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Automatic Transfer Switch

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| Qty | Description                               |
|-----|---|
| 3   | RDT, 200A, 240V, UL/CSA, std, Nema 3R, 2P |

**KOHLER®**

# Spec Sheets



## Standard Features

- UL listed
  - Models with load centers, UL 67 listed, file #E251086
  - Models without load centers, UL 1008 listed, file #E58962
- cUL listed
  - 100 and 200 amp models with load centers, file #E251086
- CSA certification available, file #LR58301 (not applicable to service entrance or load center models)
- 220/240 VAC, 50/60 Hz (selectable)
- 100, 200, and 400 amp models available
- 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 16 circuit breakers (up to 8 tandem breakers can be used for a maximum of 24 circuits)
  - 200 amp load center models use up to 24 circuit breakers
  - 200 amp service entrance model with 42-circuit breaker load center is available
- Two enclosures available
  - NEMA Type 1 steel ANSI 49 gray enclosure for indoor installation. 100 amp and 200 amp models without load centers can be recess-mounted between wall studs (not service entrance model)
  - NEMA Type 3R corrosion-resistant aluminum ANSI 49 gray padlockable enclosure. Approved for indoor or outdoor installation
- Five-year limited warranty
- See page 5 for available accessories

## MPAC® 500 Controller Features

- 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
- Common fault contact: latches closed on system faults shown above
- Engine start contact: provides contact closure to start the generator set
- Load control contact: allows 5-minute delay in startup of selected loads
- Test button (with or without load)
- Exercise set button
  - Weekly 20-minute generator set exercise
  - With or without load
- Single-phase voltage sensing on both sources,  $\pm 5\%$
- Line-to-line frequency sensing,  $\pm 2\%$
- Fixed time delays

## Service Entrance Model Features

- 200 and 400 amp service entrance rated automatic transfer switches available
- Service disconnect circuit breaker on the normal (utility) source (80% rated)
- NEMA 3R aluminum ANSI 49 gray enclosure
- Circuit breaker for generator set battery charger
- See page 5 for available SE model accessories

| 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                  | 0.5 A @ 125 VAC;<br>2 A @ 30 VDC<br>SPST normally closed (NC) |
| Common fault                  | 0.5 A @ 125 VAC;<br>2 A @ 30 VDC<br>SPST normally open (NO)   |
| Load control                  | 10 A @ 120 VAC<br>SPST normally open (NO)                     |
| Auxiliary contacts (optional) | 15 A @ 277 VAC<br>Form C                                      |

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

| Time Delays                         |                 |                                  |           |
|-------------------------------------|-----------------|----------------------------------|-----------|
| Time Delay                          | Factory Setting | Adjustment with Accessory Board* |           |
|                                     |                 | Range                            | Increment |
| Engine start                        | 3 seconds       | 1-10 seconds                     | 1 second  |
| Transfer from Normal to Emergency   | 3 seconds       | 1-10 seconds                     | 1 second  |
| Retransfer from Emergency to Normal | 6 minutes       | 3-30 minutes                     | 3 minutes |
| Engine cooldown                     | 5 minutes       | 1-10 minutes                     | 1 minute  |
| Exercise run time                   | 20 minutes      | 5-50 minutes                     | 5 minutes |
| Exercise interval                   | 1 week          | 1 week/2 week (DIP switch)       |           |
| Load control connection delay       | 5 minutes       | 5 or 10 minutes (DIP switch)     |           |
| Failure to acquire Emergency source | 78 seconds      | NA                               |           |
| Undervoltage dropout                | 0.5 second      | NA                               |           |
| Underfrequency dropout              | 3 seconds       | NA                               |           |

