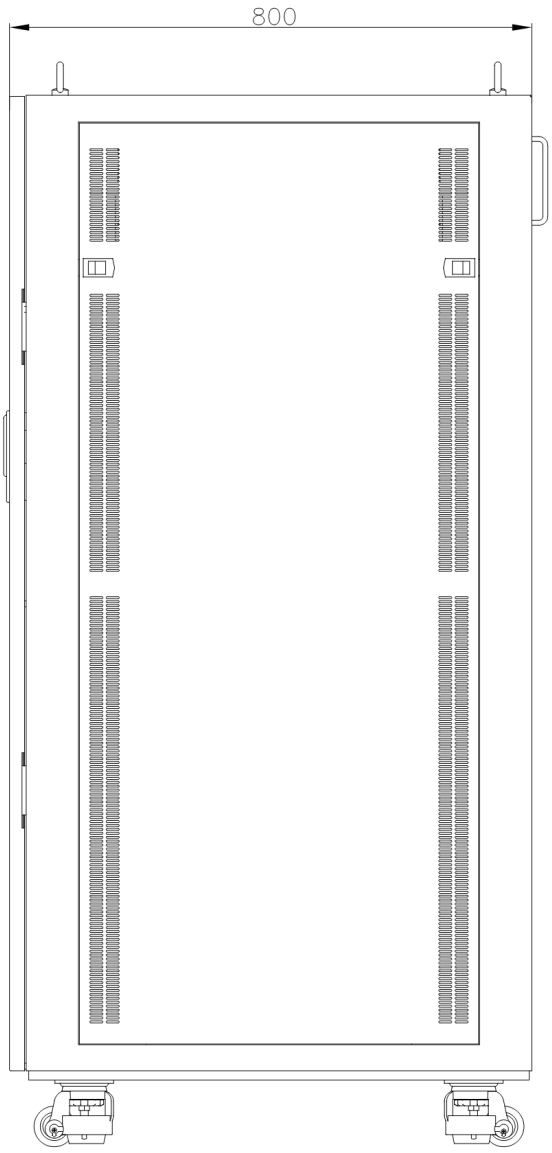
22U 32kW ~ 42kW



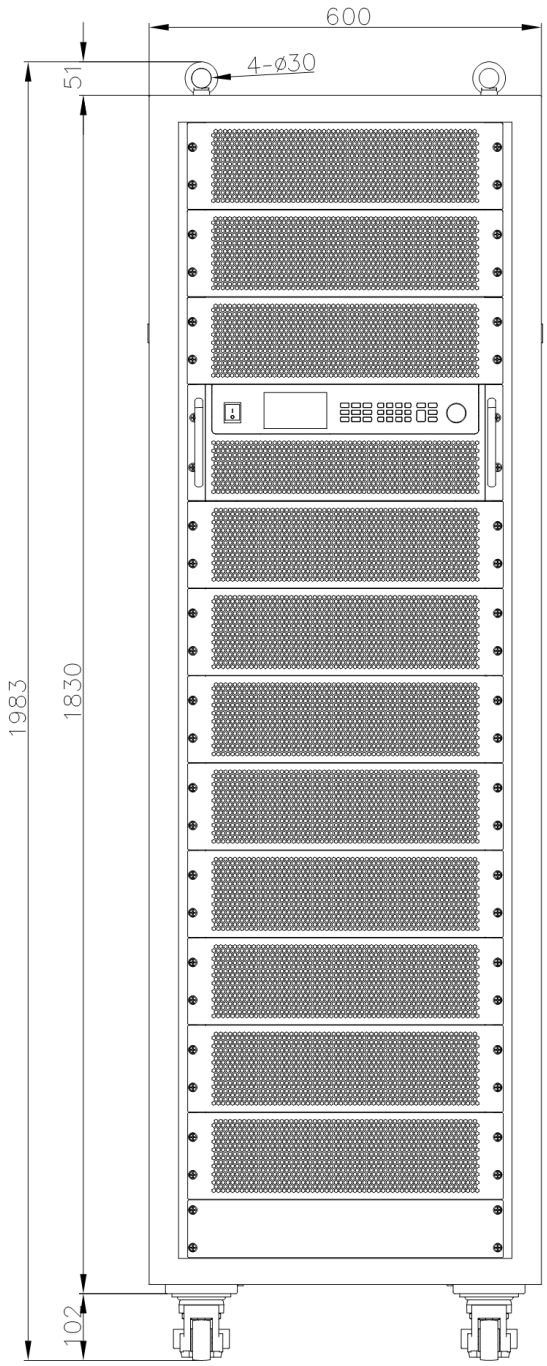


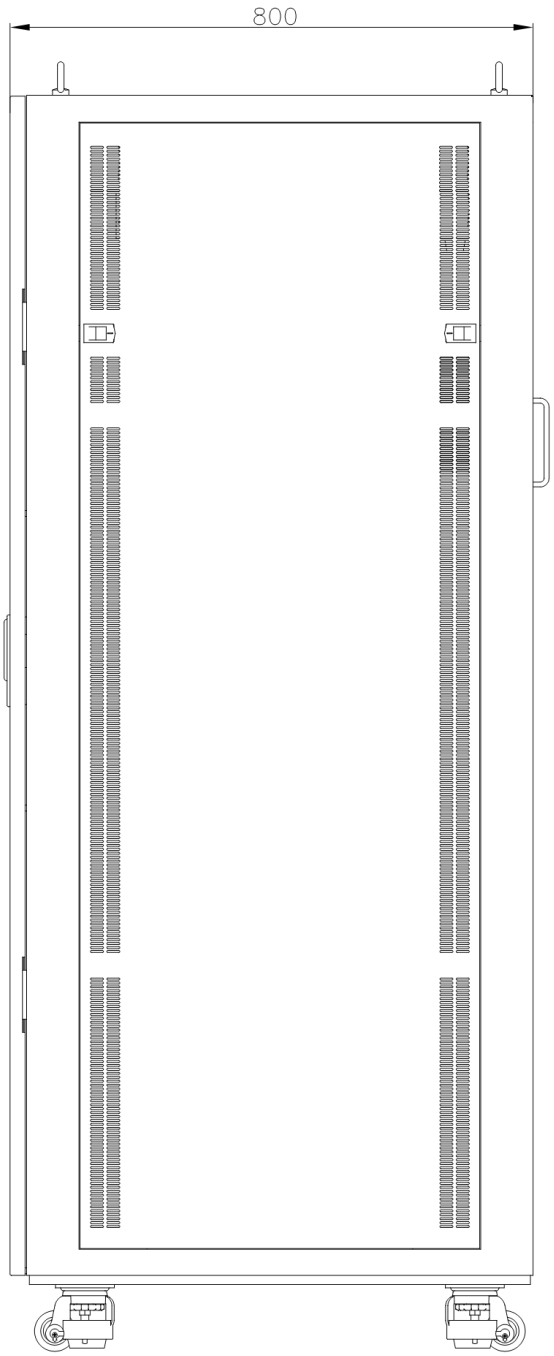
32U 44kW ~ 60kW





39U 62kW ~ 72kW





Performance Specifications（4kW）

Model	MEL-404S-150-400		MEL-404S-600-280		MEL-404S-1200-160	
Voltage	150V		600V		1200V	
Current	400A		280A		160A	
Power	4000W		4000W		4000W	
Minimum Operating Voltage	1.5V@400A		14V@280A		20V@160A	
CC Mode						
Range	40A	400A	28A	280A	16A	160A
Resolution	1mA	10mA	0.5mA	5mA	0.3mA	3mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.014 ~ 75Ω	0.135 ~ 375 Ω	0.075 ~ 420 Ω	0.75 ~ 2140 Ω	0.21 ~ 1500 Ω	2.1 ~ 7500Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	4000W		4000W		4000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 0.4A/us	0.01 ~ 4A/us	0.0001 ~ 0.26A/us	0.001 ~ 2.6A/us	0.0001 ~ 0.16A/us	0.001 ~ 1.6A/us
Current Measurement						
Range	40A	400A	28A	280A	16A	160A
Resolution	1mA	10mA	0.5mA	5mA	0.3mA	3mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 260VA					
Temperature	(0 ~ 40)℃					
Weight	40kg					
Size	482mm(W) x 177mm(H) x 719mm(D),With protective cover, standard foot pads					

