

TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

ADJUSTABLE SPEED DRIVES

AS3P



**LOW
VOLTAGE**

HARNESSING THE POWER OF BUILT-IN COMMUNICATIONS

The durable AS3P adjustable speed drive (ASD) outdoor assembly is a short lead time product available at low costs by utilizing a standardized design with modification options. These include line reactors, surge arrestors, cabinet space heater, and a maximum of four door-mounted control options. All units have a UL Type 3R outdoor rated free standing enclosure.



| | |
|--|---|
| Industry 4.0/IoT (Internet of Things) | Industry 4.0 is the evolution of manufacturing, empowering businesses to learn and adjust from data available through connected manufacturing. |
| Dual Port Ethernet IP | Enables simple connection of multiple AS3s together on one network while simplifying cable management. |
| Embedded Web Server | Allows for quick access to Ethernet IP setup, parameters and real-time monitoring for diagnostics. Accessible through standard web browsers on PC, tablets, and smart phones. |
| Built-in LCD Display & Advanced Keypad | Multi-language LCD display, remote mounting, IP65 rated, transfer/save parameters, real-time clock for fault logging, and calendar functionality. |
| QR Codes | Displayed when troubleshooting faults or alarms, providing immediate access to a dedicated web link for maintenance and support. |
| STO Terminal | Detachable terminal strip meets IEC directives for safety with full implementation of Safe Torque Off, which quickly shuts down the system in the event of an emergency stop. |
| Permanent Magnet Motor Control | For control of permanent magnet (PM) motors with higher torque and efficiency values. |
| Pump Control | Multi-PID control with sleep function and the ability to autonomously control booster pumps based on system demands or operating a secondary PID control loop. |
| ASD Pro Software | Toshiba's programming software, which allows the user to utilize logic-type programming without the expense of a micro PLC. |

COMMUNICATION OPTIONS

In addition to the built-in dual port Ethernet, the AS3 can make use of a wide array of easily installed option boards. These boards allow the user to communicate with a wide variety of systems when installed cassette style. Options include:

- Ethernet/IP (Embedded)
- Modbus TCP (Embedded)
- Modbus RTU (Embedded)
- PROFINET
- EtherCAT
- PROFIBUS-DP
- DeviceNET
- CAN open

ADDITIONAL OPTIONS

The low cost short lead time outdoor rated AS3P can additionally be supplied with standard options including:

- 3% Impedance Input Line Reactor
- 5% Impedance Input Line Reactor
- Standard Surge Arrestor
- Three Raycap Strikesorb Surge Arrestors
- Two or Three Position Selector Switch (e.g. LOCAL/REMOTE, HAND/OFF/AUTO)
- Standard Push Button (e.g. RUN, STOP, RESET)
- Standard Pilot Light (e.g. POWER ON, ASD FAULTED, ASD RUNNING, ASD STOPPED)
- Cabinet Space Heater with Thermostat

OTHER SPECIAL FEATURES

- Broad Range of Compliances
- NEC 2005 Motor Overload Retention (No External Motor Overloads Required)
- UL Type 3R Outdoor Rated Free Standing Enclosure
- UL Listed & Labeled

INDUSTRIES SERVED

- Oil & Gas
- Mining & Minerals
- Chemical
- Water & Wastewater

APPLICATIONS

- Pumps
- Fans
- Compressors
- Centrifuges
- Conveyors
- Mixers
- Pump Jacks
- Crushers
- Cranes
- Hoists



1. Dual Port Ethernet IP
2. RS485 Communication Port
3. Up to 3 Embedded Option Card Slots
4. Safe Torque Off Terminals
5. 3 Digital Output Relays
6. 3 Analog Inputs
7. 2 Analog Outputs
8. 8 Digital Inputs



