

TOSHIBA

Leading Innovation >>>



AS3 ASD >>>
LOW VOLTAGE DRIVE

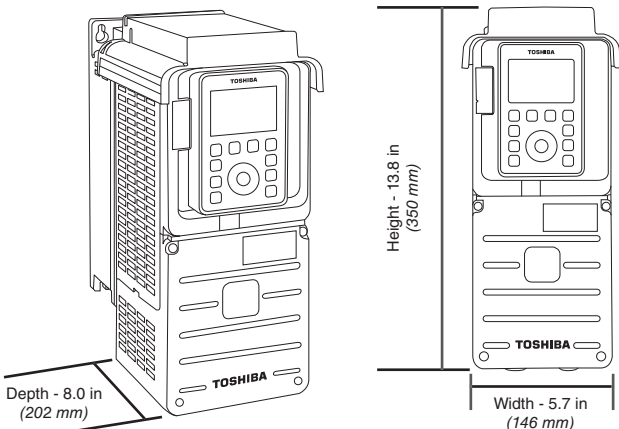
HARNESSING THE POWER OF BUILT-IN COMMUNICATIONS



Toshiba's AS3 adjustable speed drive is designed with an emphasis on built-in communications, allowing end-users to access real-time data and refined controls to maximize system performance.

- ▶ **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, available IP65 cover, 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.

200 V, 2 HP/1.5 kW (HD), 3 HP/2.2 kW (ND)



> 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 TCP/IP (embedded)
- Modbus RTU (embedded)
- PROFINET
- EtherCAT
- PROFIBUS-DP
- DeviceNET
- CAN open

> ADDITIONAL OPTIONS

The AS3 can be supplied with additional options to expand control, allow greater flexibility, and provide better protection for a user's application. These options include:

- AC Line Reactors
- DV/DT Long-Lead Filters
- Extended Terminal Cards
- Encoder Feedback Cards
- Harmonic Filters
- Remote-Mountable Keypads
- Dynamic Braking Resistor
- Flange Kit
- Conduit Boxes
- Safety Module (SS1, SOS, SS1, SBS, SLS, SDI)

> OTHER SPECIAL FEATURES

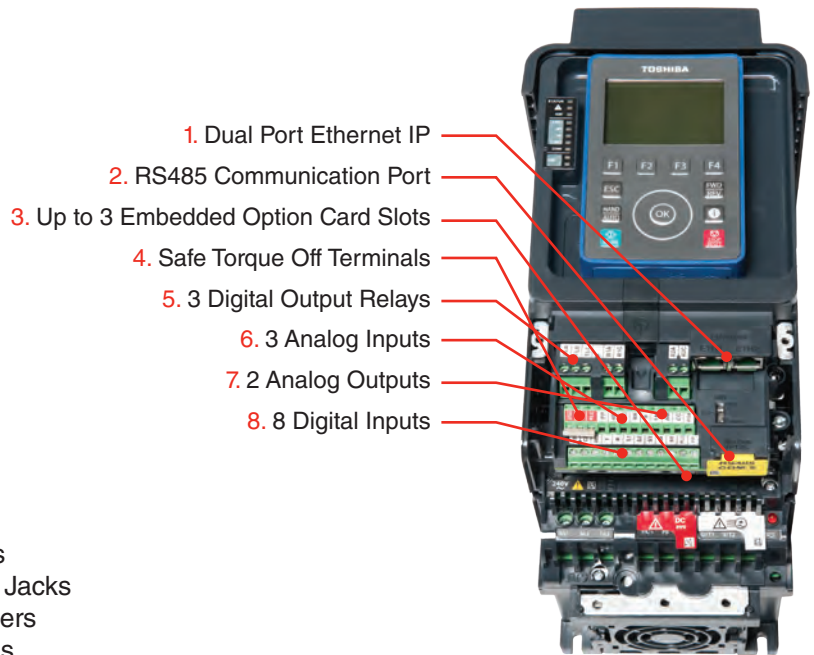
- Broad Range of Compliances
- NEC 2005 Motor Overload Retention (No External Motor Overloads Required)
- NEMA 1 Enclosure
- UL Listed & Labeled
- Optional IP55 Enclosure

