



**Transfer Switch Standard Features
Enclosed Contact Power Switching Units**

- Service entrance automatic transfer switches incorporate an isolating mechanism and overcurrent protection on the utility supply, eliminating the need to have a separate, upstream utility source circuit breaker/disconnect switch.
- UL 1008 listed, file #58962
- IBC seismic certification available
- Fully enclosed silver alloy contacts provide high withstand rating.
- 3-cycle short circuit current withstand-tested
- Completely separate utility and generator set power switching units provide redundancy (no common parts) and are easy to service.
- Utility disconnect power switching units have overcurrent protection; generator disconnect is available with or without overcurrent protection:
 - Molded case circuit breakers (MCCB) include thermal-magnetic or electronic trip overcurrent protection (80% rated)
 - Molded case switches (MCSW) do not include overcurrent protection (100% rated) (available on generator disconnect only)
 - Insulated case circuit breakers (ICCB) include electronic trip overcurrent protection (100% rated).
 - Insulated case switches (ICSW) do not include overcurrent protection (100% rated) (available on generator disconnect only)
- Inherent stored-energy design prevents damage if manually switched while in service.
- Heavy duty brushless gear motor and operating mechanism provide mechanical interlocking and extreme long life with minimal maintenance.
- Safe manual operation permits easy operation even under adverse conditions.
- All mechanical and control devices are visible and readily accessible.
- NEMA 1, 3R, 4X and 12 enclosures available
- Padlockable service disconnect control switch
- Status indicators
- Two-position control circuit isolation switch disconnects utility power to the transfer switch controller.

Controller

- Decision-Maker® MPAC 1500

Ratings

Power Switching Device	Current	Voltage, Frequency
Molded case (MCCB)	200	208-240 VAC, 60 Hz
	100-1200	208-480 VAC, 60 Hz
Insulated Case (ICCB)	800-4000	208-480 VAC, 60 Hz

Service Disconnect Switch

- Two-position switch with padlockable cover disconnects the normal source and inhibits transfer during maintenance or service.
- Controller display shows SERVICE DISCONNECT.
- Lamp illuminates to indicate that the switch is in the DISCONNECT position.
- Further transfer is inhibited after transfer to Emergency.

Automatic Transfer Switch Controller

The Decision-Maker® MPAC 1500 Automatic Transfer Switch Controller is used on service entrance transfer switch models.

Decision-Maker® MPAC 1500 Controller



- LCD display, 4 lines x 20 characters, backlit
- Complete programming and viewing capability at the door using the keypad and LCD display
- LED indicators: Source available, transfer switch position, service required (fault), and “not in auto”
- Modbus communication is standard
- Programmable voltage and frequency pickup and dropout settings
- Programmable time delays
- Programmable generator exerciser
- Time-based load control
- Current-based load control (current sensing kit required)
- Two programmable inputs and two programmable outputs
- Up to four I/O extension modules available
- RS-485 communication standard
- Ethernet communication standard
- Three-source system
- Prime power

For more information about Decision-Maker® MPAC 1500 features and functions, see specification sheet G11-128.

Codes and Standards

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

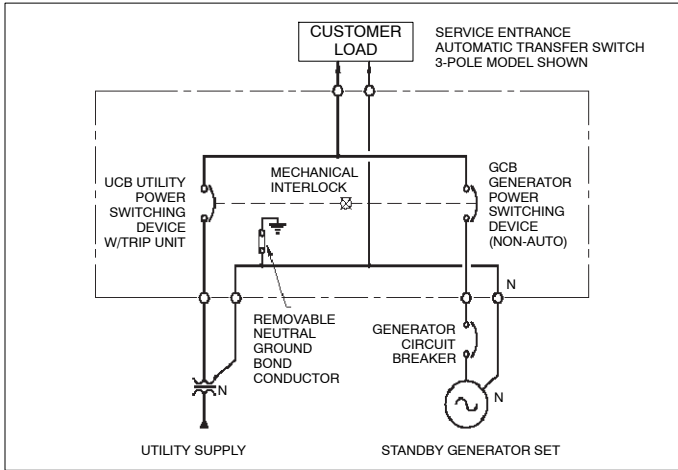
- EN61000-4-4 Fast Transient Immunity Severity Level 4
- EN61000-4-5 Surge Immunity Class 4 (voltage sensing and programmable inputs only)
- IEC Specifications for EMI/EMC Immunity:
 - CISPR 11, Radiated Emissions
 - IEC 1000-4-2, Electrostatic Discharge
 - IEC 1000-4-3, Radiated Electromagnetic Fields
 - IEC 1000-4-4, Electrical Fast Transients (Bursts)
 - IEC 1000-4-5, Surge Voltage
 - IEC 1000-4-6, Conducted RF Disturbances
 - IEC 1000-4-8, Magnetic Fields
 - IEC 1000-4-11, Voltage Dips and Interruptions
- IEC 60947-6-1, Low Voltage Switchgear and Control Gear; Multifunction Equipment; Automatic Transfer Switching Equipment
- IEEE Standard 446, IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- IEEE 472 (ANSI C37.90A) Ring Wave Test
- NEMA Standard ICS 10-2005, Electromechanical AC Transfer Switch Equipment
- NFPA 70, National Electrical Code
- NFPA 99, Essential Electrical Systems for Health Care Facilities
- NFPA 110, Emergency and Standby Power Systems
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems file #58962

