

TOSHIBA

ADJUSTABLE SPEED DRIVES

W7



W7 Series

Reliability in motion™

18 Pulse



Toshiba W7

In Water and Wastewater applications, users need reliable and efficient adjustable speed drives that do not contribute significant harmonic content to the power grid. The W7 meets those needs. The W7 is the newest addition to the Toshiba 7-Series family—offering the latest technology and proven reliability.

- Patented 18 Pulse Design*
- Small Footprint
- Powerful, User-Friendly Operator Interface
- Variety of Communication Options

1. Small Footprint with Uniform 24" Depth

2. User-Friendly Electronic Operator Interface

3. Variety of User Configurable Options

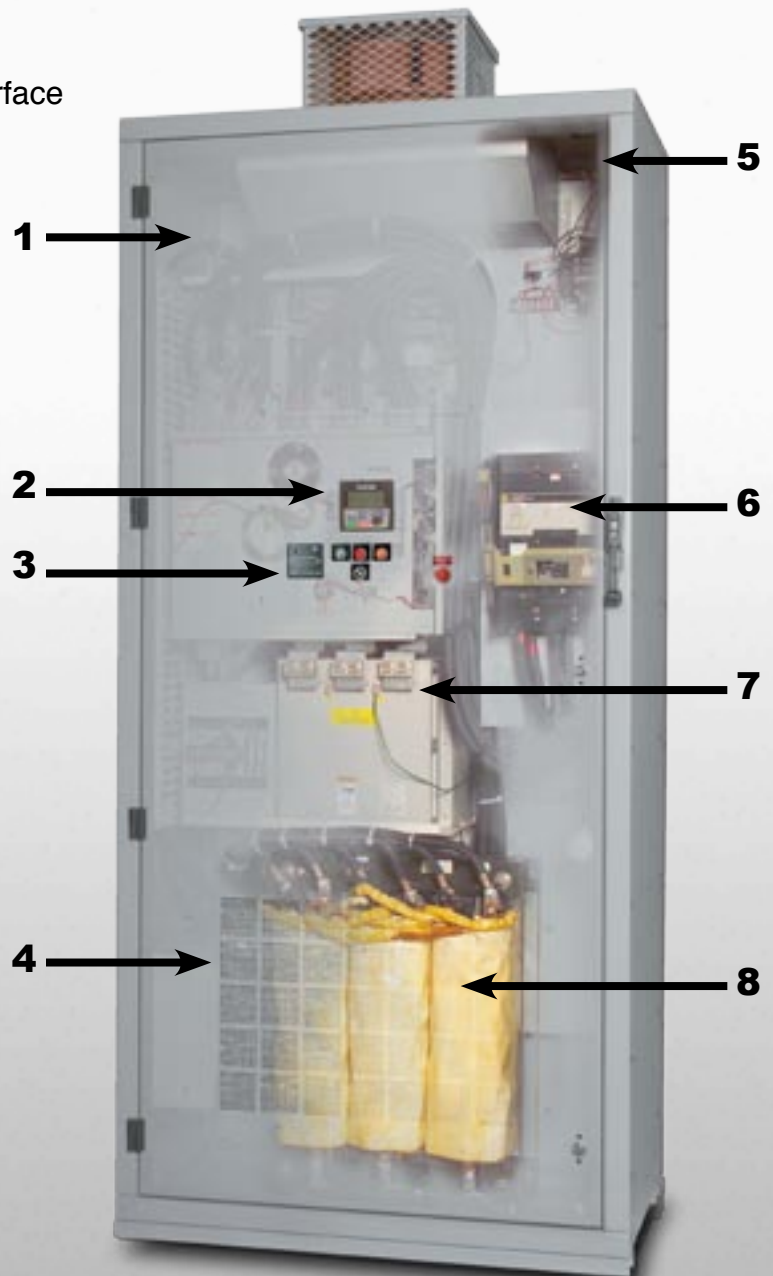
4. Gasketed and Filtered Enclosure Force Ventilated

