

# Wall-mounted drive

## ACS800-U1, 1 to 200 Hp



### Compact and complete drive

The ACS800-U1 offers all that you need in a single, extremely small, wall-mounted package making it a compact and complete drive. The standard degree of protection is UL Type 1. Optional UL Type 12 allows full performance without derating. Power ratings start from 1 Hp heavy-duty rating and go up to 200 Hp continuous load rating. There are five different mechanical frame sizes covering the power range. Each frame size is optimized for performance, size and weight.

### Everything inside

From the smallest to the largest ACS800-U1 there is an extensive range of built in features and options. Standard features include an AC Line Choke for harmonic filtering and drive protection, extensive and flexible I/O, user-friendly control panel with Start-up Assistant feature and a silent, long lifetime cooling fan. Brake chopper is included as standard in the two smallest frame sizes R2 and R3 as well as in the 690V R4 frame. In other frames the chopper is a built in option. Other built in options include EMC filters and extension modules for additional I/O, fieldbus and pulse encoder interface modules.

### Main standard hardware features

- Wall mounting
- UL Type 1 protection class
- Compact design
- Harmonic filtering AC choke inside
- Input rectifier protection
- Brake chopper (in frame sizes R2-R3; R4 only 690 V)
- Long lifetime cooling fan and capacitors
- Extensive, programmable I/O with galvanically isolated inputs
- Three I/O and fieldbus extension slots inside
- Alphanumeric, multilingual control panel with start-up assistant feature
- Large power terminals allowing use of a wide range of cable sizes

### Options for ACS800-U1

#### Built in options:

- UL Type 12 protection class
- Brake chopper (in frame sizes R4-R6)
- EMC filter for 1<sup>st</sup> environment, restricted distribution according to EN 61800-3
- EMC filter for 2<sup>nd</sup> environment, unrestricted distribution according to EN 61800-3
- Analog and digital I/O extension modules
- Fieldbus modules (Communication)
- Pulse encoder interface module
- Resolver interface (Limited SW Support)

