

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed        | Shaft height | Rated power                                         | Rated torque                                        | Rated current                                       | Static torque                          | 1FW3 torque motors<br>Water cooling | Number of pole pairs | Rotor moment of inertia                                   | Weight approx. |
|--------------------|--------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------|----------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$ | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$ | Order No.                           |                      | $J$                                                       | $m$            |
| rpm                |              | kW<br>(HP)                                          | Nm<br>(lb <sub>f</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>f</sub> -ft)            |                                     |                      | kgm <sup>2</sup><br>(lb <sub>f</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |

### Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module

|     |     |             |             |     |             |                            |    |             |             |
|-----|-----|-------------|-------------|-----|-------------|----------------------------|----|-------------|-------------|
| 140 | 200 | 4.4 (5.90)  | 300 (221)   | 13  | 315 (232)   | 1FW3201-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.22 (1.95) | 127 (280)   |
|     |     | 7.3 (9.79)  | 500 (369)   | 21  | 525 (387)   | 1FW3202-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.36 (3.19) | 156 (344)   |
|     |     | 11.0 (14.8) | 750 (553)   | 30  | 790 (583)   | 1FW3203-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.49 (4.34) | 182 (401)   |
|     |     | 14.7 (19.7) | 1000 (738)  | 40  | 1050 (775)  | 1FW3204-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.70 (6.20) | 223 (492)   |
|     |     | 22.0 (29.5) | 1500 (1106) | 65  | 1575 (1162) | 1FW3206-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.97 (8.59) | 279 (615)   |
|     |     | 29.3 (39.3) | 2000 (1475) | 84  | 2100 (1549) | 1FW3208-1 ■ E ■ 2 - ■ AA 0 | 14 | 1.31 (11.6) | 348 (767)   |
|     | 280 | 36.6 (49.1) | 2500 (1844) | 108 | 2625 (1936) | 1FW3281-1 ■ E ■ 3 - ■ AA 0 | 17 | 4.10 (36.3) | 628 (1385)  |
|     |     | 51.3 (68.8) | 3500 (2582) | 150 | 3675 (2711) | 1FW3283-1 ■ E ■ 3 - ■ AA 0 | 17 | 5.10 (45.1) | 731 (1612)  |
|     |     | 73.3 (98.3) | 5000 (3688) | 207 | 5250 (3872) | 1FW3285-1 ■ E ■ 3 - ■ AA 0 | 17 | 6.60 (58.4) | 885 (1951)  |
|     |     | 102.6 (138) | 7000 (5163) | 292 | 7350 (5421) | 1FW3288-1 ■ E ■ 3 - ■ AA 0 | 17 | 8.60 (76.1) | 1087 (2397) |

|                                                                 |                                               |                 |   |   |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------|---|---|
| <b>Encoder systems for motors without DRIVE-CLiQ interface:</b> | Incremental encoder sin/cos 1 V <sub>pp</sub> | Belt-mounted    | A | 7 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Coaxial mounted | E | 6 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Belt-mounted    | E | 7 |
|                                                                 | Multi-pole resolver                           | Belt-mounted    | S | 7 |
|                                                                 | Absolute encod., single. EnDat 2048 S/R       | Coaxial mounted | N | 6 |
| <b>Encoder systems for motors with DRIVE-CLiQ interface:</b>    | 22 bit incremental encoder                    | Belt-mounted    | D | 7 |
|                                                                 | 22 bit absolute encoder, single-turn          | Coaxial mounted | F | 6 |
|                                                                 | +12 bit multi-turn                            |                 |   |   |
|                                                                 | 22 bit absolute encoder, single-turn          | Belt-mounted    | F | 7 |
|                                                                 | +12 bit multi-turn                            |                 |   |   |
|                                                                 | 15 bit resolver                               | Belt-mounted    | U | 7 |
|                                                                 | 22 bit absolute encoder, single-turn          | Coaxial mounted | P | 6 |
| <b>Type:</b>                                                    | IM B14 (for shaft height 150 and 200)         |                 |   | 2 |
|                                                                 | IM B35 (for shaft height 280)                 |                 |   | 3 |
| <b>Terminal box top:</b>                                        | Cable outlet transverse right                 |                 |   | 5 |
|                                                                 | Cable outlet transverse left                  |                 |   | 6 |
|                                                                 | Cable outlet NDE                              |                 |   | 7 |
|                                                                 | Cable outlet DE                               |                 |   | 8 |

Further rated speeds on request.

## Selection and ordering data

| Motor type<br>(continued)                                                          | Static<br>current                               | SINAMICS S120 Motor Module  |                             | Power cable with complete shield       |                                                                                                |                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------|-----------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------|
|                                                                                    | $I_0$<br>at<br>$\Delta T=100\text{ K}$<br><br>A | Rated<br>output<br>current  | Order No.                   | Motor connection via terminal box      |                                                                                                |                                              |
|                                                                                    |                                                 | $I_{\text{rated}}$<br><br>A |                             | Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br><br>mm <sup>2</sup> | Order No.<br>Power cable<br>By the meter     |
| Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module           |                                                 |                             |                             |                                        |                                                                                                |                                              |
| 1FW3201-1 . E . 2-....                                                             | 13                                              | 18                          | 6SL3 1 2 ■ - ■ T E 2 1-8AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3202-1 . E . 2-....                                                             | 22                                              | 30                          | 6SL3 1 2 ■ - 1 T E 2 3-0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 2.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB21-....<br>6FX ■ 008-1BB61-.... |
| 1FW3203-1 . E . 2-....                                                             | 32                                              | 30                          | 6SL3 1 2 ■ - 1 T E 2 3-0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB41-....<br>6FX 5 008-1BB61-.... |
| 1FW3204-1 . E . 2-....                                                             | 42                                              | 45                          | 6SL3 1 2 ■ - 1 T E 2 4-5AA3 | gk 230<br>1 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                           | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3206-1 . E . 2-....                                                             | 68                                              | 85                          | 6SL3 1 2 ■ - 1 T E 2 8-5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3208-1 . E . 2-....                                                             | 88                                              | 85                          | 6SL3 1 2 ■ - 1 T E 2 8-5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| 1FW3281-1 . E . 2-....                                                             | 113                                             | 132                         | 6SL3 1 2 ■ - 1 T E 3 1-3AA3 | 1XB7 700<br>3 x M75 x 1.5              | 4 x 50<br>3 x 4 x 120                                                                          | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB12-.... |
| 1FW3283-1 . E . 2-....                                                             | 158                                             | 200                         | 6SL3 1 2 ■ - 1 T E 3 2-0AA3 | 1XB7 700<br>3 x M75 x 1.5              | 4 x 70<br>3 x 4 x 120                                                                          | 6FX ■ 008-1BB70-....<br>6FX ■ 008-1BB12-.... |
| 1FW3285-1 . E . 2-....                                                             | 217                                             | 210                         | 6SL3 3 2 0 - 1 T E 3 2-1AA0 | 1XB7 700<br>3 x M75 x 1.5              | 4 x 120<br>3 x 4 x 120                                                                         | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3288-1 . E . 2-....                                                             | 306                                             | 310                         | 6SL3 3 2 0 - 1 T E 3 3-1AA0 | 1XB7 700<br>3 x M75 x 1.5              | 2 x 4 x 95<br>3 x 4 x 120                                                                      | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| Format:<br>Booksize<br>Chassis                                                     |                                                 |                             |                             | 1<br>3                                 |                                                                                                |                                              |
| Cooling:<br>Internal air cooling<br>External air cooling                           |                                                 |                             |                             | 0<br>1                                 |                                                                                                |                                              |
| Motor Module:<br>Single Motor Module<br>Double Motor Module                        |                                                 |                             |                             | 1<br>2                                 |                                                                                                |                                              |
| Type of power cable:<br>MOTION-CONNECT 800<br>MOTION-CONNECT 500                   |                                                 |                             |                             |                                        | 5<br>8                                                                                         |                                              |
| For length code for power and signal cables, see MOTION-CONNECT connection system. |                                                 |                             |                             |                                        |                                                                                                |                                              |

