

AUTOMATIC TRANSFER SWITCHES



**TS 830 - 400 AMP
TRANSFER SWITCH**



**TS 830 - 1200 AMP
TRANSFER SWITCH**

**THOMSON TECHNOLOGY TS 830 AUTOMATIC TRANSFER SWITCHES
OFFER THE FOLLOWING OUTSTANDING FEATURES:**

Enclosed Contact Power Switching Units

- **fully enclosed** silver alloy contacts provide **high withstand** rating.
- **completely separate** utility and generator side power switching units provide superior reliability through redundancy (no common parts), as well as excellent serviceability.
- power switching units incorporate **overcurrent protection**, allowing cost savings in upstream devices.
- **not damaged if manually switched** while in service since contacts have inherent spring over center design.

Reliable Motor-Operated Transfer Mechanism

- **heavy duty** brushless gearmotor and operating mechanism provide mechanical interlocking and extreme long life with minimal maintenance.
- **safe manual operation** permits easy operation even under adverse conditions.

Superior Serviceability

- all mechanical and control devices are **visible and readily accessible**.
- all control wires and power busses are **front-accessible** - there are no wires or connections which require removal of the transfer switch from its enclosure for servicing

Control Features

- Microprocessor based controllers.
- **isolation plug** permits disconnecting control circuits from all power sources for safety and convenience.

Quality Assurance

- ISO 9001:2000 Registered
- Complies with IEC 947-3 requirements

Product Data

- Models from 100-3200 Amp continuous
- Available 3 or 4 pole
- All models 50/60Hz rated
- Voltage range 208-480V
- 3 phase, 3 or 4 wire systems*

* Single phase models are also available. Please contact factory.

GENERAL DESCRIPTION

STANDARD ATS

Thomson Technology TS 830 series of Automatic Transfer Switches employ two mechanically interlocked enclosed contact 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 830 Automatic Transfer Switches are specifically designed for use in emergency power system applications such as commercial, industrial, or government institutions that require automatic standby power.

The standard **TS 830** Automatic Transfer Switch is fully rated. The **TS 830** design includes overcurrent trip elements within the enclosed contact power switching units thus eliminating the need for external, upstream protective devices.

The design of the **TS 830** operating mechanism provides many standard options to fit a wide variety of system applications such as dual utility feeders, dual prime generators and service entrance.

The inherent spring over center mechanism in the power switching devices allows the operator to manually operate the transfer switch without disconnecting the power source or loads.

The **TS 830** series automatic transfer switch base model is supplied with a **TSC 80** microprocessor based controller as standard, which provides all necessary control functions for fully automatic operation. The **TSC 80** controller can be mounted on the door of the transfer switch enclosure. Operating status is shown via LED indication lights. Refer to separate literature for additional information on the **TSC 80** transfer controller. Additional models of microprocessor based controllers are available (Refer to Ordering Information).

The **TS 830** power chassis can be supplied without the **TSC 80** controller for use with controllers supplied by others.

The standard **TS 830** series 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.

POWER CONTROL CENTER PCC (Option)

The **TS 830** transfer switch is available with a “**Power Control Center**” (**PCC**) option which provides a comprehensive set of features in a compact design for standby power applications. The key benefits of utilizing a **TS 830** with **PCC** option is the reduced space and installation costs versus separately purchased system components. The **PCC** option includes a full featured Microprocessor-based Genset controller (Model MEC 310 complete with integral auto-start engine controller, genset power metering and genset protection and auto mains failure (AMF) transfer controls with integral Mains (utility) 3 phase voltage sensing), provision for integral battery charger, and integral generator circuit breaker with overcurrent trip unit. For complete detailed listing of advanced features available in the MEC 310 genset controller, please refer to separate literature.



