



Toshiba TE-18-BP Quick Start Up Manual

Digital solid state soft starter 18-1250a

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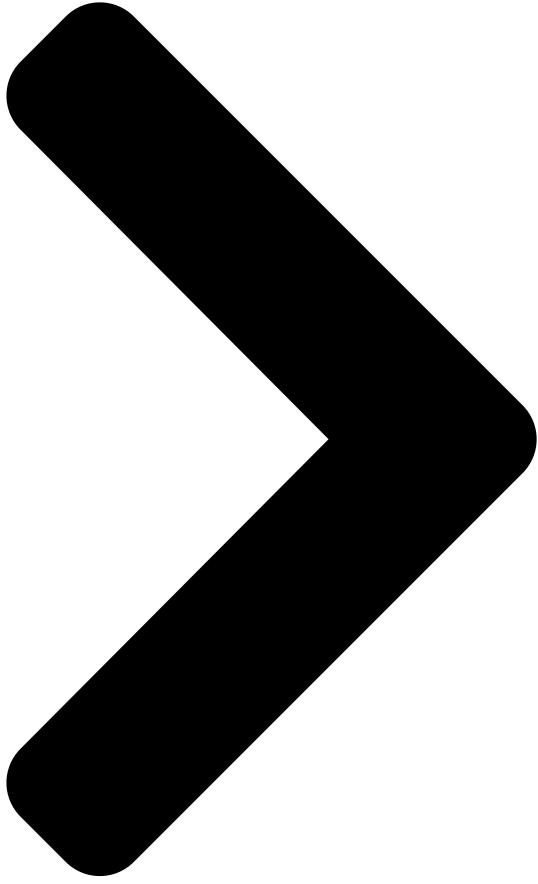
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DOCUMENT: NBZ0004

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QUICK STARTUP GUIDE
Leading Innovation >>>

TE Series

Digital

Solid State Soft Starter

18 - 1250A

Basic Installation and Quick Startup Guide

Issued: 9/12

Firmware Version 4.31

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[Controller Toshiba TE2 Series Instruction Manual](#)

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[Page 5](#) Basic Installation and Operation Guide Contacting TIC's Customer Support Center
Toshiba International Corporation's Customer Support Center can be contacted to obtain help in resolving any system problem that you may experience or to provide application information. The Support Center is open from 8 a.m. to 5 p.m. (CST), Monday through Friday. The Center's toll free number is US (800) 231-1412/Fax (713) 937-9349 CAN (800) 872-2192 MEX 01 (800) 527-1204.

[Page 6: General Safety Information](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A
General Safety Information DO NOT attempt to install, operate, maintain, or dispose of this equipment until you have read and understood all of the product safety information and directions that are contained in this manual. Safety Alert Symbol The Safety Alert Symbol is comprised of an equilateral triangle enclosing an exclamation mark.

[Page 7](#) DO NOT remove or cover any of these labels. If the labels are damaged or if additional labels are required, contact the Toshiba Customer Support Center. Labels attached to the equipment are there to provide useful information or to indicate an imminently hazardous situation that may result in serious injury, severe property and equipment damage, or loss of life if safe procedures or methods are not followed as outlined in this manual.

[Page 8: Equipment Inspection, Handling & Storage, Disposal](#)

- Modification of this equipment is dangerous and is to be performed by factory trained personnel ONLY. When modifications are required contact your Toshiba Customer Support Center.
- Inspections may be required after moving the equipment.
- Contact your Toshiba Customer Support Center to report discrepancies or for assistance if required. Handling and Storage •...

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[Page 11: Quick Start "Minimum Settings" Guide](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A
Quick Startup "Minimum Settings" Guide Your new TE Series Soft Starter is factory preset for a wide variety of applications and often can be used with minimal adjustment.

[Page 12: Chapter 1: Introduction](#)

Sizes and Ratings The Toshiba TE Series starters are current rated controllers. Max. Amp ratings are for continuous duty and must not be exceeded. Model Current Always check the motor nameplate FLA and Service Factor (if used)

[Page 13: Dimensions And Weights](#)

Enclosure Model Number A Inches B Inches C Inches D Inches E Inches F Inches (mm) (mm) (mm) (mm) (mm) (mm) (kg) TE-18-BP through 9.06 8.00 6.68 8.06 7.00 0.22 TE-48-BP (230) (203) (169.7) (204.7) (177.8) (5.6) (5.9) TE-62-BP through 14.00...

[Page 14: Chapter 2: Installation](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Chapter 2 - Installation Receiving and Unpacking Upon receipt of the product, you should immediately do the following: □ Carefully unpack the unit from the shipping carton and inspect it for shipping damage (if damaged, notify the freight carrier and file a claim within 15 days of receipt).

[Page 15](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Clearances Make sure there is sufficient clearance all around the unit for cooling, wiring and maintenance purposes. To conserve panel space, the TE Series - BP models were designed for close vertical clearances of only 1 inch (25mm) on either side.

[Page 16: Electrical Connections](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Electrical Connections Power Connections Disconnect Referring to local code standards for wire sizing and length, connect power conductors to the unit input terminals marked L1, L2, L3 (R, S, Circuit ...

[Page 17: Power Terminals](#)

Model Current Range Wire Size Torque Bolt Size Torque Wire Size Number Min.- Max. in.-lbs. ISOmm TE-18-BP 9 - 18 TE-28-BP 14 - 28 1 x M5 (included) TE-39-BP 19 - 39 TE-48-BP 24 - 48 TE-62-BP 36 - 62...

