

ABB industrial drives for HVAC

ACS880 ultra-low harmonic drives, 60 to 3300Hp



ACS880-37 ultra-low harmonic drives offer an easy harmonic reduction method which is incorporated in the drive. No additional filters or special transformers are needed. This compact, cost-effective solution ensures smooth, energy-efficient operation of your HVAC systems in normal and mission-critical situations.

Keeps the network clean

Clean supply network

The drive produces exceptionally low harmonic content and exceeds the requirements of harmonic recommendations, such as IEEE 519 and G5/4. The total harmonic current distortion is typically <3% in nominal situation and undistorted network.

Scalable functionality

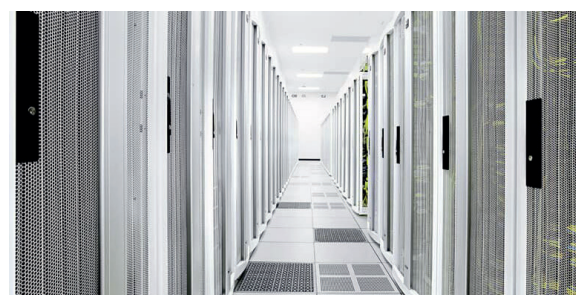
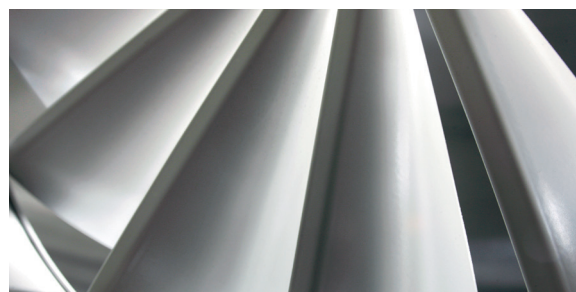
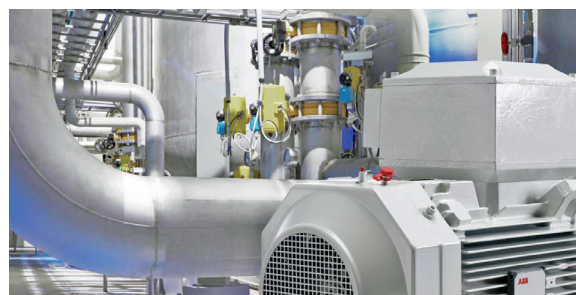
ACS880-37 drives offer a complete HVAC functionality for controlling fans, pumps and compressors as well as complex equipment like air-handling units and chillers. All this comes with a great scalability in terms of power range, ingress protection, construction and harmonics performance.

Reliability and quality

Product features, such as coated boards, earth fault protection, undervoltage or overcurrent control, ensure process reliability. Every drive is factory-tested, verifying its performance and all protective functions. The drive also offers immunity to network disturbances.

Maximized motor performance and efficiency

ABB's direct torque control (DTC) provides precise speed and torque control for maximum motor performance and efficiency. The drive's voltage boost capability also improves motor efficiency – with a higher voltage, the same power is achieved with less current.



Technical data

ACS880-37 cabinet-built ultra-low harmonic drives

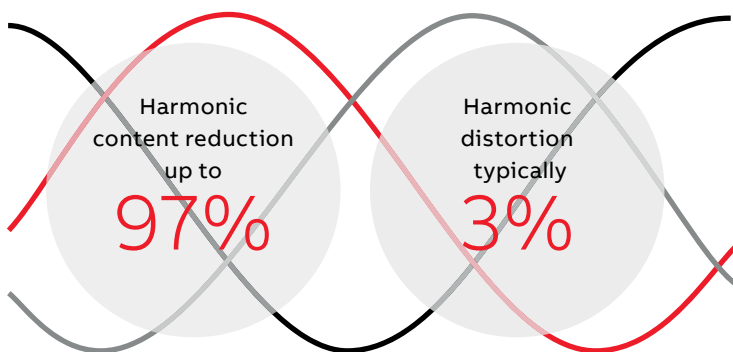
Power range	60 to 3300Hp (45 to 3200kW)
Voltage range	3-phase, 380 to 690 V
Enclosure	UL Type 1 (IP22); UL Type 1 filtered (IP42); UL Type 12 (IP54)
Frequency	50/60 Hz $\pm 5\%$
Power factor	$\cos\phi$ 1 (fundamental)
Ambient conditions	0 to 40°C (32 to 104°F). 0 to 50°C (32 to 122°F) with derating. No frost allowed
Efficiency	97%

Main optional in-built features

Cabling	Solutions for bottom and top entry and exit
TÜV certified functional safety	STO (as standard) Optional
Filters	SS1-t, SS1-r, SLS, SBC, SMS, SSE, POUS, SDI, SSM Du/dt, common mode and sine filters
EMC	According to EN 61800-3: 2004 + A1: 2012. Category C3 and C2 with internal option or as standard.
ATEX	ATEX-certified safe disconnection function and thermistor and PT100 protection functions, Ex II (2) GD

Connectivity

Bluetooth	Bluetooth panel
Communication protocols	EtherNet/IP, PROFINET, PROFIsafe, Modbus/TCP, DeviceNet™, PROFIBUS, CANopen®, Modbus, ControlNet, EtherCAT®, POWERLINK
Remote monitoring	Wired monitoring with NETA-21
PC tools	Drive Composer entry & pro Drive Application builder



Key features

All-in-one concept

ACS880 ultra-low harmonic (ULH) drives have a built-in active front end reducing THDi to a level below 3%, so there is no need for external filters, which increase installation complexity and space.

Saving capital and operating costs

ACS880 ULH greatly reduces the cost of a project eliminating the need for oversized transformers, generators, cables and other equipment. Power factor unity helps to avoid penalties for reactive power from utilities.

Easy commissioning

No need to set extra parameters for the active supply unit.

Low harmonic content

Total harmonic current distortion is typically <3% in nominal situation and undistorted network.

Unity power factor

Possibility also for network power factor correction.

Voltage boost

Assures full motor voltage in all conditions and can also be utilized to overcome a voltage drop caused by long supply or motor cables or output filters. Voltage boost capability may allow a smaller motor to be used.

Nine-year maintenance interval

Factory-tested solution for high reliability

All ACS880 drives are tested at maximum temperature with nominal loads.

For more information please contact your local ABB representative or visit:

www.abb.com/drives
www.abb.com/drivespartners

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