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed                                                              | Shaft height | Rated power                                                                                                                                                                                                 | Rated torque                                        | Rated current                                       | Static torque                                                                              | 1FW3 torque motors<br>Water cooling | Number of pole pairs          | Rotor moment of inertia                                   | Weight approx. |
|--------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$                                                       | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$                                                                                                                                                         | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$                                                     | Order No.                           |                               | $J$                                                       | $m$            |
| rpm                                                                      |              | kW<br>(HP)                                                                                                                                                                                                  | Nm<br>(lb <sub>f</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>f</sub> -ft)                                                                |                                     |                               | kgm <sup>2</sup><br>(lb <sub>f</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |
| Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module |              |                                                                                                                                                                                                             |                                                     |                                                     |                                                                                            |                                     |                               |                                                           |                |
| 220                                                                      | 280          | 55.3 (74.2)                                                                                                                                                                                                 | 2400 (1770)                                         | 153                                                 | 2652 (1956)                                                                                | 1FW3281-1 ■ G ■ 3 - ■ AA 0          | 17                            | 4.10 (36.3)                                               | 628 (1385)     |
|                                                                          |              | 78.3 (105)                                                                                                                                                                                                  | 3400 (2508)                                         | 222                                                 | 3675 (2711)                                                                                | 1FW3283-1 ■ G ■ 3 - ■ AA 0          | 17                            | 5.10 (45.1)                                               | 731 (1612)     |
|                                                                          |              | 92.1 (124)                                                                                                                                                                                                  | 4000 (2950)                                         | 255                                                 | 5250 (3872)                                                                                | 1FW3285-1 ■ G ■ 3 - ■ AA 0          | 17                            | 6.60 (58.4)                                               | 885 (1951)     |
|                                                                          |              | 112.8 (151)                                                                                                                                                                                                 | 4900 (3614)                                         | 318                                                 | 7350 (5421)                                                                                | 1FW3288-1 ■ G ■ 3 - ■ AA 0          | 17                            | 8.60 (76.1)                                               | 1087 (2397)    |
| 270                                                                      | 150          | 2.8 (3.75)                                                                                                                                                                                                  | 100 (73.8)                                          | 7.2                                                 | 105 (77.4)                                                                                 | 1FW3150-1 ■ H ■ 2 - ■ AA 0          | 7                             | 0.12 (1.06)                                               | 87 (192)       |
|                                                                          |              | 5.7 (7.64)                                                                                                                                                                                                  | 200 (148)                                           | 14                                                  | 210 (155)                                                                                  | 1FW3152-1 ■ H ■ 2 - ■ AA 0          | 7                             | 0.16 (1.42)                                               | 108 (238)      |
|                                                                          |              | 8.5 (11.4)                                                                                                                                                                                                  | 300 (221)                                           | 20.5                                                | 315 (232)                                                                                  | 1FW3154-1 ■ H ■ 2 - ■ AA 0          | 7                             | 0.20 (1.77)                                               | 129 (284)      |
|                                                                          |              | 11.3 (15.2)                                                                                                                                                                                                 | 400 (295)                                           | 28                                                  | 420 (310)                                                                                  | 1FW3155-1 ■ H ■ 2 - ■ AA 0          | 7                             | 0.24 (2.12)                                               | 150 (331)      |
|                                                                          |              | 14.1 (18.9)                                                                                                                                                                                                 | 500 (369)                                           | 34                                                  | 525 (387)                                                                                  | 1FW3156-1 ■ H ■ 2 - ■ AA 0          | 7                             | 0.28 (2.48)                                               | 171 (377)      |
|                                                                          | 200          | 8.5 (11.4)                                                                                                                                                                                                  | 300 (221)                                           | 23                                                  | 315 (232)                                                                                  | 1FW3201-1 ■ H ■ 2 - ■ AA 0          | 14                            | 0.22 (1.95)                                               | 127 (280)      |
|                                                                          |              | 14.1 (18.9)                                                                                                                                                                                                 | 500 (369)                                           | 37                                                  | 525 (387)                                                                                  | 1FW3202-1 ■ H ■ 2 - ■ AA 0          | 14                            | 0.36 (3.19)                                               | 156 (344)      |
|                                                                          |              | 21.2 (28.4)                                                                                                                                                                                                 | 750 (553)                                           | 59                                                  | 790 (583)                                                                                  | 1FW3203-1 ■ H ■ 2 - ■ AA 0          | 14                            | 0.49 (4.34)                                               | 182 (401)      |
|                                                                          |              | 28.3 (38.0)                                                                                                                                                                                                 | 1000 (738)                                          | 74                                                  | 1050 (775)                                                                                 | 1FW3204-1 ■ H ■ 2 - ■ AA 0          | 14                            | 0.70 (6.20)                                               | 223 (492)      |
|                                                                          |              | 42.4 (56.9)                                                                                                                                                                                                 | 1500 (1106)                                         | 118                                                 | 1575 (1162)                                                                                | 1FW3206-1 ■ H ■ 2 - ■ AA 0          | 14                            | 0.97 (8.59)                                               | 279 (615)      |
|                                                                          |              | 56.5 (75.8)                                                                                                                                                                                                 | 2000 (1475)                                         | 153                                                 | 2100 (1549)                                                                                | 1FW3208-1 ■ H ■ 2 - ■ AA 0          | 14                            | 1.31 (11.6)                                               | 348 (767)      |
|                                                                          |              |                                                                                                                                                                                                             |                                                     |                                                     |                                                                                            |                                     |                               |                                                           |                |
| Encoder systems for motors without DRIVE-CLiQ interface:                 |              | Incremental encoder sin/cos 1 V <sub>pp</sub><br>Absolute encod., multi. EnDat 2048 S/R<br>Absolute encod., multi. EnDat 2048 S/R<br>Multi-pole resolver<br>Absolute encod., single. EnDat 2048 S/R         |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br>Belt-mounted<br>Belt-mounted<br>Coaxial mounted         |                                     | A<br>E<br>E<br>S<br>N         | 7<br>6<br>7<br>7<br>6                                     |                |
| Encoder systems for motors with DRIVE-CLiQ interface:                    |              | 22 bit incremental encoder<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>15 bit resolver<br>22 bit absolute encoder, single-turn |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br><br>Belt-mounted<br><br>Belt-mounted<br>Coaxial mounted |                                     | D<br>F<br><br>F<br><br>U<br>P | 7<br>6<br><br>7<br><br>7<br>6                             |                |
| Type:                                                                    |              | IM B14 (for shaft height 150 and 200)<br>IM B35 (for shaft height 280)                                                                                                                                      |                                                     |                                                     |                                                                                            |                                     |                               | 2<br>3                                                    |                |
| Terminal box top:                                                        |              | Cable outlet transverse right<br>Cable outlet transverse left<br>Cable outlet NDE<br>Cable outlet DE                                                                                                        |                                                     |                                                     |                                                                                            |                                     |                               | 5<br>6<br>7<br>8                                          |                |

Further rated speeds on request.