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

| Cable Sizes  |                                      |                       |   |  |                    |
|--|--------------------------------------|-----------------------|---|--|--------------------|
| AL/CU UL-Listed Solderless Screw-Type Terminals for External Power Connections |                                      |                       |   |  |                    |
| Switch Size, Amps  | Range of Wire Sizes, Cu/Al           |                       |   |  |                    |
|  | Normal (per phase)                   | Emergency (per phase) | Load (per phase)                              | Neutral  | Ground             |
| 100  | (1) #14 - 1/0 AWG                    | (1) #14 - 1/0 AWG     | (1) #14 - 1/0 AWG                             | (3) #12 - 250 MCM (Cu) or (3) #10 - 250 MCM (Al) | (9) #14 - #4 AWG   |
| 100 B  | (1) #14 - 1/0 AWG                    | (1) #14 - 1/0 AWG     | per customer-supplied branch circuit breakers | (1) #6 - 2/0 AWG                                 | (9) #14 - #4 AWG   |
| 200  | (1) #6 AWG - 250 MCM                 | (1) #6 AWG - 250 MCM  | (1) #6 AWG - 250 MCM                          | (3) #12 - 250 MCM (Cu) or (3) #10 - 250 MCM (Al) | (9) #14 - #4 AWG   |
| 200 B  | (1) #6 AWG - 250 MCM                 | (1) #6 AWG - 250 MCM  | per customer-supplied branch circuit breakers | (1) #4 AWG - 250 MCM                             | (9) #14 - #4 AWG   |
| 200 BSE  | (1) #4 - 300 MCM                     | (1) #6 - 250 MCM      | per customer-supplied branch circuit breakers | (3) #12 - 250 MCM (Cu) or (3) #10 - 250 MCM (Al) | (4) #14 - #1/0 AWG |
| 200 SE   | (1) #4 - 300 MCM                     | (1) #6 - 250 MCM      | (1) #6 AWG - 250 MCM                          | (3) #12 - 250 MCM (Cu) or (3) #10 - 250 MCM (Al) | (3) #14 - #1/0 AWG |
| 400  | (2) #6 - 250 MCM                     | (2) #6 - 250 MCM      | (2) #6 - 250 MCM                              | (3) #4 - 600 MCM<br>(6) 1/0 - 250 MCM            | (3) #6 - 3/0 AWG   |
| 400 SE   | (1) #1 - 600 MCM or (2) #1 - 250 MCM | (2) #6 - 250 MCM      | (2) #6 - 250 MCM                              | (3) #4 - 600 MCM<br>(6) 1/0 - 250 MCM            | (3) #6 - 3/0 AWG   |

B = Load center model  
SE = Service entrance model

**Note:** Data is subject to change. Refer to the transfer switch dimension drawings and wiring diagrams for planning and installation.

## Contactor Ratings with Coordinated Circuit Breakers

The transfer switches are UL listed at 240 VAC maximum. The following table lists contactor withstand current ratings (WCR) for 100–400 ampere non-service entrance rated 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.

| <b>WCR Ratings with Specific Manufacturer’s Molded-Case Circuit Breakers</b> |               |                                 |                  |   |                    |
|--|---------------|---------------------------------|------------------|---|--------------------|
| Switch Rating, Amps  | Voltage, max. | WCR, RMS Symmetrical Amps       | Manufacturer     | Type or Class   | Maximum Size, Amps |
| 100<br>200   | 240           | 10,000                          | Any Breaker      | Any Breaker (0.025 seconds max.)  | —                  |
| 400  | 240           | 35,000                          | ABB              | T5, T6  | 400                |
|  |               |                                 | Eaton            | CHKD, CKD, DK, HKD, KD, KDB, KDC, LA TRIPAC, LCL  | 400                |
|  |               |                                 |                  | CHLD, CLD, CLDC, HLD, LD, LDB, LDC  | 600                |
|  |               |                                 |                  | HMDL, MDL, NB TRI-PAC   | 800                |
|  |               |                                 | General Electric | FGH, FGL, FGN, FGP, SGHA  | 600                |
|  |               |                                 | Merlin Gerin     | CJ400H, CJ400L, CJ400N  | 400                |
|  |               |                                 |                  | CJ600H, CJ600N  | 600                |
|  |               |                                 | Siemens          | CJD6, HHJD6, HHJXD6, HJD6, HJGA, HJXD6, JD6, JXD2, JXD6, LJGA, NJGA, SCJD6, SHJD6, SJD6 | 400                |
|  |               |                                 |                  | CLD, HHL, HHLXD, HLD, HLGA, HLXD, LD, LLGA, LXD, NLGA, SCLD, SHLD, SLD                  | 600                |
|  |               |                                 |                  | CMD, HLMD, HLMXD, HMD, HMG, HMXD, LMD, LMG, LMXD, MD, MXD, NMG, SCMD, SHMD, SMD         | 800                |
|  |               |                                 | Square D         | LA, LC, LE, LH, LI, LX, LXI   | 400                |
|  |               | DG, DJ, DL, LC, LE, LI, LX, LXI |                  | 600   |                    |
| 50,000   | Eaton         | LD                              | 600              |   |                    |

### Service Entrance Transfer Switch Ratings

The service entrance transfer switch is factory-equipped with a normal source disconnect circuit breaker.

| Switch Rating, Amps | WCR, RMS Symmetrical Amps at 240 VAC |
|---------------------|--------------------------------------|
| 200                 | 22,000                               |
| 400                 | 35,000                               |

