



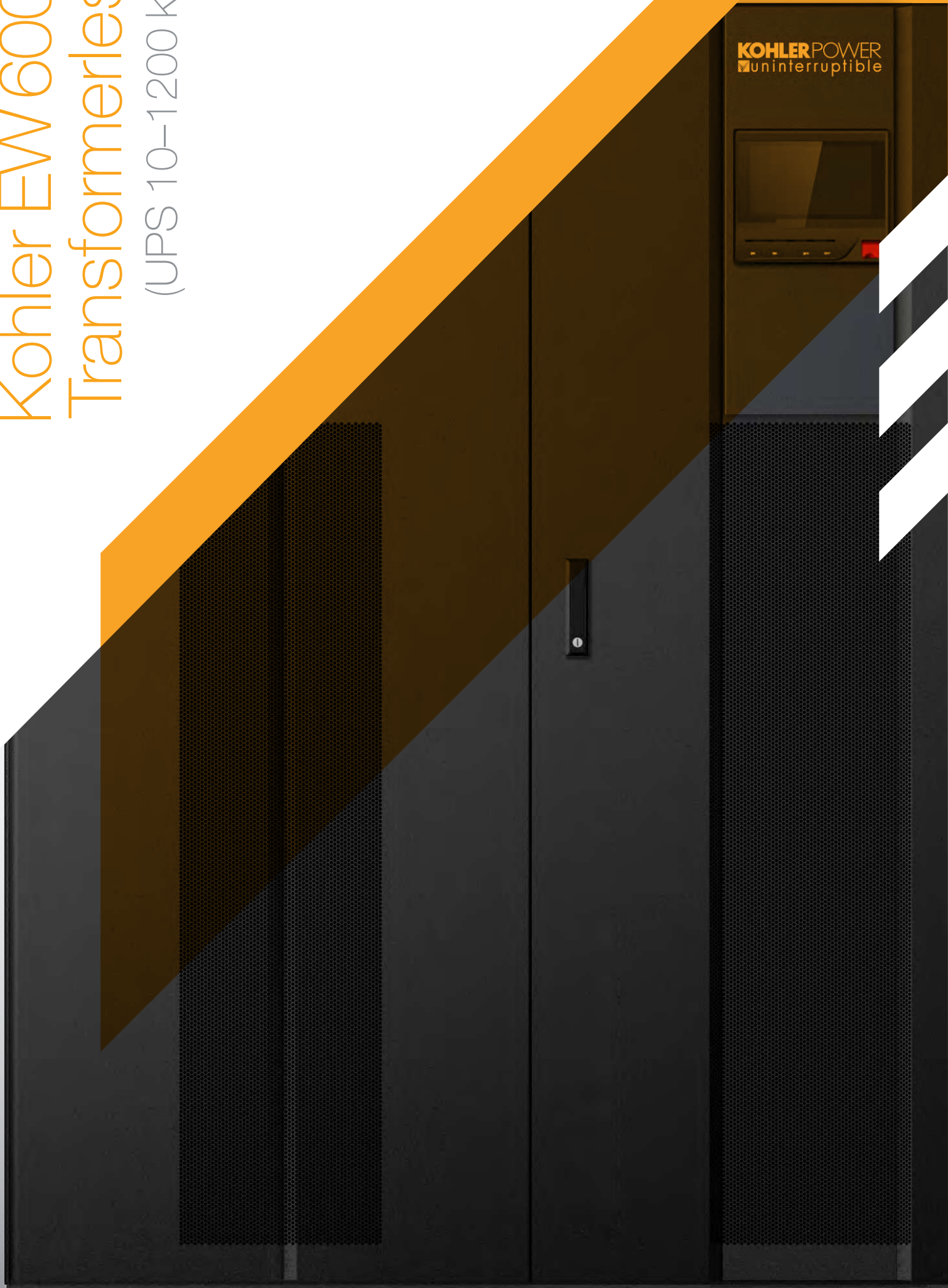
# Kohler Uninterruptible Products

Kohler Uninterruptible Power's product portfolio contains some of the most technologically advanced power protection products. At the core of its product portfolio is a range of high quality and reliable three-phase and single-phase uninterruptible power supplies.





# Kohler EW6000 Transformerless (UPS 10–1200 kVA)



Advanced, compact 3:3/3:1 UPS for finance companies, servers rooms, healthcare, government and national defence, retail, leisure and hospitality, transportation and telecommunication systems.