## Selection and ordering data

| Motor type<br>(continued)                                                          | Static<br>current                               | SINAMICS S120 Motor Module  |                              | Power cable with complete shield       |                                                                                                |                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------|------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------|
|                                                                                    | $I_0$<br>at<br>$\Delta T=100\text{ K}$<br><br>A | Rated<br>output<br>current  | Order No.                    | Motor connection via terminal box      |                                                                                                |                                              |
|                                                                                    |                                                 | $I_{\text{rated}}$<br><br>A |                              | Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br><br>mm <sup>2</sup> | Order No.<br>Power cable<br>By the meter     |
| Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module           |                                                 |                             |                              |                                        |                                                                                                |                                              |
| 1FW3281-1 . G. 3-....                                                              | 167                                             | 200                         | 6SL3 1 2 ■ - 1 T E 3 2 -0AA3 | 1XB7700<br>3 x M75 x 1.5               | 4 x 95<br>3 x 4 x 120                                                                          | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| 1FW3283-1 . G. 3-....                                                              | 239                                             | 260                         | 6SL3 3 2 0 - 1 T E 3 2 -6AA0 | 1XB7700<br>3 x M75 x 1.5               | 4 x 120<br>3 x 4 x 120                                                                         | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3285-1 . G. 3-....                                                              | 332                                             | 310                         | 6SL3 3 2 0 - 1 T E 3 3 -1AA0 | 1XB7700<br>3 x M75 x 1.5               | 2 x 4 x 95<br>3 x 4 x 120                                                                      | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| 1FW3288-1 . G. 3-....                                                              | 474                                             | 490                         | 6SL3 3 2 0 - 1 T E 3 5 -0AA0 | 1XB7700<br>3 x M75 x 1.5               | 3 x 4 x 120<br>3 x 4 x 120                                                                     | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3150-1 . H. 2-....                                                              | 7.3                                             | 9                           | 6SL3 1 2 ■ - ■ T E 2 1 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3152-1 . H. 2-....                                                              | 15                                              | 18                          | 6SL3 1 2 ■ - ■ T E 2 1 -8AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3154-1 . H. 2-....                                                              | 21.5                                            | 30                          | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 4<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB31-....<br>6FX ■ 008-1BB61-.... |
| 1FW3155-1 . H. 2-....                                                              | 29                                              | 30                          | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3156-1 . H. 2-....                                                              | 35                                              | 45                          | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3201-1 . H. 2-....                                                              | 24                                              | 30                          | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 4<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB31-....<br>6FX ■ 008-1BB61-.... |
| 1FW3202-1 . H. 2-....                                                              | 39                                              | 45                          | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                           | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3203-1 . H. 2-....                                                              | 62                                              | 60                          | 6SL3 1 2 ■ - 1 T E 2 6 -0AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3204-1 . H. 2-....                                                              | 77                                              | 85                          | 6SL3 1 2 ■ - 1 T E 2 8 -5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| 1FW3206-1 . H. 2-....                                                              | 121                                             | 132                         | 6SL3 1 2 ■ - 1 T E 3 1 -3AA3 | gk 630<br>2 x M50 x 1.5                | 4 x 50<br>2 x 4 x 50                                                                           | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB50-.... |
| 1FW3208-1 . H. 2-....                                                              | 160                                             | 200                         | 6SL3 1 2 ■ - 1 T E 3 2 -0AA3 | gk 630<br>2 x M50 x 1.5                | 2 x 4 x 35<br>2 x 4 x 50                                                                       | 6FX ■ 008-1BB35-....<br>6FX ■ 008-1BB50-.... |
| Format:<br>Booksize<br>Chassis                                                     |                                                 |                             |                              | 1<br>3                                 |                                                                                                |                                              |
| Cooling:<br>Internal air cooling<br>External air cooling                           |                                                 |                             |                              | 0<br>1                                 |                                                                                                |                                              |
| Motor Module:<br>Single Motor Module<br>Double Motor Module                        |                                                 |                             |                              | 1<br>2                                 |                                                                                                |                                              |
| Type of power cable:<br>MOTION-CONNECT 800<br>MOTION-CONNECT 500                   |                                                 |                             |                              |                                        |                                                                                                | 5<br>8                                       |
| For length code for power and signal cables, see MOTION-CONNECT connection system. |                                                 |                             |                              |                                        |                                                                                                | ....                                         |

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed                                                              | Shaft height | Rated power                                                                                                                                                                                                 | Rated torque                                        | Rated current                                       | Static torque                                                                              | 1FW3 torque motors<br>Water cooling | Number of pole pairs  | Rotor moment of inertia                                   | Weight approx. |
|--------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------|-----------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$                                                       | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$                                                                                                                                                         | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$                                                     | Order No.                           |                       | $J$                                                       | $m$            |
| rpm                                                                      |              | kW<br>(HP)                                                                                                                                                                                                  | Nm<br>(lb <sub>r</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>r</sub> -ft)                                                                |                                     |                       | kgm <sup>2</sup><br>(lb <sub>r</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |
| Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module |              |                                                                                                                                                                                                             |                                                     |                                                     |                                                                                            |                                     |                       |                                                           |                |
| 450                                                                      | 150          | 4.7 (6.30)                                                                                                                                                                                                  | 100 (73.8)                                          | 11.0                                                | 105 (77.4)                                                                                 | 1FW3150-1 ■ L ■ 2 - ■ AA 0          | 7                     | 0.12 (1.06)                                               | 87 (192)       |
|                                                                          |              | 9.4 (12.6)                                                                                                                                                                                                  | 200 (148)                                           | 22.0                                                | 210 (155)                                                                                  | 1FW3152-1 ■ L ■ 2 - ■ AA 0          | 7                     | 0.16 (1.42)                                               | 108 (238)      |
|                                                                          |              | 14.1 (18.9)                                                                                                                                                                                                 | 300 (221)                                           | 32.0                                                | 315 (232)                                                                                  | 1FW3154-1 ■ L ■ 2 - ■ AA 0          | 7                     | 0.20 (1.77)                                               | 129 (284)      |
|                                                                          |              | 18.8 (25.2)                                                                                                                                                                                                 | 400 (295)                                           | 43.0                                                | 420 (310)                                                                                  | 1FW3155-1 ■ L ■ 2 - ■ AA 0          | 7                     | 0.24 (2.12)                                               | 150 (331)      |
|                                                                          |              | 23.6 (31.7)                                                                                                                                                                                                 | 500 (369)                                           | 53.0                                                | 525 (387)                                                                                  | 1FW3156-1 ■ L ■ 2 - ■ AA 0          | 7                     | 0.28 (2.48)                                               | 171 (377)      |
|                                                                          | 200          | 14.1 (18.9)                                                                                                                                                                                                 | 300 (221)                                           | 37.0                                                | 315 (232)                                                                                  | 1FW3201-1 ■ L ■ 2 - ■ AA 0          | 14                    | 0.22 (1.95)                                               | 127 (280)      |
|                                                                          |              | 23.6 (31.7)                                                                                                                                                                                                 | 500 (369)                                           | 59.0                                                | 525 (387)                                                                                  | 1FW3202-1 ■ L ■ 2 - ■ AA 0          | 14                    | 0.36 (3.19)                                               | 156 (344)      |
|                                                                          |              | 35.3 (47.3)                                                                                                                                                                                                 | 750 (553)                                           | 92.0                                                | 790 (583)                                                                                  | 1FW3203-1 ■ L ■ 2 - ■ AA 0          | 14                    | 0.49 (4.34)                                               | 182 (401)      |
|                                                                          |              | 47.1 (63.2)                                                                                                                                                                                                 | 1000 (738)                                          | 118.0                                               | 1050 (775)                                                                                 | 1FW3204-1 ■ L ■ 2 - ■ AA 0          | 14                    | 0.70 (6.20)                                               | 223 (492)      |
|                                                                          |              | 65.9 (88.4)                                                                                                                                                                                                 | 1400 (1033)                                         | 169.0                                               | 1575 (1162)                                                                                | 1FW3206-1 ■ L ■ 2 - ■ AA 0          | 14                    | 0.97 (8.59)                                               | 279 (615)      |
|                                                                          |              | 87.1 (117)                                                                                                                                                                                                  | 1850 (1365)                                         | 226.0                                               | 2100 (1549)                                                                                | 1FW3208-1 ■ L ■ 2 - ■ AA 0          | 14                    | 1.31 (11.6)                                               | 348 (767)      |
| 670                                                                      | 150          | 7.0 (9.39)                                                                                                                                                                                                  | 100 (73.8)                                          | 17.0                                                | 105 (77.4)                                                                                 | 1FW3150-1 ■ P ■ 2 - ■ AA 0          | 7                     | 0.12 (1.06)                                               | 87 (192)       |
|                                                                          |              | 14.0 (18.8)                                                                                                                                                                                                 | 200 (148)                                           | 32.5                                                | 210 (155)                                                                                  | 1FW3152-1 ■ P ■ 2 - ■ AA 0          | 7                     | 0.16 (1.42)                                               | 108 (238)      |
|                                                                          |              | 21.0 (28.2)                                                                                                                                                                                                 | 300 (221)                                           | 47.5                                                | 315 (232)                                                                                  | 1FW3154-1 ■ P ■ 2 - ■ AA 0          | 7                     | 0.20 (1.77)                                               | 129 (284)      |
|                                                                          |              | 28.1 (37.7)                                                                                                                                                                                                 | 400 (295)                                           | 64.0                                                | 420 (310)                                                                                  | 1FW3155-1 ■ P ■ 2 - ■ AA 0          | 7                     | 0.24 (2.12)                                               | 150 (331)      |
|                                                                          |              | 35.1 (47.1)                                                                                                                                                                                                 | 500 (369)                                           | 76.0                                                | 525 (387)                                                                                  | 1FW3156-1 ■ P ■ 2 - ■ AA 0          | 7                     | 0.28 (2.48)                                               | 171 (377)      |
| Encoder systems for motors without DRIVE-CLiQ interface:                 |              | Incremental encoder sin/cos 1 V <sub>pp</sub><br>Absolute encod., multi. EnDat 2048 S/R<br>Absolute encod., multi. EnDat 2048 S/R<br>Multi-pole resolver<br>Absolute encod., single. EnDat 2048 S/R         |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br>Belt-mounted<br>Belt-mounted<br>Coaxial mounted         | A<br>E<br>E<br>S<br>N               | 7<br>6<br>7<br>7<br>6 |                                                           |                |
| Encoder systems for motors with DRIVE-CLiQ interface:                    |              | 22 bit incremental encoder<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>15 bit resolver<br>22 bit absolute encoder, single-turn |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br><br>Belt-mounted<br><br>Belt-mounted<br>Coaxial mounted | D<br>F<br>F<br>U<br>P               | 7<br>6<br>7<br>7<br>6 |                                                           |                |
| Type:                                                                    |              | IM B14 (for shaft heights 150 and 200)                                                                                                                                                                      |                                                     |                                                     |                                                                                            |                                     | 2                     |                                                           |                |
| Terminal box top:                                                        |              | Cable outlet transverse right<br>Cable outlet transverse left<br>Cable outlet NDE<br>Cable outlet DE                                                                                                        |                                                     |                                                     |                                                                                            |                                     | 5<br>6<br>7<br>8      |                                                           |                |

