



**TS 830 - 250 AMP
TRANSFER SWITCH**



**TS 830 - 1200 AMP
TRANSFER SWITCH**

Model Series TS 830 • 100- 3200 Amp TS830 AUTOMATIC TRANSFER SWITCHES

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.
- power switching units incorporate **overcurrent protection**, allowing cost savings in upstream devices.
- **not damaged if manually switched** while in service.

Reliable Motor-Operated Transfer Mechanism

- **heavy duty** brushless gearmotor and operating mechanism provide mechanical interlocking and extreme long life.
- **safe manual operation** permits operation 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.

Quality Assurance

- ISO 9001 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.

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 **TS 830** series automatic transfer switch base model is supplied with a **TSC 80e** microprocessor based controller as standard, which provides all necessary control functions for fully automatic operation. The **TSC 80e** controller is mounted on the door of the transfer switch enclosure. Operating status is shown via LED indication lights and LCD display. Refer to separate literature for additional information on the **TSC 80e** 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 80e** 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 (With TSC 80e Controller)

- LCD Display for monitoring single or 3 Phase Utility/Generator voltage, system frequency and timer countdown operation
- Front Panel Programming using built-in faceplate mounted pushbuttons & LCD display with password security
- Utility & Generator AC Voltage sensing (true RMS) – 120-480V single 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)
- Pre/post transfer Load disconnect control to signal external building systems such as elevators during transfer operations
- Programmable Generator Exercise Timer (EXT) with easy to use 4 event, 7-14-21-28 Day, On-load or Off-load Programmability
- On Board Real-time clock c/w battery back-up & daylight-savings programming functionality
- 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
- Five user Programmable Output Contacts rated 10A, 120/240V resistive, Form C. Each output contact is individually user programmable to 10 different functions which includes: Load on Utility, Load on Gen, Load Disconnect Contact (LDC), Fail to Transfer (FTT), Utility Power Available (UPA), Generator Power Available (GPA), Utility Power Fail, Engine start, ATS Not in Auto, and ATS in Auto.
The TSC 80e Controller is supplied pre-programmed from our factory with the following outputs enabled:
 - Load on Utility
 - Load on Generator
 - Load Disconnect Contact (LDC)
 - Fail to Transfer (FTT)
 - ATS Not in Auto
- Engine start contact (10A, 120/240VAC resistive max.)
- Local utility power fail simulation test pushbutton & LED and remote test pushbutton input
- Local plant exercise initiate pushbutton & LED
- Load on Utility & Load on Generator LED Lights
- Utility & Generator Source Available LED Lights
- Lamp test
- Automatic force transfer to alternate supply should load voltage become de-energized
- 50 or 60Hz capable (115V control power)



ENCLOSURE DIMENSIONS/CABLE TERMINALS

(NEMA 1, GREY)

BASIC MODEL	DIMENSIONS Inches (mm) ¹			SHIPPING WEIGHT LBS (KG)	TERMINAL RATING ³	
	HEIGHT	WIDTH	DEPTH		QTY PER PHASE	RANGE ²
TS 83xA - 0100	31.1 (790)	22.3 (566)	14.0 (356)	143 (65)	1	#2 - 4/0
TS 83xA - 0250	31.1 (790)	22.3 (566)	14.0 (356)	172 (78)	1	#6 - 350 MCM
TS 83xA - 0400	35.1 (892)	27.3 (693)	14.0 (356)	227 (103)	2	2/0 - 250 MCM
TS 83xA - 0630	48.1 (1222)	37.8 (960)	14.5 (368)	248 (113)	2	2/0 - 500 MCM
TS 83xA - 0800	48.1 (1222)	37.8 (960)	14.5 (368)	309 (140.4)	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 (S Style)	250A (S Style)	400A (S Style)	630A (S Style)	800A (S 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 separate literature.

ATS MODEL CODE

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

1	2	3	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

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 – IEC 947-3

15. VOLTAGE

1Ø 3 WIRE
D – 120/240
3Ø 4 WIRE (GROUNDED NEUTRAL)
E – 120/208
F – 127/220
G – 120/240(DELTA)
H – 220/380²
J – 240/415²
M – 277/480
S – 230/400²

3Ø 3 WIRE

P – 208
Q – 220
R – 240
U – 415
V – 480
Y – MULTI VOLTAGE
X – SPECIAL

16. CONTROLLER

2 – TSC 800
3 – TSC 80e
7 – NONE (MANUAL)
8 – MEC 310 (PCC)
9 – MEC 320

17. ENCLOSURE TYPE

A – NEMA 1, GREY
B – NEMA 2, ASA #61 GREY
C – NEMA 12, ASA #61 GREY
D – NEMA 3R SD, ASA #61 GREY
E – NEMA 3R DD, ASA #61 GREY
F – NEMA 4X, DD, STAINLESS STEEL
G – NONE (OPEN STYLE)
X – SPECIAL

18. UTILITY SWITCHING DEVICE

K – MOLDED CASE SWITCH (100-1600A)
M – MOLDED CASE SWITCH C/W THER-MAG TRIP (100-800A)
N – MOLDED CASE SWITCH C/W ELECTRONIC TRIP (250-1600A)
P – MOLDED CASE SWITCH C/W ELECTRONIC & GF TRIP (250-1600A)
Q – INSULATED CASE, FIX MOUNT SWITCH (800A - 3200A)

18. UTILITY SWITCHING DEVICE con't

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)
W – INSULATED CASE, DRAW-OUT SWITCH C/W ELECTRONIC & GF TRIP (800-3200A)
X – SPECIAL

19. GENERATOR SWITCHING DEVICE

K – MOLDED CASE SWITCH (100-1600A)
M – MOLDED CASE SWITCH C/W THER-MAG TRIP (100-800A)
N – MOLDED CASE SWITCH C/W ELECTRONIC TRIP (250-1600A)
P – MOLDED CASE SWITCH C/W ELECTRONIC & GF TRIP (250-1600A)
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 - 4000A)
W – INSULATED CASE, DRAW-OUT SWITCH C/W ELECTRONIC TRIP & GF TRIP (800A - 3200A)
X – SPECIAL

20. POWER CONNECTIONS

A – STANDARD
X – SPECIAL

21. CONNECTION CONFIGURATION

A – STANDARD
B – ALTERNATE B (1000 -1600A)
C – ALTERNATE C (1000 -1600A)
D – ALTERNATE D (1000 -1600A)
E – ALTERNATE E (800 - 3200A)
F – ALTERNATE F (800 - 3200A)
G – ALTERNATE G (800 - 3200A)
X – SPECIAL

NOTES

² FOR 50 HZ APPLICATION

OPTIONAL FEATURES (Specify separately from ATS MODEL CODE when ordering)

CODE	DESCRIPTIONS	CODE	DESCRIPTIONS
CED	Custom Engineered Drawings - Project Specific	TS-H2	Enclosure Strip Heater c/w Thermostat (Internally powered from ATS load)
EAP1601	Transfer to Emergency Annunciator, Alarm Horn & Silence Pushbutton	TS-O&M	Additional ATS O & M Manuals (Specify qty.) (Alternatively Download from Web)
FTS-4	4 Function Test Switch (Auto/Off/Engine Start/Test)	TS-STG	Shunt Trip Generator Switch
LCK	Lockable Door	TS-STU	Shunt Trip Utility Switch
TS-H1	Enclosure Strip Heater c/w Thermostat (120VAC External Power Source Required)		

NOTE: Specifications subject to change without notice.

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