### Adjustable Speed Drives Product Offering



# **Industrial Product Line**

If a standard product, customized application, or an integrated system is what you need, Toshiba industrial products will meet and exceed your expectations. We offer a complete range of products for both general and definite purpose applications. Toshiba keeps a stock of standard products for general purpose needs. We also have excellent engineers dedicated to designing products for your application requirements. Our engineering and manufacturing capabilities give us ultimate flexibility in customizing any of our products and providing complete solutions such as motor/drive packages.

### **Motors**

Low Voltage Motors ranging from 1/2 to 700 HP and 208 to 600 V

### **General Purpose Low Voltage**

Open Drip Totally-Enclosed Fan Cooled XS840 IEEE 841 Explosion Proof

### **Definite Purpose Low Voltage**

Inverter Ready
Vertical Shaft
Stainless Steel
Quarry Duty
Oilwell Pump
Close-Coupled Pump
Dry Kiln
Air Over
Brake

Medium Voltage Motors ranging from 200 to 50000 HP and 2300 to 13800 V

#### **Definite Purpose Medium Voltage**

Adjustable Speed Drives Compatible
API 541 Compliant
Weather Protected Type I
Weather Protected Type II
Totally Enclosed Water-to-Air Cooled
Totally Enclosed Air-to-Air Cooled
Totally Enclosed Fan-Cooled Fin

### **Uninterruptible Power Systems**

Single-Phase Ranging from 1 to 18 KVA Three-Phase Ranging from 15 to 3000 KVA

### **General Purpose**

Single-Phase Data Center Three-Phase Data Center

### **Definite Purpose**

Industrial Medical Semiconductor Manufacturing Telecommunication

### **Power Distribution**

Medium Voltage Motor Starters Medium Voltage Control Gear Solid State Starters Components: Contactors and Relays



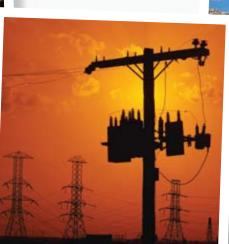
# Adjustable Speed Drives

Toshiba is a leading manufacturer of low voltage and medium voltage adjustable speed drives ranging from 1 to 10000 HP and 230 to 4600 V. Toshiba ASDs, like all other Toshiba industrial products, are robustly built with the needs of the customer in mind. Our drives are engineered to readily handle even the most demanding applications and provide precise control, adaptability, and exceptional functionality. Toshiba ASDs offer this superior performance with the most user-friendly programming and easy product maintenance in the business.

We supply a full range of general purpose and definite purpose ASDs suited to meet the demands of virtually any industry. Toshiba ensures that you are getting the best product for your specific application.



Textiles



Utilities

Cement & Aggregate



Food & Beverage



Assembly

# TOSHIBA Adjustable Speed I





|  | nC1  | S11  |  |
|--|--|--|--|
| Classification   | Standard Duty  | Standard Duty  |  |
| Ratings 100 to 120 V Single Phase  | 0.12 to 1 HP   | N/A  |  |
| Ratings 200 to 240 V Single Phase  | 0.25 to 3 HP   | 0.5 to 3 HP  |  |
| Ratings 200 to 240 V Three Phase   | 0.12 to 3 HP   | 0.5 to 20 HP   |  |
| Ratings 380 to 480 V   | N/A  | 1 to 20 HP   |  |
| Ratings 500 to 600 V   | N/A  | 2 to 20 HP   |  |
| Ratings 690 V  | N/A  | N/A  |  |
| Ratings 2300 to 4160 V   | N/A  | N/A  |  |
| 18-Pulse Input   | N/A  | N/A  |  |
| 24-Pulse Input   | N/A  | N/A  |  |
| 36-Pulse Input   | N/A  | N/A  |  |
| Available Enclosures   | NEMA 1   | NEMA 1 & IP54 & IP55   |  |
| Operational Variables/<br>VFD Operation Control                                      | Volts/Hertz,<br>Slip Compensation,<br>Open-Loop Vector   | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector,<br>Automatic Energy Savings for<br>Fans & Pumps  |  |
| Overload Protection  | 100% Continuous;<br>60 Seconds at 150%   | 100% Continuous;<br>60 Seconds at 150%   |  |
| Dynamic Braking  | N/A  | Included   |  |
| Ambient Rating   | -10 to 50°C  | -10 to 50°C (60°C with Derate)   |  |
| Features   | SS Overload Protection,<br>Adjustable Acceleration/Deceleration,<br>Adjustable Carrier Frequency         | 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 |  |
| Software/Downloadable from Website   | PCM001Z  | PCM001Z/ASD Pro  |  |
| Communications<br>(By the Use of Optional Internal or<br>External Interface Devices) | DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+, Modbus RTU,<br>Metasys N2, Siemens FLN, RS485,<br>RS232 | DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+, Modbus RTU,<br>Ethernet TCP/IP, Metasys N2,<br>Siemens FLN, RS485, RS232  |  |

