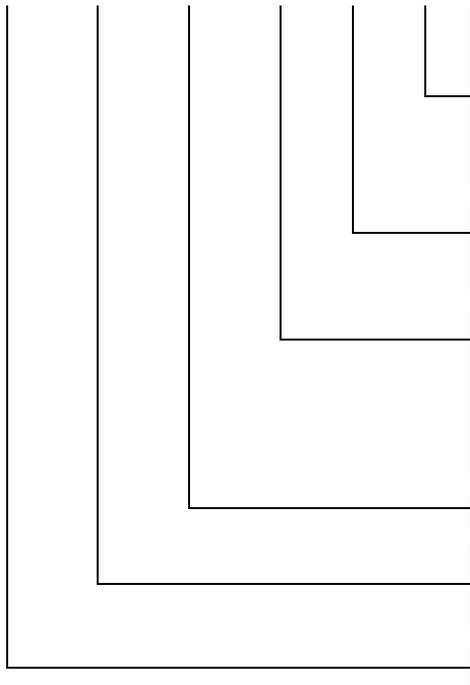


Type number key

VFD 007 CP 43 **A**
B -XY
C
S



IP Protection Level
X = 0: IP00
2: IP20

NEMA Level
Y = 0: UL open frame
1: NEMA 1

Installation Type:
A, B, S: Wall mounted
C: Floor mounted

Input voltage
23 = 230 V_{AC} 3Φ
43 = 400 V_{AC} 3Φ
4E = 400 V_{AC} 3Φ **with filter**
53 = 575 V_{AC} 3Φ
63 = 690 V_{AC} 3Φ

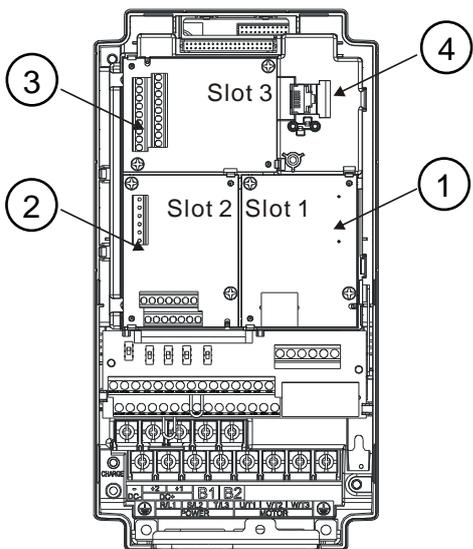
VFD-CP2000 series

Power
007 = 0.75 kW **022 =** 2.2 kW
185 = 18.5 kW **370 =** 37 kW etc.

Delta Variable Frequency Drive



Option cards



Slot 1: Communication cards

- CMC-PN01 Profinet
- CMC-PD01 Profibus
- CMC-DN01 DeviceNet
- EMC-COP01 CANopen
- CMC-EIP01 Ethernet/IP & Modbus-TCP, 1 port
- CMC-EIP02 Ethernet/IP & Modbus-TCP, 2 ports
- CMC-EC01 EtherCAT
- eZVFD-CC BACnet IP

Slot 2: No function

Slot 3: I/O & Relay cards

- EMC-D42A 4 MI, 2 MO
- EMC-R6AA 6 Relays (NO)
- EMC-D611A 6 MI (120V_{AC})
- EMC-A22A 2 AI, 2 AO
- EMC-BPS01 24 V_{DC} Backup Power Supply Card

4: RJ45(female) for digital keypad

- KPC-CC01 Standard LCD
- KPC-CE01 Option LED

400V 0.75 - 7.5kW with built-in EMC filter

| Type number | VFD□□□□□□□□-21 | 007CP4EA | 015CP4EB | 022CP4EB | 037CP4EB | 040CP4EA | 055CP4EB | 075CP4EB | |
|------------------------------------|--------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|
| Rated power (LD/ND) | kW | 0.75/0.4 | 1.5/0.75 | 2.2/1.5 | 3.7/2.2 | 4.0/3.7 | 5.5/4 | 7.5/5.5 | |
| Rated output current (LD/ND) | A RMS | 3/2.8 | 4.2/3 | 5.5/4 | 8.5/6 | 10.5/9 | 13/10.5 | 18/12 | |
| Overload (LD/ND) | % | 120% 60s; 160% 3s / 120% 60s | | | | | | | |
| Rated output capacity (LD/ND) | kVA | 2.4/2.3 | 2.9/2.4 | 4/3.2 | 6/4.8 | 8.4/7.2 | 9.6/8.4 | 11.2/10 | |
| Rated input current (LD/ND) | A RMS | 4.3/3.5 | 6/4.3 | 8.1/5.9 | 12.4/8.7 | 16/14 | 20/15.5 | 22/17 | |
| Mains fuse (for UL: Bussmann) | | JJS-10 | | JJS-15 | | JJS-20 | | JJS-30 | |
| Non-fuse current breaker | A | 5 | 10 | 15 | 20 | | 30 | 40 | |
| Dimensions HxWxD | mm | 250x130x170 | | | | | | | |
| Frame * | | A1 | | | | | | | |
| Weight | kg | 2.6 ±0.3 | | | | | | | |
| Power cable entry | Ømm | 2x 28 1x 34 | | | | | | | |
| Signal cable entry | Ømm | 2x 22.2 | | | | | | | |
| Section of power cables (stranded) | mm ² | 2.1-8.4 | | | | 3.3-8.4 | | 5.3-8.4 | |
| Cooling | | Convection | | | Fan | | | | |
| Cooling air flow rate | m ³ /hr | none | | | 24 | | 17 | | |
| Carrier frequency | kHz | 2-15 | | | | | | | |
| EMC-Filter | | Built-in | | | | | | | |
| DC-Choke | | Option ** | | | | | | | |
| DC-Bus connection | | Yes | | | | | | | |
| Brake chopper | | Built-in | | | | | | | |
| Recommended brake resistor | Ω/W | 750/80 | | 360/200 | | 250/300 | | 150/400 | |
| Minimum brake resistor value | Ω | 190 | | 126.7 | | 108.6 | | 84.4 | |

400V 11 - 18.5kW with built-in EMC filter

| Type number | VFD□□□□□□□□-21 | 110CP4EB | 150CP4EB | 185CP4EB |
|------------------------------------|--------------------|------------------------------|----------|-----------|
| Rated power (LD/ND) | kW | 11/7.5 | | |
| Rated output current (LD/ND) | A RMS | 24/18 | | |
| Overload (LD/ND) | % | 120% 60s; 160% 3s / 120% 60s | | |
| Rated output capacity (LD/ND) | kVA | 18/14 | | 24/19 |
| Rated input current (LD/ND) | A RMS | 26/20 | | 35/26 |
| Mains fuse (for UL: Bussmann) | | JJS-50 | | JJS-60 |
| Non-fuse current breaker | A | 50 | | 60 |
| Dimensions HxWxD | mm | 320x190x190 | | |
| Frame * | | B | | |
| Weight | kg | 5.4 ±1 | | |
| Power cable entry | Ømm | 1x 34 2x 43.8 | | |
| Signal cable entry | Ømm | 3x 22.2 | | |
| Section of power cables (stranded) | mm ² | 8.4-21.2 | | 13.3-21.2 |
| Cooling | | Fan | | |
| Cooling air flow rate | m ³ /hr | 92 | | 136 |
| Carrier frequency | kHz | 2-15 | | |
| EMC-Filter | | Built-in | | |
| DC-Choke | | Option ** | | |
| DC-Bus connection | | Yes | | |
| Brake chopper | | Built-in | | |
| Recommended brake resistor | Ω/W | 75/1000 | | 43/1500 |
| Minimum brake resistor value | Ω | 47.5 | | 42.2 |

* See dimensional drawing on Page 10-14.

** Connection for external DC-Choke.

400V 22 - 37kW with built-in EMC filter

| Type number | VFD□□□□□□□□-21 | 220CP4EA | 300CP4EB | 370CP4EB |
|------------------------------------|--------------------|-----------------------------|-----------|-----------|
| Rated power (LD/ND) | kW | 22/18.5 | 30/22 | 37/30 |
| Rated output current (LD/ND) | A RMS | 45/38 | 60/45 | 73/60 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | |
| Rated output capacity (LD/ND) | kVA | 36/30 | 45/36 | 57/48 |
| Rated input current (LD/ND) | A RMS | 47/40 | 66/47 | 80/63 |
| Mains fuse (for UL: Bussmann) | | JJS-100 | JJS-125 | JJS-150 |
| Non-fuse current breaker | A | 100 | 125 | 150 |
| Dimensions HxWxD | mm | 400x250x210 | | |
| Frame * | | C | | |
| Weight | kg | 9.8 ±1.5 | | |
| Power cable entry | ∅mm | 1x 34 2x 50 | | |
| Signal cable entry | ∅mm | 4x 22.2 | | |
| Section of power cables (stranded) | mm ² | 21.2-53.5 | 26.7-53.5 | 33.6-53.5 |
| Cooling | | Fan | | |
| Cooling air flow rate | m ³ /hr | 204 | | 250 |
| Carrier frequency | kHz | 2-10 | | |
| EMC-Filter | | Built-in | | |
| DC-Choke | | Option ** | | |
| DC-Bus connection | | Yes | | |
| Brake chopper | | Built-in | | |
| Recommended brake resistor | Ω/W | 32/2000 | 26/3000 | 16/4000 |
| Minimum brake resistor value | Ω | 23 | | 14.1 |

400V 45 - 90kW with conduit box

| Type number | VFD□□□□□□□□-21 | 450CP43S | 550CP43S | 750CP43B | 900CP43A |
|---|--------------------|-----------------------------|----------|---------------|----------|
| Rated power (LD/ND) | kW | 45/37 | 55/45 | 75/55 | 90/75 |
| Rated output current (LD/ND) | A RMS | 91/73 | 110/91 | 150/110 | 180/150 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 73/58 | 88/73 | 115/88 | 143/120 |
| Rated input current (LD/ND) | A RMS | 91/74 | 110/101 | 150/114 | 180/157 |
| Mains fuse (for UL: Bussmann) | | JJS-175 | JJS-250 | JJS-300 | |
| Non-fuse current breaker | A | 175 | 250 | 300 | |
| Dimensions HxWxD | mm | 614.4x280x255 | | 688.3x330x275 | |
| Frame * | | D0-2 | | D2 | |
| Weight | kg | 40 | | | |
| Power cable entry | ∅mm | 2x 76.2 2x 34 | | | |
| Signal cable entry | ∅mm | 2x 22 | | | |
| Section of power cables, stranded (with ring) | mm ² | 53.5-107 | 67.4-107 | 85-107 | 107 |
| Cooling | | Fan | | | |
| Cooling air flow rate | m ³ /hr | 355 | | | 367 |
| Carrier frequency | kHz | 2-10 | | | 2-9 |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 15/4800 | 13/6000 | 10.2/8000 | 7.5/9600 |
| Minimum brake resistor value *** | Ω | 12.7 | | 9.5 | 6.3 |

* See dimensional drawing on Page 10-14.