Performance Specifications（6kW）

Model	MEL-406S-150-600		MEL-406S-600-420		MEL-406S-1200-240	
Voltage	150V		600V		1200V	
Current	600A		420A		240A	
Power	6000W		6000W		6000W	
Minimum Operating Voltage	1.5V@600A		14V@420A		20V@240A	
CC Mode						
Range	60A	600A	42A	420A	24A	240A
Resolution	1mA	10mA	0.7mA	7mA	0.4mA	4mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.009 ~ 50Ω	0.09 ~ 250Ω	0.05 ~ 286Ω	0.5 ~ 1429Ω	0.14 ~ 1000Ω	1.4 ~ 5000Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	6000W		6000W		6000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60s		10us ~ 60s		10us ~ 60s	
Resolution	1us		1us		1us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 0.6A/us	0.01 ~ 6A/us	0.0001 ~ 0.4A/us	0.001 ~ 4A/us	0.0001 ~ 0.24A/us	0.001 ~ 2.4A/us
Current Measurement						
Range	60A	600A	42A	420A	24A	240A
Resolution	1mA	10mA	0.7mA	7mA	0.4mA	4mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 360VA					
Temperature	(0 ~ 40)℃					
Weight	40kg					
Size	482mm(W) x 177mm(H) x 719mm(D),With protective cover, standard foot pads					

Performance Specifications（8kW）

Model	MEL-408S-150-800		MEL-408S-600-560		MEL-408S-1200-320	
Voltage	150V		600V		1200V	
Current	800A		560A		320A	
Power	8000W		8000W		8000W	
Minimum Operating Voltage	1.5V@800A		14V@560A		20V@320A	
CC Mode						
Range	80A	800A	56A	560A	32A	320A
Resolution	1.5mA	15mA	1mA	10mA	0.5mA	5mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.007 ~ 38Ω	0.07 ~ 188Ω	0.038 ~ 214 Ω	0.375 ~ 1071Ω	0.105 ~ 750 Ω	1.05 ~ 3750 Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.	
CP Mode						
Range	8000W		8000W		8000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60s		10us ~ 60s		10us ~ 60s	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 0.8A/us	0.01 ~ 8A/us	0.0001 ~ 0.5A/us	0.001 ~ 5A/us	0.0001 ~ 0.32A/us	0.001 ~ 3.2A/us
Current Measurement						
Range	80A	800A	56A	560A	32A	320A
Resolution	1.5mA	15mA	1mA	10mA	0.5mA	5mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 480VA					
Temperature	(0 ~ 40)℃					
Weight	62kg					
Size	482mm(W)x 311mm(H)x 739mm(D)， With protective cover, standard foot pads					

Performance Specifications（10kW）

Model	MEL-410S-150-1000		MEL-410S-600-700		MEL-410S-1200-400	
Voltage	150V		600V		1200V	
Current	1000A		700A		400A	
Power	10000W		10000W		10000W	
Minimum Operating Voltage	1.5V@1000A		14V@700A		20V@400A	
CC Mode						
Range	100A	1000A	70A	700A	40A	400A
Resolution	1.6mA	16mA	1.2mA	12mA	0.7mA	7mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.006 ~ 30Ω	0.06 ~ 150Ω	0.032 ~ 171Ω	0.32 ~ 857Ω	0.112 ~ 600Ω	1.12 ~ 3000Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.	
CP Mode						
Range	10000W		10000W		10000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 1A/us	0.01 ~ 10A/us	0.0001 ~ 0.65A/us	0.001 ~ 6.5A/us	0.0001 ~ 0.4A/us	0.001 ~ 4A/us
Current Measurement						
Range	100A	1000A	70A	700A	40A	400A
Resolution	1.6mA	16mA	1.2mA	12mA	0.7mA	7mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 600VA					
Temperature	(0 ~ 40)℃					
Weight	67kg					
Size	482mm(W)x 311mm(H)x 739mm(D)， With protective cover, standard foot pads					

