

TOSHIBA

ADJUSTABLE SPEED DRIVES

Product Offering

**LOW & MEDIUM
VOLTAGE
DRIVES**



SMART, STRONG DESIGNS WITH PROVEN PERFORMANCE

Toshiba International Corporation (TIC) 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. Many of these products are manufactured at our 1,000,000+ sq. ft. facility located in Houston, Texas. Personnel at our Houston facility have extensive knowledge and experience in the following areas, and TIC offers the following services in-house:

- Research & Development
- Engineering
- Manufacturing
- Technical Sales
- Product & Application Support
- Customer Service
- Project Management
- Field Services & Preventive Maintenance
- Product & Field Service Training

CUSTOMIZABLE SOLUTIONS FOR ADJUSTABLE SPEED DRIVE APPLICATIONS

Toshiba is a leading manufacturer of low and medium voltage adjustable speed drives ranging from ½ to 11,000 HP and 230 to 6,900 V. Our large installed base in numerous industries demonstrates our customers' confidence in choosing Toshiba drives. Since many of our products are manufactured under one roof, TIC is able to offer customized solutions to meet your application needs. TIC also has the capability to test the products manufactured in our Houston facility together as a complete system before they go out into the field, helping to ensure high levels of quality, performance, and reliability.



INDUSTRIES SERVED

- Oil & Gas
- Mining & Minerals
- Aggregate
- Assembly
- Food & Beverage
- Utilities
- Textiles
- Agriculture

APPLICATIONS

- Conveyors
- Crushers
- Mixers
- Pumps
- Fans
- Blowers



ADJUSTABLE SPEED DRIVES



	AS3®		AS3 Type 12/IP55		AS3P	
Classification	Heavy Duty	Standard Duty	Heavy Duty	Standard Duty	Heavy Duty	Standard Duty
Pulse Input	Standard 6-Pulse Input		Standard 6-Pulse Input		Standard 6-Pulse Input	
240 V Single Phase	N/A		N/A		N/A	
240 V Three-Phase	0.5 to 75 HP	1 to 100 HP	N/A		N/A	
480 V Three-Phase	0.5 to 450 HP	1 to 500 HP	0.5 to 100 HP	1 to 125 HP	7.5 to 450 HP	10 to 500 HP
Ratings 600 to 690 V	2 to 75 HP	3 to 100 HP	N/A		N/A	
Available Enclosures	NEMA 1 Built-in (0.5 to 100 HP), Optional NEMA 1 Conduit Box 125 HP & Up	NEMA 1 Built-in (1 to 125 HP), Optional NEMA 1 Conduit Box 150 HP & Up	UL Type 12/IP55 Built-in		NEMA 3R	
Operational Variables/ Operation Control	V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector, Permanent Magnet Motor Control		V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector, Pump Control, Permanent Magnet Motor Control		V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, & Closed-Loop Vector, Pump Control, Permanent Magnet Motor Control	
Overload Protection	150% for One Minute, 180% for Two Seconds	120% for One Minute, 135% for Two Seconds	150% for One Minute, 180% for Two Seconds	120% for One Minute, 135% for Two Seconds	150% for One Minute, 180% for Two Seconds	120% for One Minute, 135% for Two Seconds
Ambient Rating	-10 to 50°C (60°C with Derate)		-15 to 50°C		-10 to 40°C	
Features	SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 590 Hz, PID Control, Encoder Feedback, My Function Logic Feature & Advanced Pump Control		SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 590 Hz, PID Control, Encoder Feedback, My Function Logic Feature & Advanced Pump Control		SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride-Through, Preset Speeds, Pattern Run, Output Frequency 0.01 to 590 Hz, PID Control, Encoder Feedback, My Function Logic Feature & Advanced Pump Control	
Communications	Embedded Dual Port EtherNet/IP®, DeviceNet®, Profibus DP, PROFINET®, EtherCAT®, Modbus RTU, Modbus TCP/IP & CAN Open®		Embedded Dual Port EtherNet/IP®, DeviceNet®, Profibus DP, PROFINET®, EtherCAT®, Modbus RTU, Modbus TCP/IP & CAN Open®		Embedded Dual Port EtherNet/IP®, DeviceNet®, Profibus DP, PROFINET®, EtherCAT®, Modbus RTU, Modbus TCP/IP & CAN Open®	
Dynamic Braking	Built-In in 0.5 to 100 HP and 250 HP (External Option in 125 to 200 HP and 300 HP & Up)	Built-In in 1 to 125 HP and 350 HP (External Option in 150 to 250 HP and 400 HP & Up)	Built-In		Built-In	
Software (Available on Website)	ASD Pro		ASD Pro		ASD Pro	