** Connection for external DC-Choke.

*** With external brake unit.

400V 110 - 185kW with conduit box

| Type number | VFD□□□□□□□□-21 | 1100CP43A | 1320CP43B | 1600CP43A | 1850CP43B |
|---|--------------------|-----------------------------|-----------|----------------|-----------|
| Rated power (LD/ND) | kW | 110/90 | 132/110 | 160/132 | 185/160 |
| Rated output current (LD/ND) | A RMS | 220/180 | 260/220 | 310/260 | 370/310 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 175/143 | 196/175 | 247/207 | 343/247 |
| Rated input current (LD/ND) | A RMS | 220/167 | 260/207 | 310/240 | 370/300 |
| Mains fuse (for UL: Bussmann) | | JJS-400 | JJS-500 | JJS-600 | |
| Non-fuse current breaker | A | 400 | 500 | 600 | |
| Dimensions HxWxD | mm | 715.8x370x300 | | 940x420x300 | |
| Frame * | | E2 | | F2 | |
| Weight | kg | 66 | | 88 | |
| Power cable entry | ∅mm | 2x 92 4x 34 | | 2x 92 4x 35 | |
| Signal cable entry | ∅mm | 2x 22 | | 2x 22 | |
| Section of power cables, stranded (with ring) | mm ² | 67.4-107 (2x) | | 107 (2x) | |
| Cooling | | Fan | | | |
| Cooling air flow rate | m ³ /hr | 561 | 503 | 571 | 681 |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 6.5/12000 | 6/12000 | 4/18000 | |
| Minimum brake resistor value *** | Ω | 6.3 | 6 | 4 | |

400V 200 - 280kW with conduit box

| Type number | VFD□□□□□□□□-21 | 2000CP43A | 2200CP43B | 2500CP43A | 2800CP43B |
|---|---------------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|
| Rated power (LD/ND) | kW | 200/160 | 220/185 | 250/200 | 280/220 |
| Rated output current (LD/ND) | A RMS | 395/310 | 460/370 | 481/395 | 530/460 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 315/247 | 367/295 | 383/315 | 422/367 |
| Rated input current (LD/ND) | A RMS | 395/300 | 460/380 | 481/390 | 530/400 |
| Mains fuse (for UL: Bussmann) | | JJS-800 | | KTU-1000 | |
| Non-fuse current breaker | A | 800 | | 1000 | |
| Dimensions HxWxD | mm | 1240.2x500x397 | | | |
| Frame * | | G2 | | | |
| Weight | kg | 134±4 | | | |
| Power cable entry | ∅mm | 2x 34 3x 117.5 | | | |
| Signal cable entry | ∅mm | 2x 22 | | | |
| Section of power cables, stranded (with ring) | Input Output mm ² | 50-120 (4x) 150-240 (2x) | 70-120 (4x) 240 (2x) | 70-120 (4x) 240 (2x) | 95-120 (4x) 240 (2x) |
| Cooling | | Fan | | | |
| Cooling air flow rate | m ³ /hr | 771 | | | |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 4/18000 | 3.4/21000 | 3/24000 | 3/24000 |
| Minimum brake resistor value *** | Ω | 4 | 3.4 | 3 | 3 |

* See dimensional drawing on Page 10-14.

*** With external brake unit.

400V 315 - 630kW cabinet

| Type number | VFD□□□□□□□□□□-21 | 3150CP43C | 3550CP43C | 4000CP43C | 5000CP43C | 5600CP43C | 6300CP43C |
|---|--------------------|------------------------------|--------------|-----------|-----------|-----------|-----------|
| Rated power (LD/ND) | kW | 315/280 | 355/315 | 400/355 | 500/450 | 560/500 | 630/560 |
| Rated output current (LD/ND) | A RMS | 616/550 | 683/616 | 770/683 | 930/866 | 1094/930 | 1212/1094 |
| Overload (LD/ND) | % | 120% 60s; 160% 3s / 120% 60s | | | | | |
| Rated output capacity (LD/ND) | kVA | 491/438 | 544/491 | 613/544 | 741/690 | 872/741 | 966/872 |
| Rated input current (LD/ND) | A RMS | 616/494 | 683/555 | 770/625 | 930/866 | 1094/930 | 1212/1094 |
| Mains fuse (for UL: Bussmann) | | KTU-1200 | KTU-1350 | KTU-1500 | | 170M6021 | 170M6021 |
| Non-fuse current breaker | A | 1200 | 1350 | 1500 | 1600 | 2000 | 2000 |
| Dimensions HxWxD | mm | 1745x700x404 | | | | | |
| Frame * | | H3 | | | | | |
| Weight | kg | 228 | | | | | |
| Power cable entry | ∅mm | 2x 34 4x 117.5 | | | | | |
| Signal cable entry | ∅mm | 4x 22 | | | | | |
| Section of power cables, stranded (with ring) | mm ² | 120-185 (4x) | 150-185 (4x) | 185 (4x) | | 240 (4x) | |
| Cooling | | Fan | | | | | |
| Cooling air flow rate | m ³ /hr | 1307 | | | | 1618.9 | |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | | | |
| EMC-Filter | | No | | | | | |
| DC-Choke | | Built-in | | | | | |
| DC-Bus connection | | Yes | | | | | |
| Brake chopper | | External option | | | | | |
| Recommended brake resistor *** | Ω/W | 2/36000 | 1.7/42000 | 1.3/54000 | 1.1/63000 | 1.0/72000 | |
| Minimum brake resistor value *** | Ω | 2 | 1.7 | 1.1 | 1.1 | 1.0 | |

* See dimensional drawing on Page 10-14.

*** With external brake unit.

400V 0.75 - 7.5kW no filter

| Type number | VFD□□□□□□□□-21 | 007CP43A | 015CP43B | 022CP43B | 037CP43B | 040CP43A | 055CP43B | 075CP43B |
|------------------------------------|--------------------|------------------------------|----------|----------|----------|----------|----------|----------|
| Rated power (LD/ND) | kW | 0.75/0.4 | 1.5/0.75 | 2.2/1.5 | 3.7/2.2 | 4.0/3.7 | 5.5/4 | 7.5/5.5 |
| Rated output current (LD/ND) | A RMS | 3/2.8 | 4.2/3 | 5.5/4 | 8.5/6 | 10.5/9 | 13/10.5 | 18/12 |
| Overload (LD/ND) | % | 120% 60s; 160% 3s / 120% 60s | | | | | | |
| Rated output capacity (LD/ND) | kVA | 2.4/2.3 | 2.9/2.4 | 4/3.2 | 6/4.8 | 8.4/7.2 | 9.6/8.4 | 11.2/10 |
| Rated input current (LD/ND) | A RMS | 4.3/3.5 | 6/4.3 | 8.1/5.9 | 12.4/8.7 | 16/14 | 20/15.5 | 22/17 |
| Mains fuse (for UL: Bussmann) | | JJS-10 | | JJS-15 | JJS-20 | | JJS-30 | JJS-40 |
| Non-fuse current breaker | A | 5 | 10 | 15 | 20 | | 30 | 40 |
| Dimensions HxWxD | mm | 250x130x170 | | | | | | |
| Frame * | | A1 | | | | | | |
| Weight | kg | 2.6 ±0.3 | | | | | | |
| Power cable entry | Ømm | 2x 28 1x 34 | | | | | | |
| Signal cable entry | Ømm | 2x 22.2 | | | | | | |
| Section of power cables (stranded) | mm ² | 2.1-8.4 | | | 3.3-8.4 | | 5.3-8.4 | |
| Cooling | | Convection | | | Fan | | | |
| Cooling air flow rate | m ³ /hr | none | | | 24 | 17 | | |
| Carrier frequency | kHz | 2-15 | | | | | | |
| EMC-Filter | | No | | | | | | |
| DC-Choke | | Option ** | | | | | | |
| DC-Bus connection | | Yes | | | | | | |
| Brake chopper | | Built-in | | | | | | |
| Recommended brake resistor | Ω/W | 750/80 | 360/200 | 250/300 | 150/400 | 75/1000 | | |
| Minimum brake resistor value | Ω | 190 | 126.7 | 108.6 | 84.4 | 54.3 | | |

400V 11 - 18.5kW no filter

| Type number | VFD□□□□□□□□-21 | 110CP43B | 150CP43B | 185CP43B |
|------------------------------------|--------------------|------------------------------|----------|-----------|
| Rated power (LD/ND) | kW | 11/7.5 | 15/11 | 18.5/15 |
| Rated output current (LD/ND) | A RMS | 24/18 | 32/24 | 38/32 |
| Overload (LD/ND) | % | 120% 60s; 160% 3s / 120% 60s | | |
| Rated output capacity (LD/ND) | kVA | 18/14 | 24/19 | 29/25 |
| Rated input current (LD/ND) | A RMS | 26/20 | 35/26 | 42/35 |
| Mains fuse (for UL: Bussmann) | | JJS-50 | JJS-60 | JJS-75 |
| Non-fuse current breaker | A | 50 | 60 | 75 |
| Dimensions HxWxD | mm | 320x190x190 | | |
| Frame * | | B | | |
| Weight | kg | 5.4 ±1 | | |
| Power cable entry | Ømm | 1x 34 2x 43.8 | | |
| Signal cable entry | Ømm | 3x 22.2 | | |
| Section of power cables (stranded) | mm ² | 8.4-21.2 | | 13.3-21.2 |
| Cooling | | Fan | | |
| Cooling air flow rate | m ³ /hr | 92 | 136 | 124 |
| Carrier frequency | kHz | 2-15 | | |
| EMC-Filter | | No | | |
| DC-Choke | | Option ** | | |
| DC-Bus connection | | Yes | | |
| Brake chopper | | Built-in | | |
| Recommended brake resistor | Ω/W | 75/1000 | 43/1500 | 32/2000 |
| Minimum brake resistor value | Ω | 47.5 | 42.2 | 26.2 |

* See dimensional drawing on Page 10-14.