## Codes and Standards

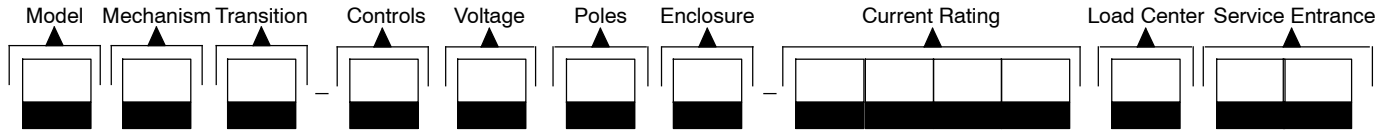
The ATS meets or exceeds the requirements of the following specifications:

- Underwriters Laboratories UL 67, Enclosed Panel Boards (load center models) file #E251086
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Systems, file #E58962
- Underwriters Laboratories UL 508, Standard for Industrial Control Equipment
- CSA certified, file #LR58301 (not applicable to service entrance models)
- 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
- ANSI C37.90.1 (IEEE472), 2000, EFT/Surge Relay Systems
- 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 61000-4-2, 2001, Electrostatic Discharge
  - IEC 61000-4-3, 2002, Radiated Immunity
  - IEC 61000-4-4, 2001, Electrical Fast Transients (Bursts)
  - IEC 61000-4-5, 2001, Surge Voltage Immunity
  - IEC 61000-4-6, 2003, Conducted RF Immunity
  - IEC 61000-4-8, Magnetic Field Immunity
  - IEC 61000-4-11, Voltage Dips and Interruptions

## Weights and Dimensions

| Enclosure Type        | Amps     | Load Center | Shipping Weight |       | Dimensions, H x W x D, mm (in.) |                       |
|-----------------------|----------|-------------|-----------------|-------|---------------------------------|-----------------------|
|                       |          |             | kg              | (lb.) |                                 |                       |
| NEMA 1<br>(steel)     | 100      | None        | 10              | (22)  | 610 x 330 x 154 *               | (24.0 x 13.0 x 6.0) * |
|                       | 100      | 16 circuits | 20              | (43)  | 914 x 406 x 154                 | (36.0 x 16.0 x 6.0)   |
|                       | 200      | None        | 11              | (24)  | 610 x 330 x 154 *               | (24.0 x 13.0 x 6.0) * |
|                       | 200      | 24 circuits | 20              | (45)  | 914 x 406 x 154                 | (36.0 x 16.0 x 6.0)   |
|                       | 400      | None        | 68              | (150) | 1223 x 560 x 362                | (48.1 x 22.0 x 14.3)  |
| NEMA 3R<br>(aluminum) | 100      | None        | 8               | (18)  | 613 x 340 x 177                 | (24.1 x 13.4 x 7.0)   |
|                       | 100      | 16 circuits | 15              | (32)  | 917 x 416 x 177                 | (36.1 x 16.4 x 7.0)   |
|                       | 200      | None        | 9               | (20)  | 613 x 340 x 177                 | (24.1 x 13.4 x 7.0)   |
|                       | 200      | 24 circuits | 16              | (35)  | 917 x 416 x 177                 | (36.1 x 16.4 x 7.0)   |
|                       | 200 SE † | None        | 17              | (37)  | 858 x 473 x 163                 | (33.8 x 18.6 x 6.4)   |
|                       | 200 SE † | 42 circuits | 32              | (70)  | 967 x 762 x 165                 | (38.1 x 30.0 x 6.5)   |
|                       | 400      | None        | 54              | (120) | 1067 x 560 x 269                | (42.0 x 22.0 x 10.6)  |
|                       | 400 SE † | None        | 59              | (130) | 1067 x 560 x 269                | (42.0 x 22.0 x 10.6)  |

\* Can be recess-mounted between 16 in. O.C. wall studs.  
 † Service entrance model



**Kohler® Model Designation Key**

This chart explains the Kohler® transfer switch model designation system. The sample model designation shown is for a Model R service entrance rated automatic transfer switch that uses a standard-transition contactor with MPAC® 500 electrical controls rated at 240 Volts/60 Hz with 2 poles, 3 wires, and solid neutral in a NEMA 3R enclosure with a current rating of 200 amperes and no load center.