STANDARD FEATURES

Load on Utility & Load on Generator Lights
 Utility & Generator Source Available Lights
 Three Phase Voltage Sensing on Utility & Generator Sources
 Under Frequency Sensor on Generator Source
 Engine Start Delay Timer 0-60 sec.
 Engine Cooldown Delay Timer 0-30 min.
 Engine Warm-up Timer 0-60 sec.
 Neutral Position Delay 0-60 sec.
 Utility Return Timer 0-30 min.
 Engine Start Contact (10A, 120/240VAC res. Form C)

(With TSC 80 Controller)

Exercise Timer (On Load, Fixed 20 min.)
 Auxiliary Contact - Utility side (10A, 120/240VAC res. Qty 1, Form C)
 Auxiliary Contact - Generator side (10A, 120/240VAC res. Qty 1, Form C)
 Local Utility Power Fail Simulation Test Pushbutton
 Provision for Remote Load Test/Peak Shave Switch Input
 NEMA 1 Enclosure
 Solid Neutral



TSC 80e OPTIONAL FEATURES

The Transfer Switch is available with optional model **TSC 80e** Transfer Switch Controller. The **TSC 80e** Controller includes all of the features available in the 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

(With TSC 80e Controller)

- **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

ENCLOSURE DIMENSIONS/CABLE TERMINALS

(NEMA 1, BEIGE)

BASIC MODEL	DIMENSIONS Inches (mm) ¹			SHIPPING WEIGHT LBS (KG)	TERMINAL RATING ³	
	HEIGHT	WIDTH	DEPTH		QTY PER PHASE	RANGE ²
TS 83xA - 0100	26 (660)	20 (508)	11 (279)	100 (47)	1	#2 - 4/0
TS 83xA - 0250	31 (787)	22 (559)	13 (330)	165 (76)	1	#6 - 350 MCM
TS 83xA - 0400	46 (1168)	27 (686)	13 (330)	264 (120)	2	2/0 - 250 MCM
TS 83xA - 0630	48 (1219)	38.5 (978)	14 (356)	375 (170)	2	2/0 - 500 MCM
TS 83xA - 0800	48 (1219)	38.5 (978)	14 (356)	400 (181)	3	2/0 - 500 MCM
TS 83xA - 1000/1200	76 (1930)	34 (864)	13 (330)	550 (261)	4	4/0 - 500 MCM
TS 83xA - 1600	87 (2210)	34 (864)	13 (330)	580 (280)	4	#2 - 600 MCM

* For MEC 320 Peak Plus ATS's 800 - 3200 Amp refer to separate literature.

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

¹ Enclosure dimensions are for reference. (DO NOT USE FOR CONSTRUCTION).

² Optional Terminal Ratings are available in some models - Consult Thomson Technology.

³ All cable connections suitable for copper or aluminum.

ELECTRICAL RATINGS (STANDARD MODELS)

MODEL TYPE	100A (HS Style)	250A (HS Style)	400A (HS Style)	630A (HS Style)	800A (HS Style)	1000/1200A (T Style)	1600 (T Style)
Rated short circuit breaking capacity (Icu) kA @400V	50	65	65	80	65	50	50
Withstand rating fuse protected (kA)	100	100	100	100	100	100	100
Rated service short circuit breaking capacity (Ics) kA @400V	42	48	48	60	48	50	50
Mechanical endurance (Number of Operations)	7000	6000	4000	4000	4000	2500	2500

* For MEC 320 Peak Plus ATS's 800 - 3200 Amp refer to attached sheet.

ORDERING INFORMATION

ATS MODEL CODE

Specify the following 21 digit ATS MODEL CODE as per the features and applications described below.

1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
T	S	8	3																	

1-3. SERIES

TS – TRANSFER SWITCH

4 & 5. MODEL

83 – 830 SWITCH

6. POLES

2 – 2 POLE
3 – 3 POLE
4 – 4 POLE

7. CONFIGURATION TYPE

A – ATS
X – SPECIAL

8-11. AMPERAGE

0100
0250
0400
0630
0800
1000
1200
1600
2000
2500
3200

12. APPLICATION

A – STANDARD ATS
C – DUAL SOURCE
P – POWER CONTROL CENTER (PCC)
S – PEAK PLUS
X – SPECIAL

13. OPERATION TYPE

1 – OPEN TRANSITION
2 – MANUAL ELEC. OP.
4 – CLOSED TRANSITION (SOFT LOAD)
X – SPECIAL

14. SAFETY STANDARD

X – NOT APPLICABLE

15. VOLTAGE

1Ø 3 WIRE
D – 120/240
3Ø 4 WIRE (GROUNDED NEUTRAL)
E – 120/208
F – 127/220
G – 120/240(DELTA)
H – 220/380**
J – 240/415
M – 277/480
3Ø 3 WIRE
P – 208
Q – 220
R – 240
S – 380**
U – 415
V – 480
X – SPECIAL
** FOR 50HZ APPLICATION

