

UL notice

Code / rev / date	3AFE68483794 / Rev A / 28.01.2005
Concerns	ACS800-04, -U4 and 04M drives delivered without manuals (due to customer requirement)
Date of use	January 28, 2005 and onwards
Contents	a summary of the mandatory UL related information of the drive hardware manuals
More infor.	Depending on the drive size, either of the manuals below contains more information: <ul style="list-style-type: none">• <i>ACS800-04 (0.55 to 132 kW) Hardware Manual (3AFE68372984)</i>• <i>ACS800-04/04M(45 to 560 kW) and ACS800-U4 (60 to 600 HP) Hardware Manual (3AFE64671006)</i>. The manuals are available on the Internet, http://www.abb.com .

Input power connection

Prospective short-circuit current (IEC 60439-1) is 65 kA (I_{cf}). The drive is suitable for use in a circuit capable of delivering not more than 65,000 symmetrical amperes (rms) at 600 V maximum when protected with the US fuses given in the *Hardware Manual*.

Disconnecting device (disconnecting means)

Install a hand-operated input disconnecting device (disconnecting means) between the AC power source and the drive. The disconnecting device must be of a type that can be locked to the open position for installation and maintenance work.

US: The disconnecting means must conform to the applicable safety regulations.

EU: To meet the European Union Directives, according to standard EN 60204-1, Safety of Machinery, the disconnecting device must be one of the following types:

- switch-disconnector of utilization category AC-23B (EN 60947-3)
- disconnector that has an auxiliary contact that in all cases causes switching devices to break the load circuit before the opening of the main contacts of the disconnector (EN 60947-3)
- circuit breaker suitable for isolation in accordance with EN 60947-2.

Overload protection

The drive provides overload protection in accordance with the National Electrical Code (US). See *ACS800 Firmware Manual* for setting. Default setting is off, must be activated at start-up.

Ambient conditions

The drive is to be used in a heated indoor controlled environment. See the *Hardware Manual* for the specifications.

Brake chopper

The drive has an optional or a standard built-in brake chopper that, when applied with appropriately sized brake resistors, will allow the drive to dissipate regenerative energy (normally associated with quickly decelerating a motor). Proper application of the brake chopper is defined in the *Hardware Manual* of the drive.

Input cable fuses

For installation in the United States, branch circuit protection must be provided in accordance with National Electric Code (NEC) and any applicable local codes. To fulfil this requirement, use the US fuses given in the *Hardware Manual*.

For installation in Canada, branch circuit protection must be provided in accordance with Canada Electric Code and any applicable provincial codes. To fulfil this requirement, use the UL classified fuses given in the *Hardware Manual*.

Power cable selection

The cable sizing should be based on NEC Table 310-16 for copper wires, 75 °C (167 °F) wire insulation at 40 °C (104 °F) ambient temperature. Not more than three current-carrying conductors in raceway or cable or earth (directly buried). For other conditions, dimension the cables according to local safety regulations, appropriate input voltage and the load current of the drive. For cable sizes vs. load current see the *Hardware Manual*.

Power cable connections

Connection diagram: See the *Hardware Manual*. Terminal sizes and tightening torques for mains, motor and brake resistor cable terminal sizes (per phase) are given in the tables below.

Frame size	U1, V1, W1, U2, V2, W2, R+, R-		PE Earth/Ground	
	Max. wire size [AWG]	Tightening torque [lbf ft]	Max. wire size [AWG]	Tightening torque [lbf ft]
R2	up to 6 *	0.9...1.1	up to 8	1.1
R3	up to 6 *	0.9...1.1	up to 8	1.1
R4	up to 4	1.5...3.0	up to 5	2.2
R5	4...2/0 (230/460 V units) 10...2 (575 V units)	11.1	4...2/0 (230/460 V units) 10...2 (575 V units)	11.1
R6	3/0...350 MCM **	14.8...29.5	4/0	5.9

* 6 AWG rigid solid cable, 8 AWG flexible stranded cable

** with cable lugs 6...2/0 AWG, tightening torque 14.8...29.5 lbf ft

Frame size	U1, V1, W1, U2, V2, W2, UDC+/R+, UDC-, R-			PE Earth/Ground	
	Max. cable [kcmil/AWG]	Screw	Tightening torque [lbf ft]	Screw	Tightening torque [lbf ft]
R7	2×250 MCM	1/2	37...55	3/8	22...32
R8	3×700 MCM	1/2	37...55	3/8	22...32

Two-hole 1/2 inch diameter cable lugs can be used.

Control connections

Connection diagram: See the *Hardware Manual*. Tightening torque: 0.2 to 0.4 Nm (0.2 to 0.3 lbf ft). Terminal sizes: 0.3 to 3.3 mm² (22 to 12 AWG).

UL standard

The drive complies with UL 508C UL Standard for Safety, Power Conversion Equipment, second edition.