

# ABB industrial drives ACS800-38 low harmonic drives for outdoor use 110 to 630 kW/125 to 750 hp

Designed for harsh outdoor conditions, this rugged drive is easy to transport to sites where no fixed facilities are present. The drive eliminates harmonics and offers optional application control programs. Improving both production and reliability, the low harmonic drive is the solution for even the most remote locations including desert and offshore environments.



## For demanding outdoor use

Our ACS800-38 low harmonic industrial drives are built inside a robust double layer thermal cabinet designed to work in temperatures up to 55 °C (131 °F). With a high enclosure class and a cabinet construction that is lockable, the drive's low maintenance and durability help ensure a long and reliable operational life. ABB's self-contained cooling system, a closed air cooling method that does not circulate external air inside the drive, makes optimal cooling operation in the cabinet possible without any need for outside air. This eliminates the risk for corrosive gases or sand to enter the interior parts of the cabinet, reducing maintenance needs and unplanned downtime.

## Easy to transport and connect

The cabinet's compact size, welded base and roof clamps make transportation from one site to another easy. It can be lifted with a forklift or crane. Electrical connections to the supply and motor are designed to be simple, quick and durable.

## High power quality in weak networks

From oil and gas to mining the operation of applications such as conveyors and artificial lifting pumps is demanding, especially in harsh weather conditions where weak power networks are in use. Our ACS800-38 low harmonic drive produces a low level of harmonics and maintains unity power factor. It brings the application premium motor control

with direct torque control (DTC) and saves energy. Remote monitoring, along with a wide range of drive options, is available. Several low harmonic drives can be monitored and controlled through automation networks (SCADA, AC500 PLC, etc).



### Customizable control programs for:

- PCP and ESP pumps
- Rod pumps
- Pump control
- Master-follower application

### Self-contained cooling system

The power semiconductor in the drive is located in an internal and closed circuit which ensures optimal cooling operation. The external cooling circuit conducts temperature losses outside of the cabinet. The cabinet's cooling design reduces downtime, power consumption and maintenance costs. The self-contained cooling system does not require periodical changing of air filters.



ABB's self-contained cooling system

<b>Mains connection</b>	
<b>Voltage and power range</b>	110 to 630 kW/125 to 750 hp 3-phase, $U_{3IN} = 380$ to 415 V, $\pm 10\%$ 3-phase, $U_{5IN} = 380$ to 500 V, $\pm 10\%$ 3-phase, $U_{7IN} = 525$ to 690 V, $\pm 10\%$
<b>Frequency</b>	48 to 63 Hz
<b>Power factor</b>	cos 1 = 1 (fundamental) cos 1 = 0.99 (total)
<b>THDI (total harmonic distortion of current)</b>	< 5%
<b>Motor connection</b>	
<b>Frequency</b>	0 to $\pm 300$ Hz
<b>Field weakening point</b>	8 to 300 Hz
<b>Motor control</b>	ABB's direct torque control (DTC)
<b>Environmental limits</b>	
<b>Ambient temperature</b>	
Transport	-40 to +70 °C (-40 to +158 °F)
Storage	-40 to +70 °C (-40 to +158 °F)
Operation	-10 to +55 °C (+14 to +131 °F) outdoor use
<b>Cooling method</b>	Air-to-air heat exchanger
<b>Altitude</b>	
0 to 1000 m	Without derating
1000 to 4000 m	With derating ~ (1%/100 m)
<b>Degree of protection</b>	
As standard	IP55
As option	IP56 / NEMA 4 IP56 / NEMA 4X
<b>Contamination levels</b>	No conductive dust allowed
Storage	IEC 60721-3-1, Class 1C2 (chemical gases) Class 1S3 (solid particles)
Transportation	IEC 60721-3-2, Class 2C3 (chemical gases) Class 2S4 (solid particles)
Operation	IEC 60721-3-3, Class 3C3 (chemical gases) Class 3S4 (solid particles)

### Product compliance

CE, Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC, EMC Directive 2004/108/EC, Quality assurance system ISO 9001, Environmental system ISO 14001

C = chemically active substances  
S = mechanically active substances

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

[www.abb.com/drives](http://www.abb.com/drives)

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