16. CONTROLLER

1 – TSC 80
2 – TSC 800
3 – TSC 80e
4 – MEC 2 (PCC)
5 – MEC 20 (PCC)
6 – PGC 4000
7 – NONE
8 – MEC 310 (PCC)
9 – MEC 320

17. ENCLOSURE TYPE

A – NEMA 1, BEIGE*
B – NEMA 2, BEIGE*
C – NEMA 12, BEIGE*
D – NEMA 3R SD, BEIGE*
E – NEMA 3R DD, BEIGE*
F – NEMA 4X, STAINLESS STEEL
G – NONE (OPEN STYLE)
X – SPECIAL
*FOR PEAK PLUS ENCLOSURE COLOR IS ASA #61 GREY.

18. UTILITY SWITCHING DEVICE

K – MOLDED CASE SWITCH 100-1200A
M – MOLDED CASE SWITCH C/W THER-MAG TRIP 100-800A
N – MOLDED CASE SWITCH C/W ELECTRONIC TRIP 250-1200A
P – MOLDED CASE SWITCH C/W ELECTRONIC & GF TRIP 250-1200A
Q – INSULATED CASE, FIX MOUNT SWITCH (800A - 3200A)
R – INSULATED CASE, FIX MOUNT SWITCH C/W ELECTRONIC TRIP (800A - 3200A)
U – INSULATED CASE, DRAW-OUT SWITCH (800A - 3200A)
V – INSULATED CASE, DRAW-OUT SWITCH C/W ELECTRONIC TRIP (800A - 3200A)
X – SPECIAL

19. GENERATOR SWITCHING DEVICE

K – MOLDED CASE SWITCH 100-1200A
M – MOLDED CASE SWITCH C/W THER-MAG TRIP 100-800A
N – MOLDED CASE SWITCH C/W ELECTRONIC TRIP 250-1200A
P – MOLDED CASE SWITCH C/W ELECTRONIC & GF TRIP 250-1200A
Q – INSULATED CASE, FIX MOUNT SWITCH (800A - 3200A)
R – INSULATED CASE, FIX MOUNT SWITCH C/W ELECTRONIC TRIP (800A - 3200A)
U – INSULATED CASE, DRAW-OUT SWITCH (800A - 3200A)
V – INSULATED CASE, DRAW-OUT SWITCH C/W ELECTRONIC TRIP (800A - 3200A)
X – SPECIAL

20. POWER CONNECTIONS

A – STANDARD
X – SPECIAL

21. CONNECTION CONFIGURATION

(SEE DRAWING M-007450-00051)
A – STANDARD
B – ALTERNATE B (1000A-1600A)
C – ALTERNATE C (1000A-1600A)
D – ALTERNATE D (1000A-1600A)
E – ALTERNATE E (800 - 3200A)
F – ALTERNATE F (800 - 3200A)
G – ALTERNATE G (800 - 3200A)
X – SPECIAL

OPTIONAL FEATURES

(Specify separately from ATS MODEL CODE when ordering)

CODE	DESCRIPTIONS
AUX-G	Auxiliary Contact - Generator side (up to qty. 3)
AUX-U	Auxiliary Contact - Utility side (up to qty. 3)
CED	Custom Engineered Drawings - Project Specific
EAP1601	Transfer to Emergency Annunciator, Alarm Horn & Silence Pushbutton
FTS-4	4 Function Test Switch (Auto/Off/Engine Start/Test)
LCK	Lockable Door

CODE	DESCRIPTIONS
SDM	LCD Service Display Module - Displays TSC 80 Controller Settings and Timer Adjustments - Plug in Connector and Cable
TS-H1	Enclosure Strip Heater c/w Thermostat (120VAC External Power Source Required)
TS-H2	Enclosure Strip Heater c/w Thermostat (Internally powered from ATS load)
TS-O&M	Additional ATS O & M Manuals (Specify qty.) (Alternatively Download from Web)
TS-STG	Shunt Trip Generator Switch
TS-STU	Shunt Trip Utility Switch

NOTE: Specifications subject to change without notice.
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