Further rated speeds on request.

## Synchronous motors

1FW3 torque motors  
Water cooling

## Selection and ordering data

| Motor type<br>(continued)                                                          | Static<br>current                               | SINAMICS S120 Motor Module  |                              | Power cable with complete shield       |                                                                                                |                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------|------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------|
|                                                                                    | $I_0$<br>at<br>$\Delta T=100\text{ K}$<br><br>A | Rated<br>output<br>current  | Order No.                    | Motor connection via terminal box      |                                                                                                |                                              |
|                                                                                    |                                                 | $I_{\text{rated}}$<br><br>A |                              | Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br><br>mm <sup>2</sup> | Order No.<br>Power cable<br>By the meter     |
| Line voltage 400 V 3 AC Smart Line Module/Basic Line Module/Power Module           |                                                 |                             |                              |                                        |                                                                                                |                                              |
| 1FW3150-1 . L. 2-....                                                              | 11.5                                            | 18                          | 6SL3 1 2 ■ - ■ T E 2 1 -8AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3152-1 . L. 2-....                                                              | 22.5                                            | 30                          | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 4<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB31-....<br>6FX ■ 008-1BB61-.... |
| 1FW3154-1 . L. 2-....                                                              | 33                                              | 45                          | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3155-1 . L. 2-....                                                              | 45                                              | 60                          | 6SL3 1 2 ■ - 1 T E 2 6 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                           | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3156-1 . L. 2-....                                                              | 55                                              | 60                          | 6SL3 1 2 ■ - 1 T E 2 6 -0AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3201-1 . L. 2-....                                                              | 38                                              | 45                          | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                           | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB35-.... |
| 1FW3202-1 . L. 2-....                                                              | 62                                              | 60                          | 6SL3 1 2 ■ - 1 T E 2 6 -0AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3203-1 . L. 2-....                                                              | 100                                             | 132                         | 6SL3 1 2 ■ - 1 T E 3 1 -3AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 35<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB35-....<br>6FX ■ 008-1BB35-.... |
| 1FW3204-1 . L. 2-....                                                              | 129                                             | 132                         | 6SL3 1 2 ■ - 1 T E 3 1 -3AA3 | gk 630<br>2 x M50 x 1.5                | 2 x 4 x 50<br>2 x 4 x 50                                                                       | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB50-.... |
| 1FW3206-1 . L. 2-....                                                              | 189                                             | 200                         | 6SL3 1 2 ■ - 1 T E 3 2 -0AA3 | gk 630<br>2 x M50 x 1.5                | 2 x 4 x 35<br>2 x 4 x 50                                                                       | 6FX ■ 008-1BB35-....<br>6FX ■ 008-1BB50-.... |
| 1FW3208-1 . L. 2-....                                                              | 256                                             | 260                         | 6SL3 3 2 0 - 1 T E 3 2 -6AA0 | gk 630<br>2 x M50 x 1.5                | 2 x 4 x 50<br>2 x 4 x 50                                                                       | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB50-.... |
| 1FW3150-1 . P. 2-....                                                              | 17.5                                            | 18                          | 6SL3 1 2 ■ - ■ T E 2 1 -8AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 2.5<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB61-.... |
| 1FW3152-1 . P. 2-....                                                              | 33.5                                            | 45                          | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                            | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3154-1 . P. 2-....                                                              | 49                                              | 60                          | 6SL3 1 2 ■ - 1 T E 2 6 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                           | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3155-1 . P. 2-....                                                              | 67                                              | 85                          | 6SL3 1 2 ■ - 1 T E 2 8 -5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 3                                                                            | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| 1FW3156-1 . P. 2-....                                                              | 80                                              | 85                          | 6SL3 1 2 ■ - 1 T E 2 8 -5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 35                                                                           | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| Format:                                                                            |                                                 |                             | 1<br>3                       |                                        |                                                                                                |                                              |
| Booksize<br>Chassis                                                                |                                                 |                             |                              |                                        |                                                                                                |                                              |
| Cooling:                                                                           |                                                 |                             | 0<br>1                       |                                        |                                                                                                |                                              |
| Internal air cooling<br>External air cooling                                       |                                                 |                             |                              |                                        |                                                                                                |                                              |
| Motor Module:                                                                      |                                                 |                             | 1<br>2                       |                                        |                                                                                                |                                              |
| Single Motor Module<br>Double Motor Module                                         |                                                 |                             |                              |                                        |                                                                                                |                                              |
| Type of power cable:                                                               |                                                 |                             |                              |                                        |                                                                                                | 5<br>8                                       |
| MOTION-CONNECT 800<br>MOTION-CONNECT 500                                           |                                                 |                             |                              |                                        |                                                                                                |                                              |
| For length code for power and signal cables, see MOTION-CONNECT connection system. |                                                 |                             |                              |                                        |                                                                                                |                                              |

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed        | Shaft height | Rated power                                         | Rated torque                                        | Rated current                                       | Static torque                          | 1FW3 torque motors<br>Water cooling | Number of pole pairs | Rotor moment of inertia                                   | Weight approx. |
|--------------------|--------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------|----------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$ | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$ | Order No.                           |                      | $J$                                                       | $m$            |
| rpm                |              | kW<br>(HP)                                          | Nm<br>(lb <sub>f</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>f</sub> -ft)            |                                     |                      | kgm <sup>2</sup><br>(lb <sub>f</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |

### Line voltage 400 V 3 AC Active Line Module

|     |     |             |             |     |             |                            |    |             |             |
|-----|-----|-------------|-------------|-----|-------------|----------------------------|----|-------------|-------------|
| 150 | 200 | 4.7 (6.30)  | 300 (221)   | 13  | 315 (232)   | 1FW3201-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.22 (1.95) | 127 (280)   |
|     |     | 7.9 (10.6)  | 500 (369)   | 21  | 525 (387)   | 1FW3202-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.36 (3.19) | 156 (344)   |
|     |     | 11.8 (15.8) | 750 (553)   | 30  | 790 (583)   | 1FW3203-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.49 (4.34) | 182 (401)   |
|     |     | 15.7 (21.1) | 1000 (738)  | 40  | 1050 (775)  | 1FW3204-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.70 (6.20) | 223 (492)   |
|     |     | 23.6 (31.7) | 1500 (1106) | 65  | 1575 (1162) | 1FW3206-1 ■ E ■ 2 - ■ AA 0 | 14 | 0.97 (8.59) | 279 (615)   |
|     |     | 31.4 (42.1) | 2000 (1475) | 84  | 2100 (1549) | 1FW3208-1 ■ E ■ 2 - ■ AA 0 | 14 | 1.31 (11.6) | 348 (767)   |
|     | 280 | 39.3 (52.7) | 2500 (1844) | 108 | 2625 (1936) | 1FW3281-1 ■ E ■ 3 - ■ AA 0 | 17 | 4.10 (36.3) | 628 (1385)  |
|     |     | 55.0 (73.8) | 3500 (2582) | 150 | 3675 (2711) | 1FW3283-1 ■ E ■ 3 - ■ AA 0 | 17 | 5.10 (45.1) | 731 (1612)  |
|     |     | 78.5 (105)  | 5000 (3688) | 207 | 5250 (3872) | 1FW3285-1 ■ E ■ 3 - ■ AA 0 | 17 | 6.60 (58.4) | 885 (1951)  |
|     |     | 109.9 (147) | 7000 (5163) | 292 | 7350 (5421) | 1FW3288-1 ■ E ■ 3 - ■ AA 0 | 17 | 8.60 (76.1) | 1087 (2397) |

|                                                                 |                                               |                 |   |   |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------|---|---|
| <b>Encoder systems for motors without DRIVE-CLiQ interface:</b> | Incremental encoder sin/cos 1 V <sub>pp</sub> | Belt-mounted    | A | 7 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Coaxial mounted | E | 6 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Belt-mounted    | E | 7 |
|                                                                 | Multi-pole resolver                           | Belt-mounted    | S | 7 |
|                                                                 | Absolute encod., single. EnDat 2048 S/R       | Coaxial mounted | N | 6 |
| <b>Encoder systems for motors with DRIVE-CLiQ interface:</b>    | 22 bit incremental encoder                    | Belt-mounted    | D | 7 |
|                                                                 | 22 bit absolute encoder, single-turn          | Coaxial mounted | F | 6 |
|                                                                 | +12 bit multi-turn                            |                 |   |   |
|                                                                 | 22 bit absolute encoder, single-turn          | Belt-mounted    | F | 7 |
|                                                                 | +12 bit multi-turn                            |                 |   |   |
|                                                                 | 15 bit resolver                               | Belt-mounted    | U | 7 |
| <b>Type:</b>                                                    | 22 bit absolute encoder, single-turn          | Coaxial mounted | P | 6 |
|                                                                 |                                               |                 |   |   |
| <b>Terminal box top:</b>                                        | IM B14 (for shaft height 150 and 200)         |                 |   | 2 |
|                                                                 | IM B35 (for shaft height 280)                 |                 |   | 3 |
|                                                                 | Cable outlet transverse right                 |                 |   | 5 |
|                                                                 | Cable outlet transverse left                  |                 |   | 6 |
|                                                                 | Cable outlet NDE                              |                 |   | 7 |
|                                                                 | Cable outlet DE                               |                 |   | 8 |

Further rated speeds on request.

## Selection and ordering data

| Motor type<br>(continued)                                                          | Static<br>current                               | SINAMICS S120 Motor Module                                    |                              | Power cable with complete shield       |                                                                                              |                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------|
|                                                                                    | $I_0$<br>at<br>$\Delta T=100\text{ K}$<br><br>A | Rated<br>output<br>current<br><br>$I_{\text{rated}}$<br><br>A | Order No.                    | Motor connection<br>via terminal box   |                                                                                              |                                              |
|                                                                                    |                                                 |                                                               |                              | Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br><br>$\text{mm}^2$ | Order No.<br>Power cable<br>By the meter     |
| Line voltage 400 V 3 AC Active Line Module                                         |                                                 |                                                               |                              |                                        |                                                                                              |                                              |
| 1FW3201-1 . E . 2-....                                                             | 13                                              | 18                                                            | 6SL3 1 2 ■ - ■ T E 2 1 -8AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3202-1 . E . 2-....                                                             | 22                                              | 30                                                            | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 2.5<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB21-....<br>6FX ■ 008-1BB61-.... |
| 1FW3203-1 . E . 2-....                                                             | 32                                              | 30                                                            | 6SL3 1 2 ■ - 1 T E 2 3 -0AA3 | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                          | 6FX ■ 008-1BB41-....<br>6FX 5 008-1BB61-.... |
| 1FW3204-1 . E . 2-....                                                             | 42                                              | 45                                                            | 6SL3 1 2 ■ - 1 T E 2 4 -5AA3 | gk 230<br>1 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                         | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3206-1 . E . 2-....                                                             | 68                                              | 85                                                            | 6SL3 1 2 ■ - 1 T E 2 8 -5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                         | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3208-1 . E . 2-....                                                             | 88                                              | 85                                                            | 6SL3 1 2 ■ - 1 T E 2 8 -5AA3 | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 35                                                                         | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| 1FW3281-1 . E . 2-....                                                             | 113                                             | 132                                                           | 6SL3 1 2 ■ - 1 T E 3 1 -3AA3 | 1XB7700<br>3 x M75 x 1.5               | 4 x 50<br>3 x 4 x 120                                                                        | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB12-.... |
| 1FW3283-1 . E . 2-....                                                             | 158                                             | 200                                                           | 6SL3 1 2 ■ - 1 T E 3 2 -0AA3 | 1XB7700<br>3 x M75 x 1.5               | 4 x 70<br>3 x 4 x 120                                                                        | 6FX ■ 008-1BB70-....<br>6FX ■ 008-1BB12-.... |
| 1FW3285-1 . E . 2-....                                                             | 217                                             | 210                                                           | 6SL3 3 2 0 - 1 T E 3 2 -1AA0 | 1XB7700<br>3 x M75 x 1.5               | 4 x 120<br>3 x 4 x 120                                                                       | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3288-1 . E . 2-....                                                             | 306                                             | 310                                                           | 6SL3 3 2 0 - 1 T E 3 3 -1AA0 | 1XB7700<br>3 x M75 x 1.5               | 2 x 4 x 95<br>3 x 4 x 120                                                                    | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| Format:<br>Booksize<br>Chassis                                                     |                                                 |                                                               |                              | 1<br>3                                 |                                                                                              |                                              |
| Cooling:<br>Internal air cooling<br>External air cooling                           |                                                 |                                                               |                              | 0<br>1                                 |                                                                                              |                                              |
| Motor Module:<br>Single Motor Module<br>Double Motor Module                        |                                                 |                                                               |                              | 1<br>2                                 |                                                                                              |                                              |
| Type of power cable:<br>MOTION-CONNECT 800<br>MOTION-CONNECT 500                   |                                                 |                                                               |                              |                                        | 5<br>8                                                                                       |                                              |
| For length code for power and signal cables, see MOTION-CONNECT connection system. |                                                 |                                                               |                              |                                        |                                                                                              |                                              |

