



Transfer Switch Standard Features

- UL 1008 listed at 208–480 VAC file #E58962 (automatic), #E86894 (nonautomatic)
- CSA certification available
- IBC seismic certification available
- Standard-transition operation
- Silver tungsten alloy contacts on 400–600 amp models
- Solid or switched neutral
- Available with either automatic or non-automatic control (non-automatic control requires the Decision-Maker® MPAC 1200 controller)
- Available in 2, 3, or 4 pole configurations
- High withstand/closing ratings, for use with specific breakers only
- Electrically operated, mechanically held mechanism
- Double-throw, mechanically interlocked design (break-before-make power contacts)
- Enclosed arc chambers with arc chutes
- Front-accessible contacts for easy inspection
- Main shaft auxiliary position-indicating contacts (see page 3 for contact ratings)
- Standard one-year limited warranty. Extended limited warranties are available.

Available Controllers

- Decision-Maker® MPAC 750
- Decision-Maker® MPAC 1200

Ratings

| Model | Current | Voltage, Frequency |
|-------|---------------|-----------------------|
| KSS | 40–600 amps | 208–600 VAC, 50/60 Hz |
| | 800–1000 amps | 208–480 VAC, 50/60 Hz |

Available Automatic Transfer Switch Controllers

Select one of the following controllers for your automatic transfer switch.

Decision-Maker® MPAC 750 Controller



- Test pushbutton
- Exercise pushbutton
- LED indicators: Source available, transfer switch position, service required (fault), and “not in auto”
- Programmable voltage pickup and dropout settings
- Programmable time delays
- Seven day generator exerciser
- Two programmable inputs and two programmable outputs
- Modbus communication standard
- RS-485 communication standard
- Ethernet communication optional

For more information about Decision-Maker® MPAC 750 features and functions, see specification sheet G11-126.

Decision-Maker® MPAC 1200 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”
- Programmable voltage and frequency pickup and dropout settings
- Programmable time delays
- Programmable generator exerciser
- Time-based load control
- Two programmable inputs and two programmable outputs
- Up to four I/O extension modules available
- Modbus communication standard
- RS-485 communication standard
- Ethernet communication optional

For more information about Decision-Maker® MPAC 1200 features and functions, see specification sheet G11-127.

Codes and Standards

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

- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems file # E58962 (automatic), # E86894 (nonautomatic)
- CSA C22.2 No. 178 certification available, file # LR58301
- NFPA 70, National Electrical Code
- NFPA 99, Essential Electrical Systems for Health Care Facilities
- 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 ICS 10-2005, Electromechanical AC Transfer Switch Equipment
- EN61000-4-4 Fast Transient Immunity Severity Level 4
- IEC 60947-6-1, Low Voltage Switchgear and Control Gear; Multifunction Equipment; Automatic Transfer Switching Equipment
- 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
- IEEE 472 (ANSI C37.90A) Ring Wave Test
- 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

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 |

| UL-Listed Solderless Screw-Type Terminals for External Power Connections | | | | |
|--|---------------------|---|--|--|
| Model | Switch Rating, Amps | Range of Wire Sizes, Copper or Aluminum* | | |
| | | Normal, Emergency, and Load | Neutral | Ground |
| KSS | 40-150 | (1) #8 to 3/0 AWG † | (3) #6 - 3/0 AWG | (3) #6 - 3/0 AWG |
| | 200-225 | (1) #6 AWG to 250 KCMIL † | (3) #4 - 600 KCMIL or (6) 1/0 - 250 KCMIL | |
| | 260 | (1) #6 AWG to 350 KCMIL † | | |
| | 400 | (1) #4 AWG to 600 KCMIL † or (2) #1/0 AWG to 250 KCMIL † | (3) #4 - 600 KCMIL or (6) 1/0 - 250 KCMIL | (3) #4 - 600 KCMIL or (6) 1/0 - 250 KCMIL |
| | 600 | (2) #2 AWG to 600 KCMIL † | | |
| | 800 | (2) #1/0 AWG to 750 KCMIL | (12) #2 - 600 KCMIL | |
| | 1000 | (4) #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.
† Use copper wire only.