** Connection for external DC-Choke.

400V 22 - 37kW no filter

| Type number | VFD□□□□□□□□-21 | 220CP43A | 300CP43B | 370CP43B |
|------------------------------------|--------------------|-----------------------------|-----------|-----------|
| Rated power (LD/ND) | kW | 22/18.5 | 30/22 | 37/30 |
| Rated output current (LD/ND) | A RMS | 45/38 | 60/45 | 73/60 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | |
| Rated output capacity (LD/ND) | kVA | 36/30 | 45/36 | 57/48 |
| Rated input current (LD/ND) | A RMS | 47/40 | 66/47 | 80/63 |
| Mains fuse (for UL: Bussmann) | | JJS-100 | JJS-125 | JJS-150 |
| Non-fuse current breaker | A | 100 | 125 | 150 |
| Dimensions HxWxD | mm | 400x250x210 | | |
| Frame * | | C | | |
| Weight | kg | 9.8 ±1.5 | | |
| Power cable entry | ∅mm | 1x 34 2x 50 | | |
| Signal cable entry | ∅mm | 4x 22.2 | | |
| Section of power cables (stranded) | mm ² | 21.2-53.5 | 26.7-53.5 | 33.6-53.5 |
| Cooling | | Fan | | |
| Cooling air flow rate | m ³ /hr | 204 | | 250 |
| Carrier frequency | kHz | 2-10 | | |
| EMC-Filter | | No | | |
| DC-Choke | | Option ** | | |
| DC-Bus connection | | Yes | | |
| Brake chopper | | Built-in | | |
| Recommended brake resistor | Ω/W | 32/2000 | 26/3000 | 16/4000 |
| Minimum brake resistor value | Ω | 23 | | 14.1 |

400V 37 - 75kW no conduit box

| Type number | VFD□□□□□□□□-00 | 450CP43S | 550CP43S | 750CP43B | 900CP43A |
|---|--------------------|-----------------------------|----------|-------------|----------|
| Rated power (LD/ND) | kW | 45/37 | 55/45 | 75/55 | 90/75 |
| Rated output current (LD/ND) | A RMS | 91/73 | 110/91 | 150/110 | 180/150 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 73/58 | 88/73 | 115/88 | 143/120 |
| Rated input current (LD/ND) | A RMS | 91/74 | 110/101 | 150/114 | 180/157 |
| Mains fuse (for UL: Bussmann) | | JJS-175 | JJS-250 | JJS-300 | |
| Non-fuse current breaker | A | 175 | 250 | 300 | |
| Dimensions HxWxD | mm | 500x280x255 | | 550x330x275 | |
| Frame * | | D0-1 | | D1 | |
| Weight | kg | 37.6 | | | |
| Power cable entry | ∅mm | open | | | |
| Signal cable entry | ∅mm | open | | | |
| Section of power cables, stranded (with ring) | mm ² | 53.5-107 | 67.4-107 | 85-107 | 107 |
| Cooling | | Fan | | | |
| Cooling air flow rate | m ³ /hr | 355 | | | 367 |
| Carrier frequency | kHz | 2-10 | | | 2-9 |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 15/4800 | 13/6000 | 10.2/8000 | 7.5/9600 |
| Minimum brake resistor value *** | Ω | 12.7 | | 9.5 | 6.3 |

* See dimensional drawing on Page 10-14.

** Connection for external DC-Choke.

*** With external brake unit.

400V 110 - 185kW no conduit box

| Type number | VFD□□□□□□□□-00 | 1100CP43A | 1320CP43B | 1600CP43A | 1850CP43B |
|---|--------------------|-----------------------------|-----------|--------------|-----------|
| Rated power (LD/ND) | kW | 110/90 | 132/110 | 160/132 | 185/160 |
| Rated output current (LD/ND) | A RMS | 220/180 | 260/220 | 310/260 | 370/310 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 175/143 | 196/175 | 247/207 | 343/247 |
| Rated input current (LD/ND) | A RMS | 220/167 | 260/207 | 310/240 | 370/300 |
| Mains fuse (for UL: Bussmann) | | JJS-400 | JJS-500 | JJS-600 | |
| Non-fuse current breaker | A | 400 | 500 | 600 | |
| Dimensions HxWxD | mm | 589x370x300 | | 800x420x300 | |
| Frame * | | E1 | | F1 | |
| Weight | kg | 63.6 | | 85 | |
| Power cable entry | ∅mm | open | | | |
| Signal cable entry | ∅mm | open | | | |
| Section of power cables, stranded (with ring) | mm ² | 67.4-107 (2x) | | 107-152 (2x) | 152 (2x) |
| Cooling | | Fan | | | |
| Cooling air flow rate | m ³ /hr | 561 | 503 | 571 | 681 |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 6.5/12000 | 6/12000 | 4/18000 | |
| Minimum brake resistor value *** | Ω | 6.3 | 6 | 4 | |

400V 200 - 280kW no conduit box

| Type number | VFD□□□□□□□□-21 | 2000CP43A | 2200CP43B | 2500CP43A | 2800CP43B |
|---|---------------------------------|-----------------------------|-------------|-----------|-----------|
| Rated power (LD/ND) | kW | 200/160 | 220/185 | 250/200 | 280/220 |
| Rated output current (LD/ND) | A RMS | 395/310 | 460/370 | 481/395 | 530/460 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | |
| Rated output capacity (LD/ND) | kVA | 315/247 | 367/295 | 383/315 | 422/367 |
| Rated input current (LD/ND) | A RMS | 395/300 | 460/380 | 481/390 | 530/400 |
| Mains fuse (for UL: Bussmann) | | JJS-800 | | KTU-1000 | |
| Non-fuse current breaker | A | 800 | | 1000 | |
| Dimensions HxWxD | mm | 1000x500x397 | | | |
| Frame * | | G1 | | | |
| Weight | kg | 134±4 | | | |
| Power cable entry | ∅mm | 2x 34 3x 117.5 | | | |
| Signal cable entry | ∅mm | 2x 22 | | | |
| Section of power cables, stranded (with ring) | Input Output mm ² | 70-120 (4x) | 95-120 (4x) | 120 (4x) | 120 (4x) |
| Cooling | | 240 (2x) Fan | | | |
| Cooling air flow rate | m ³ /hr | 771 | | | |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | |
| EMC-Filter | | No | | | |
| DC-Choke | | Built-in | | | |
| DC-Bus connection | | Yes | | | |
| Brake chopper | | External option | | | |
| Recommended brake resistor *** | Ω/W | 4/18000 | 3.4/21000 | 3/24000 | 3/24000 |
| Minimum brake resistor value *** | Ω | 4 | 3.4 | 3 | 3 |

* See dimensional drawing on Page 10-14.

*** With external brake unit.

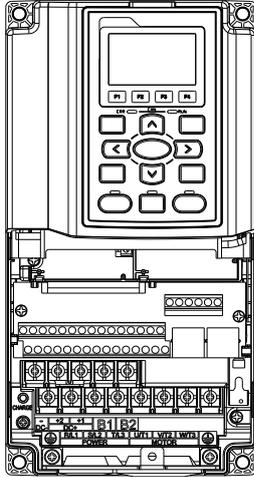
400V 315 - 630kW no conduit box

| Type number | VFD□□□□□□□□□□-21 | 3150CP43C | 3550CP43C | 4000CP43C | 5000CP43C | 5600CP43C | 6300CP43C |
|---|--------------------|-----------------------------|-----------|-----------|-------------|-----------|-----------|
| Rated power (LD/ND) | kW | 315/280 | 355/315 | 400/355 | 500/450 | 560/500 | 630/560 |
| Rated output current (LD/ND) | A RMS | 616/550 | 683/616 | 770/683 | 930/866 | 1094/930 | 1212/1094 |
| Overload (LD/ND) | % | 120% 60s;160% 3s / 120% 60s | | | | | |
| Rated output capacity (LD/ND) | kVA | 491/438 | 544/491 | 613/544 | 741/690 | 872/741 | 966/872 |
| Rated input current (LD/ND) | A RMS | 616/494 | 683/555 | 770/625 | 930/866 | 1094/930 | 1212/1094 |
| Mains fuse (for UL: Bussmann) | | KTU-1200 | KTU-1350 | KTU-1500 | | 170M6021 | 170M6021 |
| Non-fuse current breaker | A | 1200 | 1350 | 1500 | 1600 | 2000 | 2000 |
| Dimensions HxWxD | mm | 1435x700x398 | | | | | |
| Frame * | | H1 | | | | | |
| Weight | kg | 228 | | | | | |
| Power cable entry | ∅mm | 2x 34 4x 117.5 | | | | | |
| Signal cable entry | ∅mm | 4x 22 | | | | | |
| Section of power cables, stranded (with ring) | mm ² | 150-185(4x) | | 185(4x) | 240-300(4x) | 300(4x) | |
| Cooling | | Fan | | | | | |
| Cooling air flow rate | m ³ /hr | 1307 | | | 1618.9 | | |
| Carrier frequency (LD/ND) | kHz | 2-9 | | | | | |
| EMC-Filter | | No | | | | | |
| DC-Choke | | Built-in | | | | | |
| DC-Bus connection | | Yes | | | | | |
| Brake chopper | | External option | | | | | |
| Recommended brake resistor *** | Ω/W | 2/36000 | 1.7/42000 | 1.3/54000 | 1.1/63000 | 1.0/72000 | |
| Minimum brake resistor value *** | Ω | 2 | 1.7 | 1.1 | 1.1 | 1.0 | |

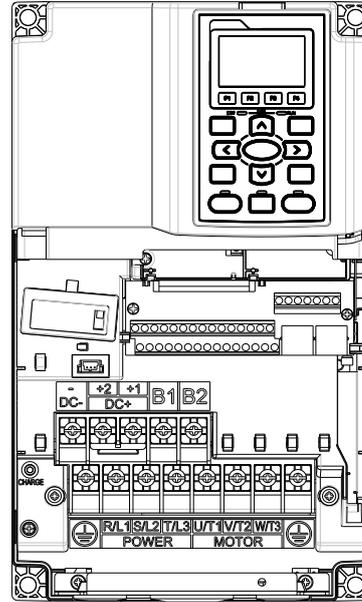
* See dimensional drawing on Page 10-14.