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed                                              | Shaft height | Rated power                                                                                                                                                                                                 | Rated torque                                        | Rated current                                       | Static torque                                                                      | 1FW3 torque motors<br>Water cooling | Number of pole pairs  | Rotor moment of inertia                                   | Weight approx. |
|----------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------|-----------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$                                       | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$                                                                                                                                                         | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$                                             | Order No.                           |                       | $J$                                                       | $m$            |
| rpm                                                      |              | kW<br>(HP)                                                                                                                                                                                                  | Nm<br>(lb <sub>f</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>f</sub> -ft)                                                        |                                     |                       | kgm <sup>2</sup><br>(lb <sub>f</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |
| Line voltage 400 V 3 AC Active Line Module               |              |                                                                                                                                                                                                             |                                                     |                                                     |                                                                                    |                                     |                       |                                                           |                |
| 250                                                      | 280          | 62.8 (84.2)                                                                                                                                                                                                 | 2400 (1770)                                         | 153                                                 | 2652 (1956)                                                                        | 1FW3281-1 ■ G ■ 3 - ■ AA 0          | 17                    | 4.10 (36.3)                                               | 628 (1385)     |
|                                                          |              | 89.0 (119)                                                                                                                                                                                                  | 3400 (2508)                                         | 222                                                 | 3675 (2711)                                                                        | 1FW3283-1 ■ G ■ 3 - ■ AA 0          | 17                    | 5.10 (45.1)                                               | 731 (1612)     |
|                                                          |              | 104.7 (140)                                                                                                                                                                                                 | 4000 (2950)                                         | 255                                                 | 5250 (3872)                                                                        | 1FW3285-1 ■ G ■ 3 - ■ AA 0          | 17                    | 6.60 (58.4)                                               | 885 (1951)     |
|                                                          |              | 128.2 (172)                                                                                                                                                                                                 | 4900 (3614)                                         | 318                                                 | 7350 (5421)                                                                        | 1FW3288-1 ■ G ■ 3 - ■ AA 0          | 17                    | 8.60 (76.1)                                               | 1087 (2397)    |
| 300                                                      | 150          | 3.1 (4.16)                                                                                                                                                                                                  | 100 (73.8)                                          | 7.2                                                 | 105 (77.4)                                                                         | 1FW3150-1 ■ H ■ 2 - ■ AA 0          | 7                     | 0.12 (1.06)                                               | 87 (192)       |
|                                                          |              | 6.3 (8.45)                                                                                                                                                                                                  | 200 (148)                                           | 14                                                  | 210 (155)                                                                          | 1FW3152-1 ■ H ■ 2 - ■ AA 0          | 7                     | 0.16 (1.42)                                               | 108 (238)      |
|                                                          |              | 9.4 (12.6)                                                                                                                                                                                                  | 300 (221)                                           | 20.5                                                | 315 (232)                                                                          | 1FW3154-1 ■ H ■ 2 - ■ AA 0          | 7                     | 0.20 (1.77)                                               | 129 (284)      |
|                                                          |              | 12.6 (16.9)                                                                                                                                                                                                 | 400 (295)                                           | 28                                                  | 420 (310)                                                                          | 1FW3155-1 ■ H ■ 2 - ■ AA 0          | 7                     | 0.24 (2.12)                                               | 150 (331)      |
|                                                          |              | 15.7 (21.1)                                                                                                                                                                                                 | 500 (369)                                           | 34                                                  | 525 (387)                                                                          | 1FW3156-1 ■ H ■ 2 - ■ AA 0          | 7                     | 0.28 (2.48)                                               | 171 (377)      |
|                                                          | 200          | 9.4 (12.6)                                                                                                                                                                                                  | 300 (221)                                           | 23                                                  | 315 (232)                                                                          | 1FW3201-1 ■ H ■ 2 - ■ AA 0          | 14                    | 0.22 (1.95)                                               | 127 (280)      |
|                                                          |              | 15.7 (21.1)                                                                                                                                                                                                 | 500 (369)                                           | 37                                                  | 525 (387)                                                                          | 1FW3202-1 ■ H ■ 2 - ■ AA 0          | 14                    | 0.36 (3.19)                                               | 156 (344)      |
|                                                          |              | 23.6 (31.7)                                                                                                                                                                                                 | 750 (553)                                           | 59                                                  | 790 (583)                                                                          | 1FW3203-1 ■ H ■ 2 - ■ AA 0          | 14                    | 0.49 (4.34)                                               | 182 (401)      |
|                                                          |              | 31.4 (42.1)                                                                                                                                                                                                 | 1000 (738)                                          | 74                                                  | 1050 (775)                                                                         | 1FW3204-1 ■ H ■ 2 - ■ AA 0          | 14                    | 0.70 (6.20)                                               | 223 (492)      |
|                                                          |              | 47.1 (63.2)                                                                                                                                                                                                 | 1500 (1106)                                         | 118                                                 | 1575 (1162)                                                                        | 1FW3206-1 ■ H ■ 2 - ■ AA 0          | 14                    | 0.97 (8.59)                                               | 279 (615)      |
|                                                          |              | 62.8 (84.2)                                                                                                                                                                                                 | 2000 (1475)                                         | 153                                                 | 2100 (1549)                                                                        | 1FW3208-1 ■ H ■ 2 - ■ AA 0          | 14                    | 1.31 (11.6)                                               | 348 (767)      |
|                                                          |              |                                                                                                                                                                                                             |                                                     |                                                     |                                                                                    |                                     |                       |                                                           |                |
| Encoder systems for motors without DRIVE-CLiQ interface: |              | Incremental encoder sin/cos 1 V <sub>pp</sub><br>Absolute encod., multi. EnDat 2048 S/R<br>Absolute encoder, multi. EnDat 2048 S/R<br>Multi-pole resolver<br>Absolute encod., single. EnDat 2048 S/R        |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br>Belt-mounted<br>Belt-mounted<br>Coaxial mounted | A<br>E<br>E<br>S<br>N               | 7<br>6<br>7<br>7<br>6 |                                                           |                |
| Encoder systems for motors with DRIVE-CLiQ interface:    |              | 22 bit incremental encoder<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>22 bit absolute encoder, single-turn +12 bit multi-turn<br>15 bit resolver<br>22 bit absolute encoder, single-turn |                                                     |                                                     | Belt-mounted<br>Coaxial mounted<br>Belt-mounted<br>Belt-mounted<br>Coaxial mounted | D<br>F<br>F<br>U<br>P               | 7<br>6<br>7<br>7<br>6 |                                                           |                |
| Type:                                                    |              | IM B14 (for shaft height 150 and 200)<br>IM B35 (for shaft height 280)                                                                                                                                      |                                                     |                                                     |                                                                                    |                                     | 2<br>3                |                                                           |                |
| Terminal box top:                                        |              | Cable outlet transverse right<br>Cable outlet transverse left<br>Cable outlet NDE<br>Cable outlet DE                                                                                                        |                                                     |                                                     |                                                                                    |                                     | 5<br>6<br>7<br>8      |                                                           |                |

Further rated speeds on request.

