

# Variable speed drives

Altivar HVAC ATH200

Motor starters (circuit breaker + drive)

Supply voltage 200...240 V

## Applications

Two types of combination are possible:

- Circuit breaker + variable speed drive: minimum combination.
- Circuit breaker + contactor + variable speed drive combination. The circuit breaker provides protection against accidental short circuits, disconnection, and isolation.

A contactor can be used downstream of the drive to help ensure the motor is isolated on stopping. In this case, the contactor size should be category AC-3 depending on the associated motor.

Altivar HVAC ATH200 drives include electronic monitoring functions designed to help detect phase-to-phase and phase-to-ground short-circuit conditions. This provides continuity of service and thermal monitoring of the motor.



GV3L80



ATH230D15M3

## Motor starters: Circuit breaker + Drive

| Standard power ratings of three-phase 4-pole 50/60 Hz motors (1) |      | Variable speed drive        | Circuit breaker (2)        |
|------------------------------------------------------------------|------|-----------------------------|----------------------------|
|                                                                  |      | Reference                   | Reference                  |
| kW                                                               | HP   |                             |                            |
| Single-phase supply voltage: 200...240 V 50/60 Hz                |      |                             |                            |
| 0.37                                                             | 0.5  | <a href="#">ATH230U04M2</a> | <a href="#">GV2L10</a> (3) |
| 0.55                                                             | 0.75 | <a href="#">ATH230U06M2</a> | <a href="#">GV2L14</a> (3) |
| 0.75                                                             | 1    | <a href="#">ATH230U07M2</a> | <a href="#">GV2L16</a> (3) |
| 1.1                                                              | 1.5  | <a href="#">ATH230U11M2</a> | <a href="#">GV2L16</a> (3) |
| 1.5                                                              | 2    | <a href="#">ATH230U15M2</a> | <a href="#">GV2L20</a> (3) |
| 2.2                                                              | 3    | <a href="#">ATH230U22M2</a> | <a href="#">GV2L22</a> (3) |
| Three-phase supply voltage: 200...240 V 50/60 Hz                 |      |                             |                            |
| 0.37                                                             | 0.5  | <a href="#">ATH230U04M3</a> | <a href="#">GV2L08</a> (3) |
| 0.55                                                             | 0.75 | <a href="#">ATH230U06M3</a> | <a href="#">GV2L10</a> (3) |
| 0.75                                                             | 1    | <a href="#">ATH230U07M3</a> | <a href="#">GV2L14</a> (3) |
| 1.1                                                              | 1.5  | <a href="#">ATH230U11M3</a> | <a href="#">GV2L14</a> (3) |
| 1.5                                                              | 2    | <a href="#">ATH230U15M3</a> | <a href="#">GV2L16</a> (3) |
| 2.2                                                              | 3    | <a href="#">ATH230U22M3</a> | <a href="#">GV2L20</a> (3) |
| 3                                                                | 4    | <a href="#">ATH230U30M3</a> | <a href="#">GV2L22</a> (3) |
| 4                                                                | 5    | <a href="#">ATH230U40M3</a> | <a href="#">GV2L22</a> (3) |
| 5.5                                                              | 7.5  | <a href="#">ATH230U55M3</a> | <a href="#">GV3L40</a> (3) |
| 7.5                                                              | 10   | <a href="#">ATH230U75M3</a> | <a href="#">GV3L50</a> (3) |
| 11                                                               | 15   | <a href="#">ATH230D11M3</a> | <a href="#">GV3L65</a> (3) |
| 15                                                               | 20   | <a href="#">ATH230D15M3</a> | <a href="#">GV3L80</a>     |

(1) The HP values given are NEC-compliant (National Electrical Code).

(2) GV2L, GV3L: TeSys magnetic motor circuit breakers; for accessories see [TeSys catalog](#).

(3) GV●L●● circuit breaker references are not UL compliant. To achieve UL Type E compliance, a GV●P●● thermal magnetic circuit breaker must be used.

