TOSHIBA

ADJUSTABLE SPEED DRIVES

AS3

LOW VOLTAGE

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, 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.

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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 AS3 can be supplied with additional options to expand control, allow greater flexibility, and provide better protection for a user's application. 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
- Replaceable Terminal Board for 120VAC I/O

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

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

INDUSTRIES SERVED

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

APPLICATIONS

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

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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	
600 V Class HD	-	-	3.1	4.2	7.2	9.5	13.5	18	24	29	34	5	55	66	83	-	-	-	-	-	-	-	-	
600 V Class ND	-	-	4.2	5.4	9.5	13.5	18	24	29	34	45	55	66	83	108	-	-	-	-	-	-	-	-	

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%)
600 V Class	Three Phase 575 to 690 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)
600 V Class	Three Phase 575 to 690 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)
DC REACTOR
200/400 V Class 0.5 to 200 HP (HD) Built-in; 400 V Class 250 to 450 HP (HD) Attached; 600 V Class 2 to 75 Hp (HD) Built-in
ENCLOSURE
200 V Class 0.5 to 50 HP (HD) & 400 V Class 0.5 to 100 HP (HD) NEMA 1/IP20 Built-in; 200 V Class 60 to 75 HP (HD), 400 V Class 125 to 450 HP (HD) NEMA 1/IP20 with Optional Conduit Box & 600 V Class all ratings NEMA 1/IP20 with Optional Conduit Box
AMBIENT TEMPERATURE
-10˚ to +60˚C (Remove the Upper Cover if 50˚C or More; Max 60˚C)
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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Scan here to learn more about the AS3