

# SPEECON 7300PA

FAN & PUMP INVERTER

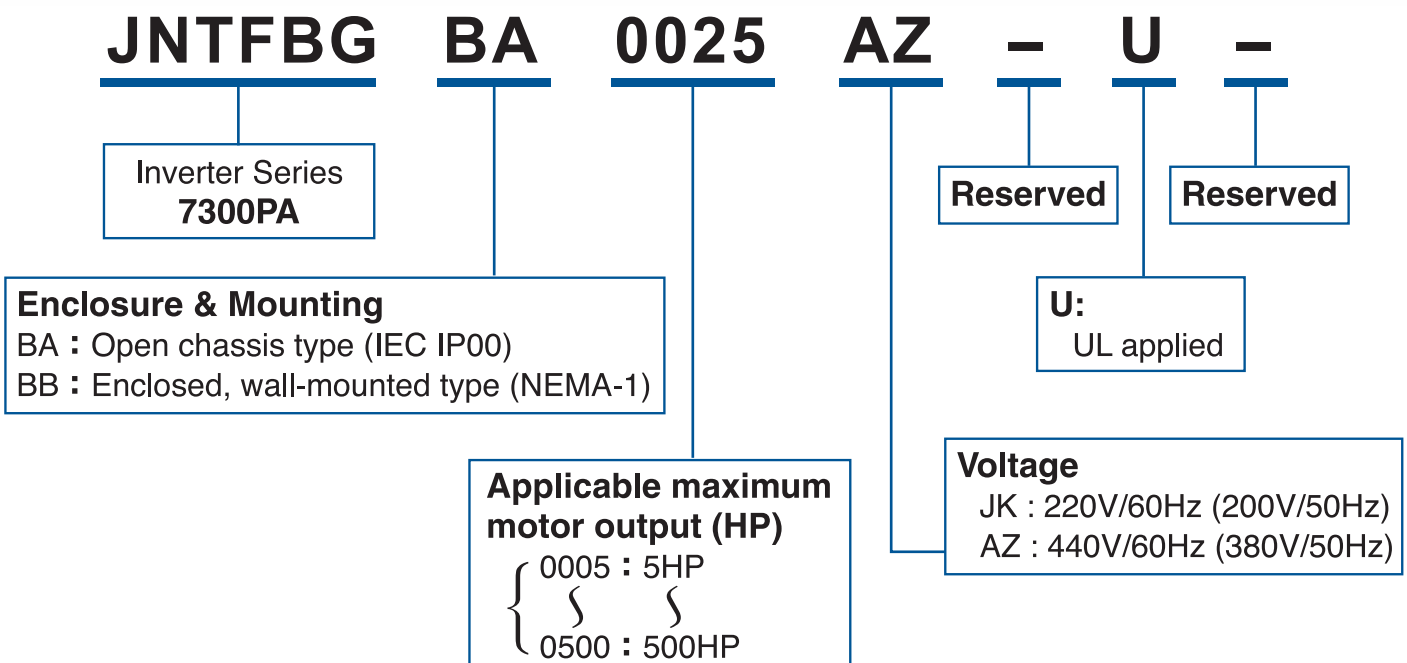


5~500HP  
4~375KW

◆ **KEY FEATURES FOR HVAC APPLICATIONS**

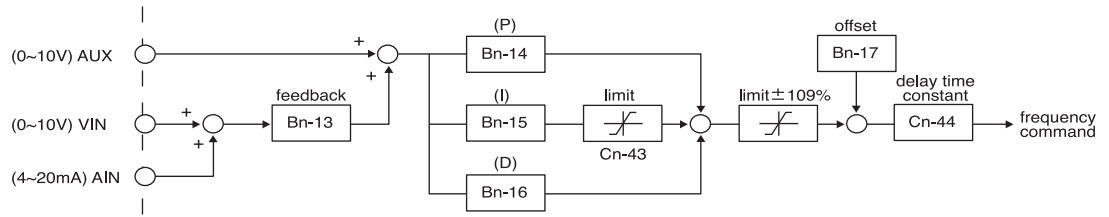
- Designed for Variable Torque Applications.
- PID & Auto Energy Saving function.
- Input Phase Loss & Output Phase Loss Protection.
- LCD keypad used as Copy Unit (Big size LED keypad Optional)
- Output common mode choke built-in.
- PF, KW, KWHr, Motor Elapsed Run Hour.
- Multi-Function Input/output interface.
- RS-485 communication — MODBUS(PA-M)      METASYS N2 (PA-C)  
    PROFIBUS(PA-P)      Lonworks(PA-L)
- 1-8 PID card (PA-PID).
- PID Sleep/Wake-up Functions.
- 3 Analog Inputs (0-10V X 2, 4-20mA)
- 2 Analog Outputs (0-10V X 2, 4-20mA option)
- Motor Thermistor Input.
- Cooling Fan on/off control
- Completed Range : 220V 3Ø 5HP ~ 125 HP      440V 3Ø 5HP ~ 500 HP
- CE, UL

