



Standard Features Transfer Switch

- UL and cUL Listed:
 - Models with load centers are UL 67 listed
 - Models without load centers are UL 1008 listed
 - All models are UL listed to Canadian safety standards
- 220/240 VAC, 50/60 Hz (jumper)
- Two-pole, single-phase open-transition transfer switch
- Contactor electrically and mechanically interlocked
- Double throw inherently interlocked design
- Solid neutral
- Contactor manually operable for maintenance purposes
- Silver alloy main contacts
- All models are 100% equipment rated and can be applied at the rated current without derating
- 100 and 200 amp models available with or without prewired Square D type QO load center:
 - 100 amp load center models use up to 12 circuit breakers
 - 200 amp load center models use up to 24 circuit breakers
- Two enclosures available:
 - NEMA Type 1, for indoor installation. 100 amp models with and without load centers and 200 amp models without load centers can be recess-mounted between wall studs
 - NEMA Type 3R, padlockable and approved for indoor or outdoor installation
- 2-year warranty, standard

Environmental Specifications	
Operating temperature:	-20°C to 70°C (-4°F to 158°F)
Storage temperature:	-40°C to 85°C (-40°F to 185°F)
Humidity:	5 to 95% noncondensing

Contact Ratings	
Engine start/common fault	0.5 A @ 125 VAC; 2 A @ 30 VDC
Load control	10 A @ 120 VAC Resistive
Auxiliary contacts (optional)	15 A @ 277 VAC Resistive

Source Sensing	
Undervoltage dropout	80%
Undervoltage pickup	85%
Underfrequency dropout	90%
Underfrequency pickup	96%

MPAC™ 500 Controller

- User-friendly interface with easy-to-read international symbols
- Source available and contactor position indicators
- LED indication of system faults:
 - Failure to acquire standby source
 - Failure to transfer
 - Auxiliary switch fault
- Test button (with or without load)
- Exercise set button (with or without load)
- Single-phase voltage sensing on both sources, ±5%
- Line-to-line frequency sensing, ±2%
- Fixed time delays
- Exerciser:
 - Weekly 20-minute generator set exercise
 - Loaded or unloaded

Accessories

Accessory board

- Alarm horn indicates faults
- Adjustable time delays:
 - Engine start
 - Engine cooldown
 - Preferred to standby
 - Standby to preferred
 - Exercise duration
- Inputs and Outputs:
 - Remote start/stop input (loaded)
 - Programmable exerciser input
 - Generator set supplying load output
- External alarm module connection
- Dip switches:
 - 1 week/2 week exerciser
 - Load/no load exercise mode (for optional programmable exerciser)
 - Momentary/maintained external start/stop input: Selects momentary (1 second) push button or maintained contact closure for remote start/stop signal
 - Load control, 5 minutes/10 minutes: Allows delayed connection of selected loads (such as an air conditioner) after transfer to generator set

Auxiliary position-indicating contacts

- One closed on normal position and one closed on emergency position
- Contacts rated 15 A @ 277 VAC

Programmable exerciser

- Seven-day programmable timer allows scheduling up to 20 on/off events
- LCD display indicates day, time, program/run modes, and on/off/override status
- Daylight time changeover button
- Manual override button
- Backup capacitor maintains time and programs up to 5 days without power
- Transparent cover

Wall-mount bezel for 100 and 200 amp recess-mounted switches

Extended 5-year warranty

Cable Sizes		
AL/CU UL-Listed Solderless Screw-Type Terminals for External Power Connections		
Switch Size, Amps	Normal, Emergency, and Load Terminals	
	Cables per Pole	Range of Wire Sizes, Cu/Al
100	1	#12 to 1/0 AWG
200	1	#6 AWG to 250 MCM
400	2	#1/0 AWG to 250 MCM
	1	#4 AWG to 600 MCM

Time Delays			
Time Delay	Factory Setting	Adjustment with Accessory Board*	
		Range	Increment
Engine Start	3 sec.	1-10 sec.	1 second
Transfer from Normal to Emergency	3 sec.	1-10 sec.	1 second
Retransfer from Emergency to Normal	6 min.	3-30 min.	3 minutes
Engine Cooldown	5 min.	1-10 min.	1 minute
Exercise Run Time	20 min.	5-50 min.	5 minutes
Exercise Interval	1 week	1 week/2 week (DIP switch)	
Load Control Connection Delay	5 min.	5 or 10 minutes (DIP switch)	
Failure to Acquire Emergency Source	78 sec.	NA	
Undervoltage Dropout	0.5 sec.	NA	
Underfrequency Dropout	3 sec.	NA	

