

# 3360F Series

High Voltage DC Electronic Load



HIGH VOLTAGE DC ELECTRONIC LOAD



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Rear Panel of 3360F Series



### Features

- 5 digit V/A/W Meter.
- High-speed measurement and communication transmission.
- Large LCD Display \ setting values can be adjusted by rotary knob or push button.
- Voltage, Current and Watt value can be displayed.
- 150 sets Store/Recall memory.
- Power Factor Correction (PFC) Test.
- OCP, OPP test function.
- Power ON status can be set.
- CC, CR, CV, CP, Dynamic and Short operation mode.
- SHORT time setting.
- Protections against V, I, W, and  $^{\circ}\text{C}$ .
- Voltage meter display the polarity positive (" + ") or negative (" - ") is selectable.
- Optional Interface : GPIB \ RS232 \ USB \ LAN.

### Descriptions

- 3360F has its own control and display panel, CC/CR/CV/CP/Dynamic modes, 150 sets Store/Recall memory which provides load set-up more efficiently, also can be remote controlled via GPIB, RS232, USB and LAN interface.
- SHORT time setting and SHORT\_VH, SHORT\_VL setting function, also can measure Short Voltage and Current.
- Dynamic can be simulated under CC, CP mode. The current Rise/Fall slew rate can be adjusted individually and there is an external signal input for a Arbitrary Waveform to simulate load current.
- Single key for OCP, OPP test function will be more efficiency and accuracy on OCP, OPP testing.
- Programmable Load ON/OFF voltage, GO/NG meter check, Voltage meter display " + " or " - " is selectable and 150 sets Store/Recall larger memory is much advance feature for each different application.
- 150 sets test parameter and status storage function, user can recall the storage memory real time in accordance with the auto sequence requirement.
- Maximum Voltage up to 500V that provides an ideal testing solution for Power Factor Correction testing.

### Applications

- Voltage / Current source
- SMPS transient response
- CV/Current limit testing and battery emulation
- Battery charger
- Battery discharge
- R&D Quality Control
- ATE system
- Production testing
- Power Factor Correction (PFC) Test