Application Data

Environmental Specifications	
Operating Temperature	-15°C to 50°C (5°F to 122°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	95% noncondensing

Auxiliary Position-Indicating Contacts	
MCCB Models	Use programmable digital outputs
ICCB Models	3 Normal, 2 Emergency Rated 2.5 A @ 24/48 VDC, 6 A @ 480VAC

Typical Single-Line Diagram



Ratings

Interrupting Capacity Current Rating With Integral Overcurrent Protection *				
(No upstream circuit breaker protection required)				
Power Switching Device	Switch Rating, Amps	Voltage, Max.	Amps RMS	
			@ 240 V	@ 480 V
Molded case	100	600	65,000	25,000
	150			
	200	240	100,000	NA
	250	600	65,000	65,000
	400	600	65,000	50,000
	600			
	800			
Insulated case	1000	600	100,000	100,000
	1200			
	1600			
	2000			
	2500			
	3000			
	4000			

* With molded case/insulated case switching devices equipped with integral overcurrent protection.

Cable Sizes

Model	Amps	Cable Sizes, Al/Cu Wire		
		Circuit Breaker (per Phase)	Neutral	Ground
KEP, MCCB	100	(1) #14 - 1/0 AWG	(3) #14 - 2/0 AWG	(3) #14 - 1/0 AWG
	150	(2) #2 - 4/0 AWG		
	200	(1) #6 - 350 KCMIL	(3) #6 - 350 KCMIL	
	250			
	400	(2) 2/0 - 500 KCMIL	(6) 2/0 - 500 KCMIL	(3) #6 - 350 KCMIL
	600			
	800	(3) 2/0 - 500 KCMIL	(9) 2/0 - 500 KCMIL	
	1000 1200	(4) 4/0 - 500 KCMIL	(12) 4/0 - 500 KCMIL	(3) #4 - 600 KCMIL
KEP, ICCB	800	(3) 3/0 - 750 KCMIL	(9) 3/0 - 750 KCMIL	(3) #6 - 250 KCMIL
	1000	(4) 3/0 - 750 KCMIL	(12) 3/0 - 750 KCMIL	
	1200	(4) 3/0 - 750 KCMIL	(12) 3/0 - 750 KCMIL	(3) #6 - 250 KCMIL
	1600	(5) 3/0 - 750 KCMIL	(15) 3/0 - 750 KCMIL	(3) #6 - 250 KCMIL
	2000	(6) 3/0 - 750 KCMIL	(18) 3/0 - 750 KCMIL	
	2500	(8) 3/0 - 750 KCMIL	(24) 3/0 - 750 KCMIL	
	3000	(9) 3/0 - 750 KCMIL	(27) 3/0 - 750 KCMIL	(3) #6 - 250 KCMIL
	4000	(12) 3/0 - 750 KCMIL	(36) 3/0 - 750 KCMIL	(3) #6 - 250 KCMIL

Weights and Dimensions

Weights and dimensions are shown for NEMA type 1 enclosures. Consult the factory for other enclosure types. Weights and dimensions are shown for reference only. Refer to the transfer switch dimension drawing for planning and installation.