◆ **MODEL DESIGNATION**

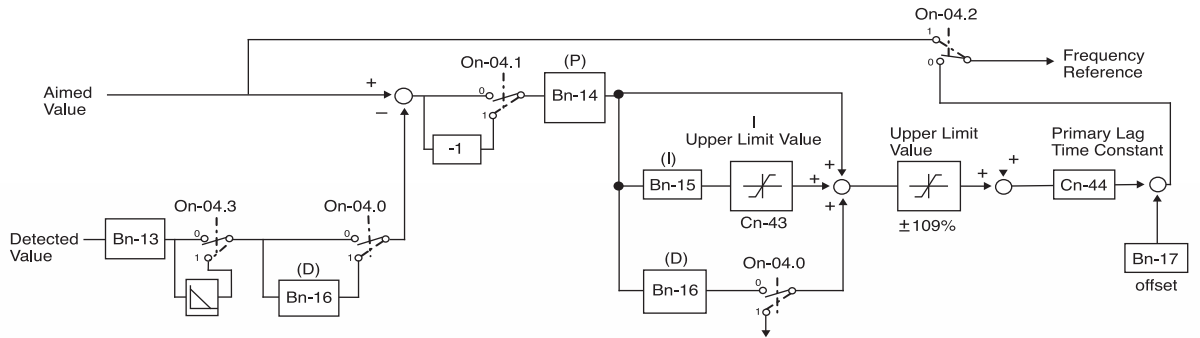


**PID FUNCTION**

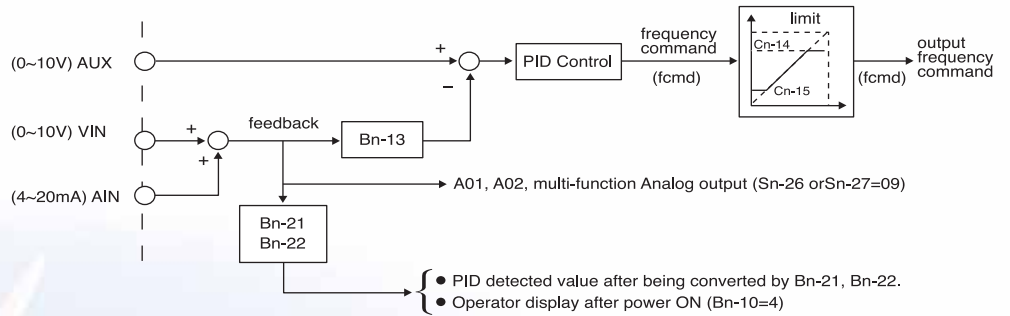
PID control



PID control (After Ver. 04XX)

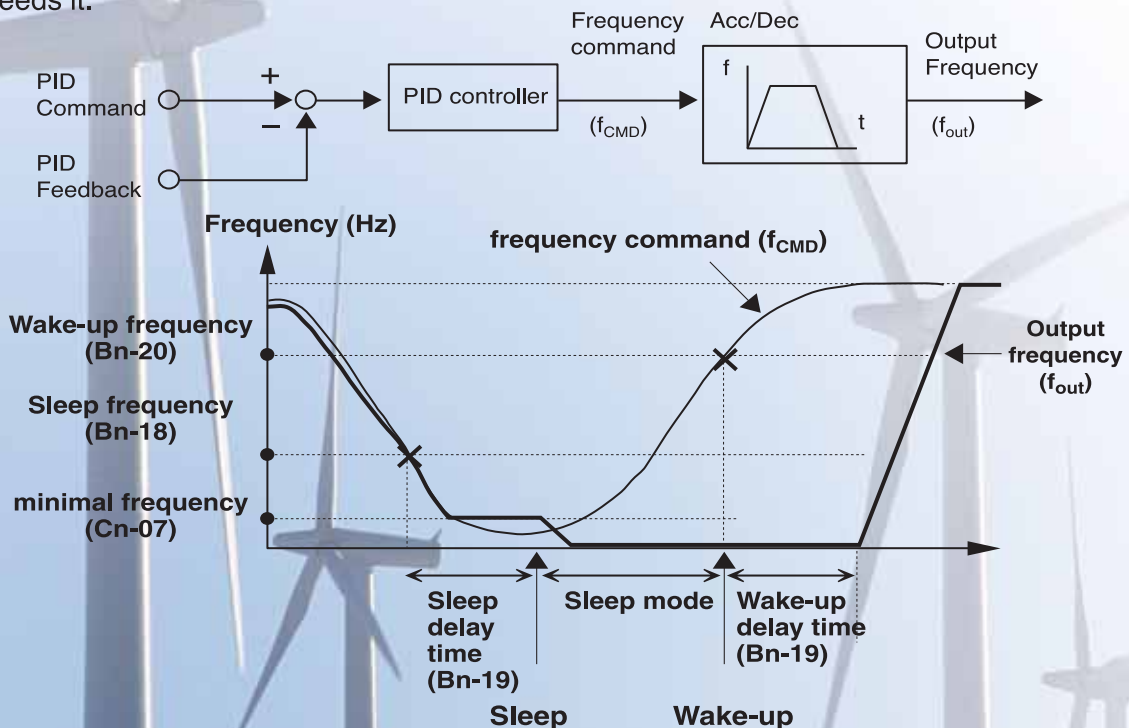


PID output value can be converted into another display unit using Bn-21, Bn-22 (ex: 4~20mA → pressure unit Mpa)



**PID SLEEP/WAKE-UP FUNCTION**

Sleep mode makes it possible to stop the motor when it is running at low speed and this has almost no load. If consumption in the system goes back up, the inverter will start the motor and supply the power supply. Energy saving can be saved with this function, since the motor is only in operative when the system needs it.



