



Transfer Switch Standard Features

- UL 1008 listed, file #E108981
- CSA certification available
- IBC seismic certification available (NEMA 1 enclosures only)
- Bypass/isolation switches for uninterrupted power to the load during switch maintenance and testing
- Standard-transition or programmed-transition modes of operation
- Ratings of bypass switch and automatic transfer switch identical
- Available in 2, 3, or 4 pole configurations
- Electrically operated, mechanically held mechanism
- Double-throw, interlocked operation with mechanical and electrical interlocks
- Drawout mechanism to facilitate maintenance
- Quick-make, quick-break bypass switch operation for load transfer between live sources
- Silver tungsten alloy contacts
- Silver-plated, copper bus interconnection for the automatic transfer switch and bypass switch
- Suitable for emergency and standby applications on all classes of load, 100% tungsten rated through 400 amps
- NEMA type 1 enclosure
- Exceeds UL 1008 requirements for temperature rise after overload and endurance tests in unventilated enclosure
- Main shaft auxiliary position-indicating contacts rated 15 A @ 240 VAC
- Engine start contacts rated 10 A @ 32 VDC
- Solid or switched neutral
- Standard one-year limited warranty. Extended limited warranties are available.

Controller

- Decision-Maker® MPAC 1500

Ratings

| Model | Current | Voltage, Frequency |
|-------|----------------|--------------------|
| KGS | 150- 1200 amps | 208- 600 VAC |
| KGP | | 50/60 Hz |

Standard Transition Models (KGS)

- Standard-transition transfer time less than 100 milliseconds (6 cycles @ 60 Hz)

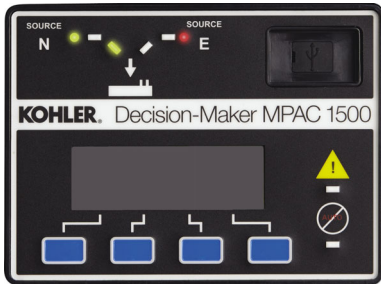
Programmed Transition Models (KGP)

- Programmed-transition operation provides a center OFF position that allows residual voltages in the load circuits to decay
- Programmable OFF time
- Dual DC solenoid drive

Automatic Transfer Switch Controller

The Decision-Maker® MPAC 1500 Automatic Transfer Switch Controller is used on bypass/isolation 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:

- CSA C22.2 No. 178 certification at 600 VAC available, file #LR58301
- 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 508, Standard for Industrial Control Equipment
- Seismic certification in accordance with the International Building Code is available. (Accessory kit is required for seismic certification.)
 - IBC 2000, referencing ASCE 7-98 and ICC AC-156
 - IBC 2003, referencing ASCE 7-02 and ICC AC-156
 - IBC 2006, referencing ASCE 7-05 and ICC AC-156
 - IBC 2009, referencing ASCE 7-05 and ICC AC-156
 - IBC 2012, referencing ASCE 7-10 and ICC AC-156
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems, file #E108981

Application Data

| 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 |

| Input and Output Connection Specifications | |
|--|-----------------|
| Component | Wire Size Range |
| Main board I/O terminals | #12- 24 AWG |
| I/O module terminals | #14- 24 AWG |

| Auxiliary Position Indicating Contacts (rated 15 amps @ 240 VAC) | | |
|---|---|------|
| Switch Rating, Amps | Number of Contacts Indicating Normal, Emergency | |
| | KGS | KGP |
| 150- 400 | 3, 3 | 3, 3 |
| 600- 1200 | 2, 2 | 2, 2 |

| Screw-Type Terminals for External Power Connections | | |
|---|---|---|
| Switch Rating, Amps | Range of Wire Sizes * | |
| | Normal, Emergency, and Load Terminals (per phase) | Neutral |
| 150- 225 | (1) #6 to 250 KCMIL | (2) 1/0 to 250 KCMIL or (1) #4 AWG to 600 KCMIL |
| 260- 400 | (1) #4 AWG to 600 KCMIL | (1) #4 AWG to 600 KCMIL |
| 600 | (2) #2 AWG to 600 KCMIL | (6) #2 AWG to 600 KCMIL |
| 800- 1200 | (4) #2 AWG to 600 KCMIL | (12) #2 AWG to 600 KCMIL |

* Use 60°C minimum wire for #14 to #1 AWG. Use 75°C minimum wire for 1/0 AWG and larger.