**SAMPLE MODEL DESIGNATION**

**RDT-CFNC-0200ASE**

**Model**

R: Model R automatic transfer switch

**Mechanism**

D: Specific-breaker rated

**Transition**

T: Standard transition

**Electrical Controls**

C: MPAC® 500 (Microprocessor ATS Control)

**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 (steel) \*

C: NEMA 3R (aluminum)

**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 (not available on 400 Amp models)

**Service Entrance:**

SE: Service entrance model (200 and 400 Amp models available)

Blank: Not rated for service entrance

\* NEMA 1 only: 100 and 200 amp models without load centers can be recess-mounted between wall studs. Optional wall-mount bezel available.

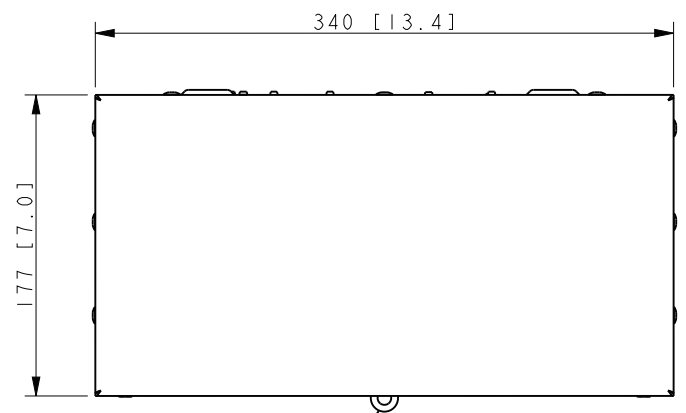
**DISTRIBUTED BY:**

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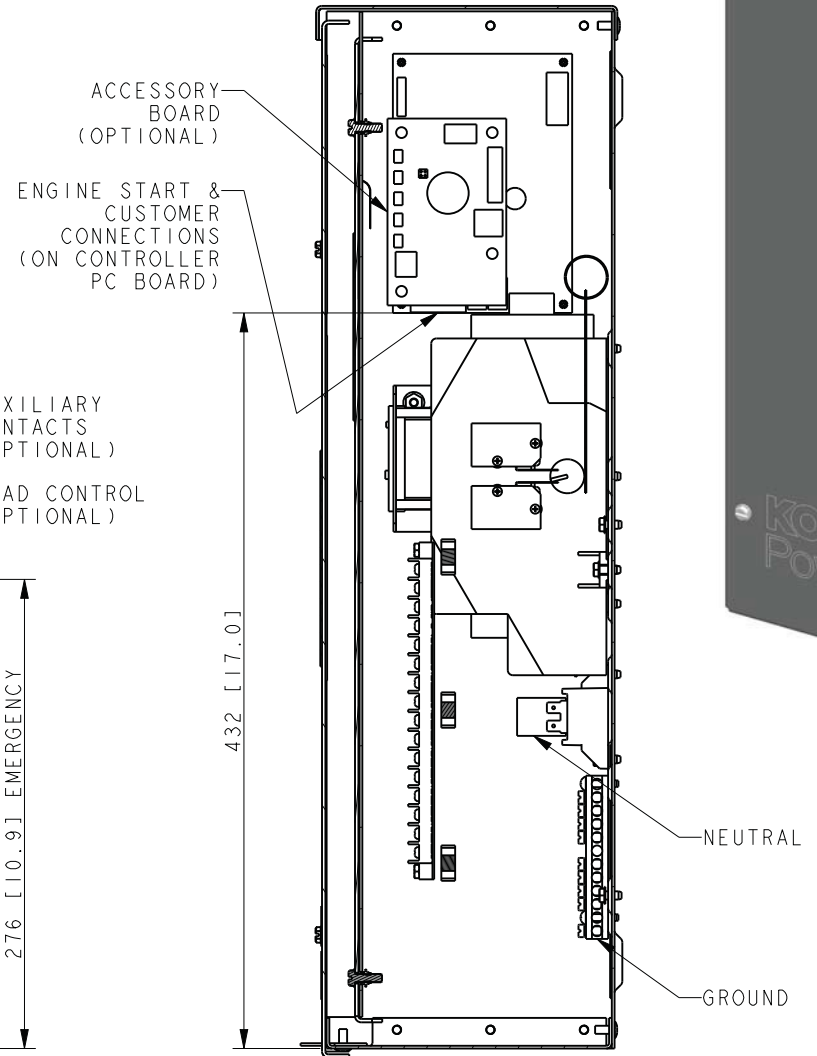
