

# TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

## ADJUSTABLE SPEED DRIVES

# W7

**LOW  
VOLTAGE**



# PATENTED INDOOR 18-PULSE DRIVE SOLUTION

The W7 adjustable speed drive offers the latest technology and proven reliability, making this AC drive one of the most advanced drives on the market. Our patented 18-pulse copper-wound auto-transformer design masters the needs of customer's applications by providing a reliable and efficient adjustable speed drive that eliminates significant harmonic content to the power grid.

## ADVANCED FEATURES FOR MAXIMUM DRIVE PERFORMANCE

**Patented 18-Pulse Auto-Transformer Technology**, eliminates Total Harmonic Distortion (THD) that can be caused by computers, fluorescent lights, copiers, and six-pulse drives.

- 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

**A Small Footprint**, makes the W7 an ideal solution for maximizing real estate and reducing operation costs.

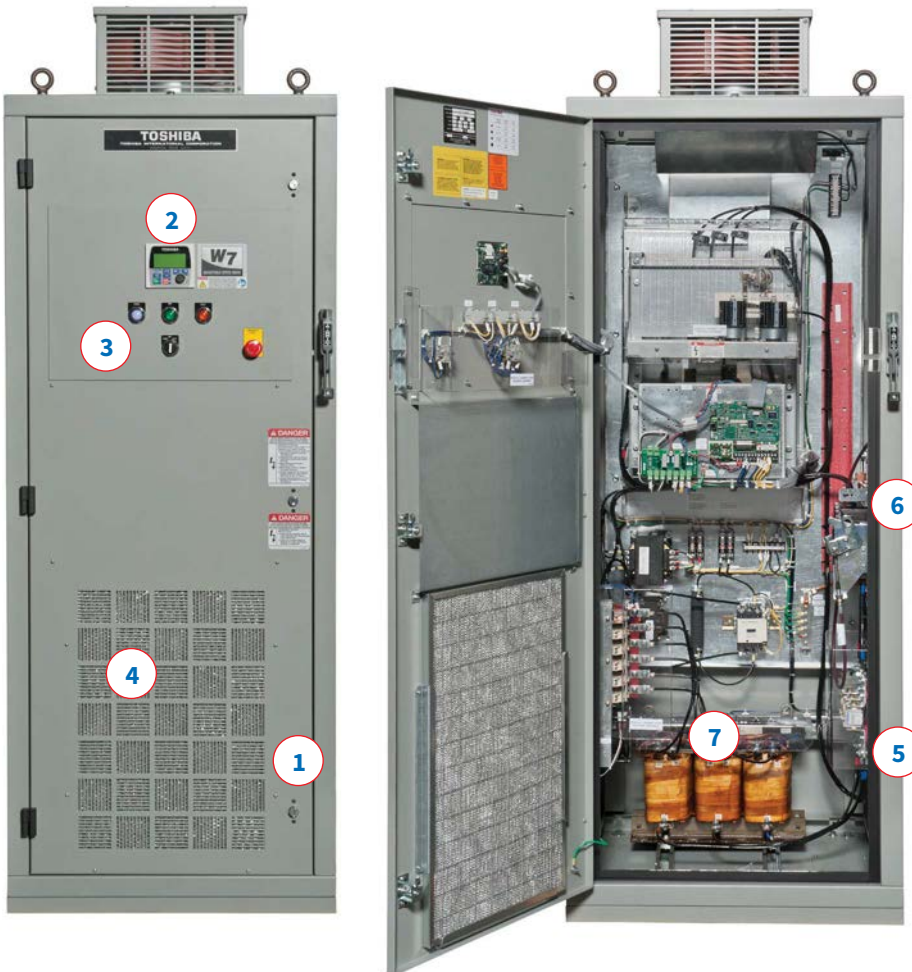
- 500 HP Drive Only 42 Inches Wide
- 24 Inch Depth on All Models
- Integrated Phase-Shifting Autotransformer
- Easier Replacement of Existing Drives in Facilities
  - 75 to 200 HP: 100 H x 30 W x 24 D in.
  - 250 to 500 HP: 100 H x 42 W x 24 D in.
  - 600 to 800 HP: 105 H x 76 W x 24 D in.



**A Plain-English LCD Electronic Operator Interface (EOI)**, allows for quick, user-friendly programming. Faults are logged containing time and date stamps, as well as detailed information regarding operation at the time of the failure.

