

# ABB industrial drive, modules

## ACS800 multidrive inverter

from 1.5 to 55 kW, from 380 to 690 V.



### Special design for system integrators

- Savings in engineering; all-in-one principle.
- Savings in cabinet assembly; compact size.
- Trouble free commissioning; Common control through whole ACS800 series.

### Product description

ABB's high technology ACS800 product series includes DC-supplied inverter modules. This product is an extremely compact, cost efficiency and easy to install offering an excellent alternative for system integrators. All ACS800 product family features are available and the compatibility with ACS600 MultiDrive offers continuity in ABB's product offering.

### Highlights

- The "everything inside" principle includes an extensive selection of options inside the module.
- Compact design.
- DC-supplied inverter unit.

### MultiDrive features available:

- Single power entry for several drives.
- Common braking resources for several drives.
- Regenerative braking possibility.
- Motor to motor braking possibility.

### All ACS800 basic control features available

- Direct Torque Control (DTC)
  - fast and protective.
  - immediate response to load changes.
  - low audible noise.
  - high motor loadability.
  - continuous operation after pulse encoder failure.
  - flying restart of motors at network disturbances.
- Start-Up Assistant.
- Adaptive programming.
- Panels as door mounting kit.
- Application macros.
- Communication modules with major fieldbuses.

## Technical data

| Module type                                | Nominal ratings        |                  | No-overload use        | Light-overload use |                | Heavy-duty use  |                 |            | Noise level<br>dB(A) | Cooling air flow requirements |                  |
|--|------------------------|------------------|------------------------|--------------------|----------------|-----------------|-----------------|------------|----------------------|-------------------------------|------------------|
|  | I <sub>cont. max</sub> | I <sub>max</sub> | P <sub>cont. max</sub> | I <sub>N</sub>     | P <sub>N</sub> | I <sub>hd</sub> | P <sub>hd</sub> | Frame size |                      | Heat dissipation<br>W         | Air flow<br>m³/h |
|  | A                      | A                | kW                     | A                  | kW             | A               | kW              |            |                      |                               |                  |
| U <sub>N</sub> = 400 V (Range 380 - 415 V) |                        |                  |                        |                    |                |                 |                 |            |                      |                               |                  |
| ACS800-104-0003-3                          | 5.1                    | 6.5              | 1.5                    | 4.7                | 1.5            | 3.4             | 1.1             | R2i        | 62                   | 80                            | 35               |
| ACS800-104-0004-3                          | 6.5                    | 8.2              | 2.2                    | 5.9                | 2.2            | 4.3             | 1.5             | R2i        | 62                   | 100                           | 35               |
| ACS800-104-0005-3                          | 8.5                    | 10.8             | 3                      | 7.7                | 3.0            | 5.7             | 2.2             | R2i        | 62                   | 110                           | 35               |
| ACS800-104-0006-3                          | 10.9                   | 13.8             | 4                      | 10.2               | 4.0            | 7.5             | 3.0             | R2i        | 62                   | 130                           | 35               |
| ACS800-104-0009-3                          | 13.9                   | 17.6             | 5.5                    | 12.7               | 5.5            | 9.3             | 4.0             | R2i        | 62                   | 160                           | 35               |
| ACS800-104-0011-3                          | 19                     | 24               | 7.5                    | 18                 | 7.5            | 14              | 5.5             | R3i        | 62                   | 200                           | 69               |
| ACS800-104-0016-3                          | 25                     | 32               | 11                     | 24                 | 11             | 19              | 7.5             | R3i        | 62                   | 270                           | 69               |
| ACS800-104-0020-3                          | 34                     | 46               | 15                     | 31                 | 15             | 23              | 11              | R3i        | 62                   | 350                           | 69               |
| ACS800-104-0025-3                          | 44                     | 62               | 22                     | 41                 | 18.5           | 32              | 15              | R4i        | 62                   | 420                           | 103              |
| ACS800-104-0030-3                          | 55                     | 72               | 30                     | 50                 | 22             | 37              | 18.5            | R4i        | 62                   | 490                           | 103              |
| ACS800-104-0040-3                          | 72                     | 86               | 37                     | 69                 | 30             | 49              | 22              | R5i        | 65                   | 650                           | 168              |
| ACS800-104-0050-3                          | 86                     | 112              | 45                     | 80                 | 37             | 60              | 30              | R5i        | 65                   | 790                           | 168              |
| ACS800-104-0060-3                          | 103                    | 138              | 55                     | 94                 | 45             | 69              | 37              | R5i        | 65                   | 950                           | 168              |
| U <sub>N</sub> = 500 V (Range 380 - 500 V) |                        |                  |                        |                    |                |                 |                 |            |                      |                               |                  |
| ACS800-104-0004-5                          | 4.9                    | 6.5              | 2.2                    | 4.5                | 2.2            | 3.4             | 1.5             | R2i        | 62                   | 100                           | 35               |
| ACS800-104-0005-5                          | 6.2                    | 8.2              | 3                      | 5.6                | 3.0            | 4.2             | 2.2             | R2i        | 62                   | 110                           | 35               |
| ACS800-104-0006-5                          | 8.1                    | 10.8             | 4                      | 7.7                | 4.0            | 5.6             | 3.0             | R2i        | 62                   | 130                           | 35               |
| ACS800-104-0009-5                          | 10.5                   | 13.8             | 5.5                    | 10.0               | 5.5            | 7.5             | 4.0             | R2i        | 62                   | 160                           | 35               |
| ACS800-104-0011-5                          | 13.2                   | 17.6             | 7.5                    | 12.0               | 7.5            | 9.2             | 5.5             | R2i        | 62                   | 200                           | 35               |
| ACS800-104-0016-5                          | 19                     | 24               | 11                     | 18                 | 11             | 13              | 7.5             | R3i        | 62                   | 270                           | 69               |
| ACS800-104-0020-5                          | 25                     | 32               | 15                     | 23                 | 15             | 18              | 11              | R3i        | 62                   | 350                           | 69               |
| ACS800-104-0025-5                          | 34                     | 46               | 18.5                   | 31                 | 18.5           | 23              | 15              | R3i        | 62                   | 420                           | 69               |
| ACS800-104-0030-5                          | 42                     | 62               | 22                     | 39                 | 22             | 32              | 18.5            | R4i        | 62                   | 490                           | 103              |
| ACS800-104-0040-5                          | 48                     | 72               | 30                     | 44                 | 30             | 36              | 22              | R4i        | 62                   | 650                           | 103              |
| ACS800-104-0050-5                          | 65                     | 86               | 37                     | 61                 | 37             | 50              | 30              | R5i        | 65                   | 790                           | 168              |
| ACS800-104-0060-5                          | 79                     | 112              | 45                     | 75                 | 45             | 60              | 37              | R5i        | 65                   | 950                           | 168              |
| ACS800-104-0070-5                          | 96                     | 138              | 55                     | 88                 | 55             | 69              | 45              | R5i        | 65                   | 1150                          | 168              |
| U <sub>N</sub> = 690 V (Range 525 - 690 V) |                        |                  |                        |                    |                |                 |                 |            |                      |                               |                  |
| ACS800-104-0011-7                          | 13                     | 14               | 11                     | 11.5               | 7.5            | 8.5             | 5.5             | R4i        | 62                   | 300                           | 103              |
| ACS800-104-0016-7                          | 17                     | 19               | 15                     | 15.0               | 11.0           | 11.0            | 7.5             | R4i        | 62                   | 340                           | 103              |
| ACS800-104-0020-7                          | 22                     | 28               | 18.5                   | 20.0               | 15.0           | 15.0            | 11.0            | R4i        | 62                   | 440                           | 103              |
| ACS800-104-0025-7                          | 25                     | 38               | 22                     | 23.0               | 18.5           | 19.0            | 15.0            | R4i        | 62                   | 530                           | 103              |
| ACS800-104-0030-7                          | 33                     | 44               | 30                     | 30.0               | 22.0           | 22.0            | 18.5            | R4i        | 62                   | 610                           | 103              |
| ACS800-104-0040-7                          | 36                     | 54               | 30                     | 34.0               | 30.0           | 27.0            | 22.0            | R4i        | 62                   | 690                           | 103              |
| ACS800-104-0050-7                          | 51                     | 68               | 45                     | 46                 | 37             | 34              | 30.0            | R5i        | 65                   | 840                           | 168              |
| ACS800-104-0060-7                          | 57                     | 84               | 55                     | 52                 | 45             | 42              | 37              | R5i        | 65                   | 1010                          | 168              |