Performance Specifications（12kW）

Model	MEL-412S-150-1200		MEL-412S-600-840		MEL-412S-1200-480	
Voltage	150V		600V		1200V	
Current	1200A		840A		480A	
Power	12000W		12000W		12000W	
Minimum Operating Voltage	1.5V@1200A		14V@840A		20V@480A	
CC Mode						
Range	120A	1200A	84A	840A	48A	480A
Resolution	2mA	20mA	1.4mA	14mA	0.8mA	8mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.005 ~ 25Ω	0.05 ~ 125Ω	0.027 ~ 143 Ω	0.27 ~ 714Ω	0.093 ~ 500 Ω	0.93 ~ 2500 Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.	
CP Mode						
Range	12000W		12000W		12000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60s		10us ~ 60s		10us ~ 60s	
Resolution	1us		1us		1us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 1.2A/us	0.01 ~ 12A/us	0.0001 ~ 0.8A/us	0.001 ~ 8A/us	0.0001 ~ 0.48A/us	0.001 ~ 4.8A/us
Current Measurement						
Range	120A	1200A	84A	840A	48A	480A
Resolution	2mA	20mA	1.4mA	14mA	0.8mA	8mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 600VA					
Temperature	(0 ~ 40)℃					
Weight	72kg					
Size	482mm(W)x 381mm(H)x 739mm(D)， With protective cover, standard foot pads					

Performance Specifications（18kW）

Model	MEL-418S-150-1800		MEL-418S-600-1260		MEL-418S-1200-720	
Voltage	150V		600V		1200V	
Current	1800A		1260A		720A	
Power	18000W		18000W		18000W	
Minimum Operating Voltage	1.5V@1800A		14V@1260A		20V@720A	
CC Mode						
Range	180A	1800A	126A	1260A	72A	720A
Resolution	3mA	30mA	2.1mA	21mA	1.2mA	12mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.003 ~ 17Ω	0.03 ~ 83Ω	0.018 ~ 95Ω	0.18 ~ 476Ω	0.062 ~ 333 Ω	0.62 ~ 1667 Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S.	
CP Mode						
Range	18000W		18000W		18000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60s		10us ~ 60s		10us ~ 60s	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 1.8A/us	0.01 ~ 18A/us	0.001 ~ 1.2A/us	0.01 ~ 12A/us	0.0001 ~ 0.72A/us	0.001 ~ 7.2A/us
Current Measurement						
Range	180A	1800A	126A	1260A	72A	720A
Resolution	3mA	30mA	2.1mA	21mA	1.2mA	12mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 1070VA					
Temperature	(0 ~ 40)℃					
Weight	110kg					
Size	482mm(W) x 594.3mm(H) x 739mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（24kW）

Model	MEL-424S-150-2400		MEL-424S-600-1680		MEL-424S-1200-960	
Voltage	150V		600V		1200V	
Current	2400A		1680A		960A	
Power	24000W		24000W		24000W	
Minimum Operating Voltage	1.5V@2400A		14V@1680A		20V@960A	
CC Mode						
Range	240A	2400A	168A	1680A	96A	960A
Resolution	4mA	40mA	2.8mA	28mA	1.6mA	16mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 13Ω	0.02 ~ 63Ω	0.013 ~ 71Ω	0.13 ~ 357Ω	0.046 ~ 250Ω	0.46 ~ 1250Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	24000W		24000W		24000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 2.4A/us	0.01 ~ 24A/us	0.001 ~ 1.6A/us	0.01 ~ 16A/us	0.001 ~ 0.96A/us	0.01 ~ 9.6A/us
Current Measurement						
Range	240A	2400A	168A	1680A	96A	960A
Resolution	4mA	40mA	2.8mA	28mA	1.6mA	16mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 1420VA					
Temperature	(0 ~ 40)℃					
Weight	156kg					
Size	482mm(W) x 727.8mm(H) x 739mm(D)，With protective cover, standard heavy-duty casters					

Performance Specifications（30kW）

Model	MEL-430S-150-3000		MEL-430S-600-2100		MEL-430S-1200-1200	
Voltage	150V		600V		1200V	
Current	3000A		2100A		1200A	
Power	30000W		30000W		30000W	
Minimum Operating Voltage	1.5V@3000A		14V@2100A		20V@1200A	
CC Mode						
Range	300A	3000A	210A	2100A	120A	1200A
Resolution	5mA	50mA	3.5mA	35mA	2mA	20mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.011 ~ 57Ω	0.11 ~ 286Ω	0.037 ~ 200 Ω	0.37 ~ 1000 Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S.		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	30000W		30000W		30000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2A/us	0.01 ~ 20A/us	0.001 ~ 1.2A/us	0.01 ~ 12A/us
Current Measurement						
Range	300A	3000A	210A	2100A	120A	1200A
Resolution	5mA	50mA	3.5mA	35mA	2mA	20mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 1770VA					
Temperature	(0 ~ 40)℃					
Weight	204kg					
Size	600mm(W) x 890.5mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（36kW）

