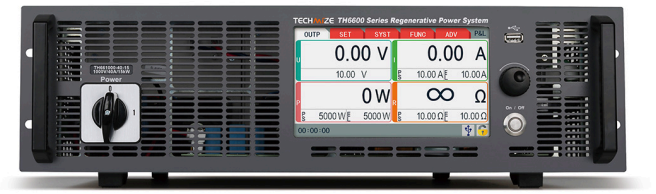
TH66000 Series Family

Bidirectional Regenerative DC Power System (TH66000) · Regenerative DC Electronic Load (TH66000L) · Programmable DC Power Supply (TH66000P)

One 3U / 19" hardware platform, three product series. TH66000, TH66000L and TH66000P share the same chassis, the same voltage/current/power ratings and the same 7" capacitive touchscreen user interface — they differ only in which direction they operate. **TH66000** is a bidirectional unit that combines a source and a regenerative electronic load in one enclosure; **TH66000L** is a load-only regenerative electronic load; **TH66000P** is a source-only programmable DC power supply. Every class from 80 V/5 kW up to 1500 V/15 kW is available across all three series (see the model matrix on page 2), so a project can standardise on one enclosure design and pick the direction it needs per test station.



Enclosure: 430(W) × 133(H) × 703.5(D) mm · Full 3U/19" rack unit: 483(W) × 133(H) × 793.5(D) mm · Weight: 22 kg (5 kW) / 31 kg (10 kW) / 38 kg (15 kW)

- **3U high-power density**: 5 kW / 10 kW / 15 kW in a single 3U chassis
- **Master/slave paralleling**, expandable to 480 kW (1 master + up to 15 slaves)
- High accuracy, high resolution, low ripple and low noise
- Built-in function generator: sine, triangle, square, trapezoid, arbitrary waveform; USB LIST import
- 7" 24-bit colour TFT capacitive touchscreen, 800×480, English UI
- Data logging: real-time voltage/current/power/resistance log to USB, CSV format
- Timer function to time or schedule output/input on/off
- Intelligent fan control for lower noise and energy saving
- Protections: hardware OVP/OCP/OPP, user-configurable alarm events
- **SCPI and MODBUS** protocols standard across the platform

Three series, one platform

TH66000

Bidirectional — source + regenerative load in one unit; CV/CC/CR/CP in both directions

Mode	Source ⇄ Load
Energy feedback	up to 93%
Battery / PV / MPPT test	Yes
Typical use	Battery charge/discharge, EV drivetrain

TH66000L

Load only — regenerative DC electronic load, CV/CC/CR/CP

Mode	Load (absorb) only
Energy feedback	up to 93%
Battery / PV / MPPT test	Yes
Typical use	Battery/supercap discharge test, PV/MPPT emulation

TH66000P

Source only — programmable DC power supply, CV/CC/CR/CP

Mode	Source (output) only
Energy feedback	n/a (not regenerative)
Battery / PV / MPPT test	No — needs load stage*
Typical use	Bench/ATE power source, supercap charging

* Battery, PV-simulation and MPPT tests require a load stage to sink the power being tested, so they are not available on TH66000P, a source-only power supply. They are available on TH66000 (bidirectional) and TH66000L (load).

Model & ratings matrix

Voltage, current, power and internal-resistance ratings are identical across the three series for a given class — only the source/load direction and the model suffix (plain / "L" / "P") differ. The three model numbers for each class are grouped in one row below.