### Dimensions:

| Frame Size | Height mm | Width mm | Depth mm          | Weight kg |
|------------|-----------|----------|-------------------|-----------|
| R2i        | 401       | 165      | 193 <sup>1)</sup> | 9         |
| R3i        | 466       | 173      | 232 <sup>1)</sup> | 12        |
| R4i        | 525       | 240      | 252 <sup>1)</sup> | 15        |
| R5i        | 673       | 265      | 276 <sup>1)</sup> | 23        |

<sup>1)</sup> The depth without panels and control options.

### Nominal Ratings:

$I_{cont. max}$ : rated current available continuously without overloadability at 40°C.

$I_{max}$ : maximum output current. Available for 10 s at start, otherwise as long as allowed by drive temperature. Note: max. motor shaft power is 150%  $P_{hd}$ .

### Typical Ratings:

#### No-overload use

$P_{cont. max}$ : typical motor power in no-overload use.

#### Light-overload use

$I_N$ : continuous current allowing 110%  $I_N$  for 1min/ 5 min at 40°C.

$P_N$ : typical motor power in light-overload use.

### Heavy-duty use

$I_{hd}$ : continuous current allowing 150%  $I_{hd}$  for 1min/ 5 min at 40°C.

$P_{hd}$ : typical motor power in heavy-duty use.

The current ratings are the same regardless of the supply voltage within one voltage range.

The ratings apply in 40°C ambient temperature. In lower temperatures the ratings are higher (except  $I_{max}$ ).

The rated current of the ACS800 must be higher than or equal to the rated motor current to achieve the rated motor power given in the table.



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