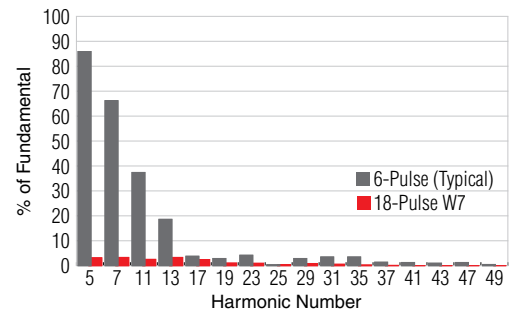
- Easy Start-Up Wizard
- Remote-Mount Up to 1,000 Feet
- Built-In Real-Time Clock Option
- Flash-Upgradeable EOI Software
- Display Multiple Parameters Simultaneously
- Standard Keypad Design for Low Voltage & Medium Voltage Drives
- Maximizes Energy Savings on Variable Torque Loads

## A CLOSER LOOK AT THE W7 ASD



1. Small Footprint with Standard 24" Depth
2. User-Friendly EOI
3. Variety of User-Configurable Options
4. Gasket & Filter Enclosure
5. Top Cable Entry; Bottom Cable Exit
6. 65 kAIC Breaker
7. 18-Pulse Intergrated Phase-Shifting Copper Wound Auto-Transformer

**INPUT CURRENT HARMONICS**



## COMMUNICATION OPTIONS

The W7 drive offers an array of easily installed option boards. These boards allow the user to communicate with a wide variety of systems. Options include:

- DeviceNet
- Modbus+
- Ethernet TCP/IP
- Metasys
- Modbus RTU
- Profibus

### INDUSTRIES SERVED

- Aggregate & Concrete
- Chemical
- Mining & Minerals
- Oil & Gas
- Water & Wastewater
- Pulp & Paper

### APPLICATIONS

- Blowers
- Compressors
- Conveyors
- Fans
- Mixers
- Pumps

MODEL RANGE	60 HP to 200 HP	250 HP to 500 HP	600 HP to 800 HP
Voltage Rating	460 V		
Dimensions (H x W x D)	100 x 30 x 24 in.	100 x 42 x 24 in.	100 x 76 x 24 in.
Current Rating	75 to 240 A	302 to 628 A	740 to 960 A
POWER REQUIREMENTS			
Input Tolerance	Voltage: $\pm 10\%$ ; Frequency: $\pm 2\%$		
Main Circuit	Three-Phase 460 V; Integrated Copper-Wound Auto-Transformer; IGBT Output		
Output Frequency	0 to 299 Hz		
CONTROL SPECIFICATIONS			
Control Method	Pulse-Width Modulation (PWM) Output Control with Integrated 18-Pulse Phase-Shifting Auto-Transformer		
V/Hz Control	V/Hz, Sensorless Vector Control, Variable Torque, Closed-Loop Vector Control, & Constant Torque (Optional)		
PWM Carrier Frequency	Factory Default at 2.2 kHz (Maximum Depends on Size of Drive)		
Frequency Setting	4 to 20 mA, 0 to 10 VDC Serial Communication Input, & Rotary Encoder Integrated into EOI		
Frequency Precision	Analog Input: $\pm 0.2\%$ of Maximum Output Frequency; Digital Input: 0.01% of Maximum Output Frequency		
Speed Regulation	Open Loop: Up to 0.1%, 60:1 Speed Range		
Main Protective Functions	Soft Stall, Current Limit, Overcurrent, Overheat, Short Circuit Protection (IGBT & Output Short Circuit), Overcharge, Overload, Undervoltage, Overvoltage, Ground Fault, & CPU Error		
Overload Current Rating	100% Continuous; 120% for One Minute		
CONTROL INTERFACE			
Digital Input	Eight Discrete Input Terminals Programmable to 67 Functions (May Be Increased Using Optional Hardware)		
Digital Output	Three Discrete Output Terminals Programmable to 64 Functions; 2 Form-A Contacts & 1 Form-C Contact		
Analog Input	Three Programmable: One 0 to 20 mA or 0 to 10 VDC Input, One 0 to 10 VDC Input, & One $\pm 10$ VDC Input		
Analog Output	Two Programmable: One Programmable 4 to 20 mA or 0 to 10 VDC & One 4 to 20 mA Isolated Output		
Communication Ports	Ethernet, DeviceNet, Modbus (RTU/TCP/IP), NETPAC, BACnet, & TOSLINE-S20		
ELECTRONIC OPERATOR INTERFACE (EOI)			
Display	4x20 Graphical Full-English LCD Back-Lit Display for Programming, Monitoring, & Diagnostics		
LED Indicator	Run (Red)/Stop (Green), Hand (Green), & DC Bus Charge Indicator (Red)		
Keys	Hand/Auto, ESC, Run, Mode, & Stop/Reset		
Monitoring	Frequency Command Screen; Multiple Parameters Displayed: Output Current, DC Voltage, Output Voltage, Run Time, Comp. Frequency, Motor Load, Motor Overload, ASD Load, Output Power, RR Input, V/I Input, RX Input, RX2 Input, & AM/FM Output		
CONSTRUCTION			
Enclosure	ANSI 61 Grey; UL Type 1; Gasket & Filter; Free-Standing		
Power Cables	Top Entry for Input Cables; Bottom Exit for Motor Cables		
Cooling	Forced Air-Cooled		
Standards & Compliances	UL Listed in US & Canada, NEMA, & NEC		
AMBIENT CONDITIONS			
Ambient Temperature	14° to 104°F (-10° to 40°C)		
Altitude	3300 ft. Above Sea Level (Up to 10,000 ft. with De-Rate)		
Humidity	95% Maximum (Non-Condensing)		
Installation	Indoors; No Direct Sunlight; Protect from Corrosive Gas		