5. Top or Bottom Cable Entry/Exit

6. 65,000 AIC Breaker

7. Proven Toshiba ASD Technology

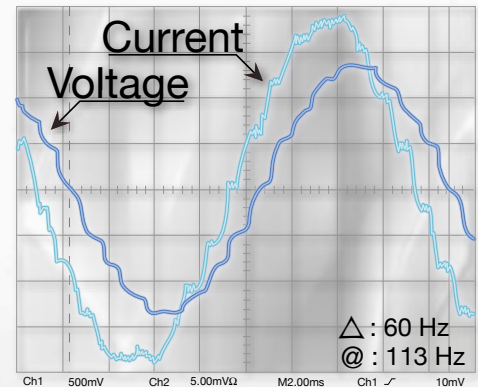
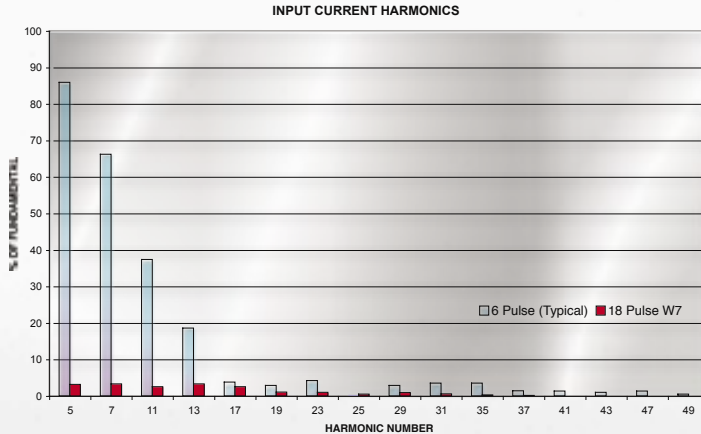
8. Integrated Phase-Shifting Transformer



The Drive Solution for

Total Harmonic Distortion (TDHE) can come from many sources, including computers, fluorescent lights, copiers and six pulse drives. The W7, with Toshiba's patented 18 Pulse Autotransformer design, removes this concern.

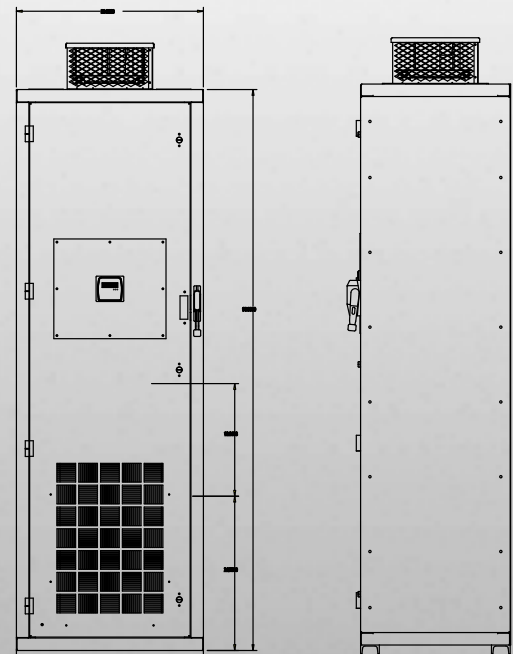
- Meets IEEE 519 Guidelines without Added Filters
- Produces a Ripple Free Voltage on DC Bus
- Clean Sinusoidal Input Current Waveform
- Up to 60% Reduction in Transformer Losses



Small Footprint

The high cost of real estate and constraints of existing facilities make size an important consideration in drive selection.

- 400 HP Drive Only 42" Wide
 - 24" Depth on All Sizes
 - Integrated Phase-Shifting Autotransformer
 - Saves Real Estate on New Designs
 - Easier Replacement of Old Drives in Existing Facilities
- 60-200 HP: 100"H x 30"W x 24"D
 - 250-400 HP: 100"H x 42"W x 24"D
 - 500-800 HP: Consult Factory
- (Addition of a bypass option will increase enclosure size)



* US Patent 6396723
JP Patent 2000-179543 (Pending)

Water and Wastewater

Powerful, User-Friendly Operator Interface

The W7 advanced Electronic Operator Interface (EOI) is so intuitive the manual is usually not needed to make drive setting adjustments. The W7 features menu driven programming as well as direct access to all of the parameters. A built-in encoder makes programming quick and easy.

- Easy Start-up Wizard
- Remote Mount up to 1,000 Feet
- Real Time Clock Option
- Flash Upgradeable EOI Software
- Display multiple parameter simultaneously
- Standard Keypad Design for Low Voltage and Medium Voltage Drives



Variety of Communication Options

In today's fast-paced manufacturing world, coordinated systems require communications from drive-to-drive and drive-to-system. Built-in ports and a variety of option cards provide versatility in communication selection.

- Built-in RS232 / 485 and TTL Ports
- Communication Protocol Options
 - Profibus
 - DeviceNet
 - Modbus RTU
 - Modbus+
 - Metasys
 - TCP/IP Ethernet



