

TRANSFER SWITCH CONTROLLER



- Microprocessor-based circuitry provides ultimate reliability and versatility
- 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 up to 600VAC (nominal)
- Self diagnostic features continuously verify processing, I/O and memory circuits
- Simplified controller design is easy to use and requires no software programming
- Superior EMI/RFI noise immunity and voltage surge performance as per IEEE C62.41
- Optional version TSC 80e Enhanced controller is available which provides additional features such as front panel LCD display.

GENERAL DESCRIPTION

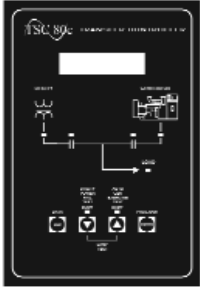
The Thomson Technology **TSC 80 Transfer Switch Controller** utilizes the latest advancements in microprocessor technology, printed circuit board assembly and software for control of automatic transfer switches. The **TSC 80** is the second generation of microprocessor-based transfer switch controllers from Thomson Technology, and reflects over 30 years of transfer switch control experience. The **TSC 80** is factory configured to monitor, display and control all operational functions of the automatic transfer switch. All voltage sensors and timers are fully user adjustable utilizing potentiometers, which requires no software programming. The microprocessor design provides high accuracy for all voltage sensing and timing functions as well as providing many standard features.

The **TSC 80** Transfer Switch Controller is available in 2 basic model types-**TSC 80** Standard and **TSC 80e** Enhanced Transfer controller. The **TSC 80e** Enhanced Transfer Controller includes all of the features available in the standard **TSC 80** plus additional features such as LCD display, front programming buttons, data logging with real time clock, integrated Load Disconnect control and programmable exercise timer.

TSC 80 STANDARD CONTROL FEATURES

- Utility AC voltage sensing (true RMS) – 120-600V single phase or 3 phase
- Generator AC voltage sensing (true RMS) – 120-600V single phase or 3 phase
- Generator AC frequency sensing
- Utility under voltage control setpoint 70 - 95% (adjustable)
- Generator under voltage control setpoint 70 - 95% (adjustable)
- Generator under frequency control setpoint 70 - 90% (adjustable)
- Engine warm-up timer 0-60 sec. (adjustable)
- Utility return timer 0-30 min. (adjustable)
- Engine start timer 0-60 sec. (adjustable)
- Engine cooldown timer 0-30 min. (adjustable)
- Neutral position delay timer 0-60 sec. (adjustable)
- Local utility power fail simulation test pushbutton & LED, door mounted
- Remote utility power fail simulation test pushbutton input (via terminal block)
- Load on utility supply & load on generator supply LED's, door mounted
- Utility and generator source available LED's, door mounted
- Weekly plant exercise timer (30 min. on load) manually initiated
- Local plant exercise initiate pushbutton & LED, door mounted
- Engine start contact (10A, 120/240VAC resistive max.)
- Load on utility auxiliary contact (Qty 1 only, 10A, 120/240VAC, Form C)
- Load on generator auxiliary contact (Qty 1 only, 10A, 120/240VAC, Form C)
- Transfer fail/forced transfer logic
- 50 or 60Hz capable (115V control power)

TSC 80e ADDITIONAL FEATURES



The TSC 80e Enhanced Controller includes all of the features available in the standard TSC 80 plus the following additional features;

- **LCD Display:** Built-in, front faceplate mounted LCD Display for monitoring 3 phase Utility/Generator voltage, system frequency and timer countdown operation
- **Front Panel Programming:** All controller set points can be programmed using built-in faceplate mounted pushbuttons & LCD display with password security
- **Load Disconnect Contact (LDC):** Integrated Load Disconnect Contact (LDC) feature provides pre/post transfer control to signal external building systems such as elevators during transfer operations
- **Generator Exercise Timer (EXT):** Integrated Generator Exercise Timer (EXT) with easy to use 4 event, 7-14-21-28 Day, On-load or Off-load Programmability
- **Real-time Clock:** On Board Real-time clock c/w battery back-up & daylight-savings programming functionality
- **Event Data Logging:** Data logging of key events including total transfers to generator, total utility power failures, load on utility hours, load on generator hours and utility or generator voltage/frequency data at time of fault
- **Programmable Output Contact:** Additional Programmable Output Contact rated 10A, 120/240V resistive, Form C with the following available functions: Fail to Transfer, Load on Utility, Load on Gen, Utility Power Available (UPA), Generator Power Available (GPA), ATS Not in Auto, ATS in Auto, Load Disconnect

OPERATOR CONTROLS

- Two front panel mounted pushbuttons provide the following functions:
 - Utility power fail test mode
 - Generator exercise timer
 - Lamp test
- Seven faceplate mounted LED indicators:
 - Load on utility supply
 - Utility supply available
 - Load on generator supply
 - Generator supply available
- Eight circuit board mounted user adjustable potentiometers:
 - Load energized
 - Utility power fail test mode
 - Generator exercise timer
 - Generator under voltage setpoint
 - Utility under voltage setpoint
 - Generator under frequency setpoint
 - Engine warm-up timer
 - Engine start delay timer
 - Neutral position delay timer
 - Engine cooldown timer
 - Utility return timer

ADVANCED FEATURES

- 3 Phase voltage sensing on load bus, utility, and generator sources with direct input voltage up to 600VAC nominal
- Superior EMI/RFI noise immunity and voltage surge performance design features as per IEEE C62.41 requirements
- Complete 3 phase under voltage monitoring of both sources complete with user adjustable setpoints
- Automatic re-transfer to utility supply in test exercising modes should generator fail while on load
- Automatic plant exercise timer
- Automatic force transfer to alternate supply should load voltage become de-energized
- Flexible design allows user configuration to almost any system (i.e. 3 phase or single phase, system voltage, 50 or 60Hz system frequency)
- Remote Load Test/Peak Shave Input

SPECIFICATIONS

- **POWER SUPPLY:**
 - 115VAC, -30%, +10%
 - 50/60Hz
 - 100ma nominal (no external load connected)
- **VOLTAGE SENSING:**
 - Direct 120-600VAC
 - 50/60Hz
 - +/- 1.0% accuracy of setting @ 25°C
- **OPERATING TEMPERATURE:**
 - -40°C to +50°C TSC 80
 - -15°C to +50°C TSC 80e
- **OUTPUT CONTACTS** (Form C 10A, 120/240VAC resistive)
 - Engine start
 - Load on generator
 - Load on utility
 - Programmable (TSC 80e only)
- **OUTPUT SIGNALS 120VAC**
 - Transfer to utility 10A
 - Transfer to generator 10A

NOTE: Specifications subject to change without notice.
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THOMSON TECHNOLOGY • 9087A - 198th STREET, LANGLEY, BC CANADA V1M 3B1

TELEPHONE: (604) 888-0110 • FAX: (604) 888-3381 • E-MAIL: info@thomsontechnology.com • www.thomsontechnology.com