*** With external brake unit.

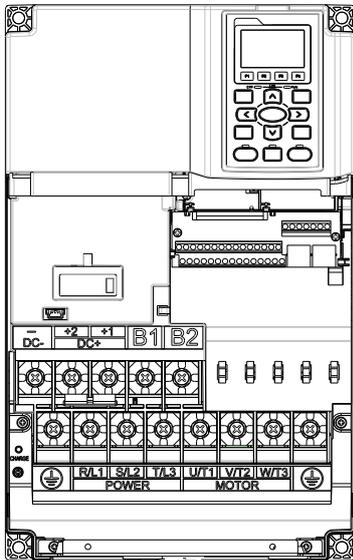
Main circuit wiring Frame A



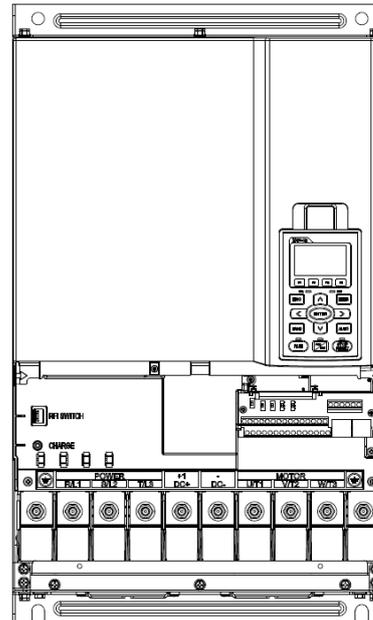
Main circuit wiring Frame B



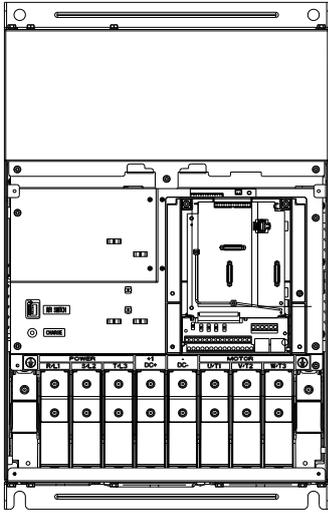
Main circuit wiring Frame C



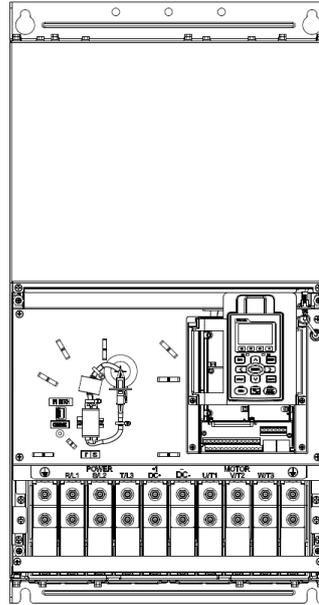
Main circuit wiring Frame D



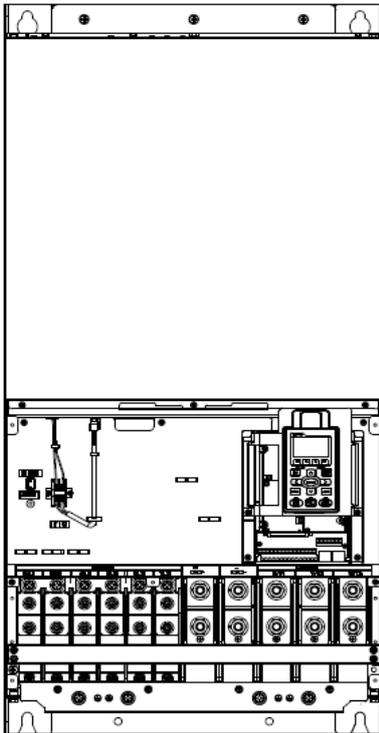
Main circuit wiring Frame E



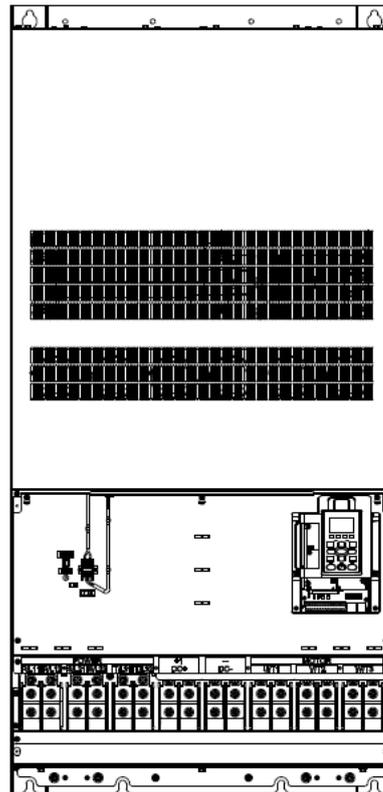
Main circuit wiring Frame F



Main circuit wiring Frame G

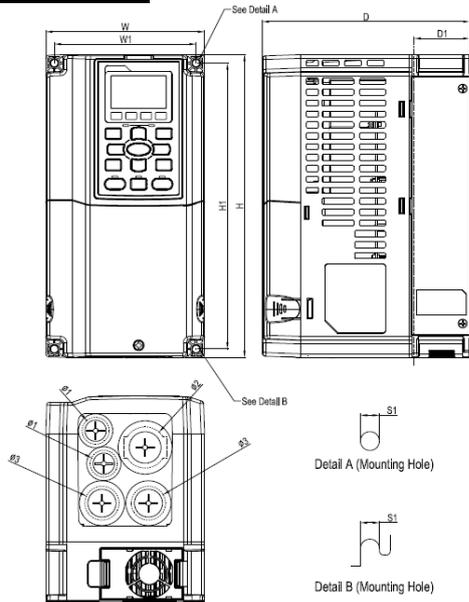


Main circuit wiring Frame H



Frame sizes and dimensions in mm [inches]

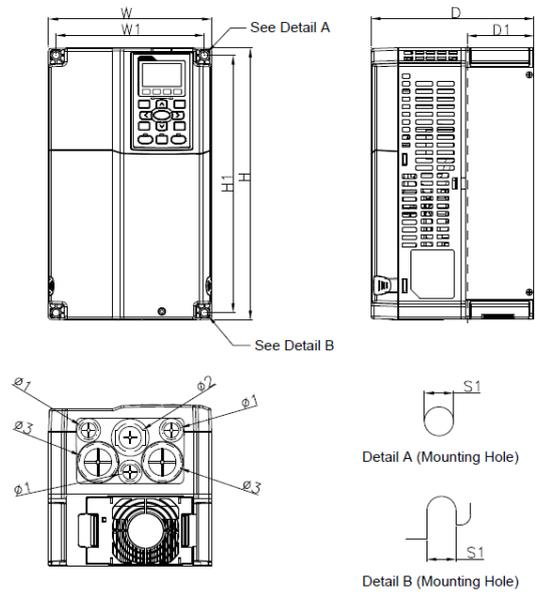
Frame A



| Frame | W | H | D | W1 | H1 | D1* | S1 | Φ1 | Φ2 | Φ3 |
|-------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|---------------|----------------|----------------|----------------|
| A1 | 130.0 [5.12] | 250.0 [9.84] | 170.0 [6.69] | 116.0 [4.57] | 236.0 [9.29] | 45.8 [1.80] | 6.2 [0.24] | 22.2 [0.87] | 34.0 [1.34] | 38.0 [1.10] |

Unit: mm [inch]
D1*: Flange mounting

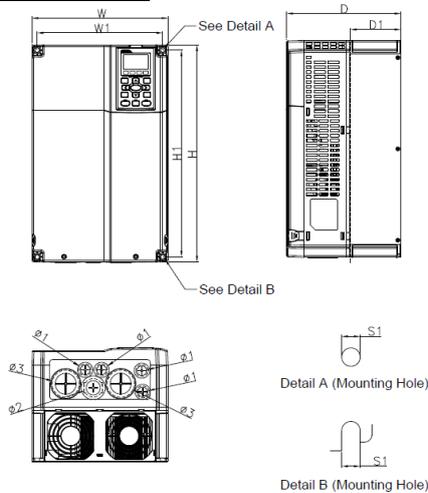
Frame B



| Frame | W | H | D | W1 | H1 | D1* | S1 | Φ1 | Φ2 | Φ3 |
|-------|-----------------|------------------|-----------------|-----------------|------------------|----------------|---------------|----------------|----------------|----------------|
| B | 190.0 [7.48] | 320.0 [12.60] | 190.0 [7.48] | 173.0 [6.81] | 303.0 [11.93] | 77.9 [3.07] | 8.5 [0.33] | 22.2 [0.87] | 34.0 [1.34] | 43.8 [1.72] |

Unit: mm [inch]
D1*: Flange mounting

Frame C



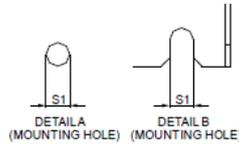
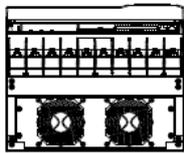
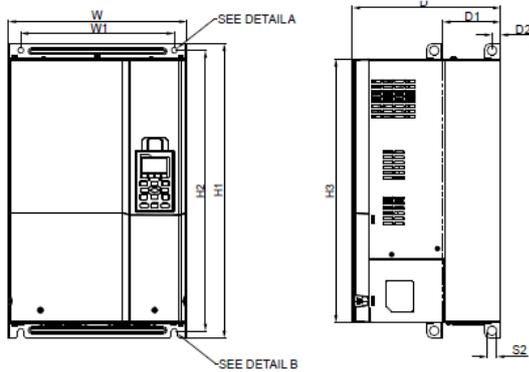
| Frame | W | H | D | W1 | H1 | D1* | S1 | Φ1 | Φ2 | Φ3 |
|-------|-----------------|------------------|-----------------|-----------------|------------------|----------------|---------------|----------------|----------------|----------------|
| C | 250.0 [9.84] | 400.0 [15.75] | 210.0 [8.27] | 231.0 [9.09] | 381.0 [15.00] | 92.9 [3.66] | 8.5 [0.33] | 22.2 [0.87] | 34.0 [1.34] | 50.0 [1.97] |

Unit: mm [inch]
D1*: Flange mounting

Frame D0-1/D0-2: See page 14.