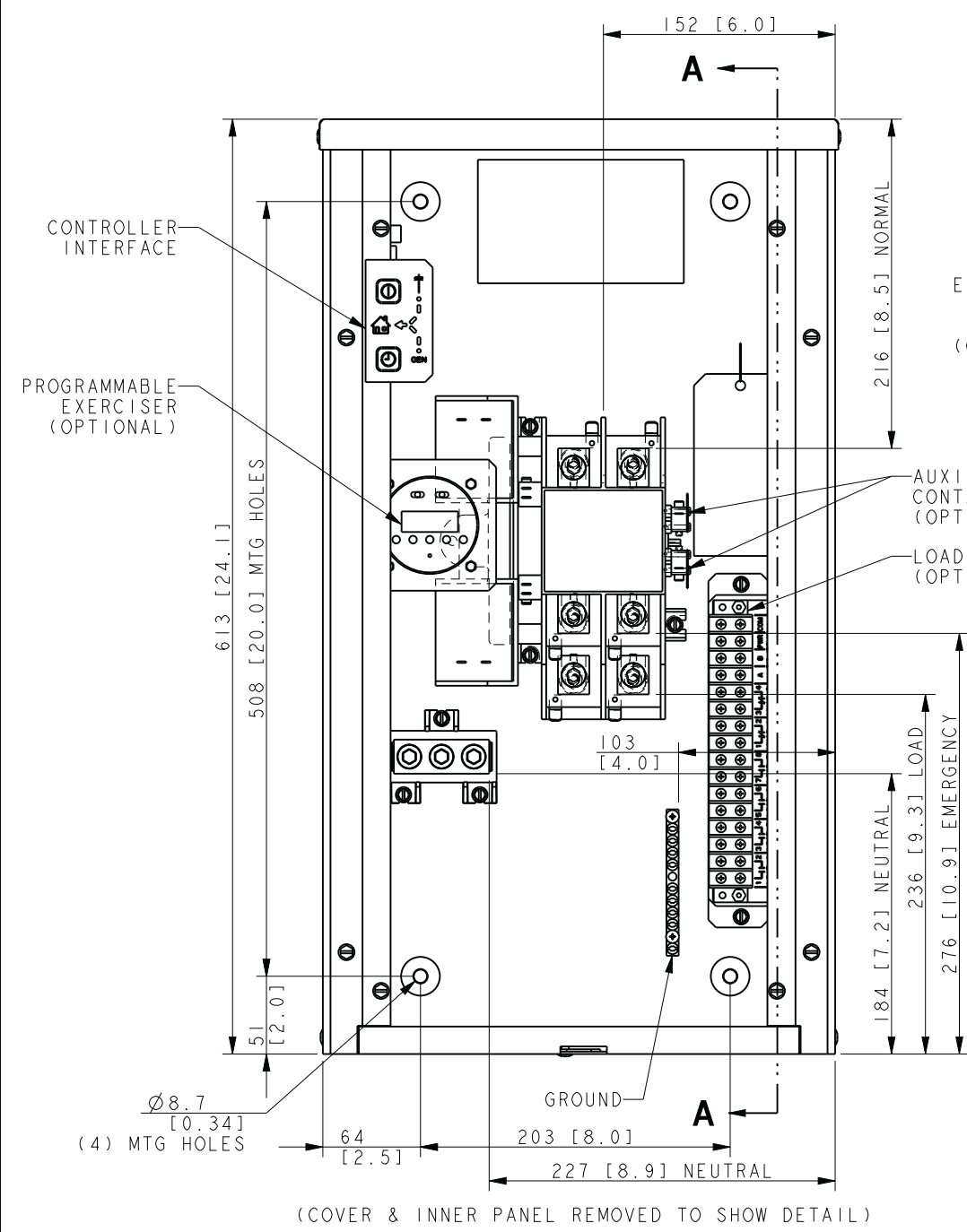
**KOHLER®**

# Dimensional Drawings





| SCREW TYPE TERMINALS FOR EXTERNAL POWER CONNECTION |                           |  |                   |
|--|---------------------------|--|-------------------|
| SWITCH RATING (AMPS)                               | RANGE OF AL-CU WIRE SIZES |  |                   |
|  | CONTACTOR (PER PHASE)     | NEUTRAL  | GROUND            |
| 200  | (1) #6 TO 250 KCMIL       | (3) #12-250 KCMIL (Cu)<br>OR<br>(3) #10-250 KCMIL (Al) | (9) #14 TO #4 AWG |



COVER SHOWN



INNER PANEL SHOWN

NOTES:  
 DIMENSIONS IN [ ] ARE INCHES.  
 FINISH: ANSI 49 GRAY.  
 REFER TO OPERATOR'S MANUAL PRIOR TO INSTALLATION AND OPERATION OF UNIT.  
 APPROXIMATE WEIGHT: 7 Kg (15 LBS.)