RATINGS

| TYPE | VOLTAGE | HP (HD) | AMPS (HD) | HP (ND) | AMPS (ND) | DIMENSIONS (in.) | | |
|-----------|---------|---------|-----------|---------|-----------|------------------|----|----|
| | | | | | | H | W | D |
| AS3P4055 | 460 | 7.5 | 12.7 | 10 | 16.5 | 72 | 32 | 20 |
| AS3P4075 | 460 | 10 | 16.5 | 15 | 23.5 | | | |
| AS3P4110 | 460 | 15 | 23.5 | 20 | 31.7 | | | |
| AS3P4150 | 460 | 20 | 31.7 | 25 | 39.2 | 72 | 34 | 22 |
| AS3P4185 | 460 | 25 | 39.2 | 30 | 46.3 | | | |
| AS3P4220 | 460 | 30 | 46.3 | 40 | 61.5 | | | |
| AS3P4300 | 460 | 40 | 61.5 | 50 | 74.5 | | | |
| AS3P4370 | 460 | 50 | 74.5 | 60 | 88.0 | | | |
| AS3P4450 | 460 | 60 | 88.0 | 75 | 106 | | | |
| AS3P4550 | 460 | 75 | 106 | 100 | 145 | | | |
| AS3P4750 | 460 | 100 | 145 | 125 | 173 | 74 | 38 | 26 |
| AS3P4900 | 460 | 125 | 173 | 150 | 211 | | | |
| AS3P4110K | 460 | 150 | 211 | 200 | 250 | | | |
| AS3P4132K | 460 | 200 | 250 | 250 | 302 | | | |

| FULL OPTIONS LIST | DESCRIPTION |
|----------------------------------|--|
| AA* | Includes AS3, Input Circuit Breaker and All Necessary Components for Operation in a UL Type 3R Outdoor Rated Free Standing Enclosure |
| 3% ACL | 3% Impedance Input Line Reactor |
| 5% ACL | 5% Impedance Input Line Reactor |
| Standard Surge Arrestor | Standard Surge Arrestor; Make and Model May Vary |
| Raycap Strikesorb Surge Arrestor | Three (3) Raycap Strikesorb Surge Arrestors on Incoming Side of Unit |
| 2- or 3-Position Selector Switch | Two- or Three-Position Selector Switch (e.g. LOCAL/REMOTE, HAND/OFF/AUTO) |
| Push Button | Standard Push Button (e.g. RUN, STOP, RESET, E-STOP) |
| Pilot Light | Standard Pilot Light (e.g. POWER ON, ASD FAULTED, ASD RUNNING, ASD STOPPED) |
| Cabinet Space Heater | Installed Cabinet Space Heater with Thermostat |