| Contact Ratings | | | | |
|-----------------------------------|----------------|----------------------------------|---|--|
| | Resistive Load | Inductive Load | Motor Load | |
| | | | NC | NO |
| Engine Start Contacts | 2 A @ 30 VDC | N/A | N/A | N/A |
| Auxiliary Contacts, (40-600A) ‡ | 15 A @ 250 VAC | N/A | N/A | N/A |
| Auxiliary Contacts, (800-1000A) ‡ | 15 A @ 480 VAC | 15 A @ 250 VAC; 6 A @ 500 VAC | 5 A @ 125 VAC; 3 A @ 250 VAC; 1.5 A @ 500 VAC | 2.5 A @ 125 VAC; 1.5 A @ 250 VAC; 0.75 A @ 500 VAC |

‡ Auxiliary position-indicating contacts, one set Normal and one set Emergency

Weights and Dimensions

Weights and dimensions are shown for transfer switches in NEMA type 1 and type 3R enclosures, and open units. Consult the factory for open units and other enclosures.

Note: Weights and dimensions are provided for reference only and should not be used for planning installation. See your local distributor for submittal drawings.

| Amps | NEMA Type | Dimensions mm (in.) | | | Weight kg (lb.) | | |
|---------|-----------|---------------------|------------|------------|-----------------|-----------|-----------|
| | | Height | Width | Depth § | 2-Pole | 3-Pole | 4-Pole |
| 40-225 | 1, 3R | 791 (31.1) | 450 (17.7) | 316 (12.5) | 28 (62) | 30 (65) | 31 (68) |
| 260-400 | 1, 3R | 1223 (48.1) | 560 (22.0) | 362 (14.3) | 52 (115) | 56 (123) | 59 (131) |
| 600 | 1, 3R | 1702 (67.0) | 610 (24.0) | 514 (20.2) | 179 (395) | 183 (403) | 186 (410) |
| 800 | 1, 3R | 1932 (76.1) | 864 (34.0) | 515 (20.3) | N/A | 226 (498) | 236 (520) |
| 1000 | 1, 3R | 1932 (76.1) | 864 (34.0) | 515 (20.3) | N/A | 231 (509) | 241 (531) |

§ Allow enough room to fully open the door for inspection and service per NEC and local codes. The NEMA type 3R enclosures have a security cover on the controller that extends 54 mm (2.1 in.) beyond the door.

Withstand and Close-On Ratings (WCR) Ratings Summary

The transfer switch is rated for use on a circuit capable of delivering not more than the RMS symmetrical Amperes listed at the specified maximum voltage below, but no greater than the interrupting capacity of the selected circuit breaker or fuse. Circuit breakers and fuses are supplied by the customer.

| Certified Withstand Current Ratings in RMS Symmetrical Amperes ¶ | | | | | | | | | | | |
|--|-----------------------------|---------------------|----------------------|---------|---|----------------------|---------|------------------------|----------------------|---------|-----------------------------|
| Switch Rating, Amps | With Current-Limiting Fuses | | | | Specific Coordinated Breaker Rating, (see the following tables) | | | Any Breaker Ratings ** | | | |
| | Fuse Class | Fuse Size, Max Amps | Maximum Circuit Amps | | Maximum Voltage | Maximum Circuit Amps | | Maximum Voltage | Maximum Circuit Amps | | Time Duration, Seconds Max. |
| | | | 480 VAC | 600 VAC | | 480 VAC | 600 VAC | | 480 VAC | 600 VAC | |
| 40-150 | J | 400 | 200,000 | 200,000 | 600 V | 30,000 | 22,000 | 600 V | 10,000 | 10,000 | 0.025 |
| 200-225 | J | 400 | 200,000 | N/A | 600 V | 30,000 | 22,000 | 600 V | 10,000 | 10,000 | |
| 260 | N/A | N/A | N/A | N/A | 480 V | 35,000 | N/A | N/A | N/A | N/A | N/A |
| 400 | J | 600 | 200,000 | 200,000 | 600 V | 50,000 | 42,000 | 600 V | 35,000 | 35,000 | 0.050 |
| | RK5 RK1 | 600 | 100,000 | N/A | | | | | | | |
| 600 | N/A | N/A | N/A | N/A | 600 V | 50,000 | 42,000 | N/A | N/A | N/A | N/A |
| 800 | L | 3000 | 200,000 | N/A | 480 V | 65,000 | N/A | N/A | N/A | N/A | N/A |
| 1000 | L | 4000 | | | | | | | | | |

¶ All values are available symmetrical RMS Amperes and tested in accordance with the withstand/closing requirements of UL 1008.
** Applicable to breakers with instantaneous trip elements.