SECTION A-A

MODEL R  
 200A RESIDENTIAL ATS  
 MPAC 500 CONTROLLER  
 STANDARD TRANSITION  
 NEMA 3R ENCLOSURE

| REV | DATE    | ON COMPOSITE DWGS. SEE PART NO. FOR REVISION LEVEL                            | BY  |
|-----|---------|---|-----|
| -   | 8-16-11 | NEW DRAWING [90714-4]   | BTW |
| A   | 6-18-13 | (D-4) NEUTRAL CONNECTIONS UPDATED; (B-6) LOAD CONTROL OPTION SHOWN; [CT48126] | BTW |

UNLESS OTHERWISE SPECIFIED -  
 1) DIMENSIONS ARE IN MILLIMETERS  
 2) TOLERANCES ARE:  
 X.XX ± 0.25  
 X.X ± 1.0  
 X ± 1.5  
 ANGLES ± 0° 30' MAX.

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 POWER SYSTEMS, KOHLER, WI 53044 U.S.A.  
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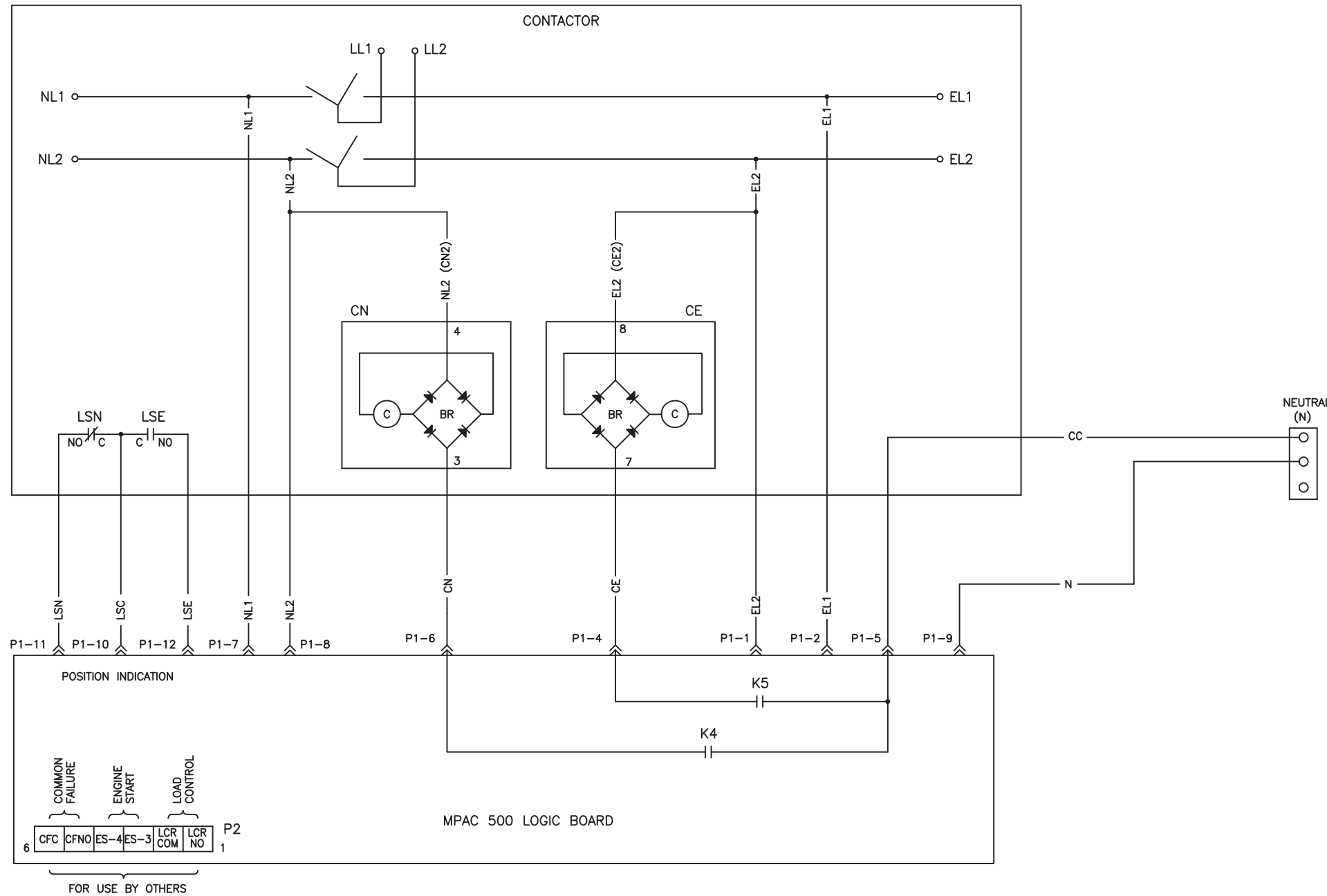
TITLE: **DIMENSION PRINT**