* Optional accessory board required for time delay adjustments
NA = not adjustable

Codes and Standards

The ATS meets or exceeds the requirements of the following specifications:

- Underwriters Laboratories UL 508, Standard for Industrial Control Equipment
- Underwriters Laboratories UL 67, Panel Boards (load center models)
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems
- CSA Certified
- NFPA 70, National Electrical Code
- NFPA 110, Emergency and Standby Power Systems
- IEEE Standard 446, IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- NEMA Standard IC10-1993 (formerly ICS2-447), AC Automatic Transfer Switches
- EN61000-4-5 Surge Immunity Class 4 (voltage sensing and programmable inputs only)
- EN61000-4-4 Fast Transient Immunity Severity Level 4
- IEC Specifications for EMI/EMC Immunity:
 - CISPR 11, Radiated and Conducted Emissions, Class B
 - IEC 1000-4-2, 2001, Electrostatic Discharge
 - IEC 1000-4-3, 2002, Radiated Immunity
 - IEC 1000-4-4, 2001, Electrical Fast Transients (Bursts)
 - IEC 1000-4-5, 2001, Surge Voltage Immunity
 - IEC 1000-4-6, 2003, Conducted RF Immunity
 - IEC 1000-4-8, Magnetic Field Immunity
 - IEC 1000-4-11, Voltage Dips and Interruptions
 - ANSI C37.90.1 (IEEE472), 2000, EFT/Surge Relay Systems

Weights and Dimensions

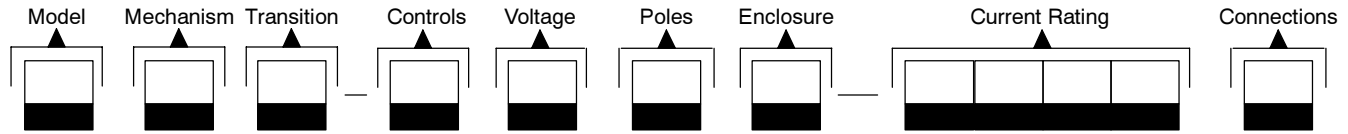
Enclosure Type	Amps	Load Center	Weight, kg (lb.)		Dimensions, H x W x D, mm (in.)	
NEMA 1	100	None	10.9	(24.0)	610 x 330 x 154 *	(24.0 x 13.0 x 6.0) *
	100	12 circuits	12.3	(27.0)	610 x 330 x 154 *	(24.0 x 13.0 x 6.0) *
	200	None	12.0	(26.3)	610 x 330 x 154 *	(24.0 x 13.0 x 6.0) *
	200	24 circuits	20.4	(45.0)	914 x 406 x 154	(36.0 x 16.0 x 6.0)
	400	None	52.0	(115)	1223 x 560 x 362	(48.1 x 22.0 x 14.3)
NEMA 3R	100	None	14.0	(30.7)	613 x 340 x 177	(24.1 x 13.4 x 7.0)
	100	12 circuits	15.3	(33.8)	613 x 340 x 177	(24.1 x 13.4 x 7.0)
	200	None	15.0	(33.0)	613 x 340 x 177	(24.1 x 13.4 x 7.0)
	200	24 circuits	25.9	(57.0)	917 x 416 x 177	(36.1 x 16.4 x 7.0)
	400	None	52.0	(115)	1223 x 560 x 416	(48.1 x 22.0 x 16.4)

* Can be recess-mounted between 16 in. O.C. wall studs.

Contactor Ratings with Coordinated Circuit Breakers

The transfer switches are UL listed and CSA certified at 240 VAC maximum. The following table lists contactor withstand and closing ratings (WCR) for 100-400 ampere switches with specific manufacturer's circuit breakers per UL and Canadian safety standards. Suitable for control of motors, electric discharge lamps, tungsten filament lamps and electric heating equipment where the sum of motor full-load ampere ratings and the ampere ratings of other loads do not exceed the ampere rating of the switch and the tungsten load does not exceed 30 percent of switch rating.