Model	MEL-436S-150-3000		MEL-436S-600-2520		MEL-436S-1200-1440	
Voltage	150V		600V		1200V	
Current	3000A		2520A		1440A	
Power	36000W		36000W		36000W	
Minimum Operating Voltage	1.5V@3000A		14V@2520A		20V@1440A	
CC Mode						
Range	300A	3000A	252A	2520A	140A	1440A
Resolution	5mA	50mA	4.5mA	45mA	2.4mA	24mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 47.6Ω	0.09 ~ 238Ω	0.031 ~ 167Ω	0.31 ~ 833Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	36000W		36000W		36000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.4A/us	0.01 ~ 24A/us	0.001 ~ 1.44A/us	0.01 ~ 14.4A/us
Current Measurement						
Range	300A	3000A	252A	2520A	140A	1440A
Resolution	5mA	50mA	4.5mA	45mA	2.4mA	24mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ，2120VA					
Temperature	(0 ~ 40)℃					
Weight	235kg					
Size	600mm(W) x 1157mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（42kW）

Model	MEL-442S-150-2400		MEL-442S-600-2940		MEL-442S-1200-1680	
Voltage	150V		600V		1200V	
Current	3000A		2940A		1680A	
Power	42000W		42000W		42000W	
Minimum Operating Voltage	1.5V@3000A		14V@2940A		20V@1680A	
CC Mode						
Range	300A	3000A	294A	2940A	168A	1680A
Resolution	5mA	50mA	5mA	50mA	2.8mA	28mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 41Ω	0.09 ~ 204Ω	0.027 ~ 143Ω	0.27 ~ 714Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	42000W		42000W		42000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.8A/us	0.01 ~ 28A/us	0.001 ~ 1.68A/us	0.01 ~ 16.8A/us
Current Measurement						
Range	300A	3000A	294A	2940A	168A	1680A
Resolution	5mA	50mA	5mA	50mA	2.8mA	28mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 2470VA					
Temperature	(0 ~ 40)℃					
Weight	265kg					
Size	600mm(W) x 1157mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（48kW）

Model	MEL-448S-150-2400		MEL-448S-600-2400		MEL-448S-1200-1920	
Voltage	150V		600V		1200V	
Current	3000A		3000A		1920A	
Power	48000W		48000W		48000W	
Minimum Operating Voltage	1.5V@3000A		14V@3000A		20V@1920A	
CC Mode						
Range	300A	3000A	300A	3000A	192A	1920A
Resolution	5mA	50mA	5mA	50mA	3.2mA	32mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 40Ω	0.09 ~ 200Ω	0.023 ~ 125Ω	0.23 ~ 625Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	48000W		48000W		48000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 1.92A/us	0.01 ~ 19.2A/us
Current Measurement						
Range	300A	3000A	300A	3000A	192A	1920A
Resolution	5mA	50mA	5mA	50mA	3.2mA	32mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 2820VA					
Temperature	(0 ~ 40)℃					
Weight	312kg					
Size	600mm(W) x 1620.5mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（54kW）

Model	MEL-454S-150-3000		MEL-454S-600-3000		MEL-454S-1200-2160	
Voltage	150V		600V		1200V	
Current	3000A		3000A		2160A	
Power	54000W		54000W		54000W	
Minimum Operating Voltage	1.5V@3000A		14V@3000A		20V@2160A	
CC Mode						
Range	300A	3000A	300A	3000A	216A	2160A
Resolution	5mA	50mA	5mA	50mA	3.6mA	36mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 40Ω	0.09 ~ 200Ω	0.023 ~ 125Ω	0.19 ~ 675Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	54000W		54000W		54000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.16A/us	0.01 ~ 21.6A/us
Current Measurement						
Range	300A	3000A	300A	3000A	216A	2160A
Resolution	5mA	50mA	5mA	50mA	3.6mA	36mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%, (50 ~ 60)Hz , 2820VA					
Temperature	(0 ~ 40)℃					
Weight	331kg					
Size	600mm(W) x 1620.5mm(H) x 800mm(D) , With protective cover, standard heavy-duty casters					