# Variable speed drives

Altivar HVAC ATH200

Motor starters (circuit breaker + drive)

Supply voltage 380...600 V



GV3P13



ATH230U15S6

| Motor starters: Circuit breaker + Drive                          |      |                      |                     |
|------------------------------------------------------------------|------|----------------------|---------------------|
| Standard power ratings of three-phase 4-pole 50/60 Hz motors (1) |      | Variable speed drive | Circuit breaker (2) |
|                                                                  |      | Reference            | Reference           |
| kW                                                               | HP   |                      |                     |
| Three-phase supply voltage: 380...500 V 50/60 Hz                 |      |                      |                     |
| 0.55                                                             | 0.75 | ATH230U06N4          | GV2L08 (3) (4)      |
| 0.75                                                             | 1    | ATH230U07N4          | GV2L08 (3) (4)      |
| 1.1                                                              | 1.5  | ATH230U11N4          | GV2L10 (3) (4)      |
| 1.5                                                              | 2    | ATH230U15N4          | GV2L14 (3) (4)      |
| 2.2                                                              | 3    | ATH230U22N4          | GV2L14 (3) (4)      |
| 3                                                                | 4    | ATH230U30N4          | GV2L16 (3) (4)      |
| 4                                                                | 5    | ATH230U40N4          | GV2L16 (3) (4)      |
| 5.5                                                              | 7.5  | ATH230U55N4          | GV2L22 (3)          |
| 7.5                                                              | 10   | ATH230U75N4          | GV2L32 (3)          |
| 11                                                               | 15   | ATH230D11N4          | GV3L40 (3)          |
| 15                                                               | 20   | ATH230D15N4          | GV3L50 (3)          |
| 18.5                                                             | 25   | ATH230D18N4          | GV3L65 (3)          |
| 22                                                               | 30   | ATH230D22N4          | GV3L65 (3)          |
| Three-phase supply voltage: 525...600 V 50/60 Hz                 |      |                      |                     |
| 1.5                                                              | 2    | ATH230U15S6          | GV3P13              |
| 2.2                                                              | 3    | ATH230U22S6          | GV3P13              |
| 4                                                                | 5    | ATH230U40S6          | GV3P13              |
| 5.5                                                              | 7.5  | ATH230U55S6          | GV3P13              |
| 7.5                                                              | 10   | ATH230U75S6          | GV3P18              |
| 11                                                               | 15   | ATH230D11S6          | GV3P25              |
| 15                                                               | 20   | ATH230D15S6          | GV3P32              |

(1) The HP values given are NEC-compliant (National Electrical Code).

(2) GV2L, GV3L: TeSys magnetic motor circuit breakers; for accessories see [TeSys catalog](#).

(3) GV●L●● circuit breaker references are not UL compliant. To achieve UL Type E compliance, a GV●P●● thermal magnetic circuit breaker must be used.

(4) A GV2P TeSys thermal magnetic circuit breaker with the same rating can also be used with ATH230U06N4...U40N4 drives. The thermal release should then be set to maximum to inhibit this function.

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Motor starters (circuit breaker + contactor + drive)

