AUTOMATIC TRANSFER SWITCHES

for Industrial Power Systems

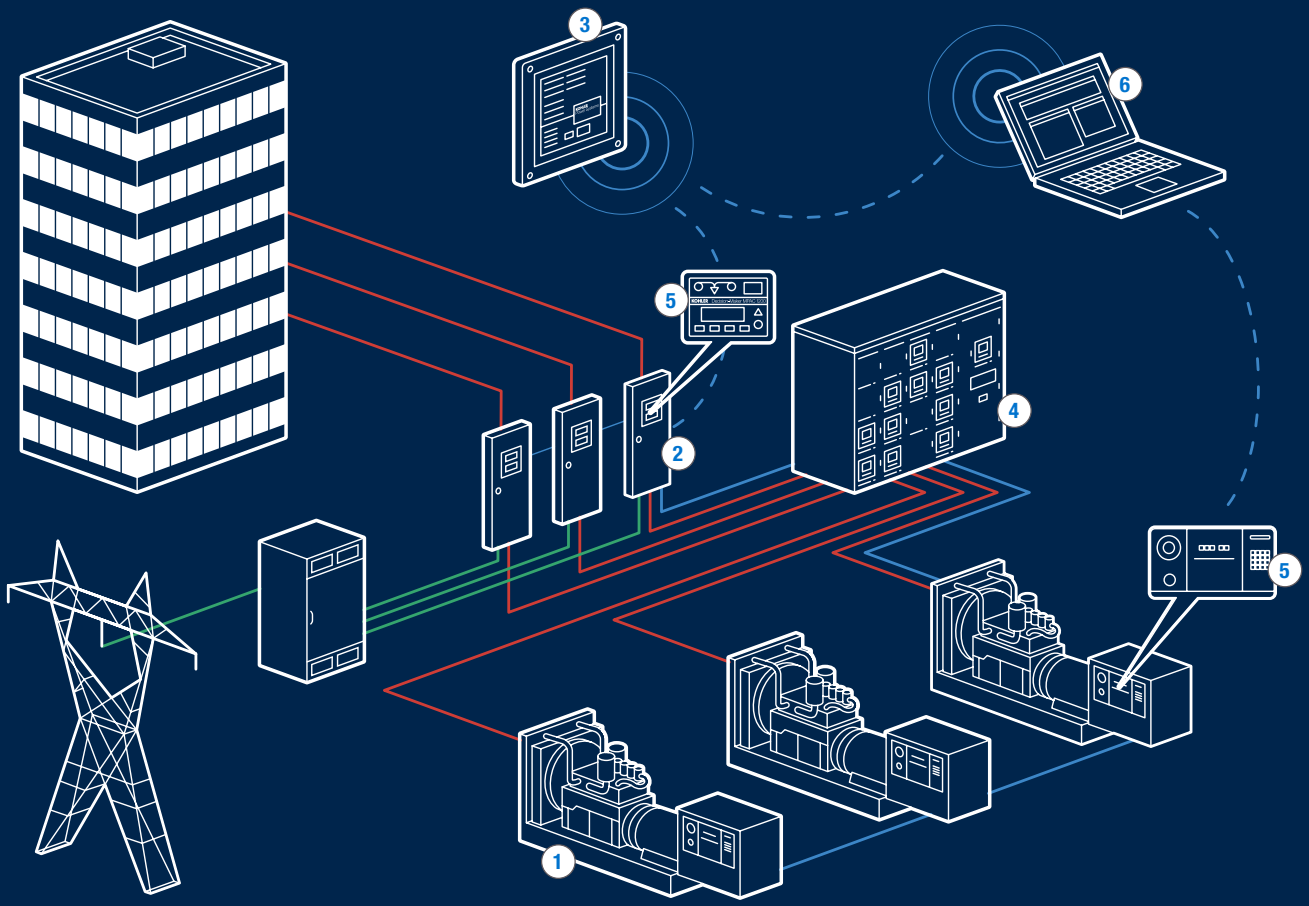
KOHLER®
IN POWER. SINCE 1920.

YOUR JOB IS COMPLEX. WE MAKE IT EASY.

This isn’t your typical power system, and it isn’t your typical ATS. Because at the heart of your integrated power system is a quality KOHLER® automatic transfer switch. A transfer switch that’s designed by Kohler, built by Kohler, and chosen specifically for your power requirements.

But there's more. Behind that power system is a team of dedicated Kohler engineers that focuses on every element—generator, transfer switch, switchgear, and controller—to be sure the system you get is the system you need. You’ll know that your project is supported by an expert team, customized to your exact needs, brought in on budget and on time.