Molded Case Circuit Breaker (MCCB) Models								
Model	Amps	Dimensions, mm (in.)				Weight, kg (lb.)		
		Poles	Height	Width	Depth	2P	3P	4P
KEP, MCCB	100-150	2,3,4	914 (36.0)	725 (28.5)	462 (18.2)	68 (150)	68 (150)	68 (150)
	200	2,3	914 (36.0)	725 (28.5)	462 (18.2)	68 (150)	68 (150)	N/A
	250	2,3,4	914 (36.0)	725 (28.5)	462 (18.2)	81 (178)	81 (178)	81 (178)
	400	2,3,4	1231 (48.4)	995 (39.2)	486 (19.1)	195 (430)	195 (430)	195 (430)
	600-800	2,3,4	1231 (48.4)	995 (39.2)	486 (19.1)	200 (441)	200 (441)	200 (441)
	1000-1200	3,4	2024 (79.7)	875 (34.4)	515 (20.3)	N/A	270 (595)	270 (595)

Insulated Case Circuit Breaker (ICCB) Models						
Model	Amps	Poles	Dimensions, mm (in.)			Weight, kg (lb.)
			Height	Width	Depth	
KEP, ICCB	800	3	2324 (91.5)	914 (36.0)	1219 (48.0)	544 (1200)
		4	2324 (91.5)	914 (36.0)	1219 (48.0)	635 (1400)
	1000-1200	3	2324 (91.5)	914 (36.0)	1219 (48.0)	553 (1220)
		4	2324 (91.5)	914 (36.0)	1219 (48.0)	644 (1420)
	1600	3	2324 (91.5)	914 (36.0)	1372 (54.0)	598 (1320)
		4	2324 (91.5)	914 (36.0)	1372 (54.0)	625 (1380)
	2000	3	2324 (91.5)	914 (36.0)	1372 (54.0)	607(1340)
		4	2324 (91.5)	914 (36.0)	1372 (54.0)	644 (1420)
	2500	3	2324 (91.5)	914 (36.0)	1524 (60.0)	625 (1380)
		4	2324 (91.5)	1067 (42.0)	1524 (60.0)	662 (1460)
	3000	3	2324 (91.5)	914 (36.0)	1524 (60.0)	644 (1420)
		4	2324 (91.5)	1067 (42.0)	1524 (60.0)	680 (1500)
	4000	3	2324 (91.5)	1372 (42.0)	1524 (60.0)	907 (2000)
		4	2324 (91.5)	1372 (42.0)	1524 (60.0)	1270 (2800)

Accessories

Accessories are available either factory-installed or as loose kits, unless otherwise noted.

Digital Meter

- Measure and display voltage, current, frequency, and power for both sources:
- Programmable visual alarms for high voltage, low voltage, and high current
- Three digital outputs
- Serial port for optional network connections
- Password-protected programming menus
- Joystick operation
- Factory-installed

Extended Warranties

- 2-year basic
- 5-year basic
- 5-year comprehensive
- 10-year major components

Heater, Anti-Condensation

- Hygrostat-controlled 120 VAC strip heater (customer-supplied voltage source required)
- 100 or 250 watts (sized for enclosure)
- Protective 15 Amp circuit breaker

Literature Kits

- Production literature kit (one set of literature is included with each transfer switch)
- Overhaul literature kit

Load Shed Kit

- Forced transfer from Emergency to OFF for programmed-transition models
- Customer-supplied signal (contact closure) is required for the forced transfer to OFF function
- Factory-installed

RSA III Remote Serial Annunciator

- Monitors the generator set
- Monitors Normal and Emergency source status and connection
- Monitors ATS common alarm
- Allows remote testing of the ATS
- For more information, see specification sheet G6-139.

Seismic Certification

- Certification depends on application and geographic location. Contact your distributor for details.
- Available for the transfer switches and enclosures shown below:

ATS Type and Size		Enclosure, NEMA Type:			
Type	Amps	1	3R	4X	12
MCCB	100-600			●	
MCCB	100-1200	●	●		●
ICCB	800-4000	●	●		

Surge Protection Device (SPD)

- SPD available for the normal source supply
- Surge protection reduces transient voltages to harmless levels
- Protection modes: L-L / L-N / L-G / N-G
- Replaceable phase and neutral cartridges for service
- Frequency: 50-60 Hz
- Operating Temperature Range: -40 to 176°F (-40 to 80°C)
- Remote contacts for customer-supplied status indicators:
 - Contacts: 1 NO, 1 NC
 - Min Load: 12VDC / 10 mA
 - Max. Load: 250 VAC / 1 A
 - Wire Size (max.): 16AWG
- Fuse protection: 30 amps / 600 V
- UL 1449, 3rd Edition for Type 2 applications
- IEC 61-643-1, 2nd Edition T2/11
- See additional specifications below

Additional Controller Accessories

See the controller specification sheet for more information.

