

**TOSHIBA**  
Leading Innovation >>>



PRODUCT OFFERING  
ADJUSTABLE SPEED DRIVES



# ADJUSTABLE SPEED DRIVES

## ONE CALL. ONE SOLUTION.

Toshiba International Corporation is proud to be a single-source solution for our customers, offering a complete product lineup of electric motors, adjustable speed drives, and motor starters for a variety of applications. These products are manufactured at our one million square foot manufacturing facility located in Houston, Texas. Our Houston facility has extensive knowledge and experience, offering the following services in-house:

- Research & Development
- Design & Engineering
- Manufacturing
- Sales & Marketing
- Applications Support
- Field Service
- Customer Service & Project Management
- Logistics & Warehousing
- Product Application & Field Service Training

### > ONE STOP FOR ALL YOUR ADJUSTABLE SPEED DRIVE NEEDS

Toshiba is a leading manufacturer of low and medium voltage adjustable speed drives ranging from 1/2 to 10,000 HP and 230 to 6,600 V. Our extensive adjustable speed drive product offering and large installed base in numerous industries demonstrates our customers' confidence in choosing Toshiba drives. Since our products are manufactured under one roof, we offer customized solutions to meet your application needs. We also have the capability to test our products together, as a complete system, before it goes out into the field—ensuring the highest level of quality, performance, and reliability.

### > APPLICATIONS



Oil & Gas



Mining & Minerals



Aggregate



Assembly



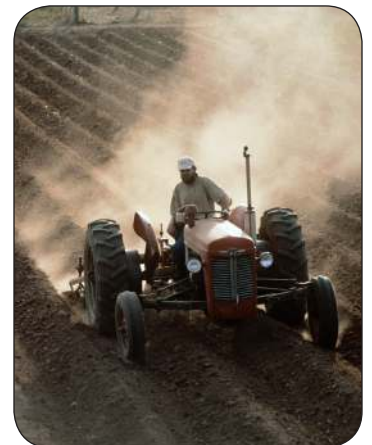
Food & Beverage



Utilities



Textiles



Agribusiness

# ADJUSTABLE SPEED DRIVES

## LOW VOLTAGE DRIVES



**S15**



**AS1**



**P9**



**H9**






	<b>S15</b>	<b>AS1</b>	<b>P9</b>	<b>H9</b>
Classification	Heavy Duty	Heavy Duty	Standard Duty	Standard Duty
Ratings 200 to 240 V Single-Phase	0.5 to 3 HP	N/A	N/A	N/A
Ratings 200 to 240 V Three-Phase	0.5 to 20 HP	0.5 to 100 HP	0.75 to 125 HP	0.75 to 125 HP
Ratings 380 to 480 V	1 to 20 HP	1 to 800 HP	1 to 400 HP	1 to 400 HP
Ratings 500 to 600 V	Coming Soon	2 to 10 HP	N/A	N/A
Ratings 690 V	N/A	2 to 700 HP	N/A	N/A
Ratings 2300 to 6600 V	N/A	N/A	N/A	N/A
Pulse Input	Standard 6-Pulse Input	Standard 6-Pulse Input	Standard 6-Pulse Input	Standard 6-Pulse Input
Neutral-Point Clamp	N/A	N/A	N/A	N/A
Available Enclosures	IP20 & NEMA 1 with Optional Conduit Box	IP20 & NEMA 1 with Optional Conduit Box	NEMA 1	NEMA 1
Operational Variables/ Operation Control	V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, Automatic Energy Savings for Fans/Pumps, & Five-Point V/Hz Custom Curves	V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector	VLP™ Technology, V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, Pressure, Depth, Temperature, & Mass Flow Rate	V/Hz, Slip Compensation, Auto-Torque Boost, & Open-Loop Vector
Overload Protection	150% for 60 Seconds; 100% Continuous	150% for 60 Seconds; 100% Continuous	120% for 60 Seconds; 100% Continuous	120% for 60 Seconds; 100% Continuous
Dynamic Braking	Standard	Built-In IGBT 7 in 0.5 to 250 HP (External Option in 300 HP & Up)	Standard Up to 350 HP	Standard Up to 350 HP
Ambient Rating	-10 to 50°C (60°C with Derate)	-10 to 50°C (60°C with Derate)	-10 to 40°C	-10 to 40°C
IEEE 519 Compliant	System Dependent	System Dependent	System Dependent	System Dependent
Features	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, PID Control, Output Frequency 0.5 to 500 Hz, Password Protection for Parameters, Bidirectional PID Control, Logical Operations, & Sleep Function	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 500 Hz, PID Control, Encoder Feedback, & My Function Logic Feature	VLP™ Technology, Automatic Sleep Function, No Flow/Low NPSH Cut-Off, Time-Based Alternation, SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 299 Hz, PID Control, & My Function Logic Feature	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 299 Hz, PID Control, Encoder Feedback, & My Function Logic Feature
Software (Available on Website)	ASD Pro	ASD Pro	ASD Pro	ASD Pro
Communications	DeviceNet, Profibus DP, Ethernet IP, Modbus+, Modbus RTU, Modbus TCP/IP, Metasys N2, Siemens FLN, RS485, RS232, & Netpac	DeviceNet, Profibus DP, Ethernet IP, Modbus RTU, Modbus+, RS485, Modbus TCP/IP, & Netpac	DeviceNet, Profibus DP, Ethernet IP, Modbus RTU, Modbus+, RS485, & Netpac	DeviceNet, Profibus DP, Ethernet IP, Modbus TCP/IP, Profibus DP, BACnet/IP, Modbus+, RS485, & Netpac