SCALE 0.45 CAD NO. SHEET 1 of 1  
 DWG NO. **ADV-8441**

**KOHLER®**

# Wiring Schematics

| REV | DATE     | REVISION   | BY  |
|-----|----------|--|-----|
| B   | 10-7-04  | (C-3) GROUND REMOVED (2 PLACES) NEUTRAL LUG ADDED<br>LEADS "CC" & "N" RE-ROUTED TO NEUTRAL LUG [73528]   | DFS |
| C   | 10-28-04 | GENERIC TITLE BLOCK ADDED [73612]  | DFS |
| D   | 4-1-05   | (B-7,-8) P2: PIN 1 & 6 DESIGNATORS ADDED, "COMMON FAILURE"<br>TERMINAL FUNCTION MOVED FROM PINS 1 & 2 TO PINS 5 & 6,<br>"LOAD CONTROL" TERMINAL FUNCTION MOVED FROM PINS 5 & 6<br>TO PINS 1 & 2, TERMINAL DESCRIPTIONS REVISED [74777] | DFS |



**LEGEND**

BR BRIDGE RECTIFIER  
 C COIL  
 CE TRANSFER COIL (EMERGENCY TRANSFER)  
 CN TRANSFER COIL (NORMAL TRANSFER)  
 K4 NORMAL RELAY CONTACTS  
 K5 EMERGENCY RELAY CONTACTS  
 LSE LIMITS SWITCH EMERGENCY CONTACTS  
 LSN LIMIT SWITCH NORMAL CONTACTS  
 P1 CONNECTOR

- NOTE:
- ENGINE START CONTACTS ES1 & ES2 RATED 30 VOLT, 1 AMP. WIRING PROVIDED BY OTHERS.
  - CONTACTOR SHOWN IN NORMAL WITH NO POWER APPLIED.
  - FOR WIRING DIAGRAM SEE GM34465.

|  |         |   |             |
|--|---------|---|-------------|
| UNLESS OTHERWISE SPECIFIED -<br>1) DIMENSIONS ARE IN INCHES<br>2) TOLERANCES ARE:<br>DIMS ± .010<br>HOLE ± .010<br>X ± .080<br>FRACTIONS ± |         | <b>KOHLER CO.</b><br>POWER SYSTEMS, KOHLER, WI 53044 U.S.A.<br>THIS DRAWING, IN DESIGN AND DETAIL, IS KOHLER CO. PROPERTY AND<br>MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK.<br>ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. |             |
| APPROVALS  |         | TITLE   |             |
| DESIGN   | DATE    | DIAGRAM, SCHEMATIC  |             |
| DFS  | 7-14-04 | SCALE   | GM34466.DWG |
| CHECKED  | DATE    | PLOTTED   | SHEET 1-1   |
| JS   | 7-15-04 |   |             |
| APPROVED   | DATE    | DWG. NO.  | GM34466     |
| JS   | 7-15-04 |   |             |

MPAC 500  
100-200A

**KOHLER®**

**Warranty**

# Transfer Switch One-Year Limited Warranty

Your Kohler product has been manufactured and inspected with care by experienced craftsmen. If you are the original end user, Kohler Co. warrants, for the period indicated below, each product to be free from defects in materials and workmanship. In the event of a defect in materials or workmanship, Kohler Co. will repair, replace, or make appropriate adjustment at Kohler Co.'s option if the product, upon Kohler Co.'s inspection, is found to be properly installed, maintained, and operated in accordance with Kohler Co.'s instruction manuals. A Kohler distributor, dealer, or authorized service representative must perform startup.

## Kohler Product

Transfer switch and factory-supplied transfer switch accessories

Transfer switch main contacts

## Warranty Coverage

One (1) year from the registered startup date. In any event, the warranty period will expire not later than thirty (30) months from the date of shipment from Kohler Co.'s factory.

Ten (10) years from the registered startup date. In any event, the warranty period will expire not later than eleven (11) years and six (6) months from the date of shipment from Kohler Co.'s factory.