Accessory Modules

- Alarm Module
- External Battery Supply Module
- Input/Output Module
- High-Power Input/Output Module

Current Sensing Kit

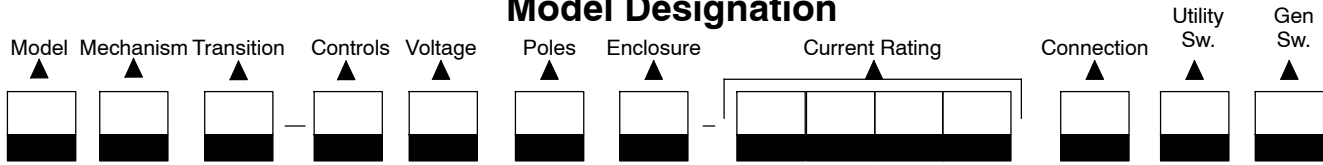
Line-to-Neutral Voltage Monitoring

Padlockable User Interface Cover

Supervised Transfer Control Switch

SPD Specifications								
Nominal Voltage (V ±15%)	Max. Discharge Current (kA)	Phase	Poles	UL VPR 3rd Ed (L-N/N-G/L-G) (kV)	Limiting Voltage, (L-N/N-G/L-G) (kV)		Short Circuit Withstand Current (kA)	Maximum Continuous Operating Voltage (VAC)
					at 3kAmps	at 10kAmp		
240/120	40	Split	3	0.6 / 1.2 / 0.7	0.6 / 0.4 / 0.6	0.8 / 0.7 / 0.8	200	175 / 350
208/120	40	Wye	4	0.6 / 1.2 / 0.7	0.6 / 0.4 / 0.6	0.8 / 0.7 / 0.8	200	175 / 350
480/277	40	Wye	4	1.0 / 1.2 / 1.1	1.0 / 0.4 / 1.0	1.2 / 0.7 / 1.2	200	320 / 460
240/120	40	HLD	4	1.0 / 1.2 / 1.1	1.0 / 0.4 / 1.0	1.2 / 0.7 / 1.2	200	320 / 460
600/347	40	Wye	4	1.3 / 1.2 / 1.4	1.3 / 0.4 / 1.3	1.5 / 0.7 / 1.5	200	440 / 880

Model Designation



Record the transfer switch model designation in the boxes. The transfer switch model designation defines characteristics and ratings as explained below.

Sample Model Designation: KEP-DMTA-0400S-NK

Model

K: Kohler

Current, Amps

0100	0600	2000
0150	0800	2500
0200	1000	3000
0250	1200	4000
0400	1600	

Mechanism

E: Service Entrance Rated

Transition

P: Programmed

Connections

S: Standard

Controller

D: Decision-Maker® MPAC 1500, Automatic

Utility Switching Device

M: MCCB w/thermal magnetic trip 100–200 A
N: MCCB w/electronic trip 250–800 A
P: MCCB w/electronic trip and GF 1000–1200 A
R: ICCB w/electronic trip 800 A
T: ICCB w/electronic trip and GF 1000–4000 A

Voltage/Frequency

C: 208 Volts/60 Hz	M: 480 Volts/60 Hz
F: 240 Volts/60 Hz	R: 220 Volts/60 Hz
K: 440 Volts/60 Hz	

Number of Poles/Wires

N: 2 Poles/3 Wires, Solid Neutral
T: 3 Poles/4 Wires, Solid Neutral
V: 4 Poles/4 Wires, Switched Neutral

Generator Switching Device

K: MCSW 100–1200 A
M: MCCB w/thermal magnetic trip 100–200 A
N: MCCB w/electronic trip 250–1200 A
Q: ICSW 800–4000 A
R: ICCB w/electronic trip 800–4000 A

Enclosure

A: NEMA 1	C: NEMA 3R
B: NEMA 12	F: NEMA 4X

Note: Some selections are not available for every model. Contact your Kohler distributor for availability.

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