**MEDIU**



	<b>G9</b>	<b>W7</b>	<b>GX7/HX7</b>		<b>Plus Pack</b>	<b>T300MV</b>
	Severe Duty	Standard Duty	Heavy Duty	Standard Duty	Duty	Standard Du
	N/A	N/A	N/A		N/A	N/A
	0.75 to 100 HP	N/A	N/A		N/A	N/A
	1 to 350 HP	20 to 800 HP	N/A		60 to 1500 HP	N/A
	N/A	75 to 400 HP	500 to 1200 HP	N/A	N/A	N/A
	N/A	75 to 400 HP	500 to 1200 HP	500 to 1500 HP	N/A	N/A
	N/A	N/A	N/A		N/A	300 to 3000
	Standard 6-Pulse Input	Standard 18-Pulse Input	Standard 6-Pulse Input		Optional 18-Pulse (60 to 800 HP)	Standard 24
	N/A	N/A	N/A		N/A	Three-Level
	NEMA 1	NEMA 1 & NEMA 12 (Up to 500 HP)	NEMA 1		NEMA 1 & 3R	NEMA 1 Ver
on, Auto- top Vector	V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector	V/Hz, Slip Compensation, Constant Torque, Variable Torque, Open-Loop Vector, Auto/Manual Torque Boost, & Five-Point V/Hz Custom Curves	V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector		VLP™ Technology, V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, Constant Torque, & Variable Torque	V/Hz, Slip C Torque Boos Control, Clos Energy Savi Transfer & C
00%	150% for 120 Seconds; 115% Continuous	120% for 60 Seconds; 100% Continuous	130% for 120 Seconds; 110% Continuous	120% for 60 Seconds; 100% Continuous	120% for 60 Seconds; 100% Continuous	115% (1000, 110%) for 60 Minutes; 100
	Standard	N/A	Standard		Standard	N/A
	-10 to 40°C	-10 to 40°C	-10 to 40°C (50°C with Derate)		-10 to 50°C	0 to 40°C (50
	System Dependent	System Dependent	System Dependent		System Dependent	Yes
Carrier Power Needs, Frequency Control, y	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 299 Hz, PID Control, Encoder Feedback, & My Function Logic Feature	Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 400 Hz, PID Control, Real-Time Clock, & Internal Input Disconnect	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Pattern Run, PID Control, & Output Frequency 0.01 to 299 Hz		VLP™ Technology, Automatic Sleep Function, No Flow/Low NPSH Cut-Off, SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Pattern Run, PID Control, & Output Frequency 0.01 to 299 Hz	Overload Pro Acceleration Start, Power for Five Cycl Control, Out 120 Hz, Gro & Internal Inp
	ASD Pro	ASD Pro	ASD Pro		ASD Pro	N/A
Ethernet net IO, S485, &	DeviceNet, Profibus DP, Ethernet IP, Modbus RTU, Modbus+, RS485, & Netpac	DeviceNet, Profibus DP, Ethernet IP, Modbus+, Modbus RTU, Metasys N2, RS485, RS232, & Netpac	DeviceNet, Profibus DP, Ethernet IP, Modbus RTU, Modbus+, RS485, RS232, & Netpac		DeviceNet, Profibus DP, Ethernet IP, Modbus RTU, Modbus+, RS485, RS232, & Netpac	DeviceNet, P RTU, Modbu