From spec to startup and service, we do it all.



TOTAL SYSTEM INTEGRATION

1. **KOHLER® GENERATOR**
   Gas generators 40–1300 kW
   Diesel generators 10–4000 kW

2. **KOHLER AUTOMATIC TRANSFER SWITCH**
   Open, closed, and programmed transition operating modes; standard, bypass-isolation, and service-entrance switch configurations

3. **KOHLER REMOTE ANNUNCIATOR**
   Remote monitoring and testing of transfer switches

4. **KOHLER PARALLELING SWITCHGEAR**
   Low and medium voltage

5. **KOHLER DECISION-MAKER® CONTROLLER**
   Controls, monitors, and aids system diagnostics

6. **KOHLER MONITORING SOFTWARE**
   Monitors generators and transfer switches from a PC

THE ATS LINEUP

Peace of mind starts here.

Bridging the gap between loss of utility and standby power is no small task. KOHLER® automatic transfer switches (ATS) are designed to meet that challenge, distributing power to feed the critical loads of your facility.

Every transfer switch needs a controller to ensure transfer of power from utility to generator and back again. KOHLER Decision-Maker® MPAC® controllers offer clear choices in matching function to application.

STANDARD FEATURES

Multiple Applications
Find the perfect option. KOHLER automatic transfer switches are available in standard, bypass-isolation, and service-entrance configurations with open, closed, and programmed transition operating modes, from 30 to 4000 amps.

Seamless System Integration
Everything works together. KOHLER transfer switches are designed to interface perfectly with KOHLER generators and paralleling switchgear.

Advanced Communications
Every transfer switch comes fully loaded with the technology to do the job. Ethernet and Modbus communications capabilities are available.

Certified Packages
Transfer switches are UL-listed and have CSA and IBC certifications available.


KOHLER
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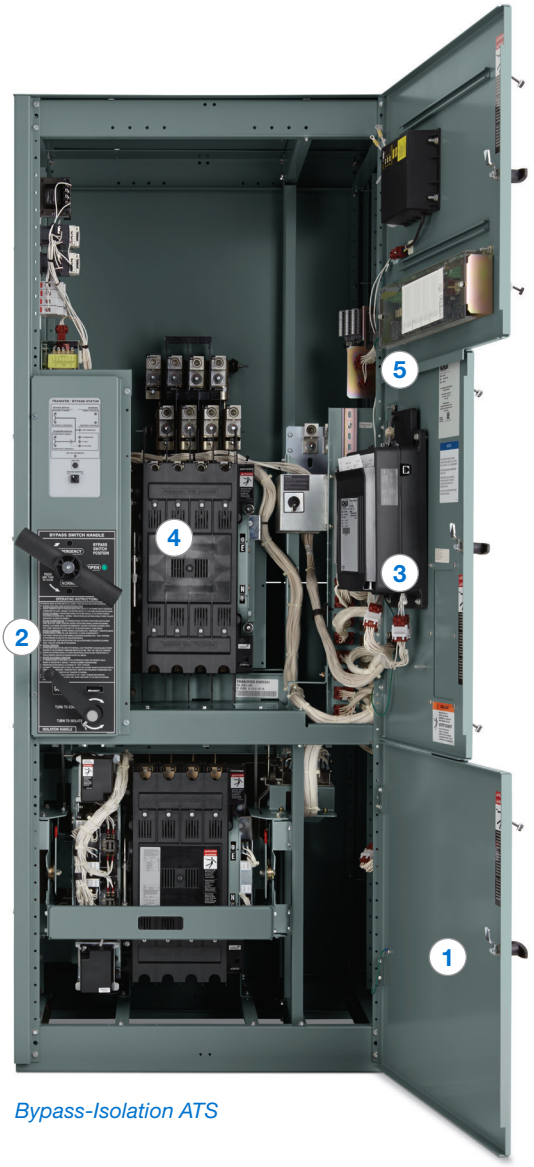
AUTOMATIC TRANSFER SWITCHES

They protect your power. And your business.

Standard ATS

Service-Entrance ATS



Bypass-Isolation ATS

1 Certified Enclosures

Meet NEMA Type 1, 3R, 12, 4, and 4X enclosure standards

2 Bypass Operation

Eliminates interruption to the loads during maintenance

3 Decision-Maker® Controller

Provides a full array of features including communications, I/O, load management, and other advanced functionality

4 Heavy-Duty Contactor

Choose from time based, specific breaker, short time or current-limiting fuse-rated mechanisms

5 Available Accessories

Anticondensation heater, voltage-surge suppressor, line-to-neutral voltage monitoring, seismic certification, and more

CUSTOM-CONFIGURATIONS

The chart tells the story.