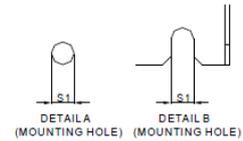
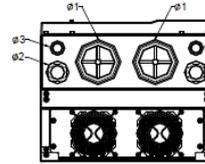
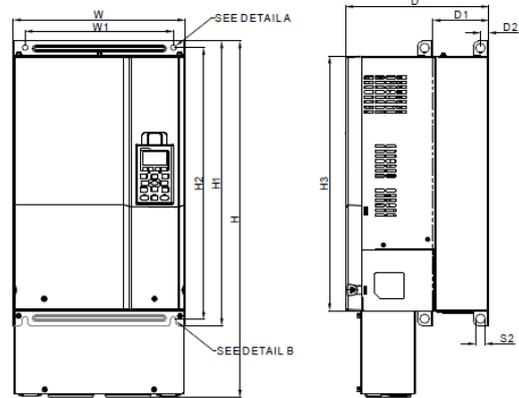
Frame sizes and dimensions in mm [inches] (cont'd)

Frame D1



Frame D2

Frame D0 see page 14

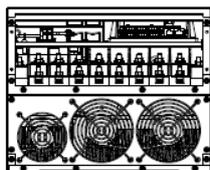
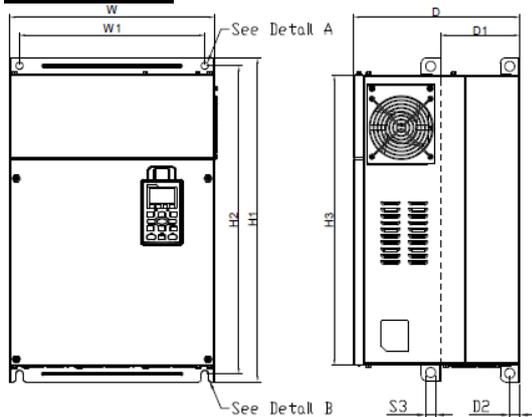


Unit : mm[inch]

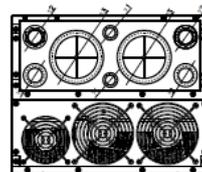
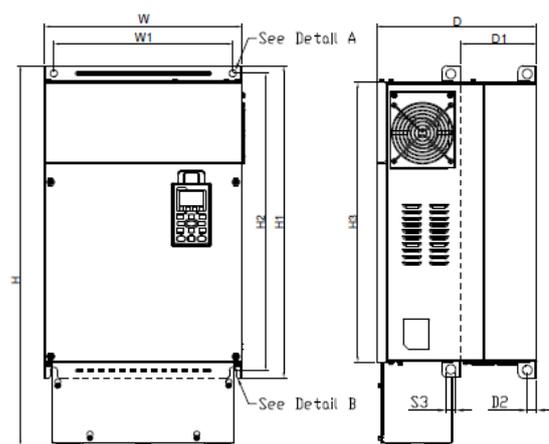
| Frame | W | H | D | W1 | H1 | H2 | H3 | D1* | D2 | S1 | S2 | Φ1 | Φ2 | Φ3 |
|-------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| D1 | 330.0 [12.99] | - | 275.0 [10.83] | 285.0 [11.22] | 550.0 [21.65] | 525.0 [20.67] | 492.0 [19.37] | 107.2 [4.22] | 16.0 [0.63] | 11.0 [0.43] | 18.0 [0.71] | - | - | - |
| D2 | 330.0 [12.99] | 688.3 [27.10] | 275.0 [10.83] | 285.0 [11.22] | 550.0 [21.65] | 525.0 [20.67] | 492.0 [19.37] | 107.2 [4.22] | 16.0 [0.63] | 11.0 [0.43] | 18.0 [0.71] | 76.2 [3.00] | 34.0 [1.34] | 22.0 [0.87] |

D1* : Flange mounting

Frame E1



Frame E2

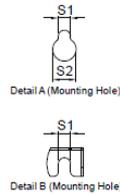
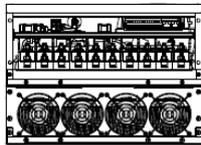
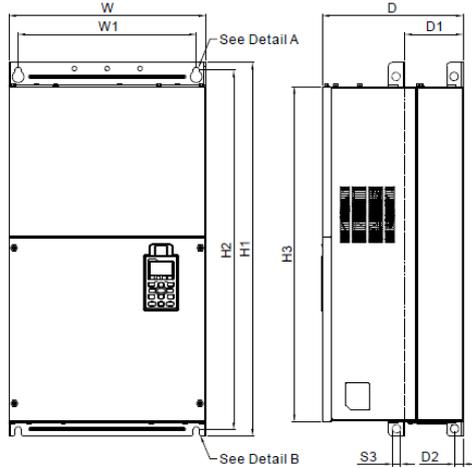


Unit : mm [inch]

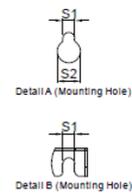
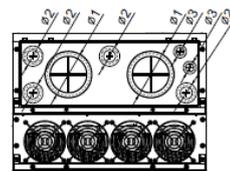
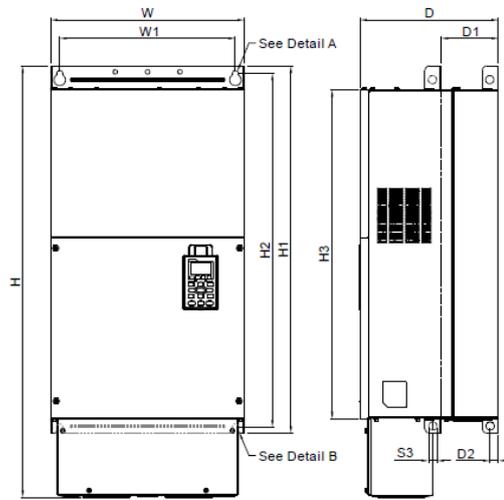
| Frame | W | H | D | W1 | H1 | H2 | H3 | D1* | D2 | S1, S2 | S3 | Φ1 | Φ2 | Φ3 |
|-------|------------------|------------------|------------------|------------------|----------------|------------------|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| E1 | 370.0 [14.57] | - | 300.0 [11.81] | 335.0 [13.19] | 589 [23.19] | 560.0 [22.05] | 528.0 [20.80] | 143.0 [5.63] | 18.0 [0.71] | 13.0 [0.51] | 18.0 [0.71] | - | - | - |
| E2 | 370.0 [14.57] | 715.8 [28.18] | 300.0 [11.81] | 335.0 [13.19] | 589 [23.19] | 560.0 [22.05] | 528.0 [20.80] | 143.0 [5.63] | 18.0 [0.71] | 13.0 [0.51] | 18.0 [0.71] | 22.0 [0.87] | 34.0 [1.34] | 92.0 [3.62] |

D1* : Flange mounting

Frame F1



Frame F2

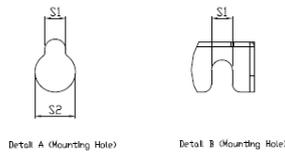
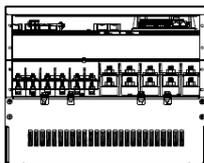
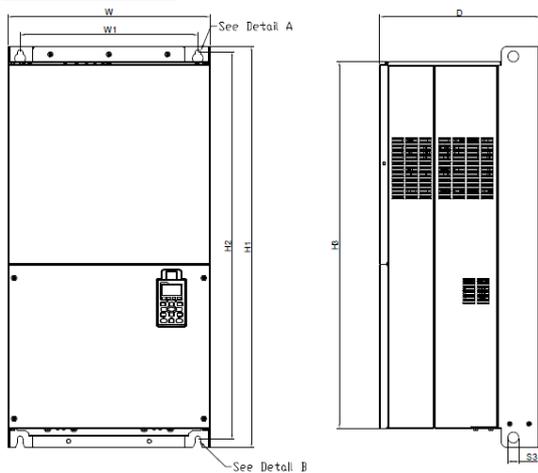


Unit : mm [inch]

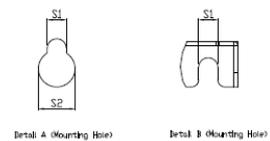
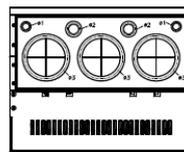
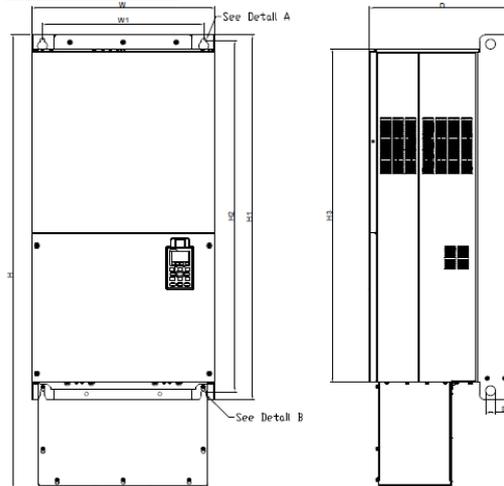
| Frame | W | H | D | W1 | H1 | H2 | H3 | D1* | D2 | S1 | S2 | S3 |
|-------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------|----------------|----------------|----------------|----------------|
| F1 | 420.0 [16.54] | - | 300.0 [11.81] | 380.0 [14.96] | 800.0 [31.50] | 770.0 [30.32] | 717.0 [28.23] | 124.0 [4.88] | 18.0 [0.71] | 13.0 [0.51] | 25.0 [0.98] | 18.0 [0.71] |
| F2 | 420.0 [16.54] | 940.0 [37.00] | 300.0 [11.81] | 380.0 [14.96] | 800.0 [31.50] | 770.0 [30.32] | 717.0 [28.23] | 124.0 [4.88] | 18.0 [0.71] | 13.0 [0.51] | 25.0 [0.98] | 18.0 [0.71] |

| Frame | Φ1 | Φ2 | Φ3 |
|-------|----------------|----------------|----------------|
| F1 | - | - | - |
| F2 | 92.0 [3.62] | 35.0 [1.38] | 22.0 [0.87] |

