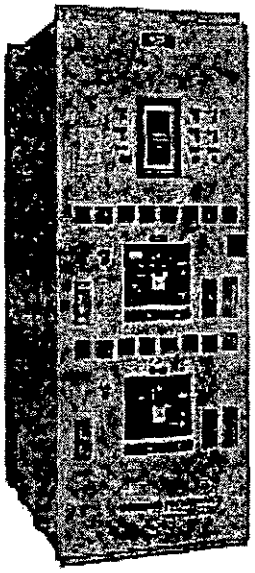
THOMSON TECHNOLOGY®
POWER & CONTROL

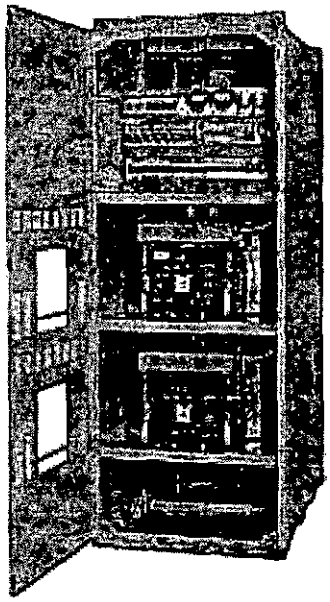
02 • 06 • 01

Model Series TS 890 • 800-4000 AMP

AUTOMATIC TRANSFER SWITCHES



TYPICAL
TS 893-2500
TRANSFER SWITCH



THOMSON TECHNOLOGY TS 890 AUTOMATIC TRANSFER SWITCHES OFFER THE FOLLOWING OUTSTANDING FEATURES:

Stored Energy Power Switching Units

- **fully enclosed** silver alloy contacts provide high withstand, closing and interrupting rating
- **completely separate** utility and generator side switching units provide superior reliability through redundancy (no common parts)
- switching units can incorporate **overcurrent protection**, allowing cost savings in upstream devices
- **not damaged** if manually switched while in service since contacts operate at same speed as when electrically operated

Reliable Motor-Operated Transfer Mechanism

- **heavy duty** brushless motors and operating mechanism provide mechanical interlocking and extreme long life with minimal maintenance
- **safe manual operation** with **permanently affixed handles**, permits easy operation even under adverse conditions

Control Features

- ***TSC 800 microprocessor*** based controller with comprehensive features and state of the art design
- **isolation plug** permits disconnection of control circuits from all power sources for safety and convenience of servicing
- Option LEV-3 allows use with dual standby generators or dual utility feeders

Quality Assurance

- ISO 9001 Registered
- CSA Z 299.3 (optional)
- DND AQAP-4 (optional)

Product Data

- Models from 800-4000 Amp continuous
- Available 3 or 4 Pole
- All models 50/60 Hz rated
- Voltage range 208-600
- 3 Phase, 3 or 4 wire systems

Certifications

- UL 1008 Automatic Transfer Switch Equipment
- CSA C22.2 No.178 Automatic Transfer Switches

THOMSON TECHNOLOGY INC. • 9087A - 198th STREET, LANGLEY, BC CANADA V1M 3B1

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GENERAL DESCRIPTION

Thomson Technology TS 890 series of Automatic Transfer Switches employ two mechanically interlocked stored energy insulated case power switching units and a microprocessor based controller to automatically transfer system load to an alternate supply in the event of a utility supply failure. System load is automatically re-transferred back to the utility supply following restoration of the utility power source to within normal operating limits.

TS 890 Automatic Transfer Switches are specifically designed and certified for use in emergency power system applications such as in commercial, industrial, or government institutions that require automatic standby power.

The standard **TS 890** Automatic Transfer Switch is rated for 100% system load and requires upstream overcurrent protection. The **TS 890** design allows optional use of integral overcurrent portion trip elements within the stored energy insulated case power switching units thus eliminating the need for external, upstream protective devices. The standard **TS 890** Automatic Transfer Switch is supplied with fix-mounted power switching units. For applications requiring withdrawable power switching units, specify draw-out (DO) option.

The design of the **TS 890** operating mechanism provides many standard options to fit a wide variety of system applications such as dual utility feeders, dual prime generators, service entrance and closed transition transfers where the two sources of supply are synchronized prior to transfer.