## Specifications

MODEL	3360F	3361F	3362F	3367F	33611F	33621F
Power	600W	1200W	1800W	1800W	2400W	3600W
Current	0 ~ 20A	0 ~ 40A	0 ~ 60A	0 ~ 12A	0 ~ 80A	0 ~ 120A
Voltage	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V
Min.Operation Voltage	4V @ 20A	4V @ 40A	4V @ 60A	6V @ 12A	4V @ 80A	4V @ 120A
CC MODE						
Range *1	0 ~ 2A / 20A	0 ~ 4A / 40A	0 ~ 6A / 60A	0 ~ 1.2A / 12A	0 ~ 8A / 80A	0 ~ 12A / 120A
Resolution	0.033mA / 0.33mA	0.066mA / 0.66mA	0.1mA / 1mA	0.02mA / 0.2mA	0.133mA / 1.33mA	0.2mA / 2mA
Accuracy	± 0.1% OF ( Setting + Range )					
CR MODE						
Range	0.5~30~1800KΩ	0.25~15~900KΩ	0.1666~10~600KΩ	0.8333~50~3000KΩ	0.125~7.5~450KΩ	0.833~5~300KΩ
Resolution	0.5mΩ/0.55μS	0.25mΩ/1.1μS	0.1666mΩ/0.032mS	0.8333mΩ/0.333μS	0.125mΩ/0.0022mS	0.0833mΩ/0.00033mS
Accuracy	± 0.2% OF ( Setting + Range )					
CV MODE						
Range	60V / 500V					
Resolution	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV
Accuracy	± 0.05% OF ( Setting + Range )					
CP MODE						
Range	60W / 600W	120W / 1200W	180W / 1800W	180W / 1800W	0 ~ 240W / 2400W	0~360W / 3600W
Resolution	1mW / 10mW	2mW / 20mW	3mW / 30mW	3mW / 30mW	4mW / 40mW	6mW / 60mW
Accuracy	± 0.5% OF ( Setting + Range )					
DYNAMIC MODE - CC						
Timing						
Thigh & Tlow	0.050 ~ 9.999 / 99.99 / 999.9 / 9999mS					
Resolution	0.001 / 0.01 / 0.1 / 1mS					
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm					
Slew rate	1.6mA~100mA/μS 16mA~1000mA/μS	3.2mA~200mA/μS 32mA~2000mA/μS	4.8mA~300mA/μS 48mA~3000mA/μS	0.96mA~60mA/μS 9.6mA~600mA/μS	6.4mA~400mA/μS 64mA~4000mA/μS	9.6mA~600mA/μS 96mA~6000mA/μS
Resolution	0.4 / 4 mA/μS	0.8 / 8 mA/μS	1.2 / 12 mA/μS	0.24 / 2.4 mA/μS	1.6 / 16 mA/μS	2.4 / 24 mA/μS
Accuracy	( 5% of setting ) ± 10 μS					
Min. Rise Time	20μS ( typical )					
Current						
Range	2 / 20A	4 / 40A	6 / 60A	1.2 / 12A	8 / 80A	12 / 120A
Resolution	0.033mA/0.33mA	0.066mA/0.66mA	0.1mA/1mA	0.02mA/0.2mA	0.133mA/1.33mA	0.2mA / 2mA
Accuracy	± 0.1% OF ( Setting + Range )					
MEASUREMENT						
Voltage Read Back						
Range (5 Digital)	0 ~ 60V / 600V					
Resolution	0.001V / 0.01V					
Accuracy	± 0.025% OF ( Reading + Range )					
Current Read Back						
Range (5 Digital)	0 ~ 2A / 20A	0 ~ 4A / 40A	0 ~ 6A / 60A	0 ~ 1.2A / 12A	0 ~ 8A / 80A	0 ~ 12A / 120A
Resolution	0.033mA/0.33mA	0.066mA/0.66mA	0.1mA/1mA	0.02mA / 0.2mA	0.133mA/1.33mA	0.2mA / 2mA
Accuracy	± 0.1% OF ( Reading + Range )					
Power Read Back						
Range (5 Digital)	0 ~ 60W/600W	0 ~ 120W/1200W	0 ~ 180W/1800W	0 ~ 180W/1800W	0 ~ 240W/2400W	0 ~ 360W/3600W
Resolution	0.03W				0.04W	0.06W
Accuracy	± 0.125% OF ( Reading + Range )					
PROTECTIONS						
Over Power	105% of Rated Power					
Over Current	105% of Rated Current					
Over Voltage	105% of Rated Voltage					
Over Temp.	Yes					
OTHERS						
Load ON Voltage						
Range	0.4 ~ 100.0V					
Resolution	0.4V					
Accuracy	1% of Setting + 2.5V					
Load OFF Voltage						
Range	0 ~ 100V					
Resolution	Same as Voltage Meter					
Accuracy	Same as Voltage Meter					
GENERAL						
Short Circuit						
Current	20A	40A	60A	12A	80A	120A
Temperature Coefficient	100ppm / °C ( typical )					
Power consumption	100Wmax	100Wmax	100Wmax	100Wmax	100Wmax	200Wmax
Operating Temperature *2	0 ~ 40℃					
Dimension (HxWxD)	177 x 440 x 445 mm				459x480x577mm	459x480x577mm
Weight	15.2 kg	19.4 Kg	23.6 kg	23.6 Kg	44 Kg	44 kg
Safety & EMC	CE					

Input AC Power : 115/230 Vac ±10% , 50/60Hz  
Cooling : Advanced Fan Cooled

Note\*1 : The range is automatically or forcing to range II only in CC Mode  
Note\*2 : Operating temperature range is 0~40°C , all specifications apply for 25°C±5°C

## Order Information

Optional interface :