## Kohler EW 6000 New 10–40 kW range

Advanced IGBT inverter

High efficiency, up to 96%

Output PF 1.0

Easy to use display and menu

Transformerless

Intelligent battery management system prolongs battery service life

### Compact and efficient

Exceptional power density and high output power factor ( $\geq 0.99$ ) result in a highly compact, leading edge footprint

Efficiency up to 96% (@50–100% load), reducing running costs and environmental impact

### Performance and reliability

Low THDi ( $< 3\%$ ), advanced 3-level IGBT inverter for cleanest sine waveform output

Wide input voltage range (80–285 Vac) and input frequency range (40–70 Hz) keep UPS on mains longer, reducing use / wear of generator and batteries

Intelligent fan control – reduces noise and energy use while prolonging life

Coated PCBs as standard – protects from humidity, dust and corrosion

Separate bypass and mains power breakers to increase supply reliability

### Flexible design

Use with either internal, external or combined battery strings

Flexible battery configurations (10kW  $\pm 8$ -20 blocks and 20-40kW  $\pm 12$ -20 blocks) maximise resilience and use of existing batteries

Diverse range of inputs and outputs comprising 1:1, 3:1 and 3:3 for 10-20kW and 3:1 and 3:3 for 30-40kW

Definable charge current: 1-10A for 10-20kW, 1-20A for 30-40kW

RS 485, EPO and dry contact outputs as standard. Optional SNMP output

### User-friendly

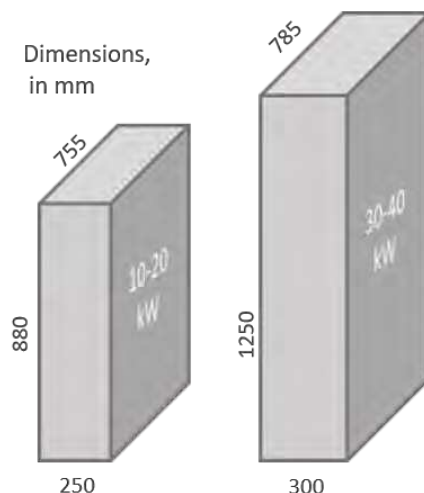
LCD screen with flow through menu to access functions and settings

Authority management and two-button design to reduce risk of mistakes

Easy troubleshooting via history log and fault alarm record



LCD Display



Three-phase UPS for finance companies, data centres, medical equipment, government and national defence, telecommunications systems, transportation and energy processes.

## Kohler EW 6000 50–200 kW

IGBT rectifier and inverter

High efficiency, up to 96%

Output PF 1.0

Fault trace management

Transformerless

Intelligent battery management system  
prolongs battery service life

Flexible network management: SNMP

### Green power

High efficiency in online mode (up to 96%) reduces heat dissipation and limits power consumption costs

Efficiency >99% in eco mode gives significant cost reduction

### Reliable

Wide input voltage range, 176Vac - 280Vac (230Vac -23% to +21%)

Robust overload ability

Dual system control card preventing single failure point

IGBT rectifier benefit with low THDi ( $\leq 3\%$ ) and high power factor

Bus synchronisation control function provides reliable high power for the dual-bus application

3-level IGBT inverter ensures excellent performance

Intelligent fan control reduces noise and prolongs fan service life

### Intelligent management

Fault trace management (FTM) for convenient failure analysis (waveform record)

Easy access to additional settings and status information via on-screen menu

Auto dedusting function

Key components pre-alarm function

### Flexible design

Common battery bank sharing in parallel system

Flexible battery configuration improves service ability

High power density design with compact size, 120 kW covers 0.3825 m<sup>2</sup>

Frequency converter function (60 Hz to 50 Hz or 50 Hz to 60 Hz)

Smart generator management

Self-aging test function without load enables onsite commission

Easy onsite parallel modification

### Options

Customised power distribution cabinet

Expanded dry contact

Intelligent battery monitoring system

Bypass voltage regulator

Dual-system control card

Auto switch: STS/ATS

Energy feedback absorber

N+X in parallel

Input isolation transformer

SPD: C grade

Output synchronisation common bus

Battery charge temperature compensation



High efficiency, advanced UPS for larger loads in data centre, financial services, process / production, utility, healthcare, government and national defence applications.