# **Drives Product Offering**







| AS1   | H9  | <b>G9</b>   |  |
|---|---|---|--|
| Standard Duty   | Standard Duty   | Heavy Duty  |  |
| N/A   | N/A   | N/A   |  |
| N/A   | N/A   | N/A   |  |
| 0.5 to 100 HP   | 3 to 125 HP   | 0.75 to 100 HP  |  |
| 1 to 700 HP   | 5 to 400 HP   | 1 to 350 HP   |  |
| 2 to 700 HP   | N/A   | N/A   |  |
| 3 to 630 KW   | N/A   | N/A   |  |
| N/A   | N/A   | N/A   |  |
| IP00  | NEMA 1  | NEMA 1  |  |
| Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector,<br>Closed-Loop Vector   | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost,<br>Open-Loop Vector   | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector,<br>Closed-Loop Vector   |  |
| 100% Continuous;<br>60 Seconds at 150%  | 100% Continuous;<br>60 Seconds at 120%  | 115% Continuous;<br>120 Seconds at 150%   |  |
| Built-In IGBT 7 in 0.5 to 250 HP;<br>External Option in 300 HP and Up   | N/A   | Included  |  |
| 0 to 50°C (60°C with Derate)  | -10 to 40°C   | -10 to 40°C   |  |
| 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 | SS Overload Protection, Adjustable<br>Acceleration/Deceleration, Adjustable<br>Carrier Frequency, Flying Start, Power Ride<br>Through, Preset Speeds, Pattern Run,<br>Output Frequency 0.01 to 299 Hz, PID<br>Control, <i>My Function</i> 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, <i>My Function</i> Logic Feature |  |
| PCM001Z/ASD Pro   | ASD Pro   | ASD Pro   |  |
| DeviceNet, Profibus DP, Profinet,<br>Ethernet TCP/IP, Modbus RTU,<br>Modbus+, RS485   | DeviceNet, Profibus DP, Profinet,<br>Ethernet TCP/IP, Modbus RTU,<br>Modbus+, RS485   | DeviceNet, Profibus DP, Profinet,<br>Ethernet TCP/IP, Modbus RTU,<br>Modbus+, RS485   |  |