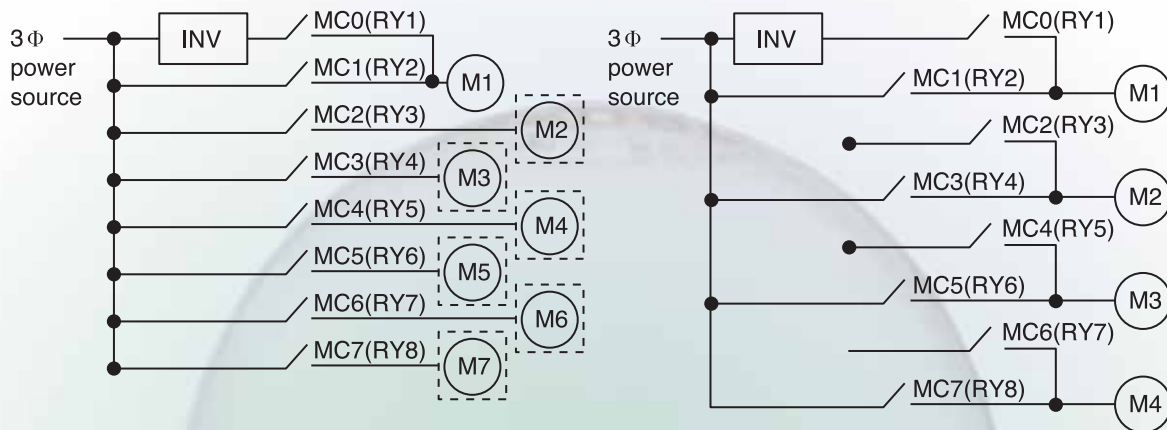
### 1 to 8 PID OPERATION CARD

▲ 1 to 8 PID Card (PA-PID) with 8 relay contact output, can be used to control max 7 pumps with PID function in a constant pressure water supply system.

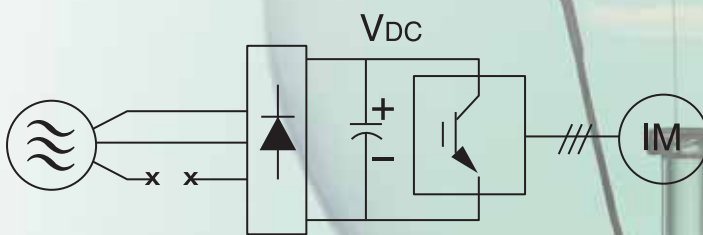
▲ The Relay constants as below:

- Bn-23 : Frequency command upper-bound delay time
- Bn-24 : Frequency command lower-bound delay time
- Bn-25 : MC ON/OFF delay time
- Bn-26 : Pump ON/OFF detection level
- Sn-30 : Pump operation mode selection
- Sn-31 : PA-PID Card Relay2 valid/invalid
- Sn-32 : PA-PID Card Relay3 valid/invalid
- Sn-33 : PA-PID Card Relay4 valid/invalid
- Sn-34 : PA-PID Card Relay5 valid/invalid
- Sn-35 : PA-PID Card Relay6 valid/invalid
- Sn-36 : PA-PID Card Relay7 valid/invalid
- Sn-37 : PA-PID Card Relay8 valid/invalid

▲ Fixed inverter driving mode and Cycled inverter driving mode connection examples:



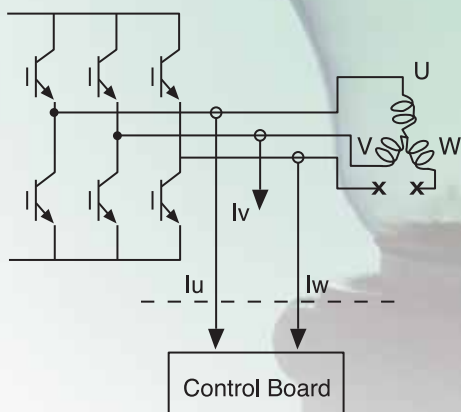
### IPL-INPUT PHASE LOSS PROTECTION



**IPL function is disabled in the following cases**

- Stop running
- Decelerating
- Output Current  $\leq 30\% \times$  INV rated current
- IPL level  $\Delta V = 100\%$
- IPL protection function is disable (Sn-28=1)
- When "A/D Fault CPF05"

### OPL-OUTPUT PHASE LOSS

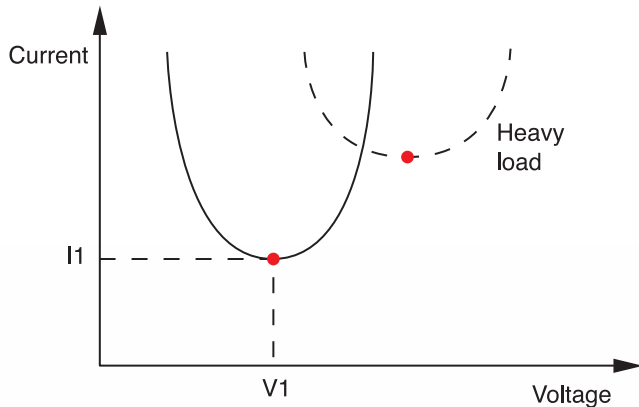


**OPL function is disabled in the following cases**

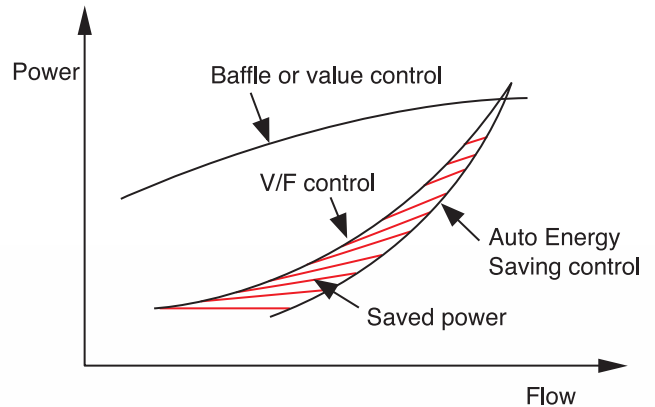
- Stop running
- DCDB
- Output current  $\leq 30\% \times$  INV rated current
- OPL protection function is disable (Sn-13=xx1x)
- When "A/D Fault CPF05"

**AES-AUTO ENERGY SAVING**

7300PA will auto adjustable voltage to minimize output current for different load.



