

AUTOMATIC TRANSFER SWITCH CONTROLLER



- Microprocessor-Based Circuitry provides ultimate Reliability and Versatility
- User-Friendly Operator Interface
- Backlit LCD Display Screen with Alpha-Numeric Readout for Display and Programming
- Digital Voltage and Frequency Display for Generator and Utility Supply
- Standard Remote Communication Serial Port
- Non-Volatile Memory retains Logic and Setpoints if Control Power is lost
- Direct 3 Phase Voltage Sensing Inputs on Generator and Utility Supplies from 120VAC to 600VAC (nominal)
- Security Password-Protected Programming Levels
- Self-Diagnostic Features Continuously Verify Processing, I/O and Memory Circuits

GENERAL DESCRIPTION

The Thomson Technology **TSC 800** automatic transfer controller provides advanced microprocessor design technology for control of automatic transfer switches. The **TSC 800** is factory configured to control all the operational functions and display features of the automatic transfer switch. All standard and optional control features of the **TSC 800** are fully programmable from the front panel LCD display and are security password protected. The LCD display screen prompts are in plain English, providing a user-friendly operator interface with selectable display options. The microprocessor design provides high accuracy for all voltage sensing and timing functions as well as providing many standard features which are only available as add-on options on other transfer switches.

GENERAL DESCRIPTION

- **TSC 800 - 115**
(for nominal 115VAC power supply inputs)
- **TSC 800 - 230**
(for nominal 230VAC power supply inputs)

STANDARD CONTROL FEATURES

- Engine Start Contact - Form C, 10A 120/240VAC Resistive
- Utility Under Voltage Sensing - 3 Phase, 70-100% Adjustable c/w Time Delay
- Generator Under Voltage Sensing - 3 Phase, 70-100% Adjustable c/w Time Delay
- Generator Under/Over Frequency Sensing (40-70Hz c/w Time Delays)
- Utility Over Voltage Sensing - 3 Phase, 100-130% Adjustable c/w Time Delay
- Generator Over Voltage Sensing - 3 Phase, 100-130% Adjustable c/w Time Delay
- Utility Under/Over Frequency Sensing (40-70Hz c/w Time Delays)
- Utility Return Timer 0-60 min.
- Engine Warm-Up Timer 0-60 min.
- Engine Start Delay Timer 0-60 sec.
- Engine Cooldown Delay Timer 0-60 min.
- Neutral Position Delay Timer 0-2 min.
- Programmable Function Contact - Form C, 10A, 120/240VAC Resistive
- Load on Utility Output Signal 3A, 120/240VAC Resistive
- Load on Generator Output Signal 3A, 120/240VAC Resistive
- On Load/Off Load Exercise Timer 7, 14, 21 or 28 Day (Single Occurrence)
- Load on Utility Status-Green LED Light
- Load on Generator Status-Red LED Light
- On Load/Off Load Test Pushbuttons



OPERATOR CONTROLS

- Four front panel mounted pushbuttons provide the following functions:
 - Display Option Menu
 - On Load/Off Load Test Menu
 - Programming Entry/Exit
 - Programming Value Increment
 - Programming Value Decrement
 - Lamp Test
- LED indicators:
 - Load on Utility Supply
 - Load on Generator Supply
- LCD display options:
 - Timer Countdown Functions
 - 3 Phase Utility Voltage, Frequency
 - 3 Phase Generator Voltage, Frequency
 - Exercise Time Clock
 - System Status Condition

ADVANCED FEATURES

- 3-Phase Voltage Sensing on both Utility and Generator Sources with Direct Input Voltage up to 600VAC (nominal).
- Superior EMI/RFI Noise Immunity and Surge Performance Design Features as per IEEE C62.41 requirements.
- Dual Source System Logic can provide control for Two Generator Sources or Dual Utility Feeder Applications.
- Fail to Transfer Logic provides a Forced Transfer to the Alternate Source if a failure is detected.
- Optional Pre/Post Transfer Signal Contacts provide Signals to Remote Devices (ie. Elevator Controls) to Warn System of Impending Transfer to Either Source.
- Diagnostic status LEDs for:
 - CPU Running (Watchdog)
 - Engine Start Output Activated
 - Transfer to Utility Supply Output Activated
 - Transfer to Generator Supply Output Activated
- Programmable Auto Callout Signal to Remote Monitoring Device
- Programmable Exercise Timer (7, 14, 21 or 28 Day Single Occurrence)
- Timer Bypass Feature to Eliminate Delays for Testing Purposes
- Phase Balance Detection on Utility and Generator Sources
- Over Voltage & Over Frequency Sensing on Utility and Generator Sources
- Auto Timed or Manual Retransfer Programmability for Return to Utility Supply
- Standard RS422 Remote Communication Port
- On Board Data Logging (Total Number of Transfers, Total Number of Transfers Due to Source Failure, Number of Hours Controller is Energized, Number of Hours Load is on Utility, Number of Hours Load is on Generator)
- Remote Load Test/Peak Shave Input

SPECIFICATIONS

- POWER SUPPLY:
 - 115 or 230VAC Nominal (-30%, +10%)
 - 50/60Hz
 - 100ma Nominal (no external load connected)
- VOLTAGE SENSING:
 - Direct 120-600VAC (nominal) Single or 3 Phase
 - 50/60Hz
 - +/-0.5% accuracy of setting @ 25°C
- OPERATING TEMPERATURE:
 - -15°C to +50°C
- OUTPUT CONTACTS (Form C, 10A, 120/240VAC resistive)
 - Engine Start
 - Programmable Function \triangle
- OUTPUT SIGNALS (120/240VAC Resistive Load)
 - Transfer to Utility 10A
 - Transfer to Generator 10A
 - Pre/Post-Transfer to Utility 3A
 - Pre/Post-Transfer to Generator 3A
 - Load on Utility 3A
 - Load on Generator 3A

OPTIONAL CONTROL FEATURES

CODE	DESCRIPTIONS
CIM	Communication Interface Module with internal 14.4Kbaud modem, RS232/422/485 ports and Modbus™ protocol. One CIM module provides communication interface for up to ten TSC 800 controllers per system. \triangle
DS LDC	Dual Source System Control Logic Pre/Post-Transfer to Utility & Generator Signal Output 3A, 120/240VAC Resistive (0-30sec.)
VFD	Vacuum Fluorescent Display for Extended Low Temperature Operation (-40°C)

\triangle Not Available with Dual Source System Control Logic

\triangle Refer to separate literature for additional information

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NOTE: Specifications subject to change without notice.
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