#### External options:

- Brake resistor
- Output du/dt filters



NEMA 12 Enclosure

# Ratings and dimensions

## ACS800-U1

ACS800

-

U1

-

XXXX

-

2  
5  
7

+

XXXX

| Type code                                                                                                        | Frame size | Input<br>A | I <sub>max</sub><br>A | Normal Duty     |                   | Heavy-duty use   |                   | Noise Level<br>dBA | Air flow<br>ft³/min | Heat dissipation<br>BTU/hr |
|------------------------------------------------------------------------------------------------------------------|------------|------------|-----------------------|-----------------|-------------------|------------------|-------------------|--------------------|---------------------|----------------------------|
|                                                                                                                  |            |            |                       | I <sub>2N</sub> | P <sub>N</sub>    | I <sub>2HD</sub> | P <sub>HD</sub>   |                    |                     |                            |
|                                                                                                                  |            |            |                       | A               | Hp                | A                | Hp                |                    |                     |                            |
| 3-phase supply voltage 208, 220, 230, 240. The power ratings are valid at nominal voltage, 240Vac (50 & 60Hz)    |            |            |                       |                 |                   |                  |                   |                    |                     |                            |
| ACS800-U1-0002-2                                                                                                 | R2         | 5.2        | 8.2                   | 6.6             | 1.5               | 4.6              | 1                 | 62                 | 21                  | 350                        |
| ACS800-U1-0003-2                                                                                                 | R2         | 6.5        | 10.8                  | 8.1             | 2                 | 6.6              | 1.5               | 62                 | 21                  | 350                        |
| ACS800-U1-0004-2                                                                                                 | R2         | 9.2        | 13.8                  | 11              | 3                 | 7.5              | 2                 | 62                 | 21                  | 410                        |
| ACS800-U1-0006-2                                                                                                 | R3         | 18         | 24                    | 21              | 5                 | 13               | 3                 | 62                 | 41                  | 550                        |
| ACS800-U1-0009-2                                                                                                 | R3         | 24         | 32                    | 27              | 7.5               | 17               | 5                 | 62                 | 41                  | 680                        |
| ACS800-U1-0011-2                                                                                                 | R3         | 31         | 46                    | 34              | 10                | 25               | 7.5               | 62                 | 41                  | 850                        |
| ACS800-U1-0016-2                                                                                                 | R4         | 38         | 62                    | 42              | 15                | 31               | 10                | 62                 | 61                  | 1150                       |
| ACS800-U1-0020-2                                                                                                 | R4         | 49         | 72                    | 54              | 20 <sup>(1)</sup> | 42               | 15 <sup>(2)</sup> | 62                 | 61                  | 1490                       |
| ACS800-U1-0025-2                                                                                                 | R5         | 64         | 86                    | 69              | 25                | 54               | 20 <sup>(2)</sup> | 65                 | 99                  | 1790                       |
| ACS800-U1-0030-2                                                                                                 | R5         | 75         | 112                   | 80              | 30                | 68               | 25 <sup>(2)</sup> | 65                 | 99                  | 2090                       |
| ACS800-U1-0040-2                                                                                                 | R5         | 102        | 138                   | 104             | 40 <sup>(1)</sup> | 80               | 30 <sup>(2)</sup> | 65                 | 99                  | 2770                       |
| ACS800-U1-0050-2                                                                                                 | R6         | 126        | 164                   | 132             | 50                | 104              | 40                | 65                 | 238                 | 3370                       |
| ACS800-U1-0060-2                                                                                                 | R6         | 153        | 202                   | 157             | 60                | 130              | 50 <sup>(2)</sup> | 65                 | 238                 | 4050                       |
| ACS800-U1-0070-2                                                                                                 | R6         | 190        | 282                   | 192             | 75                | 154              | 60 <sup>(2)</sup> | 65                 | 238                 | 4910                       |
| 3-phase supply voltage 380, 400, 415, 460, 480, 500. The power ratings are valid at nominal voltage, 480Vac 60Hz |            |            |                       |                 |                   |                  |                   |                    |                     |                            |
| ACS800-U1-0004-5                                                                                                 | R2         | 4.1        | 6.5                   | 4.9             | 3                 | 3.4              | 2                 | 62                 | 21                  | 410                        |
| ACS800-U1-0005-5                                                                                                 | R2         | 5.4        | 8.2                   | 6.2             | 3                 | 4.2              | 2                 | 62                 | 21                  | 480                        |
| ACS800-U1-0006-5                                                                                                 | R2         | 6.9        | 10.8                  | 8.1             | 5                 | 5.6              | 3                 | 62                 | 21                  | 550                        |
| ACS800-U1-0009-5                                                                                                 | R2         | 9.8        | 13.8                  | 11              | 7.5               | 8.1              | 5                 | 62                 | 21                  | 690                        |
| ACS800-U1-0011-5                                                                                                 | R2         | 13         | 17.6                  | 14              | 10                | 11               | 7.5               | 62                 | 21                  | 860                        |
| ACS800-U1-0016-5                                                                                                 | R3         | 18         | 24                    | 21              | 15                | 15               | 10                | 62                 | 41                  | 1150                       |
| ACS800-U1-0020-5                                                                                                 | R3         | 24         | 32                    | 27              | 20                | 21               | 15                | 62                 | 41                  | 1490                       |
| ACS800-U1-0025-5                                                                                                 | R3         | 31         | 46                    | 34              | 25                | 27               | 20                | 62                 | 41                  | 1790                       |
| ACS800-U1-0030-5                                                                                                 | R4         | 40         | 62                    | 42              | 30                | 34               | 25                | 62                 | 61                  | 2090                       |
| ACS800-U1-0040-5                                                                                                 | R4         | 52         | 72                    | 52              | 40                | 37               | 30 <sup>(3)</sup> | 62                 | 61                  | 2770                       |
| ACS800-U1-0050-5                                                                                                 | R5         | 63         | 86                    | 65              | 50                | 52               | 40                | 65                 | 99                  | 3370                       |
| ACS800-U1-0060-5                                                                                                 | R5         | 77         | 112                   | 79              | 60                | 65               | 50                | 65                 | 99                  | 4050                       |
| ACS800-U1-0070-5                                                                                                 | R5         | 94         | 138                   | 96              | 75                | 77               | 60                | 65                 | 99                  | 4910                       |
| ACS800-U1-0100-5                                                                                                 | R6         | 121        | 164                   | 124             | 100               | 96               | 75                | 65                 | 238                 | 6610                       |
| ACS800-U1-0120-5                                                                                                 | R6         | 155        | 202                   | 157             | 125               | 124              | 100               | 65                 | 238                 | 7890                       |
| ACS800-U1-0140-5                                                                                                 | R6         | 179        | 282                   | 180             | 150               | 156              | 125               | 65                 | 238                 | 9600                       |
| ACS800-U1-0205-5                                                                                                 | R6         | 252        | 326                   | 254             | 200               | 215              | 150               | 65                 | 238                 | 13670                      |
| 3-phase supply voltage 525, 550, 575, 600, 690. The power ratings are valid at nominal voltage, 575Vac 60Hz      |            |            |                       |                 |                   |                  |                   |                    |                     |                            |
| ACS800-U1-0011-7                                                                                                 | R4         | 10         | 14                    | 11.5            | 10                | 8.5              | 5                 | 62                 | 61                  | 1050                       |
| ACS800-U1-0016-7                                                                                                 | R4         | 13         | 19                    | 15              | 10                | 11               | 10                | 62                 | 61                  | 1200                       |
| ACS800-U1-0020-7                                                                                                 | R4         | 19         | 28                    | 20              | 15                | 15               | 10                | 62                 | 61                  | 1550                       |
| ACS800-U1-0025-7                                                                                                 | R4         | 21         | 38                    | 23              | 20                | 19               | 15                | 62                 | 61                  | 1850                       |
| ACS800-U1-0030-7                                                                                                 | R4         | 29         | 44                    | 30              | 25                | 22               | 20                | 62                 | 61                  | 2100                       |
| ACS800-U1-0040-7                                                                                                 | R4         | 32         | 54                    | 34              | 30                | 27               | 25                | 62                 | 61                  | 2400                       |
| ACS800-U1-0050-7                                                                                                 | R5         | 45         | 68                    | 46              | 40                | 34               | 30                | 65                 | 99                  | 2900                       |
| ACS800-U1-0060-7                                                                                                 | R5         | 51         | 84                    | 52              | 50                | 42               | 40                | 65                 | 99                  | 3450                       |
| ACS800-U1-0070-7                                                                                                 | R6         | 70         | 104                   | 73              | 60                | 54               | 50                | 65                 | 238                 | 4200                       |
| ACS800-U1-0100-7                                                                                                 | R6         | 82         | 124                   | 86              | 75                | 62               | 60                | 65                 | 238                 | 5650                       |
| ACS800-U1-0120-7                                                                                                 | R6         | 103        | 172                   | 108             | 100               | 86               | 75                | 65                 | 238                 | 6700                       |
| ACS800-U1-0145-7                                                                                                 | R6         | 121        | 245                   | 125             | 125               | 99               | 100               | 65                 | 238                 | 9084                       |
| ACS800-U1-0175-7                                                                                                 | R6         | 150        | 245                   | 155             | 150               | 131              | 125               | 65                 | 238                 | 11851                      |
| ACS800-U1-0205-7                                                                                                 | R6         | 192        | 245                   | 192             | 200               | 147              | 150               | 65                 | 238                 | 14275                      |