Weights and Dimensions

Note: Always use the transfer switch dimension drawing for planning and installation. Weights and dimensions may vary for different configurations. See your local distributor for dimension drawings.

Weights and dimensions are shown for standard-transition bypass/isolation switches in NEMA type 1 enclosures. Consult the factory for other enclosures.

| Amps | Number of Poles | NEMA 1 Enclosure Dimensions, mm (in.) | | | Weight, kg (lb.) | ADV Drawing |
|--------------------|-----------------|---------------------------------------|-------------|--------------|------------------|-------------|
| | | Height | Width | Depth | | |
| 150, 225, 260, 400 | 2, 3 | 2159 (85.0) * | 762 (30.0) | 789 (31.1) | 580 (1280) | ADV-8606 |
| | 4 | 2159 (85.0) * | 762 (30.0) | 789 (31.1) | 628 (1385) | |
| 600 | 2, 3 | 2362 (93.0) * | 914 (36.0) | 756 (29.8) † | 651 (1435) | ADV-8608 |
| | 4 | 2362 (93.0) * | 1016 (40.0) | 756 (29.8) † | 699 (1540) | |
| 800 | 2, 3 | 2362 (93.0) * | 1016 (40.0) | 756 (29.8) † | 674 (1485) | |
| | 4 | 2362 (93.0) * | 1168 (46.0) | 756 (29.8) † | 721 (1590) | |
| 1000, 1200 | 3 | 2362 (93.0) * | 1016 (40.0) | 756 (29.8) † | 674 (1485) | |
| | 4 | 2362 (93.0) * | 1168 (46.0) | 756 (29.8) † | 721 (1590) | |

* Height includes removeable 76 mm (3 in.) lifting eyes on 150- 1200 amp models.

† Depth includes door handle. Optional adapter bay for bottom cable entry adds 356 mm (14.0 inches) to the depth. (600- 1200 amp models only.)

Withstand and Close-On Ratings (WCR)

| Switch Rating, amps | Withstand Current Ratings, Maximum Current in RMS Symmetrical Amperes When Coordinated with: | | | | | | | | |
|--------------------------|--|----------------------|----------------|----------------------|-------|--|------------------------|------------------------|------------------------|
| | Current-Limiting Fuses | | | | | Molded-Case Circuit Breakers | | | |
| | Maximum Fuse Size, amps | @ 480 VAC | | @ 600 VAC | | Specific Manufacturers (see separate tables) | | Any Breaker Ratings | |
| | | Maximum Rating, Amps | Class | Maximum Rating, Amps | Class | Maximum Amps @ 480 VAC | Maximum Amps @ 600 VAC | Maximum Amps @ 480 VAC | Maximum Amps @ 600 VAC |
| 150 225 260 400 | 600 | 200,000 | J | N/A | N/A | 50,000 | 42,000 | 35,000 | 35,000 |
| | 600 | 100,000 | RK5, RK1 | | | | | | |
| 600 | 750 | 200,000 | J, L, RK1, RK5 | NA | NA | 65,000 | 50,000 | 50,000 | 42,000 |
| 800 1000 1200 | 3000 | 200,000 | L | N/A | N/A | 85,000 | 65,000 | | |

* UL 1008 and CSA listed at 480 VAC. CSA listed at 600 VAC.

