TOSHIBA

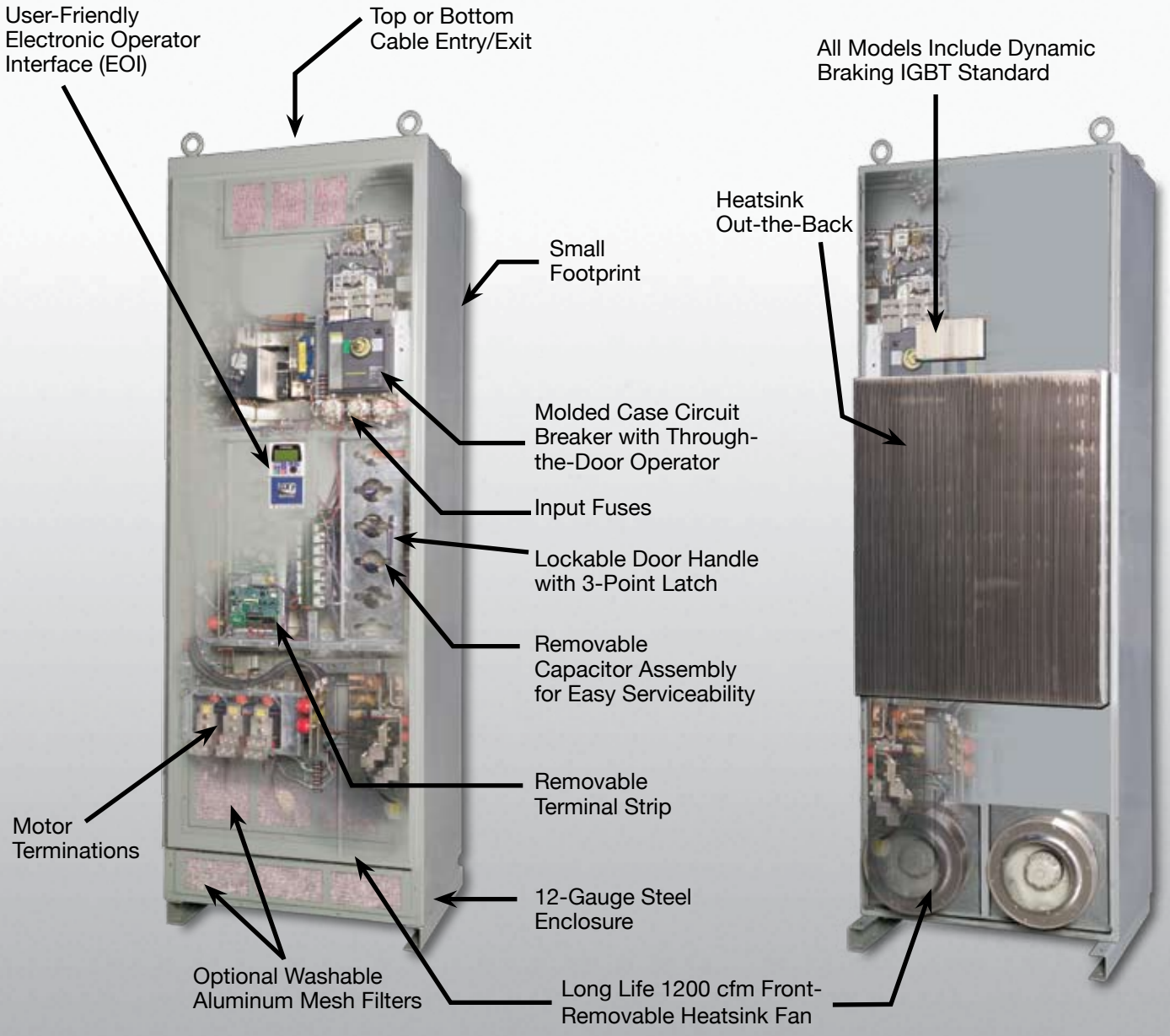
ADJUSTABLE SPEED DRIVES

GX7 Series

Reliability *in motion*®

Toshiba GX7

Toshiba's GX7 Series PWM adjustable speed drive is a severe duty drive built to handle all conventional applications in the industry, ranging from the simplest to the most complex. The GX7 Series offers flux-vector technology with or without encoder feedback. This drive maintains astoundingly tight control over both torque and speed with the industry's most user-friendly operator interface. The GX7 is designed to handle the most extreme conditions, continuing the G-Series tradition of delivering a robust performance platform.

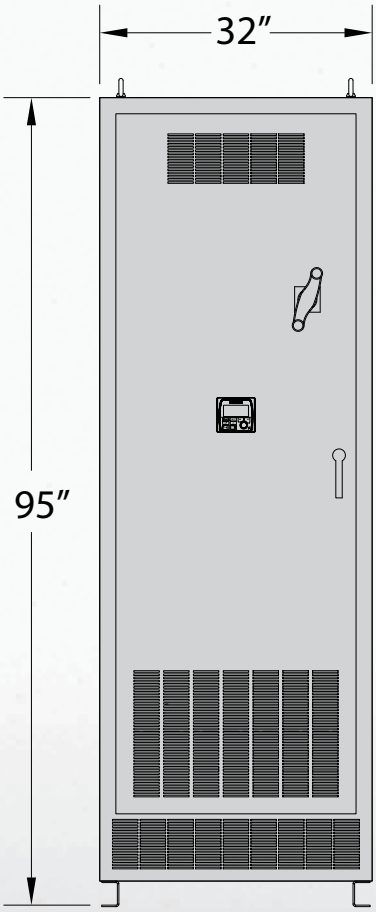


Industrial Solutions

Small Footprint

Today, the high cost of real estate and space constraints in existing facilities make size an important factor in drive selection. Toshiba responds with the GX7. The GX7 provides proper cooling of internal electronic components to ensure optimum performance and durability even in a small footprint enclosure.