Frame G1



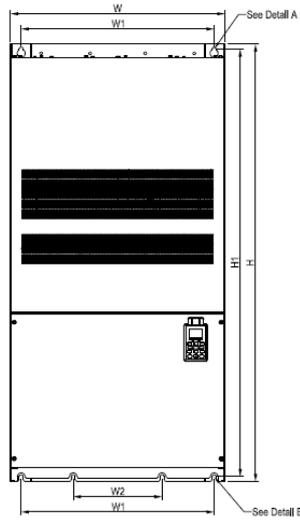
Frame G2



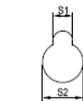
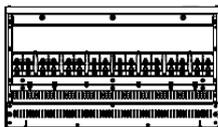
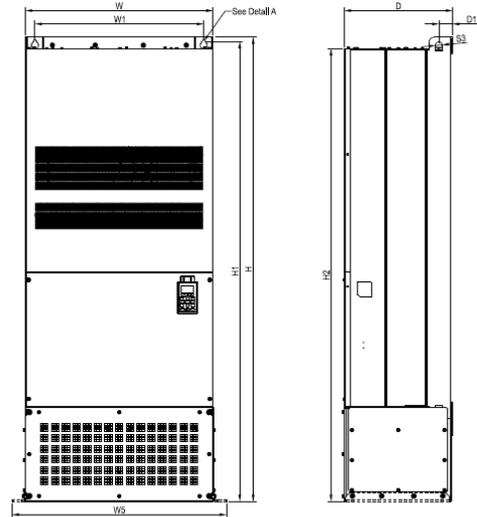
Unit : mm [inch]

| Frame | W | H | D | W1 | H1 | H2 | H3 | S1 | S2 | S3 | Φ1 | Φ2 | Φ3 |
|-------|------------------|-------------------|------------------|-------------------|-------------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| G1 | 500.0 [19.69] | - | 397.0 [15.63] | 440.0 [217.32] | 1000.0 [39.37] | 963.0 [37.91] | 913.6 [35.97] | 13.0 [0.51] | 26.5 [1.04] | 27.0 [1.06] | - | - | - |
| G2 | 500.0 [19.69] | 1240.2 [48.83] | 397.0 [15.63] | 440.0 [217.32] | 1000.0 [39.37] | 963.0 [37.91] | 913.6 [35.97] | 13.0 [0.51] | 26.5 [1.04] | 27.0 [1.06] | 22.0 [0.87] | 34.0 [1.34] | 117.5 [4.63] |

Frame H1



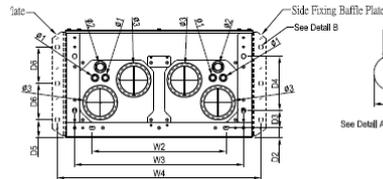
Frame H3 (H2 same dimensions)



See Detail A(Mounting Hole)



See Detail B(Mounting Hole)



See Detail A(Mounting Hole)

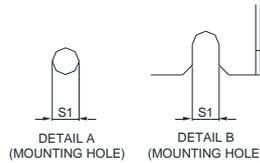
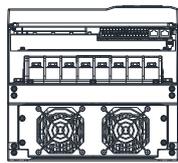
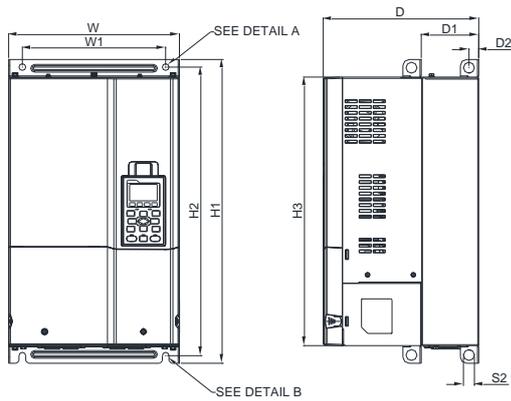


See Detail B(Mounting Hole)

Unit : mm [inch]

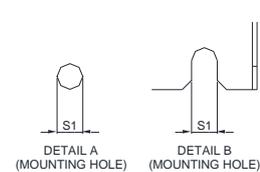
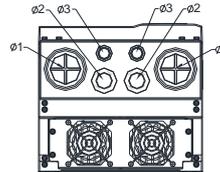
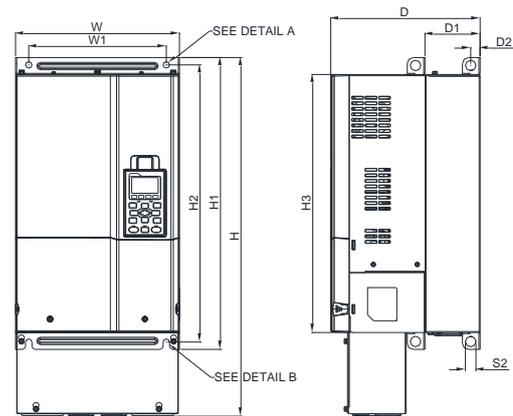
| Frame | W | H | D | W1 | W2 | W3 | W4 | W5 | W6 | H1 | H2 | H3 | H4 |
|-------|------------------|-------------------|------------------|------------------|------------------|------------------|------------------|-----------------|----------------|-------------------|-------------------|----------------|-----------------|
| H1 | 700.0 [27.56] | 1435.0 [56.5] | 398.0 [15.67] | 630.0 [24.8] | 290.0 [11.42] | - | - | - | - | 1403.0 [55.24] | 1346.6 [53.02] | - | - |
| H2 | 700.0 [27.56] | 1745.0 [68.70] | 404.0 [15.90] | 630.0 [24.8] | 500.0 [19.69] | 630.0 [24.80] | 760.0 [29.92] | 800.0 [31.5] | - | 1729.0 [68.07] | 1701.6 [66.99] | - | - |
| H3 | 700.0 [27.56] | 1745.0 [68.70] | 404.0 [15.91] | 630.0 [24.80] | 500.0 [19.69] | 630.0 [24.80] | 760.0 [29.92] | 800.0 [31.5] | - | 1729.0 [68.07] | 1701.6 [66.99] | - | - |
| Frame | H5 | D1 | D2 | D3 | D4 | D5 | D6 | S1 | S2 | S3 | Φ1 | Φ2 | Φ3 |
| H1 | | 45.0 [1.77] | - | - | - | - | - | 13.0 [0.51] | 26.5 [1.04] | 25.0 [0.98] | - | - | - |
| H2 | | 51.0 [2.00] | 38.0 [1.50] | 65.0 [2.56] | 204.0 [8.03] | 68.0 [2.68] | 137.0 [5.40] | 13.0 [0.51] | 26.5 [1.04] | 25.0 [0.98] | - | - | - |
| H3 | | 51.0 [2.00] | 38.0 [1.50] | 65.0 [2.56] | 204.0 [8.03] | 68.0 [2.68] | 137.0 [5.40] | 13.0 [0.51] | 26.5 [1.04] | 25.0 [0.98] | 22.0 [0.87] | 34.0 [1.34] | 117.5 [4.63] |

Frame D0-1



| Frame | Wa | H1a | Da | W1a | H2a | H3a | D1*a | D2a | S1a | S2a |
|-------|--|--|--|---|--|--|--|--|--|--|
| D0-1a | 280.0 ^h [11.02] ^h | 500.0 ^h [19.69] ^h | 255.0 ^h [10.04] ^h | 235.0 ^h [9.25] ^h | 475.0 ^h [18.70] ^h | 442.0 ^h [17.40] ^h | 94.2 ^h [3.71] ^h | 16.0 ^h [0.63] ^h | 11.0 ^h [0.43] ^h | 18.0 ^h [0.71] ^h |

Frame D0-2



| Frame | Wa | Ha | Da | W1a | H1a | H2a | H3a | D1*a | D2a | S1a | S2a | Φ1a | Φ2a | Φ3a |
|-------|--|--|--|---|--|--|--|--|--|--|--|--|--|--|
| D0-2a | 280.0 ^h [11.02] ^h | 614.4 ^h [24.19] ^h | 255.0 ^h [10.04] ^h | 235.0 ^h [9.25] ^h | 500.0 ^h [19.69] ^h | 475.0 ^h [18.70] ^h | 442.0 ^h [17.40] ^h | 94.2 ^h [3.71] ^h | 16.0 ^h [0.63] ^h | 11.0 ^h [0.43] ^h | 18.0 ^h [0.71] ^h | 62.7 ^h [2.47] ^h | 34.0 ^h [1.34] ^h | 22.0 ^h [0.87] ^h |