Withstand and Close-On Ratings with Coordinated Circuit Breakers

The following chart lists contactor withstand and close-on ratings (WCR) with specific manufacturer's circuit breakers.

| Switch Rating | Coordinated Circuit Breakers | | | | |
|--|------------------------------|------------------------------|------------------|--|--------------------|
| | Voltage | WCR, RMS Symmetrical Amperes | Manufacturer | Type or Class | Maximum Size, Amps |
| 150 200 225 260 300 400 | 480 | 50,000 | Eaton | HJD, JDC, JGC, JGH, JGU, JGX | 250 |
| | | | | CHLD4, CLD, HLD4, CLDC, LDC, KDC, HKD, CHMDL4, CMDL4 | 400 |
| | | | | CHLD6, HDL6, CHMDL6, CMDL6, CLDC, CLD6, LDC6, CLDC6 | 600 |
| | | | | CHMDL8, HMDL8, MDL8, CMDL8 | 800 |
| | | | ITE/Siemens | CFD6, HFD6, HFXD6, HHFD6, HHFXD6 | 250 |
| | | | | CJD6 | 400 |
| | | | | CLD6, HHL6, HHLXD6, HLD6, HLXD6 | 600 |
| | | | | CMD6, MD6, HMD6, HMXD6, MXD6 | 800 |
| | | | General Electric | SFL, SFP | 250 |
| | | | | SGL, SGP | 400 |
| | | | | FGL, FGP, SGL, SGP | 600 |
| | | | Schneider | HJ, HL, HR | 150 |
| | JJ, JL, JR | 250 | | | |
| | LJ, LL, LR | 600 | | | |
| | MJ | 800 | | | |
| | 600 | 42,000 | Eaton | JGU, JGX | 250 |
| | | | | CLDC4, KDC, LDC4 | 400 |
| | | | | CLDC6, LDC6, NB Tri-Pac | 600 |
| | | | | NB Tri-Pac | 800 |
| | | | ITE/Siemens | CFD6 | 250 |
| | | | | CJD6, SCLD6 | 400 |
| | | | | CLD6, HHL6, HHLXD6, SCLD6 | 600 |
| | | | | CMD6, HMD6, HMXD6, SCMD6, SHMD6 | 800 |
| | | | General Electric | THLC1 | 150 |
| FGL4, FGP4, THLC4, TLB4 | | | | 400 | |
| SGL, SGP, FGL6, FGP6 | | | | 600 | |
| SKL8, SKP8 | | | | 800 | |
| Schneider | HJ, HL, HR | 150 | | | |
| | JJ, JL, JR | 250 | | | |
| | LJ, LL, LR | 600 | | | |
| | MJ | 800 | | | |