## LOW VOLTAGE DRIVES

				
<b>T300MVi® (2300 V)</b>	<b>T300MVi® (4160 V)</b>	<b>T300MVi® (6600 V)</b>	<b>Regen Drive</b>	<b>MTX® Outdoor</b>
Standard Duty	Standard Duty	Standard Duty	Standard Duty	Standard Duty
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
300 to 10000 HP	300 to 10000 HP	300 to 7000 HP	300 to 6000 HP	500 to 3000 HP
Standard 24-Pulse Input	Standard 24-Pulse Input	Standard 24-Pulse Input	Standard 24-Pulse Input	Standard 36-Pulse Input
Five-Level	Five-Level	Seven-Level	Five-Level	Five-Level
NEMA 1 Ventilated	NEMA 1 Ventilated	NEMA 1 Ventilated	NEMA 1G	NEMA 3R
V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy Savings, & Synchronous Transfer & Capture	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy Savings, & Synchronous Transfer & Capture	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy Savings, & Synchronous Transfer & Capture	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy Savings, & Synchronous Transfer & Capture	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy Savings, & Synchronous Transfer & Capture
115% (1000, 2000, 6000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% (1000, 2000, 6000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% (1000, 2000, 6000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% (1000, 2000, 6000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% for 60 Seconds Every 10 Minutes; 100% Continuous
N/A	N/A	N/A	N/A	N/A
0 to 40°C (50°C with Derate)	0 to 40°C (50°C with Derate)	0 to 40°C (50°C with Derate)	0 to 40°C (50°C with Derate)	-25 to 50°C (-45°C Option)
Yes	Yes	Yes	Yes	Yes
Overload Protection, Adjustable Acceleration/Deceleration, Flying Start, Power Ride-Through 30% for Five Cycles, Pattern Run, PID Control, Output Frequency, 0 to 120 Hz, Ground Fault Protection, & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Start, Power Ride-Through 30% for Five Cycles, Pattern Run, PID Control, Output Frequency, 0 to 120 Hz, Ground Fault Protection, & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Start, Power Ride-Through 30% for Five Cycles, Pattern Run, PID Control, Output Frequency, 0 to 120 Hz, Ground Fault Protection, & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Start, Power Ride-Through 30% for Five Cycles, Pattern Run, PID Control, Output Frequency, 0 to 120 Hz, Ground Fault Protection, & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Start, Power Ride-Through 30% for Five Cycles, Pattern Run, PID Control, Output Frequency, 0 to 120 Hz, Ground Fault Protection, & Internal Input Disconnect
N/A	N/A	N/A	N/A	N/A
DeviceNet, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline	DeviceNet, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline	DeviceNet, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline	DeviceNet, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline	DeviceNet, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline
			* Soon to be released. Contact drives department.	

**TOSHIBA INDUSTRIAL PRODUCTS:**

- Adjustable Speed Drives
- Motors
- Motor Controls
- Instrumentation & PLCs
- Uninterruptible Power Systems

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