## Selection and ordering data

| Motor type<br>(continued)                                                          | Static<br>current                               | SINAMICS S120 Motor Module                                    | Power cable with complete shield |                                        |                                                                                            |                                              |
|------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------|----------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------|
|                                                                                    | $I_0$<br>at<br>$\Delta T=100\text{ K}$<br><br>A | Rated<br>output<br>current<br><br>$I_{\text{rated}}$<br><br>A | Order No.                        | Motor connection via terminal box      |                                                                                            |                                              |
|                                                                                    |                                                 |                                                               |                                  | Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br>mm <sup>2</sup> | Order No.<br>Power cable<br>By the meter     |
| Line voltage 400 V 3 AC Active Line Module                                         |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |
| 1FW3281-1 . G. 3-....                                                              | 167                                             | 200                                                           | 6SL3 1 2 ■ - 1 T E 3 2-0AA3      | 1XB7700<br>3 x M75 x 1.5               | 4 x 95<br>3 x 4 x 120                                                                      | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| 1FW3283-1 . G. 3-....                                                              | 239                                             | 260                                                           | 6SL3 3 2 0 - 1 T E 3 2-6AA0      | 1XB7700<br>3 x M75 x 1.5               | 4 x 120<br>3 x 4 x 120                                                                     | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3285-1 . G. 3-....                                                              | 332                                             | 310                                                           | 6SL3 3 2 0 - 1 T E 3 3-1AA0      | 1XB7700<br>3 x M75 x 1.5               | 2 x 4 x 95<br>3 x 4 x 120                                                                  | 6FX ■ 008-1BB05-....<br>6FX ■ 008-1BB12-.... |
| 1FW3288-1 . G. 3-....                                                              | 474                                             | 490                                                           | 6SL3 3 2 0 - 1 T E 3 5-0AA0      | 1XB7700<br>3 x M75 x 1.5               | 3 x 4 x 120<br>3 x 4 x 120                                                                 | 6FX ■ 008-1BB12-....<br>6FX ■ 008-1BB12-.... |
| 1FW3150-1 . H. 2-....                                                              | 7.3                                             | 9                                                             | 6SL3 1 2 ■ - ■ T E 2 1-0AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                      | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3152-1 . H. 2-....                                                              | 15                                              | 18                                                            | 6SL3 1 2 ■ - ■ T E 2 1-8AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 1.5<br>2 x 4 x 16                                                                      | 6FX ■ 008-1BB11-....<br>6FX ■ 008-1BB61-.... |
| 1FW3154-1 . H. 2-....                                                              | 21.5                                            | 30                                                            | 6SL3 1 2 ■ - 1 T E 2 3-0AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 4<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB31-....<br>6FX ■ 008-1BB61-.... |
| 1FW3155-1 . H. 2-....                                                              | 29                                              | 30                                                            | 6SL3 1 2 ■ - 1 T E 2 3-0AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3156-1 . H. 2-....                                                              | 35                                              | 45                                                            | 6SL3 1 2 ■ - 1 T E 2 4-5AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 6<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB41-....<br>6FX ■ 008-1BB61-.... |
| 1FW3201-1 . H. 2-....                                                              | 24                                              | 30                                                            | 6SL3 1 2 ■ - 1 T E 2 3-0AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 4<br>2 x 4 x 16                                                                        | 6FX ■ 008-1BB31-....<br>6FX ■ 008-1BB61-.... |
| 1FW3202-1 . H. 2-....                                                              | 39                                              | 45                                                            | 6SL3 1 2 ■ - 1 T E 2 4-5AA3      | gk 230<br>2 x M32 x 1.5                | 4 x 10<br>2 x 4 x 16                                                                       | 6FX ■ 008-1BB51-....<br>6FX ■ 008-1BB61-.... |
| 1FW3203-1 . H. 2-....                                                              | 62                                              | 60                                                            | 6SL3 1 2 ■ - 1 T E 2 6-0AA3      | gk 420<br>2 x M40 x 1.5                | 4 x 16<br>2 x 4 x 35                                                                       | 6FX ■ 008-1BB61-....<br>6FX ■ 008-1BB35-.... |
| 1FW3204-1 . H. 2-....                                                              | 77                                              | 85                                                            | 6SL3 1 2 ■ - 1 T E 2 8-5AA3      | gk 420<br>2 x M40 x 1.5                | 4 x 25<br>2 x 4 x 35                                                                       | 6FX ■ 008-1BB25-....<br>6FX ■ 008-1BB35-.... |
| 1FW3206-1 . H. 2-....                                                              | 121                                             | 132                                                           | 6SL3 1 2 ■ - 1 T E 3 1-3AA3      | gk 630<br>2 x M50 x 1.5                | 4 x 50<br>2 x 4 x 50                                                                       | 6FX ■ 008-1BB50-....<br>6FX ■ 008-1BB50-.... |
| 1FW3208-1 . H. 2-....                                                              | 160                                             | 200                                                           | 6SL3 1 2 ■ - 1 T E 3 2-0AA3      | gk 630<br>2 x M50 x 1.5                | 2 x 4 x 35<br>2 x 4 x 50                                                                   | 6FX ■ 008-1BB35-....<br>6FX ■ 008-1BB50-.... |
| Format:                                                                            |                                                 |                                                               | 1<br>3                           |                                        |                                                                                            |                                              |
| Booksize<br>Chassis                                                                |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |
| Cooling:                                                                           |                                                 |                                                               | 0<br>1                           |                                        |                                                                                            |                                              |
| Internal air cooling<br>External air cooling                                       |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |
| Motor Module:                                                                      |                                                 |                                                               | 1<br>2                           |                                        |                                                                                            |                                              |
| Single Motor Module<br>Double Motor Module                                         |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |
| Type of power cable:                                                               |                                                 |                                                               |                                  |                                        |                                                                                            | 5<br>8                                       |
| MOTION-CONNECT 800<br>MOTION-CONNECT 500                                           |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |
| For length code for power and signal cables, see MOTION-CONNECT connection system. |                                                 |                                                               |                                  |                                        |                                                                                            |                                              |

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.

# Synchronous motors

## 1FW3 torque motors Water cooling

### Selection and ordering data

| Rated speed        | Shaft height | Rated power                                         | Rated torque                                        | Rated current                                       | Static torque                          | 1FW3 torque motors<br>Water cooling | Number of pole pairs | Rotor moment of inertia                                   | Weight approx. |
|--------------------|--------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------------|----------------------|-----------------------------------------------------------|----------------|
| $n_{\text{rated}}$ | SH           | $P_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $I_{\text{rated}}$<br>at<br>$\Delta T=100\text{ K}$ | $M_0$<br>at<br>$\Delta T=100\text{ K}$ | Order No.                           |                      | $J$                                                       | $m$            |
| rpm                |              | kW<br>(HP)                                          | Nm<br>(lb <sub>f</sub> -ft)                         | A                                                   | Nm<br>(lb <sub>f</sub> -ft)            |                                     |                      | kgm <sup>2</sup><br>(lb <sub>f</sub> -in-s <sup>2</sup> ) | kg<br>(lb)     |

#### Line voltage 400 V 3 AC Active Line Module

|     |     |             |             |       |             |                           |    |             |           |
|-----|-----|-------------|-------------|-------|-------------|---------------------------|----|-------------|-----------|
| 500 | 150 | 5.2 (6.97)  | 100 (73.8)  | 11.0  | 105 (77.4)  | 1FW3150-1 ■ L ■ 2- ■ AA 0 | 7  | 0.12 (1.06) | 87 (192)  |
|     |     | 10.5 (14.1) | 200 (148)   | 22.0  | 210 (155)   | 1FW3152-1 ■ L ■ 2- ■ AA 0 | 7  | 0.16 (1.42) | 108 (238) |
|     |     | 15.7 (21.1) | 300 (221)   | 32.0  | 315 (232)   | 1FW3154-1 ■ L ■ 2- ■ AA 0 | 7  | 0.20 (1.77) | 129 (284) |
|     |     | 20.9 (28.0) | 400 (295)   | 43.0  | 420 (310)   | 1FW3155-1 ■ L ■ 2- ■ AA 0 | 7  | 0.24 (2.12) | 150 (331) |
|     |     | 26.2 (35.1) | 500 (369)   | 53.0  | 525 (387)   | 1FW3156-1 ■ L ■ 2- ■ AA 0 | 7  | 0.28 (2.48) | 171 (377) |
|     | 200 | 15.7 (21.1) | 300 (221)   | 37.0  | 315 (232)   | 1FW3201-1 ■ L ■ 2- ■ AA 0 | 14 | 0.22 (1.95) | 127 (280) |
|     |     | 26.2 (35.1) | 500 (369)   | 59.0  | 525 (387)   | 1FW3202-1 ■ L ■ 2- ■ AA 0 | 14 | 0.36 (3.19) | 156 (344) |
|     |     | 39.3 (52.7) | 750 (553)   | 92.0  | 790 (583)   | 1FW3203-1 ■ L ■ 2- ■ AA 0 | 14 | 0.49 (4.34) | 182 (401) |
|     |     | 52.3 (70.1) | 1000 (738)  | 118.0 | 1050 (775)  | 1FW3204-1 ■ L ■ 2- ■ AA 0 | 14 | 0.70 (6.20) | 223 (492) |
|     |     | 73.3 (98.3) | 1400 (1033) | 169.0 | 1575 (1162) | 1FW3206-1 ■ L ■ 2- ■ AA 0 | 14 | 0.97 (8.59) | 279 (615) |
|     |     | 96.8 (130)  | 1850 (1365) | 226.0 | 2100 (1549) | 1FW3208-1 ■ L ■ 2- ■ AA 0 | 14 | 1.31 (11.6) | 348 (767) |
| 750 | 150 | 7.9 (10.6)  | 100 (73.8)  | 17.0  | 105 (77.4)  | 1FW3150-1 ■ P ■ 2- ■ AA 0 | 7  | 0.12 (1.06) | 87 (192)  |
|     |     | 15.7 (21.1) | 200 (148)   | 32.5  | 210 (155)   | 1FW3152-1 ■ P ■ 2- ■ AA 0 | 7  | 0.16 (1.42) | 108 (238) |
|     |     | 23.6 (31.7) | 300 (221)   | 47.5  | 315 (232)   | 1FW3154-1 ■ P ■ 2- ■ AA 0 | 7  | 0.20 (1.77) | 129 (284) |
|     |     | 31.5 (42.2) | 400 (295)   | 64.0  | 420 (310)   | 1FW3155-1 ■ P ■ 2- ■ AA 0 | 7  | 0.24 (2.12) | 150 (331) |
|     |     | 39.3 (52.7) | 500 (369)   | 76.0  | 525 (387)   | 1FW3156-1 ■ P ■ 2- ■ AA 0 | 7  | 0.28 (2.48) | 171 (377) |