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



3360F 500V , 20A , 600W



3361F 500V , 40A , 1200W



3362F 500V , 60A , 1800W



3367F 500V , 12A , 1800W



33611F 500V , 80A , 2400W



33621F 500V , 120A , 3600W

## Specifications

MODEL	33671F	33622F	33672F	33623F	33624F	33674F
Power	3600W	5400W	5400W	7200W	9000W	9000W
Current	0 ~ 24A	0 ~ 180A	0 ~ 36A	0 ~ 240A	0 ~ 300A	0 ~ 60A
Voltage	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V
Min.Operation Voltage	6V @ 24A	4V @ 180A	6V @ 36A	4V @ 240A	4V @ 300A	6V @ 60A
CC MODE						
Range *1	2.4A / 24A	0 ~ 18A / 180A	0 ~ 3.6A / 36A	0 ~ 24A / 240A	0 ~ 30A / 300A	0 ~ 6A / 60A
Resolution	0.02mA / 0.2mA	0.3mA / 3mA	0.06mA / 0.6mA	0.4mA / 4mA	0.5mA / 5mA	0.1mA / 1mA
Accuracy	± 0.1% OF ( Setting + Range )					
CR MODE						
Range	0.416~25~1500KΩ	0.0555~3.3333~200KΩ	0.2775~16.66~100KΩ	0.0416~2.5~150KΩ	0.0333~2~120KΩ	0.1666~10~600KΩ
Resolution	0.416mΩ/0.00066mS	0.0555mΩ/0.00033mS	0.2775mΩ/0.01mS	0.0416mΩ/0.0066mS	0.0333mΩ/0.128mS	0.1666mΩ/0.0016mS
Accuracy	± 0.2% OF ( Setting + Range )					
CV MODE						
Range	60V / 500V					
Resolution	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV
Accuracy	± 0.05% OF ( Setting + Range )					
CP MODE						
Range	0~360W / 3600W	540W / 5400W	540W / 5400W	720W / 7200W	900W / 9000W	900W / 9000W
Resolution	6mW / 60mW	9mW / 90mW	9mW / 90mW	12mW / 120mW	15mW / 150mW	15mW / 150mW
Accuracy	± 0.5% OF ( Setting + Range )					
DYNAMIC MODE - CC						
Timing						
Thigh & Tlow	0.050 ~ 9.999 / 99.99 / 999.9 / 9999mS					
Resolution	0.001 / 0.01 / 0.1 / 1mS					
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm					
Slew rate	1.92mA~120mA/μS 19.2mA~1200mA/μS	14.4mA~900mA/μS 144mA~9000mA/μS	2.88mA~180mA/μS 28.8mA~1800mA/μS	0.0192A~1.2A/μS 0.192A~12A/μS	0.024A~1.5A/μS 0.24A~15A/μS	4.8mA~300mA/μS 48mA~3000mA/μS
Resolution	0.48 / 4.8mA/μS	3.6 / 36mA/μS	0.72 / 7.2mA/μS	0.0048 / 0.048A/μS	0.006 / 0.06A/μS	1.2 / 12mA/μS
Accuracy	( 5% of setting ) ± 10μS					
Min. Rise Time	20μS ( typical )					
Current						
Range	2.4A / 24A	18 / 180A	3.6A / 36A	24 / 240A	30A / 300A	6 / 60A
Resolution	0.02mA / 0.2mA	0.3mA / 3mA	0.06mA / 0.6mA	0.4mA / 4mA	0.5mA / 5mA	0.1mA / 1mA
Accuracy	± 0.1% OF ( Setting + Range )					
MEASUREMENT						
Voltage Read Back						
Range (5 Digital)	0 ~ 60V / 500V					
Resolution	0.001V / 0.01V					
Accuracy	± 0.025% OF ( Reading + Range )					
Current Read Back						
Range (5 Digital)	2.4A / 24A	0 ~ 18A / 180A	0 ~ 3.6A / 36A	0 ~ 24A / 240A	0 ~ 30A / 300A	0 ~ 6A / 60A
Resolution	0.02mA / 0.2mA	0.3mA / 3mA	0.06mA / 0.6mA	0.4mA / 4mA	0.5mA / 5mA	0.1mA / 1mA
Accuracy	± 0.1% OF ( Reading + Range )					
Power Read Back						
Range (5 Digital)	0 ~ 360W / 3600W	0 ~ 540W / 5400W	0 ~ 540W / 5400W	0 ~ 720W / 7200W	0 ~ 900W / 9000W	0 ~ 900W / 9000W
Resolution	0.06W	0.09W	0.09W	0.12W	0.15W	0.15W
Accuracy	± 0.125% OF ( Reading + Range )					
PROTECTIONS						
Over Power	105% of Rated Power					
Over Current	105% of Rated Current					
Over Voltage	105% of Rated Voltage					
Over Temp.	Yes					
OTHERS						
Load ON Voltage						
Range	0.4 ~ 100.0V					
Resolution	0.4V					
Accuracy	1% of Setting + 2.5V					
Load OFF Voltage						
Range	0 ~ 100V					
Resolution	Same as Voltage Meter					
Accuracy	Same as Voltage Meter					
GENERAL						
Short Circuit						
Current	24A	180A	36A	240A	300A	60A
Temperature Coefficient	100ppm/°C (typical)					
Power consumption	200Wmax	300Wmax	300Wmax	400Wmax	500Wmax	500Wmax
Operating Temperature *2	0~40℃					
Dimension (HxWxD)	459x480x577mm	637x480x577mm	637x480x577mm	815x480x577mm	1283x600x600mm	1283x600x600mm
Weight	44 Kg	66 Kg	66 Kg	88 kg	185 Kg	185 Kg
Safety & EMC	CE					