Supply voltage 200...240 V



GV2L14  
+  
LC1D09  
+  
ATH230U07M3

## Motor starters: Circuit breaker + Contactor + Drive

| Standard power rating of 50/60 Hz 4-pole motors (1) |      | Variable speed drive Reference | Circuit breaker (2) |        |      | Contactor (3) Reference (4) |
|-----------------------------------------------------|------|--------------------------------|---------------------|--------|------|-----------------------------|
|                                                     |      |                                | Reference           | Rating | LRM  |                             |
| kW                                                  | HP   |                                |                     | A      | A    |                             |
| Single-phase supply voltage: 200...240 V 50/60 Hz   |      |                                |                     |        |      |                             |
| 0.37                                                | 0.5  | ATH230U04M2                    | GV2L10 (5)          | 6.3    | 78   | LC1D09●●                    |
| 0.55                                                | 0.75 | ATH230U06M2                    | GV2L14 (5)          | 10     | 138  | LC1D09●●                    |
| 0.75                                                | 1    | ATH230U07M2                    | GV2L16 (5)          | 14     | 170  | LC1D09●●                    |
| 1.1                                                 | 1.5  | ATH230U11M2                    | GV2L16 (5)          | 14     | 170  | LC1D09●●                    |
| 1.5                                                 | 2    | ATH230U15M2                    | GV2L20 (5)          | 18     | 223  | LC1D09●●                    |
| 2.2                                                 | 3    | ATH230U22M2                    | GV2L22 (5)          | 25     | 327  | LC1D09●●                    |
| Three-phase supply voltage: 200...240 V 50/60 Hz    |      |                                |                     |        |      |                             |
| 0.37                                                | 0.5  | ATH230U04M3                    | GV2L08 (5)          | 4      | 51   | LC1D09●●                    |
| 0.55                                                | 0.75 | ATH230U06M3                    | GV2L10 (5)          | 6.3    | 78   | LC1D09●●                    |
| 0.75                                                | 1    | ATH230U07M3                    | GV2L14 (5)          | 10     | 138  | LC1D09●●                    |
| 1.1                                                 | 1.5  | ATH230U11M3                    | GV2L14 (5)          | 10     | 138  | LC1D09●●                    |
| 1.5                                                 | 2    | ATH230U15M3                    | GV2L16 (5)          | 14     | 170  | LC1D09●●                    |
| 2.2                                                 | 3    | ATH230U22M3                    | GV2L20 (5)          | 18     | 223  | LC1D09●●                    |
| 3                                                   | 4    | ATH230U30M3                    | GV2L22 (5)          | 25     | 327  | LC1D09●●                    |
| 4                                                   | 5    | ATH230U40M3                    | GV2L22 (5)          | 25     | 327  | LC1D09●●                    |
| 5.5                                                 | 7.5  | ATH230U55M3                    | GV3L40 (5)          | 40     | 560  | LC1D25●●                    |
| 7.5                                                 | 10   | ATH230U75M3                    | GV3L50 (5)          | 50     | 700  | LC1D32●●                    |
| 11                                                  | 15   | ATH230D11M3                    | GV3L65 (5)          | 65     | 910  | LC1D50●●                    |
| 15                                                  | 20   | ATH230D15M3                    | GV3L80              | 80     | 1100 | LC1D65●●                    |

(1) The HP values given are NEC-compliant (National Electrical Code).

(2) GV2L, GV3L: TeSys magnetic motor circuit breakers; for accessories see [TeSys catalog](#).

(3) Composition of TeSys contactors LC1D09/D18/D25/D32/D50/D65: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact.

(4) Replace ●● with the control circuit voltage reference given in the table below:

| AC control circuit |          |    |    |     |     |         |
|--------------------|----------|----|----|-----|-----|---------|
|                    | Volts ~  | 24 | 48 | 115 | 230 | 230/240 |
| LC1D               | 50/60 Hz | B7 | E7 | FE7 | P7  | U7      |

For other voltages between 24 V and 660 V, or a DC control circuit, please refer to the [TeSys catalog](#).

(5) GV●L●● circuit breaker references are not UL compliant. To achieve UL Type E compliance, a GV●P●● thermal magnetic circuit breaker must be used.