WCR Ratings with Specific Manufacturer's Molded-Case Circuit Breakers				
Switch Rating, Amps	WCR, RMS Symmetrical Amps	Manufacturer	Type or Class	Maximum Size, Amps
100	22,000	Cutler-Hammer	FCL, FB	100
			QCHW	125
			FDC	150
		Square D	FI	100
		Siemens	ED4, CED6, ED6, HED4, HED6	125
200	22,000	Cutler-Hammer	BHW, FD, HFD, JD, JDB, HJD	225
			JD, JDB, HJD, JDC	250
			DK, KD, KDB, HKD, KDC, LCL, LA	400
		Square D	KI	250
			LE, LX, LXI	400
		Siemens	FD6-A, FXD6-A, HFD6, CFD6	250
		GE	TFL, THLC2	225
	SF, SFL, SFP	250		
400	65,000	Cutler-Hammer	FCL, FB TRI-PAC	100
			FD, FDC, HFD	150
			HJD, JD, JDB, JDC	250
			HKD, KD, KDB, KDC, LA TRIPAC, LCL, DK, CHKD	400
			HLD, CHLD, LDC, CLDC	300-600
			NB TRI-PAC	300-800
		Square D	FC, FH, FI	100
			KA, KC, KH, KI	250
			LA, LC, LE, LH, LI, LX, LXI	400
			LI, LXI, LX, LE, LC	600
			MX, ME, MH	800
		Siemens	CED6, ED6, HED4, HED6, ED4	125
			CFD6, HFD6, FD6, FXD6	250
			CJD6, SCJD6, HHJD6, HHJD6, SHJD6, HJD6, SJD6	400
			CLD6, SCLD6, HHLd6, HHLXD6, SHLD6, HLD6	600
			CMD6, SCMD6, HMD6, SHMD6, HMXD6, MD6, MXD6, SMD6	800
		Merlin Gerin	CF250L, CF250H	250
			CJ400L, CK400H, CJ400H, CK400N	400
			CJ600H	600
			CK800H, CK800N	800
		ABB	JHB	400
			S6	800



Kohler® Model Designation Key

This chart explains the Kohler transfer switch model designation system. The sample model designation shown is for a Model R automatic transfer switch that uses an open-transition contactor with MPAC™ 500 electrical controls rated at 240 volts/60 Hz, 2 poles, 3 wires, and solid neutral in a NEMA 1 enclosure with a current rating of 100 amperes and equipped with a load center.

SAMPLE MODEL DESIGNATION

RDT-CFNA-0100B

Model

R: Model R automatic transfer switch

Mechanism

D: Series-Rated

Transition

T: Open-Transition

Electrical Controls

C: MPAC™ 500 (Microprocessor ATS Controls)

Voltage/Frequency

D: 220 Volts/50 Hz
 F: 240 Volts/60 Hz

Number of Poles/Wires

N: 2-pole, 3-wire, solid neutral

Enclosure

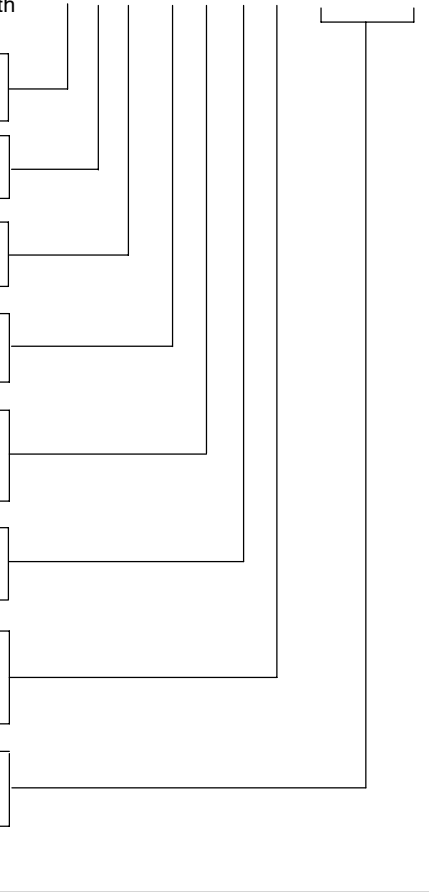
A: NEMA 1
 C: NEMA 3R

Current Rating: Numbers indicate the current rating of the switch in amperes:

0100: 100 amps 0200: 200 amps 0400: 400 amps

Load Center

A: Without load center
 B: With load center



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