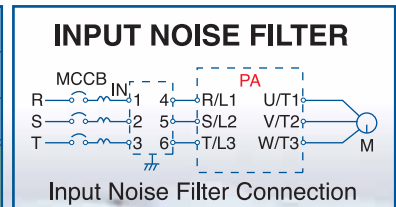
For fans, pumps and HVAC application, the auto energy saving mode will consume less power than ordinary V/F control.



**NOISE FILTER**

▲ When input noise filter is installed as indicated, the 7300PA will comply with the EN61800-3 (2000) noise interference suppression directive.

| INVERTER           | Voltage(V)       | 440V |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------|------------------|------|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                    | HP               | 5    | 7.5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60  | 75  | 100 | 125 | 150 | 175 | 215 | 250 | 300 | 350 | 400 | 500 |
|                    | Rated Current(A) | 8    | 12  | 16 | 24 | 32 | 38 | 44 | 59 | 75 | 86  | 111 | 151 | 189 | 231 | 267 | 304 | 340 | 380 | 516 | 585 | 732 |
| Input Noise Filter | Rated Current(A) | 25   | 25  | 25 | 50 | 50 | 50 | 50 | 80 | 80 | 120 | 120 | 200 | 200 | 320 | 320 | 320 | 400 | 400 | 600 | 600 | 800 |



**DIGITAL OPERATOR**



**LCD OP**

- Use Graphic LCD, Dual language (Chinese & English)
- Key function similar to as existent TECO inverter
- LCD operator, Memory built in, used as Copy unit

**LED OP**

- Big size LED operator (optional)
- Same Installation and Dimension as LCD OP



◆ SPECIFICATIONS

**230V CLASS**

| INVERTER (HP)                            |                                   | 5  | 7.5        | 10          | 15         | 20         | 25           | 30         | 40         | 50         | 60         | 75         | 100         | 125         |
|--|-----------------------------------|--|------------|-------------|------------|------------|--------------|------------|------------|------------|------------|------------|-------------|-------------|
| MAX. APPLICABLE MOTOR OUTPUT HP (KW) * 1 |                                   | 5<br>(3.7)   | 7.5<br>(5) | 10<br>(7.5) | 15<br>(11) | 20<br>(15) | 25<br>(18.5) | 30<br>(22) | 40<br>(30) | 50<br>(37) | 60<br>(45) | 75<br>(55) | 100<br>(75) | 125<br>(90) |
| Output Characteristics                   | Inverter Capacity (KVA)           | 6.2  | 9.3        | 12.4        | 18.6       | 24.8       | 27.4         | 33         | 44         | 55         | 63         | 81         | 110         | 125         |
|  | Rated Output Current (A)          | 16   | 24         | 32          | 48         | 64         | 72           | 88         | 117        | 144        | 167        | 212        | 288         | 327         |
|  | Max. Output Frequency             | 3-Phase, 200 ~ 240V<br>(Proportional to input voltage) |            |             |            |            |              |            |            |            |            |            |             |             |
|  | Rated Output Frequency            | Up to 180Hz available                                  |            |             |            |            |              |            |            |            |            |            |             |             |
| Power Supply                             | Rated Input Voltage And Frequency | 3-Phase, 200 ~ 240V, 50/60Hz                           |            |             |            |            |              |            |            |            |            |            |             |             |
|  | Allowable Voltage Fluctuation     | +10% ~ -15%  |            |             |            |            |              |            |            |            |            |            |             |             |
|  | Allowable Frequency Fluctuation   | ±5%  |            |             |            |            |              |            |            |            |            |            |             |             |

**460V CLASS**

| INVERTER (HP)                            |                                   | 5  | 7.5        | 10          | 15         | 20         | 25           | 30         | 40         | 50         | 60         | 75         | 100         | 125         | 150          | 175          | 215          | 250          | 300          | 350          | 400          | 500          |
|--|-----------------------------------|--|------------|-------------|------------|------------|--------------|------------|------------|------------|------------|------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| MAX. APPLICABLE MOTOR OUTPUT HP (KW) * 1 |                                   | 5<br>(3.7)   | 7.5<br>(5) | 10<br>(7.5) | 15<br>(11) | 20<br>(15) | 25<br>(18.5) | 30<br>(22) | 40<br>(30) | 50<br>(37) | 60<br>(45) | 75<br>(55) | 100<br>(75) | 125<br>(90) | 150<br>(100) | 175<br>(132) | 215<br>(160) | 250<br>(185) | 300<br>(220) | 350<br>(260) | 400<br>(300) | 500<br>(375) |
| Output Characteristics                   | Inverter Capacity (KVA)           | 6.2  | 9.3        | 12.4        | 18.6       | 24.8       | 29           | 34         | 45         | 57         | 66         | 85         | 115         | 144         | 176          | 203          | 232          | 259          | 290          | 393          | 446          | 558          |
|  | Rated Output Current (A)          | 8  | 12         | 16          | 24         | 32         | 38           | 44         | 59         | 75         | 86         | 111        | 151         | 189         | 231          | 267          | 304          | 340          | 380          | 516          | 585          | 732          |
|  | Max. Output Frequency             | 3-Phase, 380 ~ 480V<br>(Proportional to input voltage) |            |             |            |            |              |            |            |            |            |            |             |             |              |              |              |              |              |              |              |              |
|  | Rated Output Frequency            | Up to 180Hz available                                  |            |             |            |            |              |            |            |            |            |            |             |             |              |              |              |              |              |              |              |              |
| Power Supply                             | Rated Input Voltage And Frequency | 3-Phase, 380 ~ 480V, 50/60Hz                           |            |             |            |            |              |            |            |            |            |            |             |             |              |              |              |              |              |              |              |              |
|  | Allowable Voltage Fluctuation     | +10% ~ -15%  |            |             |            |            |              |            |            |            |            |            |             |             |              |              |              |              |              |              |              |              |
|  | Allowable Frequency Fluctuation   | ±5%  |            |             |            |            |              |            |            |            |            |            |             |             |              |              |              |              |              |              |              |              |