### NOTES:

- <sup>(1)</sup> Overload may be limited to 5% at higher motor speeds (speed >90% motor base speed) by the internal power limit of the drive  
<sup>(2)</sup> Overload may be limited to 40% at higher motor speeds (speed >90% motor base speed) by the internal power limit of the drive  
<sup>(3)</sup> Rating not applicable for all motors. Available for some 4-pole 460V high efficiency NEMA motors.

I<sub>max</sub> current available for 10 seconds at start.  
I<sub>2N</sub> continuous base current at 40°C (104°F). Overload cycle 110%  
I<sub>2N</sub> for 1 minute / 5 minutes allowed.  
I<sub>2nd</sub> continuous base current at 40°C (104°F). Overload cycle 150%  
I<sub>2nd</sub> for 1 minute / 5 minutes allowed.

- Current ratings do not change with different supply voltages.
- Horsepower ratings are based on NEMA motor ratings for typical 4-pole motors (1800 rpm). Check motor nameplate current for compatibility.
- All ACS800-U1 models come with a US conduit box (conduit plate in NEMA 12) as standard.

### Enclosure

Degree of Protection:  
UL Type 1 (Standard)  
UL Type 12 (Optional)  
Paint color:  
NCS 1502-Y (RAL 90021/PMS 420C)

| Frame size | UL Type 1 |         |         |            |              | UL Type 12 |         |            |              |
|------------|-----------|---------|---------|------------|--------------|------------|---------|------------|--------------|
|            | H1 (in)   | H2 (in) | W1 (in) | Depth (in) | Weight (lbs) | H1 (in)    | W1 (in) | Depth (in) | Weight (lbs) |
| R2         | 15.9      | 14.6    | 6.5     | 8.9        | 20           | 20.8       | 10.4    | 9.5        | 34           |
| R3         | 18.5      | 16.5    | 6.8     | 10.4       | 31           | 20.8       | 10.4    | 10.7       | 41           |
| R4         | 23.9      | 19.3    | 9.4     | 10.8       | 57           | 30.5       | 14.8    | 10.9       | 73           |
| R5         | 29.1      | 23.7    | 10.4    | 11.3       | 75           | 30.5       | 14.8    | 12.1       | 112          |
| R6         | 34.6      | 27.6    | 11.8    | 15.7       | 148          | 36.3       | 16.5    | 16.5       | 170          |

H1 = Height with cable connection box  
W1 = Width of the standard unit

H2=Height without cable connection box