*Standard

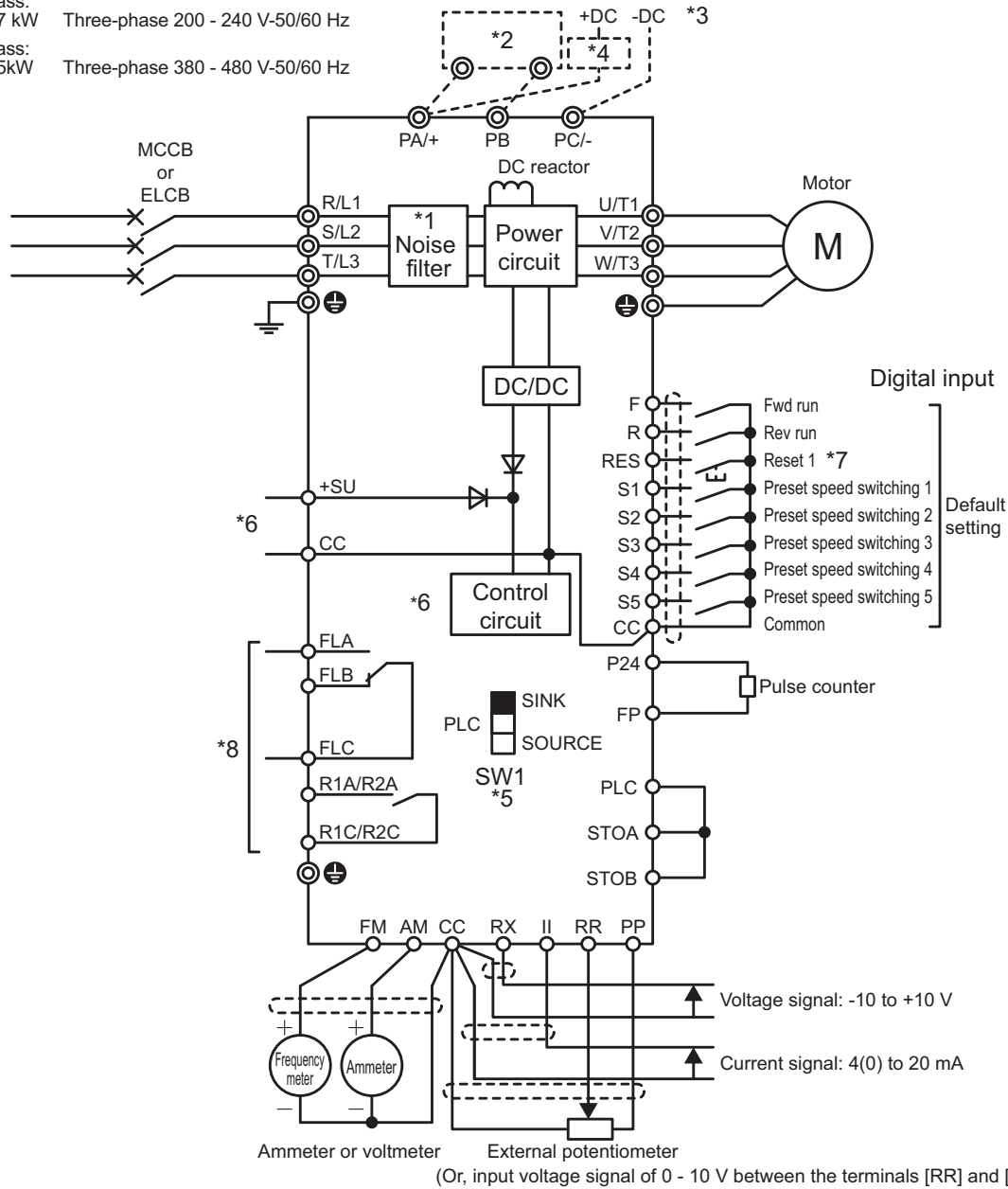


[Standard connection diagram - Sink]

This diagram shows an example of a standard connection for 240 V class, 0.4 to 37kW and 480 V class, 0.4 to 75kW (frame size A1 to A5).

Power supply

- 240 V class: Three-phase 200 - 240 V-50/60 Hz
- 0.4 - 37 kW
- 480 V class: Three-phase 380 - 480 V-50/60 Hz
- 0.4 - 75kW



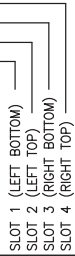
- *1 EMC filter is built in 480 V class.
- *2 External braking resistor (option).
- *3 To supply DC power, connect it to the terminals [PA/+] and [PC/-].
- *4 When your inverter is VFAS3-2110P to VFAS3-2370P or VFAS3-4220PC to VFAS3-4750PC with DC power supply, a circuit to suppress an inrush current is required. For detail, refer to application manual "DC power supply connect to inverter" (E6582156).
- *5 For the switch function, refer to [2. 3. 5].
- *6 To supply control power from an external power supply for backing up the control power supplied from the inverter, an optional control power supply unit (CPS002Z) is required. In this case, it is used in conjunction with the inverter internal power supply. Set <F647: Control power option failure detection> to back up the control power supply. For details, refer to [6. 30. 20].
- *7 The reset signal is activated by ON→OFF trigger input.
- *8 Connect to power to comply with OVC2 (Over Voltage Category 2). Isolation transformer is necessary when connecting to power supply (OVC3).