Ratings with Specific Manufacturers' Circuit Breakers

Withstand and close-on ratings (WCR) in RMS symmetrical Amperes for specific manufacturers' circuit breakers.

| Switch Rating, Amps | Molded-Case Circuit Breakers | | | | |
|---|------------------------------|---------------|------------------|---|-----------------|
| | Voltage, Max. | WCR, Amps RMS | Manufacturer | Type | Max. Size, Amps |
| 40 80 100 150 200 225 | 480 | 30,000 | Eaton | FCL | 100 |
| | | | | JGS, JGH, JGC, JGU, JGX, JBD, JD, HJD, JDC, LCL, LCLA | 250 |
| | | | | LDC, CLDC, KDB, KD, HKD, KDC, LD, CLD, HLD, CHLD | 400 |
| | | | ITE/Siemens | CED6, HED4, HED6 | 125 |
| | | | | CFD6, FD6A, FXD6, HFD6, HFXD6, HHFD6, HHFXD6 | 250 |
| | | | | CJD6 | 400 |
| | | | General Electric | SEL, SEP, THLC1 | 150 |
| | | | | THLC2 | 225 |
| | | | | SFH, SFL, SFP | 250 |
| | | | Schneider | SGH, SGL, SGP, FGN, FGH, FGL, FGP | 400 |
| | | | | HG, HJ, HL, HR | 150 |
| | | | | JJ, JL, JR | 250 |
| | 600 | 22,000 | Eaton | LG, LJ, LL, LR | 400 |
| | | | | JGS, JGH, JGC, JGU, JGX, JDB, JD, HJD, JDC, LCL, LCLA | 250 |
| | | | | LDC, CLDC, KDB, KD, HKD, KDC, LD, CLD, HLD, CHLD | 400 |
| | | | ITE/Siemens | CED6, HED4, HED6 | 125 |
| CFD6, FD6, FXD6, HFD6, HFXD6, HHFD6, HHFXD6 | | | | 250 | |
| General Electric | | | SEL, SEP, THLC1 | 150 | |
| | | | THLC2 | 225 | |
| | | | SFH, SFL, SFP | 250 | |
| SGH, SGL, SGP, FGN, FGH, FGL, FGP | | | 400 | | |

| Switch Rating, Amps | Molded-Case Circuit Breakers | | | | | | | |
|---|----------------------------------|------------------|---------------------------------|---|-----------------|-------|--|-----|
| | Voltage, Max. | WCR, Amps RMS | Manufacturer | Type | Max. Size, Amps | | | |
| 260 | 480 | 35,000 | Eaton | JGS, JGH, JGC, JGU, JGX, JDB, JD, HJD, JDC, LCL, LCLA | 250 | | | |
| | | | | LDC, CLDC, LD, CLD, HLD, CHLD, KDB, KD, HKD, KDC | 400 | | | |
| | | | ITE/Siemens | CED6, HED4, HHED6 | 125 | | | |
| | | | | CFD6, FD6, FXD6, HFD6, HFXD6, HHFD6, HHFXD6 | 250 | | | |
| | | | General Electric | SEL, SEP, THLC1 | 150 | | | |
| | | | | THLC2 | 225 | | | |
| | | | | SFH, SFL, SFP | 250 | | | |
| | | | | SGH | 350 | | | |
| | | | Schneider | SGH, SGL, SGP, FGN, FGH, FGL, FGP | 400 | | | |
| | | | | HG, HJ, HL, HR | 150 | | | |
| | | | | JJ, JL, JR | 250 | | | |
| | | | 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 | | | | | | |
| General Electric | SFL, SFP | 250 | | | | | | |
| | FGL, FGP | 600 | | | | | | |
| Schneider | LJ, LL, LR | 600 | | | | | | |
| 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, HHLD6, HHLXD6, SCLD6 | 600 | | | | |
| | | | CMD6, HMD6, HMXD6, SCMD6, SHMD6 | 800 | | | | |
| | | General Electric | THLC1 | 150 | | | | |
| | | | FGL4, FGP4, THLC4, TLB4 | 400 | | | | |
| SGL, SGP, FGL6, FGP6 | 600 | | | | | | | |
| Schneider | SKL8, SKP8 | 800 | | | | | | |
| Schneider | JL, JR | 250 | | | | | | |