|                                                                 |                                               |                 |   |   |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------|---|---|
| <b>Encoder systems for motors without DRIVE-CLiQ interface:</b> | Incremental encoder sin/cos 1 V <sub>pp</sub> | Belt-mounted    | A | 7 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Coaxial mounted | E | 6 |
|                                                                 | Absolute encod., multi. EnDat 2048 S/R        | Belt-mounted    | E | 7 |
|                                                                 | Multi-pole resolver                           | Belt-mounted    | S | 7 |
|                                                                 | Absolute encod., single. EnDat 2048 S/R       | Coaxial mounted | N | 6 |
| <b>Encoder systems for motors with DRIVE-CLiQ interface:</b>    | 22 bit incremental encoder                    | Belt-mounted    | D | 7 |
|                                                                 | 22 bit absolute encoder, single-turn          | Coaxial mounted | F | 6 |
|                                                                 | +12 bit multi-turn                            | Belt-mounted    | F | 7 |
|                                                                 | 22 bit absolute encoder, single-turn          | Belt-mounted    | F | 7 |
|                                                                 | +12 bit multi-turn                            | Belt-mounted    | U | 7 |
|                                                                 | 15 bit resolver                               | Belt-mounted    | P | 6 |
|                                                                 | 22 bit absolute encoder, single-turn          | Coaxial mounted | P | 6 |
| <b>Type:</b>                                                    | IM B14 (for shaft heights 150 and 200)        |                 |   | 2 |
| <b>Terminal box top:</b>                                        | Cable outlet transverse right                 |                 |   | 5 |
|                                                                 | Cable outlet transverse left                  |                 |   | 6 |
|                                                                 | Cable outlet NDE                              |                 |   | 7 |
|                                                                 | Cable outlet DE                               |                 |   | 8 |

Further rated speeds on request.

## Selection and ordering data

| Motor type<br>(continued) | Static<br>current<br><br>$I_0$<br>at<br>$\Delta T = 100\text{ K}$<br><br>A | SINAMICS S120 Motor Module                                    |           | Power cable with complete shield                                                |                                                                                              |                                          |
|---------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------|-----------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------|
|                           |                                                                            | Rated<br>output<br>current<br><br>$I_{\text{rated}}$<br><br>A | Order No. | Motor connection via terminal box<br><br>Terminal box<br>type<br>Cable<br>entry | Cable cross-<br>section <sup>1)</sup><br>Max. possible<br>cross-section<br><br>$\text{mm}^2$ | Order No.<br>Power cable<br>By the meter |

## Line voltage 400 V 3 AC Active Line Module

|                       |      |     |                             |                         |                          |                                          |
|-----------------------|------|-----|-----------------------------|-------------------------|--------------------------|------------------------------------------|
| 1FW3150-1 . L. 2-.... | 11.5 | 18  | 6SL3 1 2 - - T E 2 1-8AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 1.5<br>2 x 4 x 16    | 6FX 008-1BB11-....<br>6FX 008-1BB61-.... |
| 1FW3152-1 . L. 2-.... | 22.5 | 30  | 6SL3 1 2 - 1 T E 2 3-0AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 4<br>2 x 4 x 16      | 6FX 008-1BB31-....<br>6FX 008-1BB61-.... |
| 1FW3154-1 . L. 2-.... | 33   | 45  | 6SL3 1 2 - 1 T E 2 4-5AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 6<br>2 x 4 x 16      | 6FX 008-1BB41-....<br>6FX 008-1BB61-.... |
| 1FW3155-1 . L. 2-.... | 45   | 60  | 6SL3 1 2 - 1 T E 2 6-0AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 10<br>2 x 4 x 16     | 6FX 008-1BB51-....<br>6FX 008-1BB61-.... |
| 1FW3156-1 . L. 2-.... | 55   | 60  | 6SL3 1 2 - 1 T E 2 6-0AA3   | gk 420<br>2 x M40 x 1.5 | 4 x 16<br>2 x 4 x 35     | 6FX 008-1BB61-....<br>6FX 008-1BB35-.... |
| 1FW3201-1 . L. 2-.... | 38   | 45  | 6SL3 1 2 - 1 T E 2 4-5AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 10<br>2 x 4 x 16     | 6FX 008-1BB51-....<br>6FX 008-1BB35-.... |
| 1FW3202-1 . L. 2-.... | 62   | 60  | 6SL3 1 2 - 1 T E 2 6-0AA3   | gk 420<br>2 x M40 x 1.5 | 4 x 16<br>2 x 4 x 35     | 6FX 008-1BB61-....<br>6FX 008-1BB35-.... |
| 1FW3203-1 . L. 2-.... | 100  | 132 | 6SL3 1 2 - 1 T E 3 1-3AA3   | gk 420<br>2 x M40 x 1.5 | 4 x 35<br>2 x 4 x 35     | 6FX 008-1BB35-....<br>6FX 008-1BB35-.... |
| 1FW3204-1 . L. 2-.... | 129  | 132 | 6SL3 1 2 - 1 T E 3 1-3AA3   | gk 630<br>2 x M50 x 1.5 | 2 x 4 x 50<br>2 x 4 x 50 | 6FX 008-1BB50-....<br>6FX 008-1BB50-.... |
| 1FW3206-1 . L. 2-.... | 189  | 200 | 6SL3 1 2 - 1 T E 3 2-0AA3   | gk 630<br>2 x M50 x 1.5 | 2 x 4 x 35<br>2 x 4 x 50 | 6FX 008-1BB35-....<br>6FX 008-1BB50-.... |
| 1FW3208-1 . L. 2-.... | 256  | 260 | 6SL3 3 2 0 - 1 T E 3 2-6AA0 | gk 630<br>2 x M50 x 1.5 | 2 x 4 x 50<br>2 x 4 x 50 | 6FX 008-1BB50-....<br>6FX 008-1BB50-.... |
| 1FW3150-1 . P. 2-.... | 17.5 | 18  | 6SL3 1 2 - - T E 2 1-8AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 2.5<br>2 x 4 x 16    | 6FX 008-1BB25-....<br>6FX 008-1BB61-.... |
| 1FW3152-1 . P. 2-.... | 33.5 | 45  | 6SL3 1 2 - 1 T E 2 4-5AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 6<br>2 x 4 x 16      | 6FX 008-1BB41-....<br>6FX 008-1BB61-.... |
| 1FW3154-1 . P. 2-.... | 49   | 60  | 6SL3 1 2 - 1 T E 2 6-0AA3   | gk 230<br>2 x M32 x 1.5 | 4 x 10<br>2 x 4 x 16     | 6FX 008-1BB51-....<br>6FX 008-1BB61-.... |
| 1FW3155-1 . P. 2-.... | 67   | 85  | 6SL3 1 2 - 1 T E 2 8-5AA3   | gk 420<br>2 x M40 x 1.5 | 4 x 25<br>2 x 4 x 3      | 6FX 008-1BB25-....<br>6FX 008-1BB35-.... |
| 1FW3156-1 . P. 2-.... | 80   | 85  | 6SL3 1 2 - 1 T E 2 8-5AA3   | gk 420<br>2 x M40 x 1.5 | 4 x 25<br>2 x 4 x 35     | 6FX 008-1BB25-....<br>6FX 008-1BB35-.... |

## Format:

Booksize  
Chassis

1  
3

## Cooling:

Internal air cooling  
External air cooling

0  
1

## Motor Module:

Single Motor Module  
Double Motor Module

1  
2

## Type of power cable:

MOTION-CONNECT 800  
MOTION-CONNECT 500

5  
8

For length code for power and signal cables, see MOTION-CONNECT connection system.

<sup>1)</sup> The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).  
In the second line, the maximum connectable cable cross-sections are specified when other ambient conditions or installation types exist.  
Differing ambient conditions can be configured with SIZER.