[Page 18: Control Connections](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Control Connections Control connections on the TE Series starter are divided into 2 groups. With the unit oriented vertically, TB1 is a 12-point DC terminal block (on the left), and TB2 is a 10 point AC terminal block (on the right side). These are removable terminal blocks for ease of connection and servicing, and are provided with different spacing (pitch) between the header pins so they are not interchangeable.

[Page 19: Control Fusing](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Control Fusing Output relays in TB2 must be protected from currents in excess of 5A, either with a fuse or with other suitable current protection devices. A dedicated fault output for use in PLC or interposing relay control is available on TB1.

[Page 20: Ptc Thermistor Input](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A PTC Thermistor Input The TE Series starter is provided with input terminals for connecting a PTC (Positive Temperature Coefficient) Thermistor that may be imbedded in the motor. These are specialized resistors imbedded in some motor windings that increase in resistance as the temperature increases.

[Page 21: Dual Ramp And Jog Features](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Dual Ramp and Jog Features TB1 includes provisions for enabling the Dual Ramp and Jog functions by using external contact closures. Both features use a common +24VDC from terminal 7 however, they can be used independently of each other or together.

[Page 22: Output \(Auxiliary\) Relay Contacts](#)

Form A, (SPST), N.O. contact. It is not necessary to use the programmable output auxiliary relays in the Start / Stop circuit. An internal seal-in relay is provided elsewhere (see 4.2.2.a). Toshiba recommends fusing all outputs with external fuses. The relays are rated for 240 VAC, 5 A and 1200 VA.

[Page 23](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A No field wiring is necessary to these terminals if this feature is not used. Bypass Control Terminals: Bypass Control 62 - 160A Units Terminals: ...

[Page 24: Chapter 3: Sequence Of Operation](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Chapter 3 - Sequence of Operation Starting: 1. Apply three phase power to the unit. The motor should not run until a Start command is applied. 2.

[Page 25: Chapter 4: Programming](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Chapter 4 – Programming Introduction It is best to operate the motor at its full load starting conditions to achieve the proper time, torque and ramp settings.

[Page 26: Display And Program Modes](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Display Modes There are three modes of display: The Status Display Mode, the Program Mode, and the Fault Mode. Status Display Mode (Default Display) The Status Display Mode displays seven “screens”...

[Page 27](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Changing a Function’s Set Value From the instructions above, after pressing the [READ/ENTER] key the display will show the value of that function with one digit flashing (usually the rightmost digit). Flashing indicates this is the digit to be altered (similar to cursor position).

[Page 28](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Example 1: See Figure 8 Entering a new FLA setting into Function 001 Viewing a Function’s Set Value [0000.] Indicates Phase A is drawing no current (unit is in “Off”...

[Page 29: Program Function List](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Program Function List Setting Factory Fn # Group Function Description Adjustment / Display Range Setting Increments Setting 50-100% of Max Amp Rating. Motor Nameplate FLA Upper limit of range automatically F001 FLA must be programmed for...

[Page 30](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Setting Factory Fn # Group Function Description Adjustment / Display Range Setting Increments Setting 0 = Disabled (coast to stop) Pump Flex Control / 1 = Enabled, except after OL trip F024 0 Disabled...

[Page 31](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Setting Factory Fn # Group Function Description Adjustment / Display Range Setting Increments Setting 0 = Disabled, or F040 Current Imbalance Trip 0 Disabled 5 - 30% imbalance F041 Current Imbalance Trip Delay...

[Page 32](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Setting Factory Fn # Group Function Description Adjustment / Display Range Setting Increments Setting 0 = Disabled F065 Communications 1 = Enabled (11Bit) 2 = Enabled (10Bit) F066 Baud Rate 4.8, 9.6 and 19.2 KB...

[Page 33](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A Setting Factory Fn # Group Function Description Adjustment / Display Range Setting Increments Setting 0 = No fault history, or F085 Fault History #1, Latest Fault Fault # 1 - 27: see Fault code list Time Stamp, Fault #1 00.00-23.59 (hh.mm)

[Page 34: Auxiliary Output Relay Settings](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Auxiliary Output Relay Settings Functions F060 through F062 provide the ability to program the functions of each of the 3 Output Auxiliary Relays. Factory default programming is provided which covers a wide variety of applications, but any of these relays can be changed as per the following chart.

[Page 35: Fault Mode](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 – 1250A
Fault Mode The TE Series will automatically enter the Fault Mode when a fault occurs in the

motor or starter and display a code indicating the condition that caused a shutdown.

[Page 36: Chapter 5: Motor Overload Protection](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A
Chapter 5 - Motor Overload Protection Solid State Overload Protection The TE Series Starter provides true U.L. listed I t Thermal Overload Protection as a built-in function of the main digital processor for maximum motor protection.

[Page 37](#) Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A Manual Reset The factory default setting is Manual Reset. This means that when the Overload Trip is activated, the starter cannot be restarted without pressing the Reset key. The Overload Trip will not reset until the motor cools down (see 3.1.3.d).

[Page 38: Overload Class Trip Curves](#)

Basic Installation and Operation Guide TE Series Digital Solid State Soft Starters 18 - 1250A
Overload Class Trip Curve Chart ...

This manual is also suitable for:

[Te series](#)[Te-28](#)[-bp](#)[Te-39](#)[-bp](#)[Te-62](#)[-bp](#)[Te-78](#)[-bp](#)[Te-112](#)[-bp](#) ... [Show all](#)