You can custom-configure switches by choosing the exact components needed. This standard process allows Kohler to provide the correct switch for your application with delivery in the shortest amount of time. Each letter and numeral corresponds to a specific element of the ATS. Here's an example.

Model (KOHLER)	Mechanism	Transition	Controls	Voltage	Poles/Wires	Enclosure	Amps	Connection
K	B	P	- D	M	V	A	- 0150	S

KOHLER® AUTOMATIC TRANSFER SWITCH (K)

- Bypass-isolation mechanism (B)
- Programmed transition (P)
- Decision-Maker® MPAC® 1500 controller (D)
- 480 V, 60 Hz (M)
- 4-pole, 4-wire with switched neutral (V)
- NEMA 1 enclosure (A)
- Rated at 150 amps (0150)
- Standard connection (S)

KBP-DMVA-0150S

MECHANISM	Transition	Controls	Voltage	Poles/Wires
S – Standard (Specific Breaker)	S – Standard	A – MPAC 1200	C – 208 V / 60 Hz	T – 3-Pole / 4-Wire, Solid Neutral
C – Standard (Time Based)	P – Programmed	D – MPAC 1500	D – 220 V / 50 Hz	N – 2-Pole / 3-Wire, Solid Neutral
B – Mechanically Operated Bypass-Isolation	C – Closed	B – MPAC 1200 Nonautomatic	F – 240 V / 60 Hz	V – 4-Pole / 4-Wire, Switched Neutral
A – Electrically Operated Bypass-Isolation		F – MPAC 1500 Nonautomatic	G – 380 V / 50 Hz	W – 4-Pole / 4-Wire, Overlapping Neutral
E – Service Entrance			H – 400 V / 50 Hz	
			J – 416 V / 50 Hz	
			K – 440 V / 60 Hz	
			M – 480 V / 60 Hz	
			N – 600 V / 60 Hz	
			P – 380 V / 60 Hz	
			R – 220 V / 60 Hz	
			S – 400 V / 60 Hz	

ENCLOSURE	Amps	Connection	Utility (KEP)	Generator (KEP)
A – NEMA 1	30–4000	S – Standard	M – MCCB TM 100–200 A	K – MCSW 100–1200 A
B – NEMA 12		F – Front	N – MCCB ET 250–800 A	M – MCCB TM 100–200 A
C – NEMA 3R			P – MCCB ET GF 1000–1200 A	N – MCCB ET 250–1200 A
D – NEMA 4			R – ICCB ET 800 A	Q – ICSW 800–4000 A
F – NEMA 4X			T – ICCB ET GF 1000–4000 A	R – ICCB ET 800–4000 A
G – OPEN				

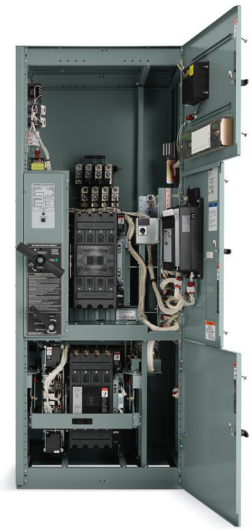
MCCB = Molded-Case Circuit Breaker
ICCB = Insulated-Case Circuit Breaker
MCSW = Molded-Case Switch
ICSW = Insulated-Case Switch
TM = Thermal-Magnetic Trip Unit
ET = Electronic Trip Unit

MECHANISM TYPES

Options for every application.

Standard Transfer Switch
A standard transfer switch has a single mechanism that transfers the load from one power source to another power source. It's the most common type of application.

- Available in standard/open, delayed/programmed, and closed transition



Bypass-Isolation Transfer Switch
A bypass-isolation transfer switch bundles an automatic and a manual transfer switch into a single unit.

Bypass isolation is used to transfer power to the manual switch to allow servicing of the ATS while maintaining power to the facility. When the primary automatic transfer switch is in test or isolate position, the manual transfer switch is powering the loads.

Bypass isolation is commonly used in hospitals, data centers, and other critical applications where interruption of power for service or maintenance can't be tolerated.