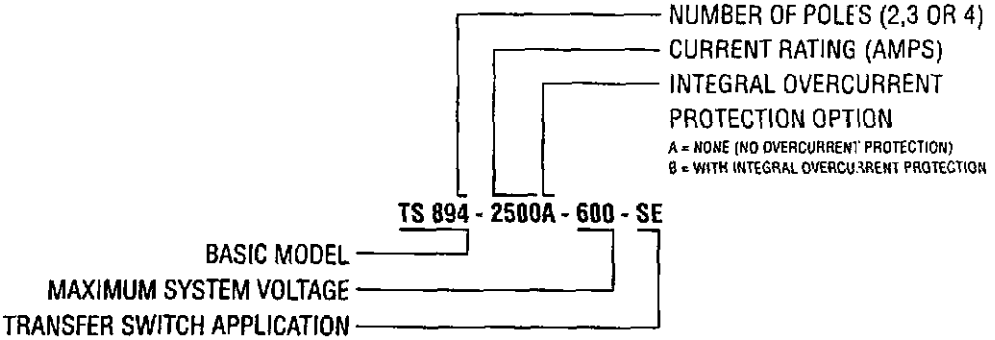
The **TS 890** series automatic transfer switches use a type **TSC 800** microprocessor based controller which provides all necessary control functions for fully automatic operation. The **TSC 800** controller is mounted on the door of the transfer switch enclosure and operating status is shown via LCD display screen. Refer to separate literature for additional information on the **TSC 800** transfer controller.

The standard **TS 890** automatic transfer switch provides an interrupted "break-before-make" transfer system with an adjustable neutral position delay to ensure adequate voltage decay to prevent out of phase transfers. For special applications requiring a no break transfer, **Thomson Technology** can provide a **closed transition transfer switch (CT)** utilizing an active synchronization control system to ensure both sources of supply are in synchronism prior to transfer.

Note: For bypass/isolation applications, refer to separate TSB literature.

ORDERING INFORMATION

EXAMPLE:



(SE=SERVICE ENTRANCE, CT=CLOSED TRANSITION, DP=DUAL PRIME, DS=DUAL STANDBY)
NOTE: SPECIFY SINGLE OR MULTIPLE APPLICATION TYPES AS REQUIRED

ADDITIONAL ORDERING INFORMATION

- SYSTEM CONDUCTORS (SPECIFY 3 WIRE OR 4 WIRE WITH NEUTRAL)
- TSC 800 CONTROL LEVEL (SPECIFY LEVEL 1,2,3 AS DESCRIBED IN FEATURES LISTING)
- OPTIONAL FEATURES - SPECIFY ALL OPTIONAL FEATURES AS REQUIRED

NOTE: DO NOT LIST STANDARD FEATURES. SHOW QUANTITY FOR AUXILIARY CONTACTS. ENSURE STANDARD CABLE TERMINALS ARE ADEQUATE - SPECIFY IF OPTIONAL TYPE IS REQUIRED. STANDARD UNITS ARE RATED 50/60HZ.

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STANDARD FEATURES

CODE	DESCRIPTIONS
LEV-1*	Programmable/multi-tap system voltage selection Load on utility & load on generator lights c/w lamp test Three phase voltage sensing on utility & generator sources Under/over frequency sensing on generator source (with adjustable time delay) Digital three phase metering of voltage & frequency on utility & generator sources Engine start delay timer, 0 - 60 sec. Engine cooldown delay timer, 0 - 30 min. Engine warm-up timer, 0 - 1800 sec. Transfer to utility timer, 0 - 30 min. Neutral Position Delay, 0 - 60 sec. (allows load voltage decay) Exercise timer 24 hour/7 day On/off load test selectable Programmable function output contact** Diagnostic LED's Backlit TSC 800 LCD display NEMA 1 enclosure Solid Neutral