APPLICABLE INDUSTRIES

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

APPLICABLE APPLICATIONS

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





APPLICABLE MOTOR (HP)

Heavy Duty (HD)	0.5	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	300	350	450
Normal Duty (ND)	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	350	400	450	500

RATED OUTPUT CURRENT (A)

200 V Class HD	3.3	4.6	8	11.2	18.7	25.4	32.7	46.8	63.4	78.4	92.6	123	149	176	211	-	-	-	-	-	-	-	-
200 V Class ND	4.6	8	11.2	18.7	25.4	32.7	46.8	63.4	78.4	92.6	123	149	176	211	282	-	-	-	-	-	-	-	-
400 V Class HD	1.5	2.2	4	5.6	9.3	12.7	16.5	23.5	31.7	39.2	46.3	61.5	74.5	88	106	145	173	211	250	314	387	427	550
400 V Class ND	2.2	4	5.6	9.3	12.7	16.5	23.5	31.7	39.2	46.3	61.5	74.5	88	106	145	173	211	250	302	427	481	550	616

VOLTAGE/FREQUENCY

200 V Class	Three-Phase 200 to 240 V, 50/60 Hz (Voltage +10%, -15%, Frequency ±5%)
400 V Class	Three-Phase 380 to 480 V, 50/60 Hz (Voltage +10%, -15%, Frequency ±5%)

OUTPUT VOLTAGE

200 V Class	Three-Phase 200 to 240 V (Maximum Output Voltage is Equal to the Input Supply Voltage)
400 V Class	Three-Phase 380 to 480 V (Maximum Output Voltage is Equal to the Input Supply Voltage)

OVERLOAD CURRENT RATING

HD	150% for One Minute, 180% for Two Seconds
ND	120% for One Minute, 135% for Two Seconds

OUTPUT FREQUENCY RANGE

	Setting Between 0.01 to 590 Hz; Adjustable at 0.01 Hz Increments; Default Maximum Frequency is Set to 0.01 to 80 Hz; Maximum Frequency Adjustment (30 to 590 Hz)
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DC REACTOR

	200/400 V Class 0.5 to 200 HP (HD) Built-in; 400 V Class 250 to 450 HP (HD) Attached
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ENCLOSURE

	200 V Class 0.5 to 50 HP (HD) and 400 V Class 0.5 to 100 HP (HD) NEMA 1/IP20 Built-in; 200 V Class 60 to 75 HP (HD) and 400 V Class 125 to 450 HP (HD) NEMA 1/IP20 with Optional Conduit Box
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AMBIENT TEMPERATURE

	-10° to +60°C (Remove the Upper Cover if 50°C or More; Max 60°C)
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TERMINAL STRIP I/O

	Eight DI, Three DO (One Form C, Two Form A Relays), Three AI (0 to 10 VDC, -10 to +10 VDC, 0 to 20 mADC), Two AO (0 to 10 VDC or 0 to 20 mADC), STO (Safe Torque Off)
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200V CLASS WEIGHTS & DIMENSIONS

HD	0.5	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75
ND	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
Frame Size	A1				A2		A3		A4			A5			A6
Dims. (in) WxHxD	5.7 x 13.8 x 8.0				6.7 x 16.2 x 9.1		8.3 x 21.8 x 9.1		8.9 x 27.3 x 10.6			11.5 x 36.7 x 12.7			12.7 x 33.5 x 15.4
Approx Weight (lbs)	9.5		9.9	10.1	16.9		30.4		60.1			127			180

400V CLASS WEIGHTS & DIMENSIONS

HD	0.5	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	300	350	450
ND	1	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	300	400	450	500
Frame Size	A1				A2		A3		A4			A5			A6		A7	A8					
Dims. (in) WxHxD	5.7 x 13.8 x 8.0				6.7 x 16.2 x 9.1		8.3 x 21.8 x 9.1		8.9 x 27.3 x 10.6			11.5 x 36.7 x 12.7			12.7 x 33.5 x 15.4		16.9 x 46.9 x 14.8	23.0 x 46.9 x 14.8					
Approx Weight (lbs)	9.9		10.1	10.3	16.9		29.9	31.2	31.5	61.6	62.0	63.1	127	130	131	180			366	428	450		