Meets or Exceeds Your Specifications

W7 Specifications

Standard Specifications													
Item													
Voltage Class	460V												
Maximum HP	60	75	100	125	150	200	250	300	400	500	600	700	800
Drive Rating (A)	77	96	124	156	190	240	302	370	480	628	753	879	1004
Dimensions	100"H x 30"W x 24"D						100"H x 42"W x 24"D			Consult Factory			
Power Requirements													
Output Frequency	0 – 400 Hz												
Main Circuit	Three Phase 460V input auto-transformer 18 pulse design with circuit breaker, IGBT output.												
Control Power	DC bus control power												
Tolerance	Voltage: ±10% Frequency: ±2%												
Control Specifications													
Control Method	Sine Wave PWM System – Flux Field Current Vector Control												
V/Hz Control	Constant Torque, Variable Torque, Open Loop Vector, Auto or Manual Torque Boost, 5 point V/Hz custom curves												
Overload Rating	120% for 60 seconds, 100% continuous												
Frequency Setting	Encoder Potentiometer integrated into EOI, 0-10V, ±10V, 4-20mA, Binary Input, Motorized Potentiometer Input												
Frequency Precision	Analog Input: ±0.2% of maximum output frequency. Digital Input: ±0.01% of maximum output frequency												
Frequency Resolution	0.01 Hz – Operation Panel. 0.1 Hz – Analog Input. 10-12 bit A-D converter												
Acceleration / Deceleration	0.1~6000 seconds												
Speed Regulation	Up to 0.1%, 60:1 speed range												
Torque Regulation	10%; less than 3% ripple from 50 to 100% range												
Set Point Control (PID)	Proportional Gain, Integral Gain, Feedback Settings Upper/Lower Deviation Limits, Feedback Source Delay Filter, Feedback Settings Differential Gain												
Analog Inputs	Four programmable: (1) 4-20mA, (1) 0-10V, (1) -10 to +10V, (1) 1 to 10kOHM potentiometer connection												
Analog Outputs	Two programmable to 31 functions												
Digital Inputs	Eight programmable to 67 functions												
Output Contacts	Three output terminals, programmable to 52 functions. Form C contacts rated 250V AC, 2 amps inductive												
Signal Isolation	Available (3) channel signal isolation for AM/FM outputs and II terminal input, rated at 750V												
Control Board Communication Ports	RS232 / 485 and TTL ports standard												
Data Transmission	Profibus, Devicenet, Modbus RTU, Modbus+, Metysys, TCP/IP Ethernet. (Some devices are external)												
Main Protective Functions	Current limit, overcurrent, overvoltage, undervoltage, overtorque, load side short circuit, load side ground fault, heatsink overheat, ASD overload, motor overload, armature short, CPU error, open output phase, communications error, loss of feedback												
Soft Stall	Automatic load reduction control during overload												
Retry	Can automatically clear fault upon trip. Programmable to 10 tries, with up to 10 seconds between tries.												
Restart	Restart into a rotating motor												
Interface													
LCD EOI (Liquid Crystal Display / Electronic Operator Interface)	4 lines x 20 characters. Backlit LCD Display. Ability to display multiple parameters on one screen. Keypad may be operated from an external power source. Software is flash upgradeable. Includes multi-function rotary encoder.												
LED Indicators	Run (Red) / Stop (Green), Remote / Local (Green), DC bus charge indication (red)												
Keys	Local /Remote, Monitor / Program, Run, Enter, ESC, Stop / Reset, Up, Down												
Monitoring	Main display shows two monitored items continuously, or scrolls up to 40 items.												
Selectable Display Units	User selectable and configurable, along with scaling factor multiplier. Voltage display selectable: Amps or %, Current display selectable: Amps or %.												
EOI Communication Ports	RS232 / 485 and TTL ports standard												
Remote Mount Display	Remote mountable up to 1000'												
Construction													
Enclosure	NEMA 1, IP20, Gasketed and Filtered												
Panel Construction	Free standing, front maintenance type, top or bottom access for motor and power cables												
Cooling	Forced air cooled. Top-mounted fans may be removed for movement during shipment or installation.												
Color	ANSI-61 Gray												
Ambient Conditions													
Ambient Temperature	0 - 40°C, 32 - 104°F												
Humidity	Max. 95% (non-condensing)												
Altitude	1000 m (3300 ft) above sea level or less												
Installation	Indoor, no direct sunlight, protect for corrosive gases, explosive gases												
Standards													
Electrical Performance	NEC, ANSI												

TOSHIBA INTERNATIONAL CORPORATION



North America Headquarters and Manufacturing Facilities (Houston, TX)



TOSHIBA - Quality by Design

Our company culture and history are strongly rooted in quality. Our designs are technologically innovative and our products are manufactured from start to finish using only the highest quality foreign and domestic parts.

Product Warranty

Toshiba offers a comprehensive warranty program on its full line of industrial products. Consult your salesperson or the factory for specific information.

Need to Know More?

Be sure to visit our web site located at www.tic.toshiba.com for the latest information on Toshiba's products.

Customer Support Services

Toshiba offers 24-hour service nationwide. For assistance of any type, call: 1-800-231-1412

ADJUSTABLE SPEED DRIVES MOTORS CONTROLS UPS INSTRUMENTATION PLC

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