\* Based on 4 pole motor

◆ CHARACTERISTICS

|                                |   |  |
|--------------------------------|---|--|
| Control Characteristics        | Control Method  | Sine wave PWM  |
|                                | Frequency Control Range                                 | 0.1 to 180Hz   |
|                                | Frequency Accuracy                                      | Digital command: 0.01% $+14$ to $104^{\circ}\text{F}$<br>$-10$ to $40^{\circ}\text{C}$ Analog command: 0.1% $77 \pm 18^{\circ}\text{F}$<br>$25 \pm 10^{\circ}\text{C}$                                   |
|                                | Frequency Setting Resolution                            | Digital operator reference: 0.01Hz    Analog reference: 0.06Hz/60Hz  |
|                                | Output Frequency Resolution                             | 0.01Hz (1/30000)   |
|                                | Overload Capacity                                       | 110% rated output current for one minute.  |
|                                | Frequency Setting Signal                                | 0 to 10VDC (20K $\Omega$ ), 4~20mA (250 $\Omega$ )   |
|                                | Accel/Decel time  | 0.1 to 6000 sec (independent Accel/Decel time settings)  |
|                                | Braking Torque  | Approximately 20%  |
|                                | No. of. V/f patterns<br>(Total of 5)                    | 1: For adjustable pattern. 4: For fans and pumps.  |
| Protective Functions           | Motor Overload Protection                               | Electric thermal overload relay  |
|                                | Instantaneous Overcurrent                               | Motor coasts to stop at approx. 200% rated current.  |
|                                | Overload  | Motor coasts to stop after 1 minute at 110% rated output current.  |
|                                | Overvoltage (460V class)                                | Motor coasts to stop if inverter output voltage exceeds 820VDC.  |
|                                | Overvoltage (230V class)                                | Motor coasts to stop if inverter output voltage exceeds 410VDC.  |
|                                | Undervoltage (460V class)                               | Motor coasts to stop if inverter output voltage drops to 380VDC or below.  |
|                                | Undervoltage (230V class)                               | Motor coasts to stop if inverter output voltage drops to 190VDC or below.  |
|                                | Momentary Power Loss*1                                  | Motor coasts to stop after momentary power loss lasting over 15ms.<br>(time-setting made before shipment).   |
|                                | Motor Overheat Protection                               | Motor PTC thermistor (Active: 1330 $\Omega$ , Return: 550 $\Omega$ )   |
|                                | Input phase Loss  | Single phase protection.   |
|                                | Output phase Loss                                       | Provided by electronic circuit.  |
|                                | Fin Overheat  | Thermostat   |
|                                | Stall Prevention  | Stall prevention at acceleration/deceleration and constant speed operation.  |
|                                | Ground Fault  | Provided by electronic circuit.  |
| Power Charge Indication        | Charge lamp stays ON until bus voltage drops below 50V. |  |
| Environmental Conditions       | Location  | Indoor (Protected from corrosive gases and dust)   |
|                                | Ambient Temperature                                     | Wall-mounted type: $+14$ to $104^{\circ}\text{F}$ ( $-10$ to $+40^{\circ}\text{C}$ ), (not frozen)<br>Open chassis type: $+14$ to $113^{\circ}\text{F}$ ( $-10$ to $+45^{\circ}\text{C}$ ), (not frozen) |
|                                | Storage Temperature                                     | $-4$ to $140^{\circ}\text{F}$ ( $-20$ to $+60^{\circ}\text{C}$ )   |
|                                | Humidity  | 95% RH (non-condensing)  |
|                                | Vibration   | 1G at 10 to 20Hz, up to 0.2G at 20 to 50Hz.  |
| Communication Function         | RS-485 MODBUS, PROFIBUS, LONWORKS, METASYS N2 (Option)  |  |
| Noise Interference Suppression | EN61800-3 (2000) with specified noise filter            |  |
| Noise Immunity                 | EN61800-3 (2000)  |  |

◆ MAIN CIRCUIT TERMINALS

| TERMINALS         | TERMINAL FUNCTION  |
|-------------------|--|
| R / L1            | Main Circuit Input Power Supply  |
| S / L2            |  |
| T / L3            |  |
| U / T1            | Inverter Output  |
| V / T2            |  |
| W / T3            |  |
| ⊕                 | DC Power Supply Input or Braking Unit                                  |
| ⊖                 |  |
| B2                | B2- ⊕ :External Braking Resistor (Only for 220V 25HP, 440V 25HP, 30HP) |
| E ( PE, $\perp$ ) | Grounding (3rd Type Grounding)   |