## Kohler EW 6000 New 300–1200 kW range

Advanced IGBT rectifier

High efficiency, up to 97%

Output PF 1.0

Sophisticated display and menu

Transformerless

Intelligent battery management

Parallel 8 units up to 9.6MW

### Performance and reliability

Efficiency up to 97%, reducing running costs and environmental impact

Low THDi ( $\leq 2\%$  at full load) and high power factor ( $\geq 0.99$ )

Advanced 3-level IGBT inverter for cleanest sine waveform output

Wide input voltage range ( $-40\%$  to  $+25\%$ ) keeps UPS on mains longer, reducing use / wear of generator and batteries

Dual DSP and power board remove single point of failure

Eco and Smart Eco modes to further improve energy efficiency (in Smart Eco mode inverter provides harmonic compensation and power factor correction whilst bypass supplies load)

Coated PCBs as standard – protects from humidity, dust and corrosion

### Intelligent, advanced design

Advanced parallel expansion technology, enabling connection of up to 8 units and 9.6 MW

Self-load test function for easy onsite testing and faster commissioning

Battery temperature compensation – increases performance and lifespan

Three-stage battery charging to prolong battery life

Multiple communication options including Smart programmable dry contact communication function

Supports external input / output transformer connection

Common bypass cabinet

Intelligent fan control – reduces noise and energy use while prolonging life

### User-friendly

Clear, configurable 7" touch screen to quickly access functions and settings

Large 10,000 point event log with data and graphical representation options

Fault trace management aid via 100ms waveform record before and after fault







# Technical Specifications

# Kohler EW 6000 (10-40kW)

Model	10	15	20	30	40	
Input						
Phase	1:1 / 3:1 / 3:3			3:1 / 3:3		
Voltage (Vac)	80-280 (L-N) / 138-485 (L-L)			138-485 (L-L)		
Frequency (Hz)	40–70					
Dual main input	Yes					
Power factor	≥0.99					
THDi at full linear load	< 3%					
Output						
Capacity (kW)	10	15	20	30	40	
Power factor	1.0					
Voltage (Vac)	220 / 230 / 240 ±1% (L-N) 380 / 400 / 415 ±1% (L-L)					
Frequency (Hz)	50/60±0.1 (battery mode)					
Phase	3φ4W+PE (can be set to 1φ2W+PE )					
Unbalanced load	100% possible					
THDv	THD <1% (linear load), THD <3% (non-linear load)					
Transfer time (ms)	Synchronisation: <1ms Asynchronisation: <10ms					
Max efficiency, online	96%					
Efficiency eco mode	≥99%					
Overload	<105% continuous, up to 110% load for 60 mins, up to 130% for 10 mins, up to 155% for 1 min, >155% load for 200ms					
Battery						
Voltage (Vdc)	±192 (±96 to ±240 adjustable)	±192 (±144 to ±240 adjustable)*				
Internal battery	16 to 40x9AH/12V	24 to 40x9AH/12V		48 to 80x9AH/12V		
Charging current (A)	1-10 settable			1-20 settable		
Other						
Communication interface	RS 485, Emergency Power Off (EPO), dry contact (1 input, 5 output) and optional SNMP					
Display	LCD screen, LED and physical buttons					
Alarm	AC input abnormal, low battery, overload, failure					
Protection	Output short-circuit, overload, over-temperature, battery low voltage, input over voltage					
Cold start	Yes					
EPO	Remote and local					
Smart fan speed control	Yes					
Noise	<55dB @ 25°C					
Working temperature	-5°C to +40°C					
Relative humidity	0–95%, no condensation					
Altitude	Up to 2000m without derating					
IP rating	IP20					
Standards	Electrical safety: IEC EN62040-1 EMC: IEC EN620-40-2					
Dimensions (mm) W x D x H		250 x 755 x 880		300 x 785 x 1250		
Weight (kg)	with battery	98 (20 x 9AH)	127 (32 x 9AH)	144 (40 x 9AH)	240 (64 x 9AH)	264 (80 x 9AH)
	without battery	50			85	

\*Capacity will derate when battery voltage between ±144 and ±180

See page 4 for full product overview.