ADJUSTABLE SPEED DRIVES



	S15	NC3	Plus Pack®
Classification	Heavy Duty	Heavy Duty	Standard Duty
Pulse Input	Standard 6-Pulse Input	Standard 6-Pulse Input	Optional 18-Pulse (60 to 800 HP)
240 V Single Phase	0.5 to 3 HP	0.5 to 3 HP	N/A
240 V Three-Phase	0.5 to 20 HP	0.5 to 5 HP	N/A
480 V Three-Phase	0.5 to 20 HP	N/A	60 to 1500 HP
Ratings 600 to 690 V	2 to 20 HP	N/A	N/A
Available Enclosures	NEMA 1 with Optional Conduit Box	NEMA 1	NEMA 1 & 3R
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, Automatic Energy Savings for Fans/Pumps & Five-Point V/Hz Custom Curves	*VLP Technology®, V/Hz, Slip Compensation, Auto-Torque Boost, Open-Loop Vector, Constant Torque & Variable Torque
Overload Protection	150% for 60 Seconds; 110% Continuous	150% for 60 Seconds; 100% Continuous	120% for 60 Seconds; 100% Continuous
Ambient Rating	-10 to 50°C (60°C with Derate)	-10 to 50°C (60°C with Derate)	-10 to 50°C
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	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	*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
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+, Modbus RTU, Modbus TCP/IP, Metasys N2, Siemens® FLN, RS485, RS232, & NETPAC®	DeviceNet®, Profibus DP, EtherNet/IP®, Modbus RTU, Modbus+, RS485, RS232 & NETPAC®
Dynamic Braking	Standard	N/A	Optional
Software (Available on Website)	ASD Pro	ASD Pro	ASD Pro

* VLP stands for Virtual Linear Pump

ADJUSTABLE SPEED DRIVES



	T300MV2® (2400 V)	T300MV2® (4160 V)	T300MV2® (6600 V)
Classification	Standard Duty	Standard Duty	Standard Duty
Pulse Input	Standard 24-Pulse Input	Standard 24-Pulse Input	Standard >24-Pulse Input
Ratings	300 to 3,000 HP	300 to 11,000 HP	300 to 9,000 HP
Neutral Point Clamp	Three-Level	Five-Level	Seven-Level
Enclosure	NEMA 1 Ventilated	NEMA 1 Ventilated	NEMA 1G
Operational Variables/ Operational Controls	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer
Overload Protection	115% for 60 Seconds Every 10 Minutes; 100% Continuous	115% (1000, 2000, 6000, 8000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% for 60 Seconds Every 10 Minutes; 100% Continuous
Ambient Rating	0 to 40°C (50°C with Derate)	0 to 40°C (50°C with Derate)	0 to 40°C (50°C with Derate)
IEEE® 519 Compliant	Yes	Yes	Yes
Features	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect
Communications	DeviceNet®, Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet®, Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet®, Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD
Dynamic Braking	N/A	N/A	N/A
Software (Available on Website)	MVD Tool	MVD Tool	MVD Tool
Software (Available on Website)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)

ADJUSTABLE SPEED DRIVES



	T300MV2® (6900 V)	T300BMV2 (4160 V)	REGEN DRIVE
Classification	Standard Duty	Standard Duty	Standard Duty
Pulse Input	Standard >24-Pulse Input	Standard 24-Pulse Input	Standard 24-Pulse Input
Ratings	7,000 to 10,000 HP	300 to 3,000 HP	700 to 2,000 HP
Neutral Point Clamp	Five-Level	Five-Level	Five-Level
Enclosure	NEMA 1G Ventilated	NEMA 1 Ventilated	NEMA 1 G
Operational Variables/ Operational Controls	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings, & Synchronous Transfer	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector & Energy savings	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer
Overload Protection	115% for 60 Seconds Every 20 Minutes; 100% Continuous	115% (1000, 2000HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous	115% (1000, 2000, 6000 HP 110%) for 60 Seconds Every 10 Minutes; 100% Continuous
Ambient Rating	0 to 40°C (50°C with Derate)	0 to 40°C	0 to 40°C (50°C with Derate)
IEEE® 519 Compliant	Yes	Yes	Yes
Features	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120Hz, Ground Fault Protection & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz & Ground Fault Protection	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect
Communications	DeviceNet®, PROFIBUS®, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet®, Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet®, Profibus DP, Modbus RTU, Modbus TCP/IP, & Tosline
Dynamic Braking	N/A	N/A	N/A
Software (Available on Website)	MVD Tool	MVD Tool	MVD Tool
Software (Available on Website)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)

ADJUSTABLE SPEED DRIVES



	MTX [®] OUTDOOR	MTX [®] -15 OUTDOOR	MTX [®] -60 OUTDOOR
Classification	Standard Duty	Standard Duty	Standard Duty
Pulse Input	Standard 36-Pulse Input	Standard 36-Pulse Input	Standard 36-Pulse Input
Ratings	500 to 3,000 HP	500 to 1,500 HP	3,500 to 6,000 HP
Neutral Point Clamp	Five-Level	Five-Level	Five-Level
Enclosure	UL Type 3R	UL Type 3R/4/4X	UL Type 4
Operational Variables/ Operational Controls	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer	V/Hz, Slip Compensation, Auto-Torque Boost, Sensorless Vector Control, Closed-Loop Vector, Energy savings & Synchronous Transfer
Overload Protection	115% for 60 Seconds Every 10 Minutes; 100% Continuous	115% for 60 Seconds Every 10 Minutes; 100% Continuous	115% for 60 Seconds Every 10 Minutes; 100% Continuous
Ambient Rating	-20 to 50°C	-45 to 50°C	-45 to 50°C
IEEE [®] 519 Compliant	Yes	Yes	Yes
Features	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect	Overload Protection, Adjustable Acceleration/Deceleration, Flying Restart, Power Ride-Through 30% for 5 Cycles, Pattern Run, Output Frequency 0 to 120 Hz, Ground Fault Protection & Internal Input Disconnect
Communications	DeviceNet [®] , Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet [®] , Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD	DeviceNet [®] , Profibus DP, Modbus RTU, Modbus TCP/IP, Tosline, TCNET & EGD
Dynamic Braking	N/A	N/A	N/A
Software (Available on Website)	MVD Tool	MVD Tool	MVD Tool
Software (Available on Website)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)	MVD Trace Tool (fault data only)



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