◆ CONTROL CIRCUIT TERMINALS

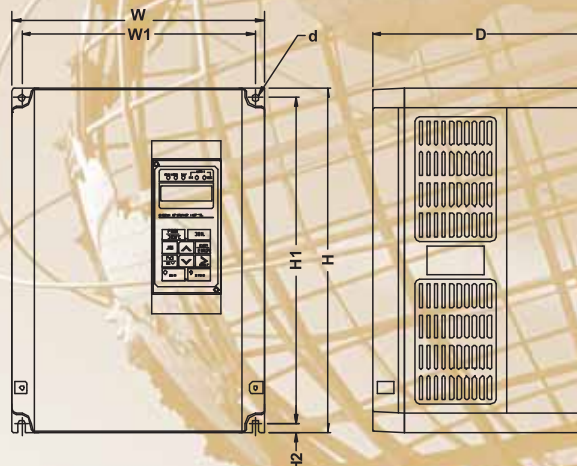
| I/O                      | Terminal                          | Function  |   |
|--------------------------|-----------------------------------|---|---|
| Digital Input Terminals  | 1                                 | Forward operation-stop signal.  |   |
|                          | 2                                 | Reverse operation-stop signal.  |   |
|                          | 3                                 | External fault input.   |   |
|                          | 4                                 | Fault reset.  |   |
|                          | 5                                 | Multi-function contact input: the following signals available to select. Forward/reverse select, run mode select, multi-speed select, jog frequency select, accel/decel time select, external fault, external coast to stop, hold command, inverter overheat prediction, DB command, aux. Input effective, speed search, energy-saving operation. |   |
|                          | 6                                 |   |   |
|                          | 7                                 |   |   |
|                          | 8                                 |   |   |
|                          |                                   | 24VG  | SINK Common (0V), ref to appendix D.                |
|                          |                                   | 24V   | SOURCE Common (24V), ref to appendix D.             |
|                          | SC                                | Sequence input Common (24V), ref to appendix D.   |   |
| Analog Input Terminals   | +15V                              | +15V power supply for external frequency command.   |   |
|                          | VIN                               | Master speed voltage reference (0 to 10V).  |   |
|                          | AIN                               | Master speed current reference (4 to 20mA).   |   |
|                          | AUX                               | Auxiliary analog command: one of the following signals available to select. Frequency command, frequency gain, frequency bias, overtorque detection level, voltage bias, accel/decel rate, DB current.  |   |
|                          | MT                                | Motor temperature PTC thermistor. (active: 1330 Ω, Return: 550 Ω)   |   |
|                          | GND                               | Analog signal common.   |   |
|                          | E                                 | Connection to shield signal lead. (frame ground)  |   |
| Digital Output Terminals | R3A                               | Fault contact output A (Closed at fault).   |   |
|                          | R3B                               | Fault contact output B (Open at fault).   |   |
|                          | R3C                               | Fault contact output common.  |   |
|                          | R2A-R2C                           | Multi-function contact output: one of the following signals available to output. Output during running, zero speed, synchronized speed, arbitrary speed agreed, frequency detection, overtorque, undervoltage, run mode, coast to stop, braking resistor overheat, alarm, fault.  |   |
|                          | R1A-R1C                           |   |   |
|                          | D01                               | Multi-function PHC (photo-coupler) output 1 (open collector, 48VDC, 50mA)   | The same functions as terminals R1A-R1C and R2A-R2C |
| DCOM                     | Multi-function PHC output common. |   |   |
| Analog Output Terminals  | A01                               | Analog multifunction output port: Frequency command, Output frequency, Output current, Output voltage, DC voltage, Output power.  | 0~11V max.<br>2mA or less                           |
|                          | A02                               |   |   |
|                          | GND                               | Common lead for analog port.  |   |



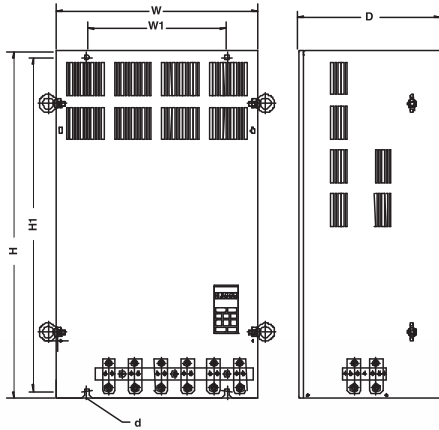
◆ DIMENSIONS

| Voltage (V) | Inverter Capacity (HP) | Open Chassis Type (IP00) mm |       |       |     |     |     |     | Weight (Kg) | Enclosed Type (NEMA1) mm |       |     |     |     |                         | Weight (Kg)             | ACL/DCL | Reference Figure |
|-------------|------------------------|-----------------------------|-------|-------|-----|-----|-----|-----|-------------|--------------------------|-------|-----|-----|-----|-------------------------|-------------------------|---------|------------------|
|             |                        | W                           | H     | D     | W1  | H1  | d   | W   |             | H                        | D     | W1  | H1  | d   |                         |                         |         |                  |
| 220V        | 5                      | 211.2                       | 300   | 215   | 192 | 286 | M6  | 5.6 | 211.2       | 300                      | 215   | 192 | 286 | M6  | 5.6                     | External ACL (option)   | (a)     |                  |
|             | 7.5                    |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 10                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 15                     | 265                         | 360   | 225   | 245 | 340 | M6  | 12  | 265         | 360                      | 225   | 245 | 340 | M6  | 12                      | External ACL (option)   | (a)     |                  |
|             | 20                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 25                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 30                     | 283.5                       | 525   | 307   | 220 | 505 | M8  | 36  | 291.5       | 685                      | 307   | 220 | 505 | M8  | 38                      | DCL Built-in (Standard) | (b)     |                  |
|             | 40                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 50                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 60                     | 344                         | 630   | 324.5 | 250 | 610 | M8  | 47  | 352         | 790                      | 324.5 | 250 | 610 | M8  | 50                      | DCL Built-in (Standard) |         |                  |
| 75          | 49                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         | 52               |
| 100         | 459                    | 790                         | 324.6 | 320   | 760 | M10 | 82  | 462 | 1105        | 324.6                    | 320   | 760 | M10 | 87  | DCL Built-in (Standard) |                         |         |                  |
| 125         |                        |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
| 440V        | 5                      | 211.2                       | 300   | 215   | 192 | 286 | M6  | 5.6 | 211.2       | 300                      | 215   | 192 | 286 | M6  | 5.6                     | External ACL (option)   | (a)     |                  |
|             | 7.5                    |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 10                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 15                     | 265                         | 360   | 225   | 245 | 340 | M6  | 12  | 265         | 360                      | 225   | 245 | 340 | M6  | 12                      | External ACL (option)   | (a)     |                  |
|             | 20                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 25                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 30                     | 283.5                       | 525   | 307   | 220 | 505 | M8  | 36  | 291.5       | 685                      | 307   | 220 | 505 | M8  | 38                      | DCL Built-in (Standard) | (b)     |                  |
|             | 40                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 50                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 60                     | 344                         | 630   | 324.5 | 250 | 610 | M8  | 47  | 352         | 790                      | 324.5 | 250 | 610 | M8  | 50                      | DCL Built-in (Standard) |         |                  |
|             | 75                     |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         | 81               |
|             | 100                    | 459                         | 790   | 324.6 | 320 | 760 | M10 | 80  | 462         | 1105                     | 324.6 | 320 | 760 | M10 | 85                      | DCL Built-in (Standard) |         |                  |
|             | 125                    |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         | 81      | 86               |
|             | 150                    | 599                         | 1000  | 381.6 | 460 | 960 | M12 | 128 | 602         | 1305                     | 381.6 | 460 | 960 | M12 | 135                     | DCL Built-in (Standard) | (c)     |                  |
|             | 175                    |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 215                    |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
|             | 250                    | 730                         | 1230  | 382   | 690 | 930 | M12 | 132 | 730         | 1330                     | 382   | 690 | 930 | M12 | 166                     | External ACL (option)   | (d)     |                  |
| 300         |                        |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
| 350         |                        |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |
| 400         | 170                    | 196                         | 176   | 196   | 196 | 196 | 196 | 196 | 196         | 196                      | 196   | 196 | 196 | 196 | 196                     | 196                     |         |                  |
| 500         |                        |                             |       |       |     |     |     |     |             |                          |       |     |     |     |                         |                         |         |                  |