Voltage class	Power	Voltage range	Current range	Int. resistance	TH66000 (bidirectional)	TH66000L (load)	TH66000P (source)
80 V	5 kW	0–80 V	0–120 A	0.02–25 Ω	TH6680-120-05	TH6680L-120-05	TH6680P-120-05
	10 kW	0–80 V	0–240 A	0.01–13 Ω	TH6680-240-10	TH6680L-240-10	TH6680P-240-10
	15 kW	0–80 V	0–360 A	0.006–10 Ω	TH6680-360-15	TH6680L-360-15	TH6680P-360-15
200 V	5 kW	0–200 V	0–70 A	0.1–150 Ω	TH66200-70-05	TH66200L-70-05	TH66200P-70-05
	10 kW	0–200 V	0–140 A	0.05–75 Ω	TH66200-140-10	TH66200L-140-10	TH66200P-140-10
	15 kW	0–200 V	0–210 A	0.033–50 Ω	TH66200-210-15	TH66200L-210-15	TH66200P-210-15
360 V	5 kW	0–360 V	0–40 A	0.3–520 Ω	TH66360-40-05	TH66360L-40-05	TH66360P-40-05
	10 kW	0–360 V	0–80 A	0.15–260 Ω	TH66360-80-10	TH66360L-80-10	TH66360P-80-10
	15 kW	0–360 V	0–120 A	0.1–180 Ω	TH66360-120-15	TH66360L-120-15	TH66360P-120-15
500 V	5 kW	0–500 V	0–30 A	0.5–1000 Ω	TH66500-30-05	TH66500L-30-05	TH66500P-30-05
	10 kW	0–500 V	0–60 A	0.25–500 Ω	TH66500-60-10	TH66500L-60-10	TH66500P-60-10
	15 kW	0–500 V	0–90 A	0.16–340 Ω	TH66500-90-15	TH66500L-90-15	TH66500P-90-15
750 V	5 kW	0–750 V	0–20 A	1.2–2200 Ω	TH66750-20-05	TH66750L-20-05	TH66750P-20-05
	10 kW	0–750 V	0–40 A	0.6–1100 Ω	TH66750-40-10	TH66750L-40-10	TH66750P-40-10
	15 kW	0–750 V	0–60 A	0.4–740 Ω	TH66750-60-15	TH66750L-60-15	TH66750P-60-15
1000 V	15 kW	0–1000 V	0–40 A	0.8–1300 Ω	TH661000-40-15	TH661000L-40-15	TH661000P-40-15
1500 V	15 kW	0–1500 V	0–30 A	2.5–3000 Ω	TH661500-30-15	TH661500L-30-15	TH661500P-30-15

The model list above is the current ordering list. The series is continuously expanded with new models; please contact Techmize or an authorized distributor for the latest availability.

Function availability by series

Function	TH66000 (bidirectional)	TH66000L (load)	TH66000P (source)
List / sequence test (up to 99 steps)	Yes	Yes	Yes
Built-in function generator (sine/triangle/square/trapezoid/arbitrary)	Yes	Yes	Yes
Data logging to USB (CSV) + timer	Yes	Yes	Yes
Master/slave paralleling (1 master + up to 15 slaves, to 480 kW)	Yes	Yes	Yes
Battery / supercapacitor test (static & dynamic charge/discharge)	Yes (charge & discharge)	Yes (discharge only)	No — needs load stage
Simple PV simulation test	Yes	Yes	No — needs load stage
MPPT maximum-power-point tracking test	Yes	Yes	No — needs load stage
Energy feedback to grid (regenerative)	Yes, up to 93%	Yes, up to 93%	No — not regenerative
Wide-range output (auto V/I trade-off within rated power)	Yes	n/a (load)	Yes

Battery, PV-simulation and MPPT tests require a load stage to sink the power under test, so none of the three are available on TH66000P (source-only). On TH66000P, "PV panel simulation" refers to using it as the source half of a test setup alongside a separate load, not a self-contained PV-emulation function.

Common accuracy & resolution, by voltage family

Identical across TH66000 / TH66000L / TH66000P for a matching class; setting and readback accuracy are expressed as % of full scale (FS) of that class's rated voltage/current/power.