| Switch Rating, Amps | Molded-Case Circuit Breakers | | | | | |
|----------------------|------------------------------|---------------|-------------------------|--|---------------------------------|-----|
| | Voltage, Max. | WCR, Amps RMS | Manufacturer | Type | Max. Size, Amps | |
| 600 | 480 | 50,000 | Eaton | HJD, JDC, JGC, JGH, JGU, JGX | 250 | |
| | | | | CHLD4, CLD, HLD4, CLDC, LDC, KDC, HKD, CHMDL4, CMDL4 | 400 | |
| | | | | CHLD6, HLD6, CHMDL6, CMDL6, CLDC6, LDC6, CLD6, CLDC | 600 | |
| | | | | CHMDL8, HMDL8, MDL8, CMDL8 | 800 | |
| | | | ITE/Siemens | CFD6, HFD6, HFXD6, HHFD6, HHFXD6 | 250 | |
| | | | General Electric | SFL, SFP | 250 | |
| | FGL, FGP | 600 | | | | |
| | Schneider | LJ, LL, LR | 600 | | | |
| | 600 | 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, HHLD6, 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 | JL, JR | 250 | | | | |
| 800 1000 | 65,000 | 480 | Eaton/ Cutler-Hammer | TRI-PAC NB, CHMDL, HMDL, CHND, HND, NDC, CNDC | 800 | |
| | | | | TRI-PAC NB, CNDC, NDC, CRDC, TRI-PAC PB, RDC, CHND, HND, RD. CRD | 1200 | |
| | | | Schneider/ Square D | MJ, PJ, PL, RJ | 800 | |
| | | | | PJ, PL, RL | 1000 | |
| | | | ITE/Siemens | CMD6, HMD6, SCMD6, SHMD6, CND6, HND6, SCND6, SHND6, CPD6 | 800 | |
| | | | | CND6, HND6, SCND6, CPD6, SHND6, HPD6 | 1200 | |
| | | | General Electric | TB8, TC, THC, THP | 1000 | |
| | | | | THC, THP, TRP | 1200 | |

Transfer Switch Accessories

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

CSA Certification

Digital Meter (with MPAC 1200 only)

- 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
- Three digital outputs
- Joystick operation

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.

Seismic Certification

- Certification depends on application and geographic location. Contact your distributor for details.
- Available for 40–1000 amp KSS models with NEMA 1, 3R, 4, 4X, and 12 enclosures

Surge Protection Device (SPD)

- 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 spec sheet for more information.

Accessory Modules (with MPAC 1200 only)

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

Controller Disconnect Switch

Ethernet Communications

Current Sensing Kit (with MPAC 1200 only)

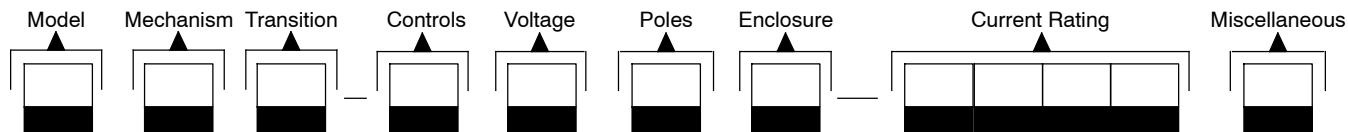
Line-to-Neutral Voltage Monitoring (with MPAC 1200 only)

Padlockable User Interface Cover

Supervised Transfer Control Switch (with MPAC 1200 only)

| 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: KSS-JCNA-0100S

Model

K: Kohler

Mechanism

S: Standard (Specific-Breaker)

Transition

S: Standard

Controller

- A: Decision-Maker® MPAC 1200, Automatic
- B: Decision-Maker® MPAC 1200, Non-Automatic
- J: Decision-Maker® MPAC 750, Automatic

Voltage/Frequency

- | | |
|--------------------|--------------------|
| C: 208 Volts/60 Hz | K: 440 Volts/60 Hz |
| D: 220 Volts/50 Hz | M: 480 Volts/60 Hz |
| F: 240 Volts/60 Hz | N: 600 Volts/60 Hz |
| G: 380 Volts/50 Hz | P: 380 Volts/60 Hz |
| H: 400 Volts/50 Hz | R: 220 Volts/60 Hz |
| J: 416 Volts/50 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 | D: NEMA 4 |
| B: NEMA 12 | F: NEMA 4X |
| C: NEMA 3R | G: Open Unit |

Current, Amps

- | | | |
|------|------|------|
| 0040 | 0200 | 600 |
| 0080 | 0225 | 800 |
| 0100 | 0260 | 1000 |
| 0150 | 0400 | |

Connections

S: Standard

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

DISTRIBUTED BY:

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