The following will **not** be covered by the warranty:

1. Normal wear, periodic service, and routine adjustments.
2. Damage, including but not limited to damage caused by accidents, improper installation or handling, faulty repairs not performed by an authorized Kohler service representative, improper storage, or acts of God.
3. Damage caused by:
  - a. Operation above or below rated capacity, voltage, or frequency.
  - b. Modifications.
  - c. Installation contrary to published specifications and codes.
4. Damage caused by negligent maintenance such as:
  - a. Failure to provide a clean, dry environment.
  - b. Failure to perform recommended exercising.
  - c. Failure to perform scheduled maintenance as prescribed in supplied manuals.
  - d. Use of parts and/or procedures other than factory-supplied or -approved replacement parts and/or procedures.
5. Non-Kohler replacement parts. Replacement of a failed Kohler part with a non-Kohler part voids the warranty on that part.
6. Original installation charges and startup costs.
7. Additional expenses for repair after normal business hours, i.e. overtime or holiday labor rates.
8. Rental of equipment during performance of warranty repairs.
9. Removal and replacement of non-Kohler-supplied options and equipment.
10. Non-Kohler-authorized repair shop labor without prior approval from Kohler Co. Warranty Department.
11. Expenses incurred investigating performance complaints unless the problem is caused by defective Kohler materials or workmanship.
12. Maintenance items such as fuses, lamps, and adjustments.
13. Labor and travel charges after the first year of the transfer switch main contacts warranty period.
14. Travel time and mileage exceeding 300 miles round trip.

To obtain warranty service, call 1-800-544-2444 for your nearest authorized Kohler service representative or write Kohler Co., Kohler Power Systems Service Department, MS072, Kohler, WI 53044 USA.

**KOHLER CO. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, AND/OR CONSEQUENTIAL DAMAGES OF ANY KIND including, but not limited to, incidental and/or consequential labor costs, installation charges, telephone charges, or transportation charges in connection with the replacement or repair of defective parts.**

This is our exclusive written warranty. We make no other express warranty nor is anyone authorized to make any on our behalf.

**ANY IMPLIED OR STATUTORY WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental and/or consequential damages, so the above limitation or exclusion may not apply to you.**

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# KOHLER®

KOHLER CO. Kohler, Wisconsin 53044  
Phone 920-457-4441, Fax 920-459-1646  
For the nearest sales/service outlet in the  
US and Canada, phone 1-800-544-2444  
KOHLERPower.com

TP-5373 4/15f

**KOHLER®**

Certification

# Kohler Automatic Transfer Switch Test Program

## Non-Bypass Models

Testing is an integral part of quality assurance. In keeping with our uncompromising commitment to quality, safety, and reliability, every Kohler Automatic Transfer Switch (ATS) undergoes an extensive series of performance and production testing.

### Performance Testing

All Kohler ATSs are UL1008 listed, which includes the following performance tests:

- General – Normal Operation
- Overvoltage
- Undervoltage
- Overload
- Temperature Rise
- Endurance
- Dielectric Voltage – Withstand
- Short Circuit Withstand
- Short Circuit Close- On
- Dielectric Voltage – Withstand (repeated)
- Strength of insulating base and support

### EMC/EMI Immunity Verification

Controls and printed circuit board assemblies are evaluated to IEC and IEEE tests, including:

- 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
- IEEE 472 (ANSI C37.90A) Ring Wave Test

### Production Testing

Every Kohler ATS is fully tested prior to leaving the factory. Visual inspections are also performed by the mechanism manufacturer as well as Kohler personnel during assembly and final test. Production testing includes the following:

- Electrical operation testing on all ATSs
- Verification of controller communication
- Verification of controller settings
- Voltage calibration
- Automatic transfer switch operation when Normal source is lost
  - Verify engine start signal
  - Verify transfer to Emergency position when Emergency source is available
- Automatic Transfer switch operation when Normal source returns
  - Verify transfer to Normal position
  - Verify engine start signal is removed

### CSA Certification

CSA Certification is also available upon request. CSA certification includes the following additional test:

- Dielectric test at 1000V plus twice the maximum rated voltage

### Options Testing

The operation of all installed options is verified. Tested options include:

- Input/Output Modules
- Supervised Transfer Control Switch
- Preferred Source Switch
- Load Shed, Normal and Emergency
- Line-to- Neutral Monitoring
- Digital Meter setup and operation

Kohler offers other testing at the customer's request at an additional charge. These optional tests include customized load testing for specific application, witness testing, and contact resistance testing. A certified test report is also available at an additional charge.

# KOHLER®

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