- 500 to 800 HP; Only 32 Inches Wide
- 95 Inches High and 30.5 Inches Deep
- Saves Real Estate on New Designs
- Easy Replacement for Dated Drives in Existing Facilities



Industrially Hardened

The GX7 Series has the highest overload capability available for a 600 V, 500 HP and above drive. Rated at 110% continuous current, 130% up to 120 seconds, the GX7 can withstand load conditions that would cause other drives to fail.

The GX7 is ready for continuous, trouble-free operation in the most demanding manufacturing environments. In addition, it is designed for an operating environment of -10 to 40°C at elevations of -1000 to 1000 meters.

Variety of Communication Options

In the fast-paced manufacturing world, coordinated systems require drive-to-drive or drive-to-control system communication. Toshiba's GX7 comes standard with RS232/485 and TTL communication ports. In addition to the standard communications features, Toshiba offers a number of popular industrial communication protocol options including: Modbus RTU, Modbus Plus, Ethernet IP, Profibus DP, DeviceNet and Johnson Controls Metasys N2.

Proven Technology

Advanced Electronic Operator Interface

The GX7's Electronic Operator Interface (EOI) features a multi-line, graphics-capable, plain English, back-lit LCD. The EOI is so intuitive that the manual is usually unneeded to make setting adjustments. The GX7 has menu-driven programming as well as direct access to the parameters. A high reliability rotary encoder makes programming easy. Startup Wizard helps facilitate initial programming.

Configurables

- Easy to Remote-Mount the Display (up to 1000 Feet)
- Real-Time Clock Option (Stores up to 100 Past Faults with Date and Time Stamp)
- Graphics-Capable LCD to Aid in Diagnostics
- Flash-Upgradeable EOI Software
- Help from Toshiba Customizing Application-Specific Wizards

Standard Keypad Design for Low Voltage and Medium Voltage Drives

Monitor Software

The free monitor software allows the user to monitor and control critical operational parameters using serial communication. The software contains real-time graphing, a very useful tool for data analysis which allows files and tables to be created with the software from the obtained data.

Process Control

The built-in Proportional/Integral/Derivative (PID) control loop provides regulation of many processes without the need for external devices. Deviation limits, online switching, and delay filtering functions are included to enhance the flexibility and reliability of PID process control.

Meets or Exceeds Your Specifications

GX7 Specifications

Standard Specifications				
Item				
Voltage Class	600 VAC			
Maximum HP	500 HP	600 HP	700 HP	800 HP
Drive Rating (A)	481 A	601 A	698 A	770 A
Dimensions	95"H x 32"W x 30.5"D			
Power Requirements				
Output Frequency	0 to 299 Hz			
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	130% for 120 Seconds; 110% Continuous			
Frequency Setting	Rotary Encoder Integrated into EOI, 0 to 10 V, ±10 V, 4 to 20 mA, 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	Panel Operation: 0.01 Hz; Analog Input 10 to 12-Bit A to D Converter: 0.1 Hz			
Acceleration / Deceleration	0.1 to 6000 Seconds			
Speed Regulation	Up to 0.1%; 60:1 Speed Range			
Torque Setting	±250% of the Rated Torque			
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 to 20 mA, (1) 0 to 10 V, (1) -10 to +10 V, (1) 1 to 10kΩ Potentiometer Connection			
Analog Outputs	Two Programmable to 31 Functions			
Discrete Inputs	Eight Programmable to 67 Functions; Expandable to N-Value			
Output Contacts	Three Output Terminals, Programmable to 52 Functions; Form C Contacts Rated 250 V AC, Two Amps Inductive			
Signal Isolation	Available Three-Channel Signal Isolation for AM/FM Outputs and II Terminal Input, Rated at 750 V			
Power Terminals	Input (L1, L2, L3) Output (T1, T2, T3) DCL (PO, PA), DBR (PA, PB), DCBUS (PA, PC)			
Control Board Communication Ports	RS232/485 and TTL Ports Standard			
Data Transmission	Profibus, DeviceNet, Modbus RTU, Modbus+, Metasys, Ethernet (Some Devices are External)			
Main Protective Functions	Current Limit, Overcurrent, Overvoltage, Undervoltage, Load-Side Short Circuit, Load-Side Ground Fault, Armature Short; Overtorque, ASD Overload, Motor Overload, Heatsink Overheat, Open Output Phase, Loss of Feedback, CPU Error, Communications Error			
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)	Backlit LCD Display; Ability to Display Multiple Parameters on One Screen; Keypad may be Operated from 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: Volts or %; Current Display Selectable: Amps or %.			
EOI Communication Ports	RS232/485 and TTL Ports Standard			
Remote-Mount Display	Remote Mountable Up to 1000 Feet			
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 During Shipment or Installation			
Color	ANSI-61 Gray			
Ambient Conditions				
Ambient Temperature	-10 to 40°C (-14 to 104°F)			
Humidity	Max. 95% (Non-Condensing)			
Altitude	1000 Meters (3300 Feet) Above Sea Level or Less			
Installation	Indoor, No Direct Sunlight, Protect from Corrosive Gases and/or Explosive Gases			
Standards				
Electrical Compliance	NEC, ANSI			

TOSHIBA INTERNATIONAL CORPORATION

North American Headquarters and Manufacturing Facility (Houston, TX)

TOSHIBA – Quality by Design

Toshiba's culture and history is strongly rooted in quality. Our designs are technologically innovative, and our products are manufactured from start to end using only the highest quality domestic and foreign 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 website located at www.toshiba.com/ind for the latest information on Toshiba products and services.

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

TOSHIBA

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