Performance Specifications（60kW）

Model	MEL-460S-150-3000		MEL-460S-600-3000		MEL-460S-1200-2400	
Voltage	150V		600V		1200V	
Current	3000A		3000A		2400A	
Power	60000W		60000W		60000W	
Minimum Operating Voltage	1.5V@3000A		14V@3000A		20V@2400A	
CC Mode						
Range	300A	3000A	300A	3000A	240A	2400A
Resolution	5mA	50mA	5mA	50mA	4mA	40mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 40Ω	0.09 ~ 200Ω	0.014 ~ 105Ω	0.14 ~ 605Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	60000W		60000W		60000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.4A/us	0.01 ~ 24A/us
Current Measurement						
Range	300A	3000A	300A	3000A	240A	2400A
Resolution	5mA	50mA	5mA	50mA	4mA	4mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 2820VA					
Temperature	(0 ~ 40)℃					
Weight	350kg					
Size	600mm(W) x 1620.5mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（66kW）

Model	MEL-466S-150-3000		MEL-466S-600-3000		MEL-466S-1200-2640	
Voltage	150V		600V		1200V	
Current	3000A		3000A		2640A	
Power	66000W		66000W		66000W	
Minimum Operating Voltage	1.5V@3000A		14V@3000A		20V@2640A	
CC Mode						
Range	300A	3000A	300A	3000A	264A	2640A
Resolution	5mA	50mA	5mA	50mA	4.4mA	44mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 40Ω	0.09 ~ 200Ω	0.017 ~ 115Ω	0.17 ~ 575Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	66000W		66000W		66000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.64A/us	0.01 ~ 26.4A/us
Current Measurement						
Range	300A	3000A	300A	3000A	264A	2640A
Resolution	5mA	50mA	5mA	50mA	3.2mA	32mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4.4mV	44mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%，(50 ~ 60)Hz ， 2820VA					
Temperature	(0 ~ 40)℃					
Weight	365kg					
Size	600mm(W) x 1620.5mm(H) x 800mm(D)， With protective cover, standard heavy-duty casters					

Performance Specifications（72kW）

Model	MEL-472S-150-3000		MEL-472S-600-3000		MEL-472S-1200-2880	
Voltage	150V		600V		1200V	
Current	3000A		3000A		2880A	
Power	72000W		72000W		72000W	
Minimum Operating Voltage	1.5V@3000A		14V@3000A		20V@2880A	
CC Mode						
Range	300A	3000A	300A	3000A	288A	2880A
Resolution	5mA	50mA	5mA	50mA	4.8mA	48mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
CV Mode						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
CR Mode						
Range	0.002 ~ 10Ω	0.02 ~ 50Ω	0.009 ~ 40Ω	0.09 ~ 200Ω	0.017 ~ 55Ω	0.17 ~ 288Ω
Accuracy	Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S		Vin/Rset*(0.2%)+0.2%IF.S	
CP Mode						
Range	72000W		72000W		72000W	
Accuracy	0.2%+0.2% F.S.		0.2%+0.2% F.S.		0.2%+0.2% F.S.	
Dynamic						
T1&T2	10us ~ 60S		10us ~ 60S		10us ~ 60S	
Resolution	2us		2us		2us	
Accuracy	1us+20PPM		1us+20PPM		1us+20PPM	
Slope	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 3A/us	0.01 ~ 30A/us	0.001 ~ 2.88A/us	0.01 ~ 28.8A/us
Current Measurement						
Range	300A	3000A	300A	3000A	280A	2880A
Resolution	5mA	50mA	5mA	50mA	4.8mA	48mA
Accuracy	0.05%+0.05%F.S.		0.05%+0.05%F.S.		0.05%+0.05%F.S.	
Voltage Measurement						
Range	30V	150V	120V	600V	240V	1200V
Resolution	0.5mV	2.5mV	2mV	10mV	4mV	20mV
Accuracy	0.025%+0.025%F.S.		0.025%+0.025%F.S.		0.025%+0.025%F.S.	
AC Voltage	220VAC±10%, (50 ~ 60)Hz , 3520VA					
Temperature	(0 ~ 40)℃					
Weight	384kg					
Size	600mm(W) x 1932mm(H) x 800mm(D), With protective cover, standard heavy-duty casters					