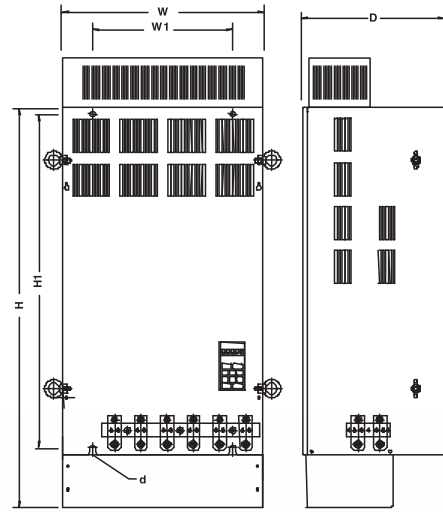
(a) 220V: 5HP~25HP  
440V: 5HP~30HP



**(b) 220V: 30HP~125HP  
440V: 40HP~300HP**

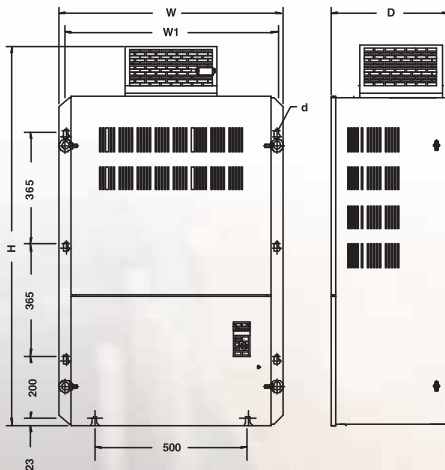


**(Open Chassis Type — IP00)**

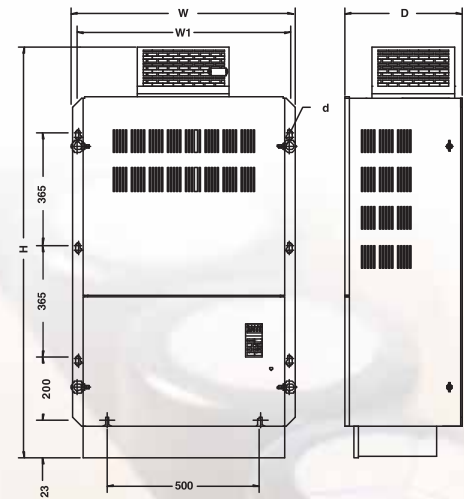


**(Wall-mounted Type — NEMA1)**

**(c) 440V: 350HP**

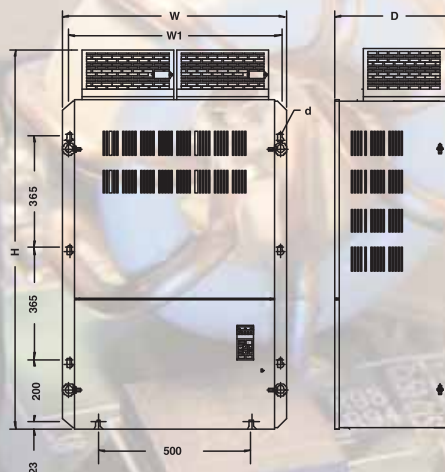


**(Open Chassis Type — IP00)**

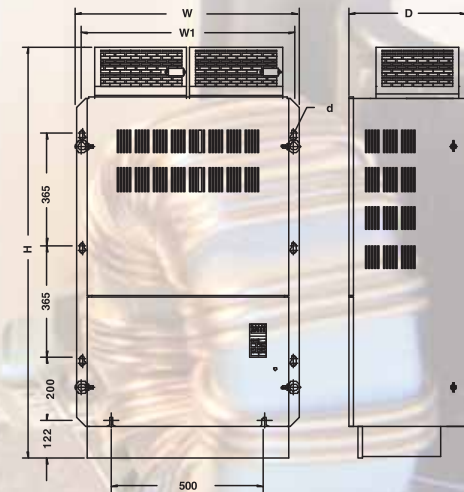


**(Wall-mounted Type — NEMA1)**

**(d) 440V: 400HP~500HP**

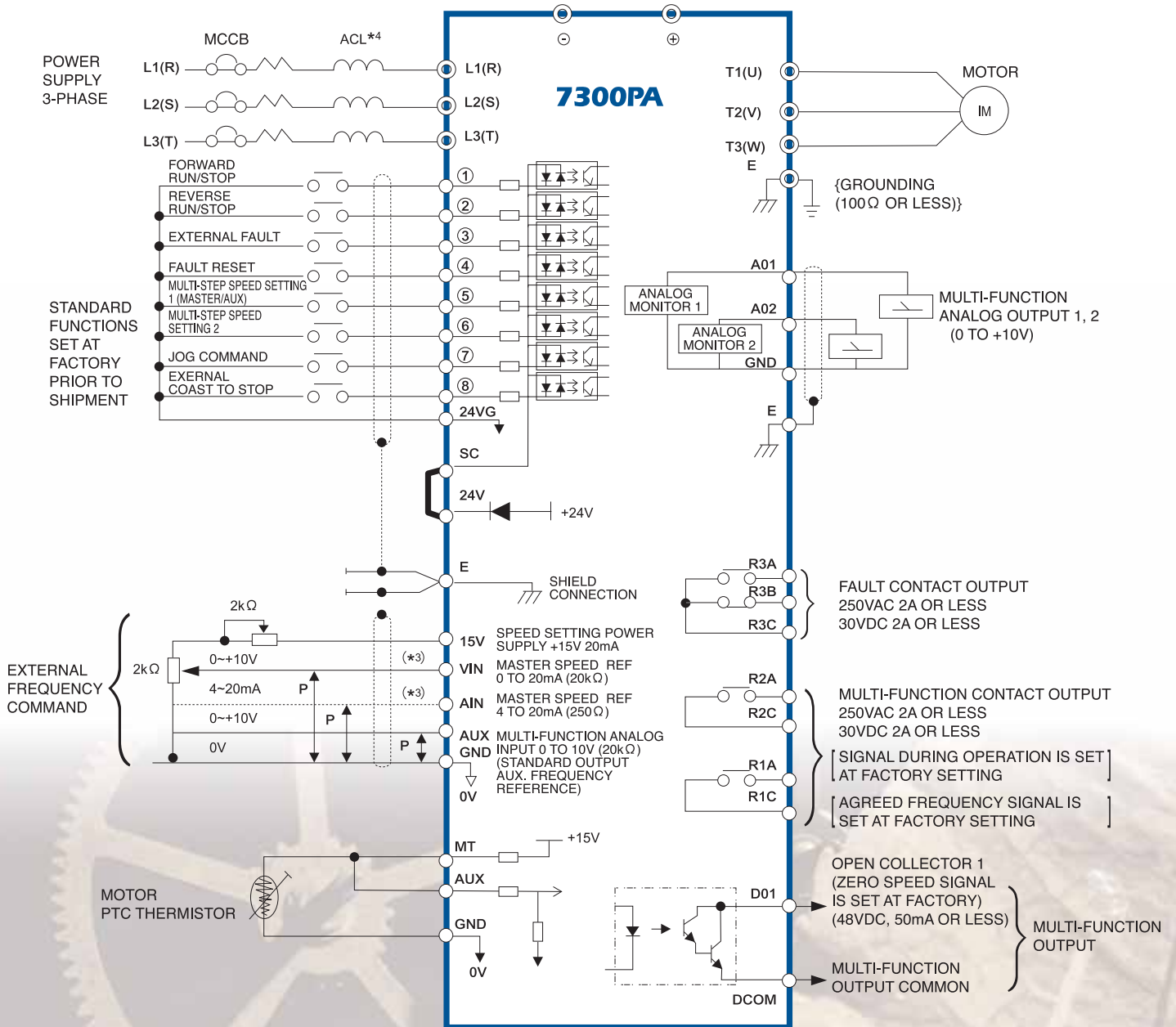


**(Open Chassis Type — IP00)**



**(Wall-mounted Type — NEMA1)**

◆ CONNECTION DIAGRAM



\*1 shield wire shield twisted wire

\*2 The terminal ① ~ ⑧ can be connected as SINK or SOURCE type input interface. (Ref. to Appendix D)

\*3 The terminal arrangement.

|      |      |   |   |   |   |   |   |   |    |    |     |    |     |     |     |     |    |     |     |     |     |     |      |     |     |     |     |     |     |     |
|------|------|---|---|---|---|---|---|---|----|----|-----|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|