Common data VFD-CP

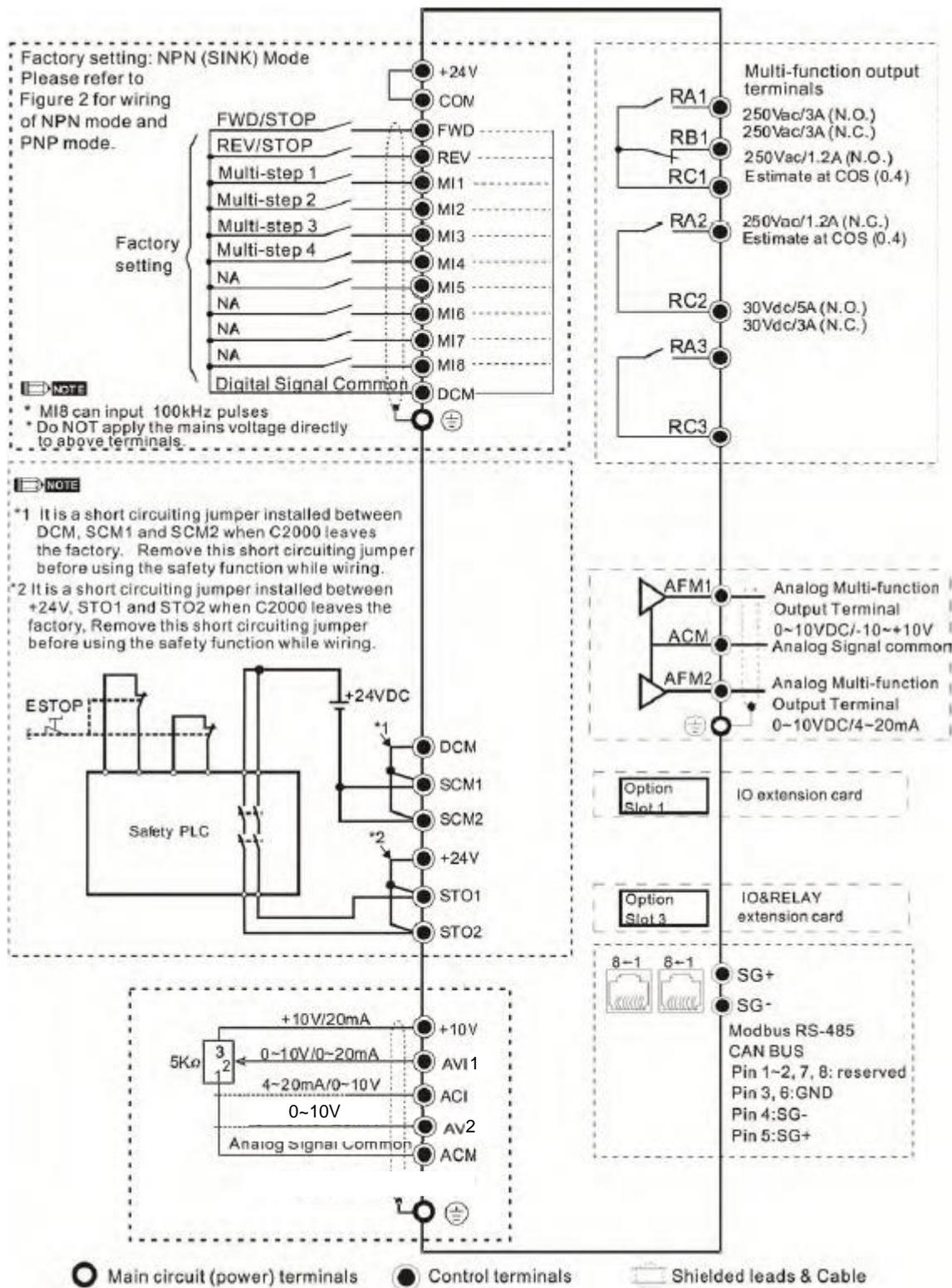
| | | |
|------------------------|-----|---|
| Mains voltage range | VAC | 400V _{AC} : 342 - 528 |
| Mains frequency | Hz | 47 - 63 |
| Output frequency range | Hz | 0 - 599 (≥ 90 kW: 0 - 400) |
| Output voltage range | V | 0 - Mains |
| Operating | | |
| Temperature | °C | UL Type 1/NEMA1: -10 - +40 UL Open Type: -10 - +50 |
| Atmospheric pressure | kPa | 86 - 106 |
| Relative humidity | % | ≤ 90 (non-condensing, non-frozen) |
| Installation location | % | IEC60364-1/60664-1: Pollution degree 2, Indoor use only |
| Installation position | | ±10° to vertical axis |
| Pollution level | | IEC721-3-3: 3C3, 3S2 |
| Storage | | |
| Temperature | °C | -25 - +70 |
| Atmospheric pressure | kPa | 86 - 106 |
| Relative humidity | % | ≤ 95 (non-condensing, non-frozen) |
| Pollution level | | IEC721-3-3: 1C2, 1S2 |
| Transportation | | |
| Temperature | °C | -25 - +70 |
| Atmospheric pressure | kPa | 70 - 106 |
| Relative humidity | % | ≤ 95 (non-condensing, non-frozen) |
| Pollution level | | IEC721-3-3: 2C2, 2S2 |
| Vibration | | 2 - 13.2 Hz, 1 mm IEC680068-2-6: 13.2 - 55 Hz, 0.7 - 1.0 G 55 - 512 Hz, 1 G |
| Shock | | IEC680068-2-27: ≤ 100kg: 15G 11ms > 100kg: 10G 11ms |
| Package drop | | IEC680068-2-31 ISTA 1A (acc. to weight) |
| Degree of protection | | IP20 (Type -00 >37 kW IP00 at power entry w/o conduit box) |

| | | |
|----------------------|------------------------|--|
| Altitude | m | ≤1000 derate 2% rated current or 0.5 K per 100 m up to 3000 m |
| Keypad | | Detachable |
| Signal cable section | mm ² | 0.13 - 1.3 |
| Digital inputs | 8x MIx | SINK or SOURCE Via wiring Range 24 V _{DC} Scan time 0-30 s Pull-up (internal) 3.6 kΩ Current (ON) 3.3 mA (11 V _{DC} switching) Switching level NPN ≤ 13 V _{DC} on, ≥ 19 V _{DC} off PNP ≥ 11 V _{DC} on, ≤ 5 V _{DC} off |
| STO inputs | STO1-SCM1 STO2-SCM2 | Range 24V _{DC} Current (ON) 3,3 mA (11V _{DC} switching) |
| Analogue inputs | | Accuracy 12 bits Delay 0-20 s |
| | AVI1 | Range 0-10 V _{DC} / 0/4-20 mA Impedance 20 kΩ / 250 Ω |
| | AVI2 | Range 0-10VDC Impedance 20kΩ |
| | ACI | Range 0/4-20 mA / 0-10 V _{DC} Impedance 250 Ω / 20 kΩ |
| Analogue outputs | | Accuracy 10 bits |
| | AFM1 | Range 0-10 V _{DC} / 0/4-20 mA Impedance 100 Ω / (switch) |
| | AFM2 | Range 100 Ω / 100 kΩ Impedance |
| Relays | 3x | <u>1x Change-over</u> NO: R _A -R _C Resistive 3 A / 250 V _{AC} - 5 A / 30 V _{DC} Inductive 1.2 A / 250 V _{AC} - 2 A / 30 V _{DC} NC: R _B -R _C Resistive 3 A / 250 V _{AC} - 3 A / 30 V _{DC} Inductive 1.2 A / 250 V _{AC} - 1.2 A / 30 V _{DC} <u>2x Make</u> NO: R _A -R _C Resistive 3 A / 250 V _{AC} - 5 A / 30 V _{DC} Inductive 1.2 A / 250 V _{AC} - 2 A / 30 V _{DC} |
| Signal supply | 1x | +24 V _{DC} ± 5% / 200 mA |
| Potentiometer supply | 1x | +10 V _{DC} / 20mA |
| Trip memory | | Last 6 errors |
| Acc/Dec Times | s | 0.0 - 6000 |
| Serial communication | 1x RJ45 SG+/SG- | Modbus RS485 COM1 Baud rate 4800 - 115200 Address 1 - 254 Mode ASCII 7,N,2 / 7,E,1 / 7,O,1 / 7,E,2 / 7,O,2 / 8,N,1 / 8,N,2 / 8,E,1 / 8,O,1 / 8,E,2 / 8,O,2 Modbus RTU 8,N,1 / 8,N,2 / 8,E,1 / 8,O,1 / 8,E,2 / 8,O,2 BACnet COM1 Baud rate 9600 - 76800 Address 1 - 127 |

Built-in filter

| EMC built-in model | | Rated current (ND) | Comply with EMC (IEC 61800-3) Class C3 | | Comply with EMC (IEC 61800-3) Class C2 | |
|--------------------|----------------|--------------------|--|---------|--|---------|
| Frame | Model | | Shielded cable length | Fc | Shielded cable length | Fc |
| A | VFD007CP4EA-21 | 3.5 | 30 m | ≤ 8 kHz | 10 m | ≤ 8 kHz |
| | VFD015CP4EB-21 | 4.3 | | | | |
| | VFD022CP4EB-21 | 5.9 | | | | |
| | VFD037CP4EB-21 | 8.7 | | | | |
| | VFD040CP4EA-21 | 14 | | | | |
| | VFD055CP4EB-21 | 15.5 | | | | |
| B | VFD075CP4EB-21 | 17 | 30 m | ≤ 8 kHz | 10 m | ≤ 8 kHz |
| | VFD110CP4EB-21 | 20 | | | | |
| | VFD150CP4EB-21 | 26 | | | | |
| C | VFD185CP4EB-21 | 35 | 30 m | ≤ 6 kHz | 10 m | ≤ 6 kHz |
| | VFD220CP4EA-21 | 40 | | | | |
| | VFD300CP4EB-21 | 47 | | | | |
| | VFD370CP4EB-21 | 63 | | | | |