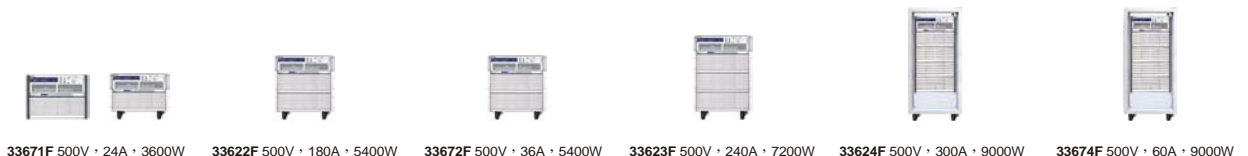
Input AC Power : 115/230 Vac ±10% , 50/60Hz  
Cooling : Advanced Fan Cooled

Note\*1 : The range is automatically or forcing to range II only in CC Mode  
Note\*2 : Operating temperature range is 0~40°C , all specifications apply for 25°C±5°C

## Order Information

Optional interface :

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



## Specifications

MODEL	33625F	33675F	33626F	33627F
Power	10800W	10800W	12600W	14400W
Current	0 ~ 360A	0 ~ 72A	0 ~ 420A	0 ~ 500A
Voltage	0 ~ 500V	0 ~ 500V	0 ~ 500V	0 ~ 500V
Min.Operation Voltage	4V @ 360A	6V @ 72A	4V @ 420A	4V @ 500A
CC MODE				
Range *1	0 ~ 36A / 360A	0 ~ 7.2A / 72A	0 ~ 42A / 420A	0 ~ 50A / 500A
Resolution	0.6mA / 6mA	0.12mA / 1.2mA	0.7mA / 7mA	0.84mA / 8.4mA
Accuracy	± 0.1% OF ( Setting + Range )			
CR MODE				
Range	0.0277 ~ 1.6666 ~ 100KΩ	0.8333 ~ 8.333 ~ 500KΩ	0.0238 ~ 1.4285 ~ 85.71KΩ	0.02 ~ 1.2 ~ 72KΩ
Resolution	0.0277mΩ / 0.00033mS	0.138mΩ / 0.0166mS	0.0238mΩ / 0.00033mS	0.02mΩ / 0.0138mS
Accuracy	± 0.2% OF ( Setting + Range )			
CV MODE				
Range	60V / 500V			
Resolution	1mV / 10mV	1mV / 10mV	1mV / 10mV	1mV / 10mV
Accuracy	± 0.05% OF ( Setting + Range )			
CP MODE				
Range	0 ~ 1080W / 10800W	1080W / 10800W	1260W / 12600W	1440W / 14400W
Resolution	18mW / 180mW	18mW / 180mW	21mW / 210mW	24mW / 240mW
Accuracy	± 0.5% OF ( Setting + Range )			
DYNAMIC MODE - CC				
Timing				
Thigh & Tlow	0.050 ~ 9.999 / 99.99 / 999.9 / 9999mS			
Resolution	0.001 / 0.01 / 0.1 / 1mS			
Accuracy	1μS / 10μS / 100μS / 1mS + 50ppm			
Slew rate	0.0288A ~ 1.8A/μS 0.288A ~ 18A/μS	5.76mA ~ 360mA/μS 57.6mA ~ 3600mA/μS	0.0336A ~ 2.1A/μS 0.336A ~ 21A/μS	0.04A ~ 2.5A/μS 0.4A ~ 25A/μS
Resolution	0.0072 / 0.072A/μS	1.44 / 14.4mA/μS	0.0084 / 0.084A/μS	0.01 / 0.1A/μS
Accuracy	( 5% of setting ) ± 10μS			
Min. Rise Time	20μS ( typical )			
Current				