|  | HX7 18-Pulse  | GX7  | HX7E  |
|--|---|--|---|
| Classification   | Standard Duty   | Heavy Duty   | Standard Duty   |
| Ratings 100 to 120 V Single Phase  | N/A   | N/A  | N/A   |
| Ratings 200 to 240 V Single Phase  | N/A   | N/A  | N/A   |
| Ratings 200 to 240 V Three Phase   | N/A   | N/A  | N/A   |
| Ratings 380 to 480 V   | 60 to 800 HP  | N/A  | N/A   |
| Ratings 500 to 600 V   | N/A   | 500 to 800 HP  | N/A   |
| Ratings 690 V  | N/A   | 500 to 800 HP  | 500 to 1000 HP  |
| Ratings 2300 to 4160 V   | N/A   | N/A  | N/A   |
| 18-Pulse Input   | Included  | N/A  | N/A   |
| 24-Pulse Input   | N/A   | N/A  | N/A   |
| 36-Pulse Input   | N/A   | N/A  | N/A   |
| Available Enclosures   | NEMA 1  | NEMA 1   | NEMA 1  |
| Operational Variables/VFD Operation<br>Control                                       | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost,<br>Open-Loop Vector   | Voltz/Hertz, Slip<br>Compensation, Auto-Torque<br>Boost, Open-Loop Vector  | Voltz/Hertz, Slip<br>Compensation, Auto-Torque<br>Boost, Open-Loop Vector   |
| Overload Protection  | 100% Continuous;<br>60 Seconds at 120%  | 110% Continuous;<br>120 Seconds at 130%  | 100% Continuous;<br>60 Seconds at 120%  |
| Dynamic Braking  | N/A   | Included   | Included  |
| Ambient Rating   | 0 to 40°C   | -10 to 40°C  | -10 to 40°C   |
| Features   | SS Overload Protection,<br>Adjustable Acceleration/<br>Deceleration, Adjustable Carrier<br>Frequency, Flying Start, Power<br>Ride Through, Pattern Run,<br>Output Frequency 0 to 299 Hz | SS Overload Protection,<br>Adjustable Acceleration/<br>Deceleration, Adjustable<br>Carrier Frequency, Flying<br>Start, Power Ride Through,<br>Pattern Run, Output<br>Frequency 0 to 299 Hz | SS Overload Protection,<br>Adjustable Acceleration/<br>Deceleration, Adjustable<br>Carrier Frequency, Flying<br>Start, Power Ride Through,<br>Pattern Run, PID Control,<br>Output Frequency<br>0.01 to 299 Hz |
| Software/Downloadable from Website   | ASD Pro   | ASD Pro  | ASD Pro   |
| Communications<br>(By the Use of Optional Internal or<br>External Interface Devices) | DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+<br>Modbus RTU, Metasys N2,<br>RS485, RS232  | DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+<br>Modbus RTU, Metasys N2,<br>RS485, RS232   | DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+<br>Modbus RTU, Metasys N2,<br>RS485, RS232  |







| HX7+ Pack   | HX7+ Pack T300MVi   |  |  |
|---|---|--|--|
| Standard Duty   | Heavy Duty  | Heavy Duty   |  |
| N/A   | N/A   | N/A  |  |
| N/A   | N/A   | N/A  |  |
| N/A   | N/A   | N/A  |  |
| 60 to 1500 HP   | N/A   | N/A  |  |
| N/A   | N/A   | N/A  |  |
| N/A   | N/A   | N/A  |  |
| N/A   | 300 to 10000 HP   | 500 to 1500 HP   |  |
| N/A   | N/A   | N/A  |  |
| N/A   | Included  | N/A  |  |
| N/A   | N/A   | Included   |  |
| NEMA 1 & 3R   | NEMA 1  | NEMA 3R  |  |
| Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector  | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector,<br>Closed-Loop Vector   | Voltz/Hertz, Slip Compensation,<br>Auto-Torque Boost, Open-Loop Vector,<br>Closed-Loop Vector  |  |
| 100% Continuous;<br>60 Seconds at 120%  | 100% Continuous;<br>60 Seconds at 110 or<br>115% Depending on Rating  | 100% Continuous;<br>60 Seconds at 115%   |  |
| Included  | N/A   | N/A  |  |
| -10 to 40°C   | 0 to 40°C (50°C with Derate)  | 0 to 50°C  |  |
| 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 | SS Overload Protection, Adjustable<br>Acceleration/Deceleration, Adjustable<br>Carrier Frequency, Flying Start,<br>Power Ride Through,<br>Pattern Run, PID Control,<br>Output Frequency 0 to 120 Hz | SS Overload Protection, Adjustable Acceleration/Deceleration, Adjustable Carrier Frequency, Flying Start, Power Ride Through, Pattern Run, PID Control, Output Frequency 0 to 120 Hz |  |
| ASD Pro   | Wi Tool   | Wi Tool  |  |
| DeviceNet, Profibus DP,<br>Ethernet IP, Modbus+<br>Modbus RTU, Metasys N2,<br>RS485, RS232  | DeviceNet, Profibus DP,<br>Modbus RTU, Ethernet IP  | DeviceNet, Profibus DP,<br>Modbus RTU, Ethernet IP   |  |

### **TOSHIBA INTERNATIONAL CORPORATION**



## 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**

Available Through:

### **TOSHIBA INTERNATIONAL CORPORATION**

#### **INDUSTRIAL DIVISION**

13131 West Little York Road, Houston, Texas 77041
Tel 713/466-0277 Fax 713/466-8773
US 800/231-1412 Canada 800/872-2192 Mexico 01/800/527-1204
www.toshiba.com/ind
Copyright 2/2008