| 1    | 2    | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12  | 13 | 14  | 15  | 16  | 17  | 18 | 19  | 20  | 21  | 22  | 23  | 24   | 1   | 2   | 3   | 4   | 5   | 6   | 7   |
| 24VG | 24VG | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8  | SC | 24V | E  | 15V | VIN | AIN | AUX | MT | GND | A01 | A02 | GND | D01 | DCOM | R1A | R1C | R2A | R2C | R3A | R3B | R3C |

\* Shorted at factory

\*4 For 440V 350HP ~ 500HP need to install ACL externally. (DCL built-in for 40HP ~ 300HP).

## TECO INVERTER

- EV series : 0.25~1HP(110V),0.25~3HP(220V),1~3HP(440V)
- CV series : 0.5~40HP(220V),1~75HP(440V)
- MA series : 1~40HP(220V),1~75HP(440V)
- GS series : 25~100HP(220V),25~400HP(440V)
- N310 series : 0.5~3HP(220V),1~215HP(440V)
- E310 series : 0.5~2HP(220V),1~5HP(440V)
- S310 series : 0.25~1HP(220V)



## TECO PLC / PLR

- TP03 series : 14/20/26/30/36/40/60  
I/O MAX256points
- SG2 series : 10/12/20points



## TECO SERVO

- JSDA series : 100W~15KW(220V)
- JSDE series : 50W~2KW(220V)



*Distributor*



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