** Provided as standard on all TS 890 Automatic Transfer Switches*

*** Not available with Level 3 options*

OPTIONAL FEATURES

CODE	DESCRIPTIONS
LEV-2	Level 2 ATS control package - Level 1 features plus the following: Overvoltage three phase sensing on both utility & generator sources Under/over frequency sensing on utility source (with adjustable time delay)
LEV-3	Level 3 (Dual source) control package - Level 1 features plus the following: Dual Source selector switch Overvoltage three phase sensing - both sources Under/over frequency sensing - both sources
DO	Draw-Out power switching units (withdrawable transfer switch)
FTS-4	4 Function Test Switch (Auto/Off/Engine Start/Test)
AUX-U	Auxiliary Contact - Utility side (any qty.)
AUX-G	Auxiliary Contact - Generator side (any qty.)
LDC	Generator Pre/Post & Utility Pre/Post Timer contacts (adjustable) for Load Disconnect prior to transfer
OVS	Overvoltage three phase sensing on both utility & generator sources
UOF	Under/over frequency sensing on utility source (with adjustable time delay)
UPA	Utility power available contact
GPA	Generator power available contact
UAL	Utility available light
GAL	Generator available light
FTT	Fail to transfer contact
NSV	Negative sequence voltage relay - (protects against re-generative voltage from large motors or transformers during single phasing conditions)
SE	Service Entrance Rated*
UTR	Overload trip - Utility side (specify rating)
GTR	Overload trip - Generator side (specify rating)
PCT	In-phase Transfer - ensures transfer takes place when both sources are in-phase to prevent system transients
BDU	Bus duct provisions for utility connect
BDL	Bus duct provisions for load connect
BDG	Bus duct provisions for generator connect
CT	Closed Transition Transfer Switch[1]
PG-UPT®	Parallel Generation - Uninterrupted Power Transfer[1]
COM	TSC 800 remote communication port (RS422). Can be used in conjunction with external TTI Communication Interface Module*, (CIM module not included).
CIM	Communication Interface Module* with internal 14.4Kbaud modem, RS 232/422/485 ports and Modbus™ protocol. One CIM module provides communication interface for up to ten TSC 800 controllers with COM per system.
VFD	Vacuum flourescent display for extended low temperature operation (-40° C).

Note[1]: Options for CSA applications require equipment to be manufactured to Switchgear (C31) Standards

*Refer to separate literature for additional information. ™ Trademarks belong to their respective parties.

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STANDARD MODELS

BASIC MODEL	MAXIMUM VOLTAGE	RATED CURRENT (AMPS)	WITHSTAND CURRENT RATING AMPS (RMS)[1] With Upstream Circuit Breaker Protection		
			@240V	@480V	@600V
TS 890 - 800	600	800	100,000	100,000	85,000
TS 890 - 1200	600	1200	100,000	100,000	85,000
TS 890 - 1600	600	1600	100,000	100,000	85,000
TS 890 - 2000	600	2000	100,000	100,000	85,000
TS 890 - 2500	600	2500	100,000	100,000	85,000
TS 890 - 3000	600	3000	100,000	100,000	85,000
TS 890 - 4000	600	4000	100,000	100,000	85,000

ENCLOSURE SPECIFICATIONS

(NEMA 1, ASA 61 GRAY)

BASIC MODEL	DIMENSIONS (Inches)[3]				SHIPPING WEIGHT
	HEIGHT	WIDTH	DEPTH (Std)	DEPTH (Drawout Option)	(lbs)
TS 890 - 800	91.5	36	42	48	1500
TS 890 - 1200	91.5	36	42	48	1500
TS 890 - 1600	91.5	36	42	48	1500
TS 890 - 2000	91.5	36	42	48	1500
TS 890 - 2500	91.5	36	60	60	1800
TS 890 - 3000	91.5	36	60	60	1800
TS 890 - 4000	91.5	48	72	72	2400

Optional NEMA 2, 3R & 4X class enclosures available — consult Thomson Technology Inc.

CABLE TERMINALS

TRANSFER SWITCH RATING (AMPS)	TERMINAL RATING[2]	
	QTY PER PHASE	RANGE[4]
800	3	3 X #2 - 600 MCM
1200	4	4 X #2 - 600 MCM
1600	5	5 X #2 - 600 MCM
2000	6	6 X #2 - 600 MCM
2500	7	7 X #2 - 600 MCM
3000	8	8 X #2 - 600 MCM
4000	11	11 X #2 - 600 MCM

[1] UL 1008 / CSA 178 ratings only are shown. Consult Thomson Technology Inc. for IEC ratings.
[2] Optional Terminal Ratings are available in some models - Consult Thomson Technology Inc.
[3] Enclosure dimensions are for reference. (DO NOT USE FOR CONSTRUCTION).
[4] All cable connections suitable for copper or aluminum.

NOTE: Specifications subject to change without notice.

CL027 Rev.8 02/06/01

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