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Supply voltage 380...600 V



GV2L14  
+  
LC1D09  
+  
ATH230U15N4

| Motor starters: Circuit breaker + Contactor + Drive |      |                                |                     |        |     |                             |
|-----------------------------------------------------|------|--------------------------------|---------------------|--------|-----|-----------------------------|
| Standard power rating of 50/60 Hz 4-pole motors (1) |      | Variable speed drive Reference | Circuit breaker (2) |        |     | Contactor (3) Reference (4) |
|                                                     |      |                                | Reference           | Rating | LRM |                             |
| kW                                                  | HP   |                                |                     | A      | A   |                             |
| Three-phase supply voltage: 380...500 V 50/60 Hz    |      |                                |                     |        |     |                             |
| 0.55                                                | 0.75 | ATH230U06N4                    | GV2L08 (5)          | 4      | 51  | LC1D09●●                    |
| 0.75                                                | 1    | ATH230U07N4                    | GV2L08 (5)          | 4      | 51  | LC1D09●●                    |
| 1.1                                                 | 1.5  | ATH230U11N4                    | GV2L10 (5)          | 6.3    | 78  | LC1D09●●                    |
| 1.5                                                 | 2    | ATH230U15N4                    | GV2L14 (5)          | 10     | 138 | LC1D09●●                    |
| 2.2                                                 | 3    | ATH230U22N4                    | GV2L14 (5)          | 10     | 138 | LC1D09●●                    |
| 3                                                   | 4    | ATH230U30N4                    | GV2L16 (5)          | 14     | 170 | LC1D09●●                    |
| 4                                                   | 5    | ATH230U40N4                    | GV2L16 (5)          | 14     | 170 | LC1D09●●                    |
| 5.5                                                 | 7.5  | ATH230U55N4                    | GV2L22 (5)          | 25     | 327 | LC1D09●●                    |
| 7.5                                                 | 10   | ATH230U75N4                    | GV2L32 (5)          | 32     | 416 | LC1D18●●                    |
| 11                                                  | 15   | ATH230D11N4                    | GV3L40 (5)          | 40     | 560 | LC1D25●●                    |
| 15                                                  | 20   | ATH230D15N4                    | GV3L50 (5)          | 50     | 700 | LC1D32●●                    |
| 18.5                                                | 25   | ATH230D18N4                    | GV3L65 (5)          | 65     | 910 | LC1D40A●●                   |
| 22                                                  | 30   | ATH230D22N4                    | GV3L65 (5)          | 65     | 910 | LC1D50A●●                   |
| Three-phase supply voltage: 525...600 V 50/60 Hz    |      |                                |                     |        |     |                             |
| 1.5                                                 | 2    | ATH230U15S6                    | GV3P13              | 13     | 182 | LC1D09●●                    |
| 2.2                                                 | 3    | ATH230U22S6                    | GV3P13              | 13     | 182 | LC1D09●●                    |
| 4                                                   | 5    | ATH230U40S6                    | GV3P13              | 13     | 182 | LC1D09●●                    |
| 5.5                                                 | 7.5  | ATH230U55S6                    | GV3P13              | 13     | 182 | LC1D09●●                    |
| 7.5                                                 | 10   | ATH230U75S6                    | GV3P18              | 18     | 252 | LC1D09●●                    |
| 11                                                  | 15   | ATH230D11S6                    | GV3P25              | 25     | 350 | LC1D18●●                    |
| 15                                                  | 20   | ATH230D15S6                    | GV3P32              | 32     | 448 | LC1D25●●                    |

(1) The HP values given are NEC-compliant (National Electrical Code).

(2) GV2L, GV3L: TeSys magnetic motor circuit breakers; for accessories see [TeSys catalog](#).

(3) Composition of TeSys contactors LC1D09/D18/D25/D32/D50/D65: 3 poles + 1 NO auxiliary contact + 1 NC auxiliary contact.

(4) Replace ●● with the control circuit voltage reference given in the table below:

| AC control circuit |          |    |    |     |     |         |
|--------------------|----------|----|----|-----|-----|---------|
|                    | Volts ~  | 24 | 48 | 115 | 230 | 230/240 |
| LC1D               | 50/60 Hz | B7 | E7 | FE7 | P7  | U7      |

For other voltages between 24 V and 660 V, or a DC control circuit, please refer to the [TeSys catalog](#).

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