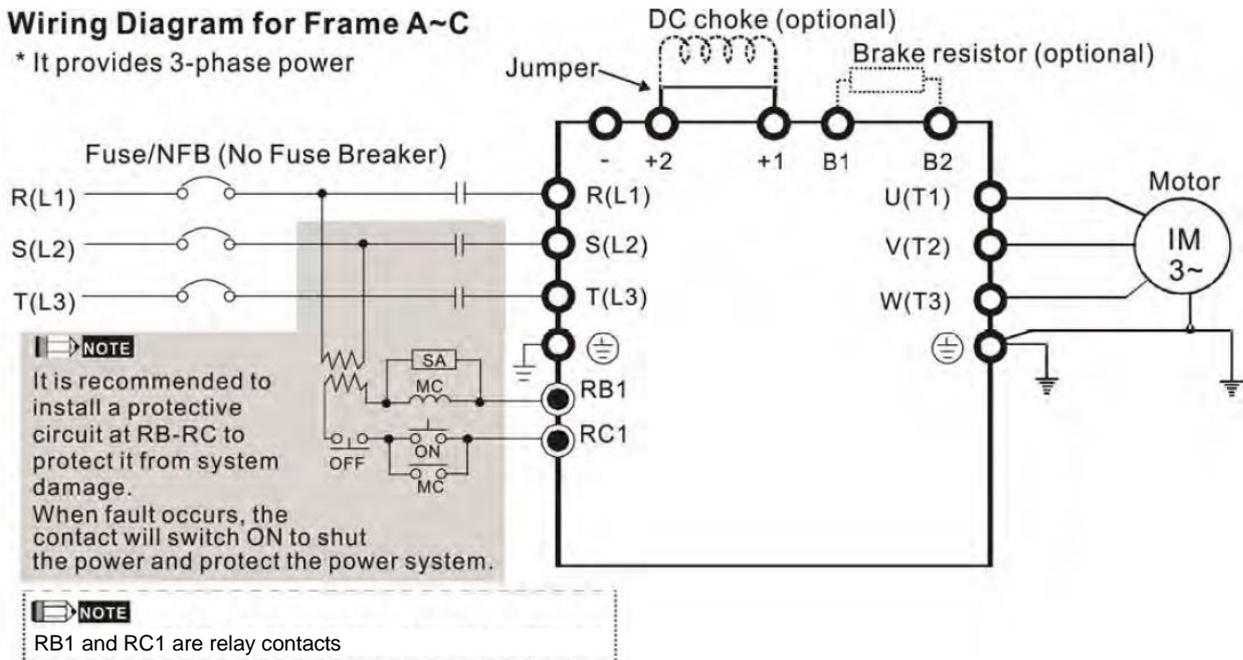
Basic wiring diagram



Basic wiring diagram Frame A, B, C

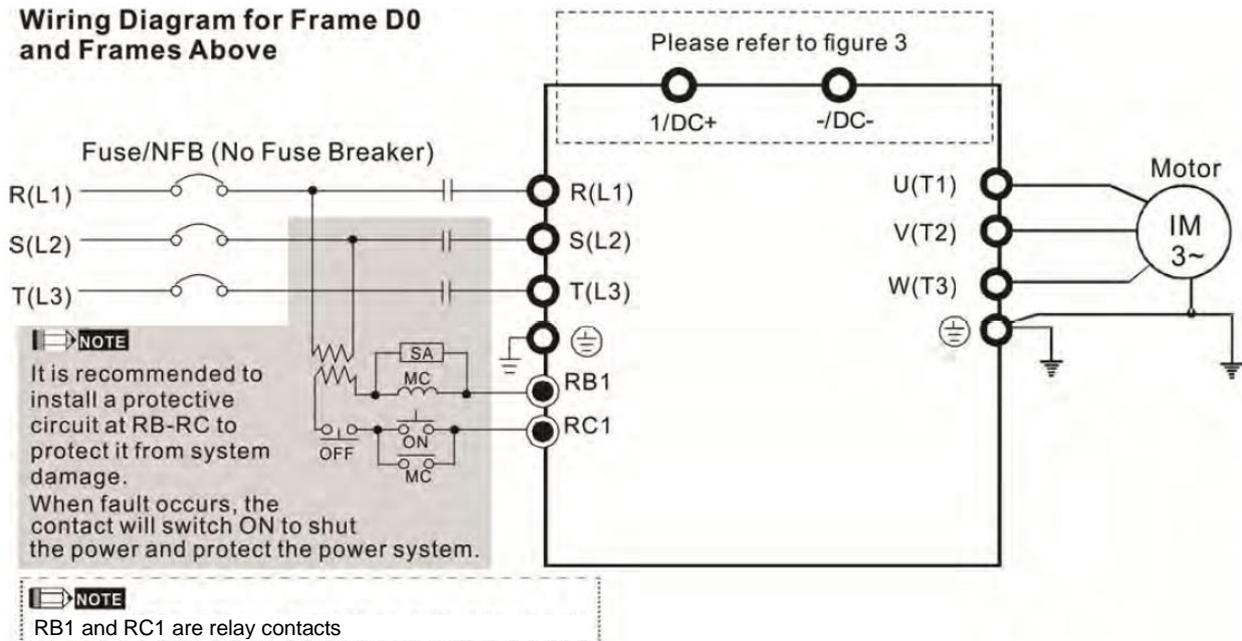
Wiring Diagram for Frame A~C

* It provides 3-phase power



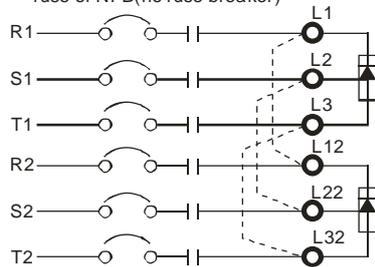
Basic wiring diagram Frame D0 and above

Wiring Diagram for Frame D0 and Frames Above

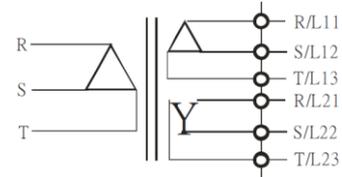


Mains input wiring for Frame G, H

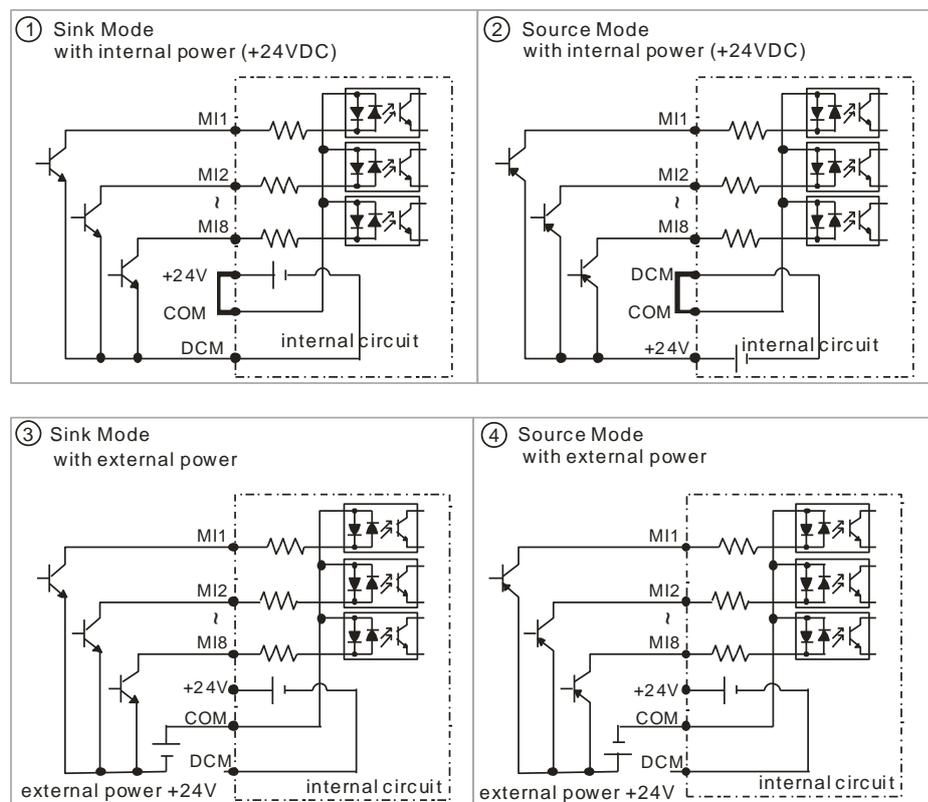
Input power terminals for frame G and H
fuse or NFB(no fuse breaker)



By supplying L1, L2, L3 and L11, L12, L13 from transformer windings that have a 30° phase angle difference, it is possible to reduce the 5th and 7th harmonics.



NPN/PNP wiring for Mlx



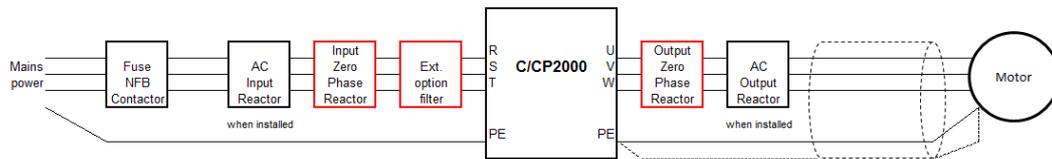
Power terminals (general)

| Terminal symbol | Terminal function |
|--|---|
| R/L1, S/L2, T/L3 L1,L2,L3/L11,L12,L13 | Mains input |
| U/T1, V/T2, W/T3 | Motor output |
| +1 ~ +2 | Connection DC-choke (external option) |
| B1 ~ B2 | Brake resistor (external option) |
| + /DC+ ~ - /DC- | VFDB series Brake unit (external option) or DC-bus connection |
| | Ground |

Options

Reactors and EMC Filters

For external components see the user manual Chapter 7



Braking

Brake resistors and VFDB brake units.

Keypad&Cables

A standard CAT5 cable (no cross) can be used to connect the keypad to the drive. The standard keypad KPC-CC01 is IP56 when mounted on a flat surface.

Communication

IFD6500/IFD6530 USB-RS485 converter, Splitters, Cables.

Fieldbus

| | |
|-----------|-----------------------------------|
| CMC-DN01 | DeviceNet |
| CMC-PD01 | Profibus |
| EMC-COP01 | CANopen |
| CMC-PN01 | Profinet |
| CMC-EIP01 | Ethernet/IP & Modbus-TCP, 1 port |
| CMC-EIP02 | Ethernet/IP & Modbus-TCP, 2 ports |
| CMC- EC01 | EtherCAT |
| eZVFD-CC | BACnet IP |

Option cards

| | |
|-----------|--|
| EMC-R6AA | 6 programmable relays (A-C, make). |
| EMC-D42A | 4 prog. Digital Inputs (PNP/NPN), 2 prog. Digital Outputs. |
| EMC-D611A | 6 prog. Digital Inputs 115VAC. |
| EMC-A22A | 2 prog. Analog Inputs (0-10V; 0/4-20mA), 2 prog. Analog Outputs. |
| EMC-BPS01 | 24VDC back up power supply card |

Software

To read, save, copy, change parameters download the latest version of DIASstudio from the Delta Download Center www.delta-emea.com.

Programming

Group 00-xx

Drive Parameters

Drive ID, Software version, Password, Parameter reset, Control Mode, Duty selection, User-defined display, Carrier frequency, Source of frequency/operation, Stop method, Motor direction inhibit, LD/ND selection, etc.

Group 01-xx

Basic Parameters

V/f-curve (2), Max/Min Voltage and frequency, Acc/Dec times, Jogging, S-curve, 3 Skip frequencies, etc.

Group 02-xx

Digital In-/Output Parameters

2-3 Wire operation, Function and setting of digital inputs, outputs and relay, Count values, Debounce time, Brake delay, etc.

Group 03-xx

Analogue In-/Output Parameters

Function, Gain, Bias, Filtering of analogue inputs and outputs.

Group 04-xx

Multi-step Speed

15 Speed steps.

Group 05-xx

Motor Parameters

Setting of motor parameters (2 motors), Auto-tuning, Slip compensation, Torque boost, Y- Δ switch-over, Motor operation time, etc.

Group 06-xx

Protection Parameters

Protection settings, Fault memory and conditions, PTC, Fire mode, etc.

Group 07-xx

Special Parameters

Brake level, DC-Braking, Power loss override, DEB, Speed search, Auto reset, Fan control, Emergency stop, Auto Energy Saving, AVR, Slip compensation, Auto restart, etc.

Group 08-xx

PID Control Parameters

PID settings, Sleep function, etc.

Group 09-xx

Communication Parameters

Modbus Protocol & Address, BACnet station, Transmission speed, Block Transfer, CANopen, Fieldbus settings, etc.

Group 10-xx

PM motor settings

Current command, Observer, Angle, etc.

Group 12-xx

Pump parameters: Circulative control

Settings for circulative control (cascading).

Group 13-xx

Application Parameters

Parameter grouping for specific applications.

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