ENCLOSURE NOTES:
 ENVIRONMENTAL RATING: UL TYPE 3R
 PAINT COLOR: WHITE

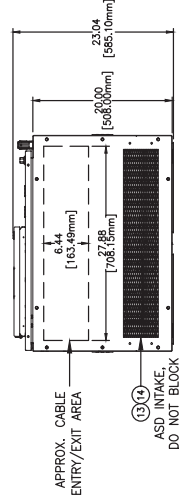
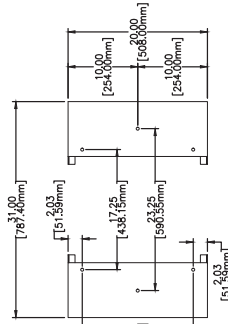
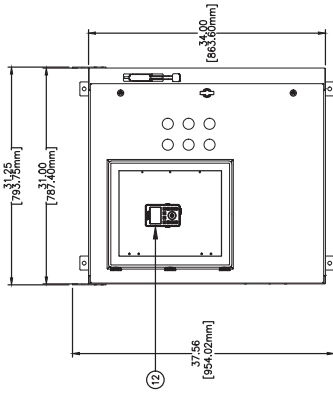
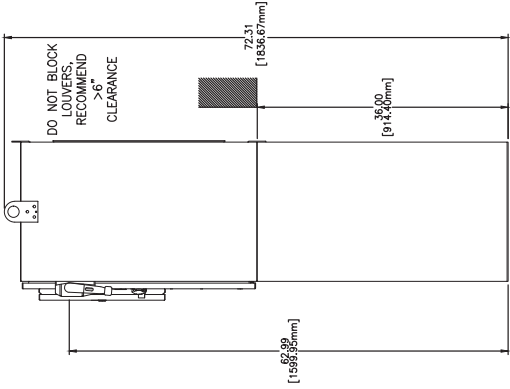
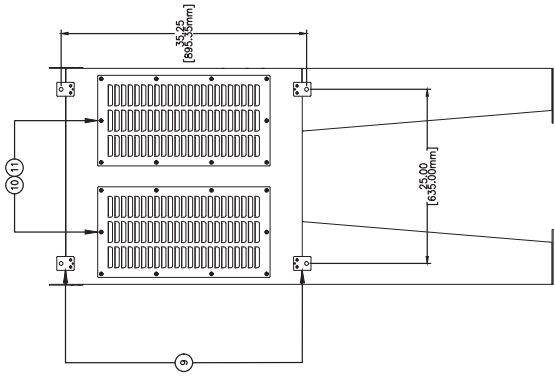
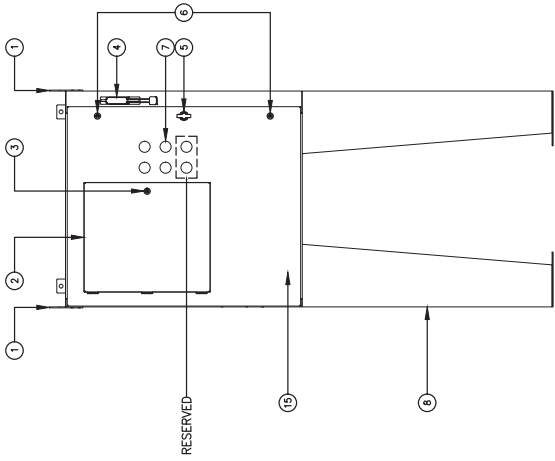
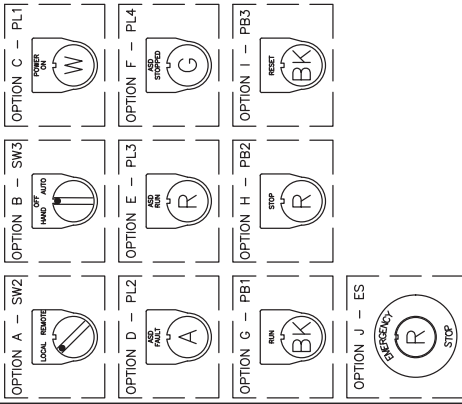
DIMENSIONS ARE FOR REFERENCE ONLY. IN[mm]

CONTROL OPTION NOTE:
 DEVICE PLACEMENT IS DETERMINED BY THESE
 DIGITS OF UNIT PART NUMBER

AS3P4**(*/*K)AA***[1][2][3][4]*



OPTIONAL 30mm CONTROL DEVICE DETAILS



| ITEM | DESCRIPTION |
|------|------------------------------------|
| 1 | LIFTING EAR |
| 2 | HINGED CONTROL DOOR |
| 3 | SLOTTED 1/4 TURN LATCH |
| 4 | CIRCUIT DISCONNECT SWITCH |
| 5 | 1/4 TURN LATCH, PADLOCK CAPABLE |
| 6 | SLOTTED 1/4 TURN LATCH |
| 7 | HOLE PLUGS/PILOT DEVICE HOLE |
| 8 | LEG STAND |
| 9 | MOUNTING TAB |
| 10 | LOUVER PANEL |
| 11 | MESH FILTER |
| 12 | OPERATOR KEYPAD (EOI) |
| 13 | EXPANDED METAL/ASD HEATSINK INTAKE |
| 14 | MESH FILTER |
| 15 | DOOR STOP (INTERNAL) |
| 16 | N/A |
| 17 | N/A |
| 18 | N/A |
| 19 | N/A |
| 20 | N/A |

FRONT OF ENCL. W/O EOI SHOWN

BOTTOM VIEW W/O LEG. STAND KIT

RIGHT SIDE VIEW

REVISION: 1 SCALE: 1.0=18.0

TITLE:
 ENCLOSURE OUTLINE
 AS3P4(055~075)AA

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