Range	36A / 360A	7.2 / 72A	42A / 420A	50A / 500A
Resolution	0.6mA / 6mA	0.12mA / 1.2mA	0.7mA / 7mA	0.84mA / 8.4mA
Accuracy	± 0.1% OF ( Setting + Range )			
MEASUREMENT				
Voltage Read Back				
Range (5 Digital)	0 ~ 60V / 500V			
Resolution	0.001V / 0.01V			
Accuracy	± 0.025% OF ( Reading + Range )			
Current Read Back				
Range (5 Digital)	0 ~ 36A / 360A	0 ~ 7.2A / 72A	0 ~ 42A / 420A	0 ~ 50A / 500A
Resolution	0.6mA / 6mA	0.12mA / 1.2mA	0.7mA / 7mA	0.84mA / 8.4mA
Accuracy	± 0.1% OF ( Reading + Range )			
Power Read Back				
Range (5 Digital)	0 ~ 1080W / 10800W	0 ~ 1080W / 10800W	0 ~ 1260W / 12600W	0 ~ 1440W / 14400W
Resolution	0.18W	0.18W	0.21W	0.24W
Accuracy	± 0.125% OF ( Reading + Range )			
PROTECTIONS				
Over Power	105% of Rated Power			
Over Current	105% of Rated Current			
Over Voltage	105% of Rated Voltage			
Over Temp.	Yes			
OTHERS				
Load ON Voltage				
Range	0.4 ~ 100.0V			
Resolution	0.4V			
Accuracy	1% of Setting + 2.5V			
Load OFF Voltage				
Range	0~100V			
Resolution	Same as Voltage Meter			
Accuracy	Same as Voltage Meter			
GENERAL				
Short Circuit				
Current	360A	72A	420A	504A
Temperature Coefficient	100ppm / °C ( typical )			
Power consumption	600Wmax	600Wmax	700Wmax	800Wmax
Operating Temperature *2	0 ~ 40℃			
Dimension (HxWxD)	1283 x 600 x 600 mm	1283 x 600 x 600 mm	1506 x 600 x 600 mm	1728 x 600 x 600 mm
Weight	208.6 kg	208.6 Kg	232.2 kg	268.8 kg
Safety & EMC	CE			

Input AC Power : 115/230 Vac ±10% , 50/60Hz  
Cooling : Advanced Fan Cooled

Note\*1 : The range is automatically or forcing to range II only in CC Mode  
Note\*2 : Operating temperature range is 0~40°C , all specifications apply for 25°C±5°C

## Order Information

Optional interface :

- ① GPIB Card
- ② RS232 Card
- ③ USB Card
- ④ LAN Card



33625F 500V , 360A , 10800W



33675F 500V , 72A , 10800W



33626F 500V , 420A , 12600W



33627F 500V , 500A , 14400W