# Kohler EW 6000 (50-200kW)

Model	50	80	100	120	160	200
Input						
Voltage (Vac)	380/400/415 (138-485 L-L)					
Frequency (Hz)	40–70					
Bypass voltage (Vac)	380/400/415: -20% to +15%					
Power factor	≥0.99					
Phase	3φ4W+PE					
Output						
Capacity (kW)	50	80	100	120	160	200
Power factor	1					
Voltage (Vac)	L–N: 220/230/240±1%; L–L: 380/400/415±1%					
Frequency (Hz)	50/60±0.1 (battery mode)					
Phase	3φ4W+PE					
Unbalanced load	100% possible					
Waveform	Pure sine wave, THD <1% at linear					
Transfer time (ms)	0ms for bypass mode to inverting (battery) mode. <1ms for inverting mode to bypass mode.					
Max efficiency, online	96%					
Efficiency eco mode	≥99%					
Overload	<105% continuous, up to 110% load for 60 mins, up to 130% for 10 mins, up to 150% for 1 min, >150% load for 200ms					
Battery						
Battery voltage (Vdc)	±192 (±180/±204/±216/±228/±240 selectable for long backup type)					
Battery type	External					
Charging current (A)	10	20	20	30	30	40
Other						
Communication interface	RS 485, MODBUS, dry contact (SNMP adapter optional)					
Display	Touchscreen + LED					
Alarm	AC input abnormal, low battery, overload, failure					
Protection	Output short-curcuit, overload, over-temperature, battery low voltage, output over/low voltage					
Noise	<65dB					
Working temperature	-5°C to +40°C					
Relative humidity	0–95%, no condensation					
Humidity	0–95%					
IP rating	IP20					
Standards	Electrical safety: IEC EN62040-1 EMC: IEC EN620-40-2					
Dimensions (mm) W x D x H	450 x 840 x 967	450 x 840 x 1400			600 x 900 x 1600	
Weight (kg)	120	210	210	242	270	300

See page 5 for full product overview.

# Kohler EW 6000 (300-1200kW)

Model	300	400	500	600	800	1000	1200
Input							
Voltage (Vac)	380/400/415 (188-485 L-L)						
Frequency (Hz)	50 / 60 ±10% (±5% selectable)						
Bypass voltage (Vac)	380/400/415: -20% to +15%						
Power factor	≥0.99						
Phase	3φ4W+PE						
Output							
Capacity (kW)	300	400	500	600	800	1000	1200
Power factor	0.9-1.0 (1.0 when environmental temperature ≤35°C and input voltage >210V)						
Voltage (Vac)	380 / 400 / 415 ±1%						
Frequency (Hz)	50/60±0.5% (battery mode)						
Phase	3φ4W+PE						
Unbalanced load	100% possible						
Waveform	Pure sine wave, THD <1% at linear and <3% at non-linear load						
Transfer time (ms)	0ms for mains mode to battery mode. 1ms for inverting mode to bypass mode.						
Efficiency online	Up to 97%						
Efficiency eco mode	Eco Mode: Up to 99% Smart Eco Mode (harmonic compensation / power factor correction): >98% above 30% load						
Overload	105%–115% for 60 min, 116-125% for 10 min, 126 –150% for 1 min, above 150% for 1s						
Battery							
Battery voltage (Vdc)*	480 (12V battery from 32 to 44 cells selectable)				528 (12V from 32 to 48 cells selectable)		
Charging current (A)	25-100				25-200		
Other							
Communication interface	RS232, RS485, dry contact, MODBUS and optional SNMP						
Display	7" touch screen and LED						
Alarm	AC input abnormal, low battery, overload, failure						
Protection	Output short-curcuit, overload, over-temperature, battery low voltage, input over / low voltage						
Noise	<75dB						
Working temperature	-5°C to +40°C						
Relative humidity	0–95%, no condensation						
Altitude	≤1500m. If exceeding 1500m decrease rated power to use according to GB/T 3859.2						
IP rating	IP20						
Standards	Electrical safety: IEC EN62040-1 EMC: IEC EN620-40-2						
Dimensions (mm) W x D x H	1000 x 900 x 1950		1400 x 900 x 1950		1900 x 900 x 1950	3000 x 900 x 1950	
Weight (kg)	750		1120		1450	2400	

\*When battery below 38 blocks output power will derate by 300-600kVA, when below 40 blocks output power will derate by 800-1200kVA

See page 6 for full product overview.



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Regional Office:

**Kohler Uninterruptible Power**

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7 Jurong Pier Road  
Singapore 619159

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**Tel:** +65 6302 0702

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**Fax:** +65 6302 0717

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**Email:** [salesUPS.sg@kohler.com](mailto:salesUPS.sg@kohler.com)

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**[www.kohler-ups.sg](http://www.kohler-ups.sg)**

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