Parameter	80 V	200 V	360 V	500 V	750 V	1000 V	1500 V
Voltage resolution (set/readback)	10 mV						
Current resolution (set/readback)	0.1 A	0.01 A					
Power resolution	1 W						
Resistance resolution (set)	0.001 Ω	0.01 Ω					
Resistance resolution (readback)	0.001 Ω	0.0001 Ω					
Setting accuracy — V / I / P	≤0.1%FS / ≤0.2%FS / ≤1%FS						
Setting accuracy — resistance	≤1% of max. resistance value ±1% of max. current						
Readback accuracy — V	≤0.2%FS	≤0.1%FS					
Readback accuracy — I / P	≤0.2%FS / ≤1%FS						
Remote sense compensation	≤0.5%FS	≤5%FS					
Dynamic recovery time (50–100% load)	≤1.5 ms						
Power conversion efficiency (source mode)	≤93%						
Energy feedback efficiency (TH66000 / TH66000L only)	≤93%						

Setting and readback accuracy are specified for 12 months at 25 °C ± 5 °C.

Ripple & noise, by class (20 Hz–2 MHz)

Differential voltage ripple applies to TH66000 and TH66000P in source mode. Differential current ripple is identical for all three series.

Class	Differential voltage ripple (TH66000 / TH66000P, source mode)	Differential current ripple (all series)
80 V / 5 kW	≤200 mVp-p and 16 mVrms	≤80 mArms
80 V / 10 kW	≤320 mVp-p and 25 mVrms	≤160 mArms
80 V / 15 kW	≤320 mVp-p and 25 mVrms	≤240 mArms
200 V / 5 kW	≤320 mVp-p and 45 mVrms	≤22 mArms
200 V / 10 kW	≤320 mVp-p and 45 mVrms	≤44 mArms
200 V / 15 kW	≤320 mVp-p and 45 mVrms	≤66 mArms
360 V / 5 kW	≤320 mVp-p and 55 mVrms	≤18 mArms
360 V / 10 kW	≤320 mVp-p and 55 mVrms	≤35 mArms
360 V / 15 kW	≤320 mVp-p and 55 mVrms	≤50 mArms
500 V / 5 kW	≤350 mVp-p and 70 mVrms	≤16 mArms
500 V / 10 kW	≤350 mVp-p and 70 mVrms	≤32 mArms
500 V / 15 kW	≤350 mVp-p and 70 mVrms	≤48 mArms
750 V / 5 kW	≤800 mVp-p and 200 mVrms	≤16 mArms
750 V / 10 kW	≤800 mVp-p and 200 mVrms	≤32 mArms
750 V / 15 kW	≤800 mVp-p and 200 mVrms	≤48 mArms
1000 V / 15 kW	≤1600 mVp-p and 300 mVrms	≤16 mArms
1500 V / 15 kW	≤2400 mVp-p and 400 mVrms	≤26 mArms

TH66000L (load-only) has no source/output mode; differential voltage ripple is therefore not specified for it.

Applications by series

TH66000 — bidirectional

- R&D and design-verification bench testing
- New energy: solar cells, EV/e-bike power trains
- Production-line functional test, maintenance
- Automated test-cell integration
- PV panel simulation
- Teaching laboratories
- LED test
- Automotive wiring-harness reliability test
- Battery / supercapacitor charge–discharge & capacity test

TH66000L — load only

- R&D and design-verification bench testing
- New energy: solar cells, EV/e-bike power trains
- Production-line functional test, maintenance
- Automated test-cell integration
- PV panel simulation
- Teaching laboratories
- LED test
- Supercapacitor discharge & capacity test

TH66000P — source only

- R&D and design-verification bench testing
- New energy: solar cells, EV/e-bike power trains
- Production-line functional test, maintenance
- Automated test-cell integration
- PV panel simulation
- Teaching laboratories
- LED test
- Supercapacitor charging test

Interfaces

RS232	GPIB	LAN	USB Host	USB Device	Analog control	SCPI / MODBUS
standard	standard	standard	standard	standard	standard	standard

Same interface set on TH66000, TH66000L and TH66000P. AC mains input: 342–528 VAC, 44–66 Hz, three-phase, across all classes and series.

User interface

Item	Description
User interface	English UI, 7" 24-bit colour TFT capacitive touchscreen, 800×480

Compliance & certification

CE: CE certification for this product family is currently in progress.

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