| Switch Rating | Coordinated Circuit Breakers | | | | |
|---------------------|------------------------------|------------------------------|------------------|--|--------------------|
| | Voltage | WCR, RMS Symmetrical Amperes | Manufacturer | Type or Class | Maximum Size, Amps |
| 600 | 480 | 65,000 | Eaton | HLD, CHLD, LDC, CLDC | 600 |
| | | | | HMDL, HMDLB, CHMDL, NB Tri Pac | 800 |
| | | | ITE/Siemens | CLD6, SHLD6, SCLD6, HLD6, HLDX6, HHLD6, HHLXD6 | 600 |
| | | | | CMD6, HMXD6, HMD6, SCMD6, SHMD6, SCND6, SHND6 | 800 |
| | | | | HND6, HNXD6, CND6 | 1200 |
| | | | | HRD6, HRXD6 | 1600 |
| | | | General Electric | SGH, SGL, SGP | 600 |
| | | | | SKL, SKP, SKT, SKS | 1200 |
| | | | Schneider | LJ, LL, LR | 600 |
| | | | | PJ | 1200 |
| | MASTERPACT NW | 1600 | | | |
| | 600 | 50,000 | Eaton | LDC, CLDC | 600 |
| | | | | NB Tri-Pac, DSL206 | 800 |
| | | | Schneider | LI, LXI | 600 |
| | | | | NC, NE, NX | 800 |
| | | | | PK | 1200 |
| | | | ITE/Siemens | CLD6, HHLD6, HHLXD6, SCLD6, SHLD6 | 600 |
| | | | | CMD6, HMD6, SCMD6, SCND6, SHMD6, SHND6 | 800 |
| | | | | CND6, SCND6 | 1200 |
| | | | General Electric | TB6, SGL6, SGP6 | 600 |
| TB8, THP, THC, SKP8 | | | | 800 | |
| SKP | 1200 | | | | |
| 800 1000 1200 | 480 | 85,000 | Eaton | PB, HND | 1600 |
| | | | ITE/Siemens | CMD6 | 800 |
| | | | | CND6 | 1200 |
| | | | | CPD6-HPD6 | 1600 |
| | | | General Electric | SKL, SKP, SKS | 1200 |
| | 600 | 65,000 | Eaton | NB Tri Pac | 800 |
| | | | | RDC, CRDC, PC, PCC, PB Tri Pac | 1600 |
| | | | Schneider | NC, NE, NX | 1200 |
| | | | | PCF, PEF, PHF, PXF | 1600 |
| | | | | ITE/Siemens | CMD6, SCMD6 |
| | | | CND6, SCND6 | | 1200 |
| | | | CPD6, HPD6, HRD6 | | 1600 |
| | | | General Electric | THP, THC, TB8, SKP8 | 800 |
| | | | | SKP | 1200 |
| | | | | THP, THC, TRP | 1600 |
| | | | MG | MP16H1, MP16H2, MC16H1 | 1600 |

Accessories

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

Adapter Bays

- Available for 600- 1200 amp models

CSA Certification

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 Limited Warranties

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

Export Packaging

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 kit is included with each transfer switch)
- Overhaul literature kit

Neutral Assembly

- Available as loose kit for open units

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.

Pull Box

- Optional for 150- 260 amp units
- Required for bottom cable entry on 400- 600 amp units

Seismic Certification

- Certification depends on application and geographic location. Contact your distributor for details.
- Available for 150- 1200 amp KGS and KGP models with NEMA 1 enclosures

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

Controller Disconnect Switch

Current Sensing Kit

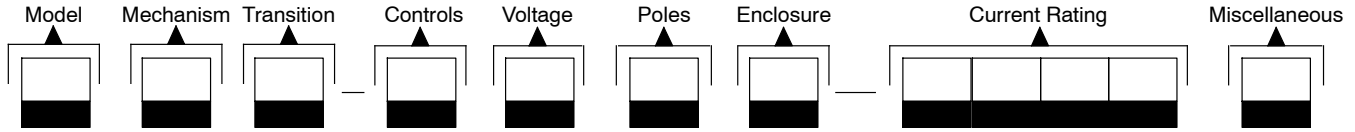
Line-to-Neutral Voltage Monitoring

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 3kA | at 10kA | | |
| 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: KGS-DCTA-0400S

Model

K: Kohler

Mechanism

G: Bypass/Isolation

Transition

S: Standard

P: Programmed

Controller

D: Decision-Maker® MPAC 1500, Automatic

Voltage/Frequency

C: 208 Volts/60 Hz

D: 220 Volts/50 Hz

F: 240 Volts/60 Hz

G: 380 Volts/50 Hz

H: 400 Volts/50 Hz

J: 416 Volts/50 Hz

K: 440 Volts/60 Hz

M: 480 Volts/60 Hz

N: 600 Volts/60 Hz

P: 380 Volts/60 Hz

R: 220 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

Enclosure

A: NEMA 1*

* Contact the factory for other enclosure types.

Current, Amps †

0150 0600

0225 0800

0260 1000

0400 1200

† Some selections are not available on all models.

Connections

S: Standard

Note: Some selections are not available on all models. Contact your Kohler distributor for availability.

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