- One contactor serves as the day-to-day automatic transfer switch
- One contactor serves as a manual transfer switch that bypasses and isolates the automatic switch
- Available in standard/open, delayed/programmed, and closed transition
- Available as mechanically or electrically operated bypass
    - *Mechanically operated bypass includes a transfer handle for operation*
    - *Electrically operated bypass includes single-button operation for each bypass position*

Service Entrance Transfer Switch
A service entrance transfer switch serves as both the automatic transfer switch and the utility disconnect, with circuit breakers and motor operators utilized as the transfer switch mechanisms.

- The breaker on the normal/utility source serves as the main entrance point for the utility
- The emergency/generator source disconnect can be configured as either a breaker or a switch
- Available in delayed/programmed transition

ENCLOSURE RATINGS

Protect your property.

NEMA ratings were developed by the National Electrical Manufacturers Association to rate enclosures for industrial environments. Also known as UL enclosure-type ratings, they specify standards of protecting equipment against weather, water, dust, and light. Choose a NEMA-rated enclosure based on where you'll install the transfer switch.

NEMA 1—General purpose

- For indoor use under normal conditions
- Protects against dust, light, and indirect splashing of water
- Prevents contact with live electrical parts

NEMA 3R—Weather-resistant

- For indoor or outdoor use
- Provides protection against falling rain and ice formation
- Meets design tests for inadvertent access, external icing, and rust resistance

NEMA 4 and 4X—Watertight and weatherproof

- For indoor or outdoor use
- Provides protection against splashing and hose-directed water
- Constructed of corrosion-resistant material
- 4 = steel
- 4x = stainless steel

NEMA 12—General purpose

- For indoor use
- Protects against circulating particles and dripping of noncorrosive liquids
- Meets drip-, dust-, and rust-resistant tests

TRANSITION TYPES

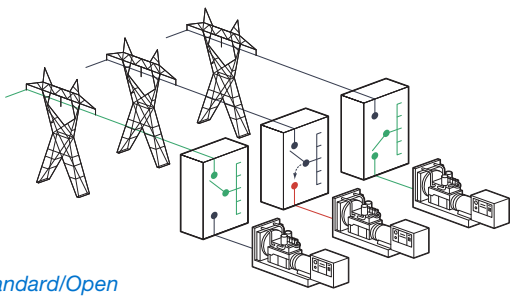
Factory-configured for mode of operation.

The transfer switch controller manages the power sensing, timing functions, and fault monitoring needed for automatic operation. Depending on your application, the switch can be configured to operate in one of three modes: standard/open transition, delayed/programmed transition, or closed transition.

STANDARD/OPEN: BREAK BEFORE MAKE

In open transition, the load is disconnected from one source before being connected to the alternate source. This is the most common type of application, used for loads that are not highly inductive or mission-critical.

- One set of contacts opens before the other set closes
- Load is disconnected from power during transfer

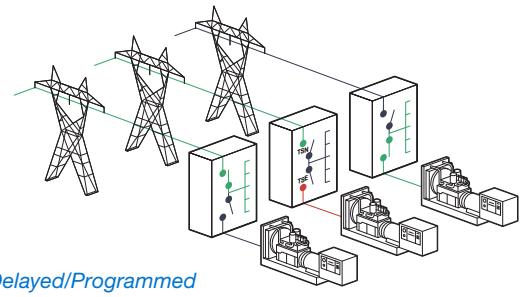


Standard/Open

DELAYED/PROGRAMMED: BREAK BOTH SIDES

Delayed/programmed mode is used with highly inductive loads such as motor loads and transformers. The load disconnects from one source, then pauses in an “off” position before connecting to the alternate source to protect from power surges. The delay allows the magnetic field to decay to a safe level before transferring. Delayed transition can also be used with the load-shed option for lower-priority loads.

- One set of contacts opens before the other set closes
- The other set of contacts delays in closing
- Load is disconnected from power during all transfers
- Delay time is user-programmable

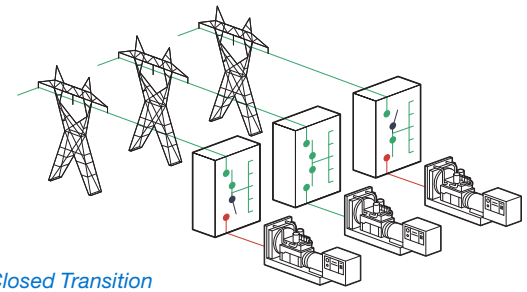


Delayed/Programmed

CLOSED TRANSITION: MAKE BEFORE BREAK

Closed transition is used in mission-critical applications, such as data centers and hospitals, where the system can’t withstand a momentary load interruption. The source from which the load is being transferred remains closed until the source to which the load will be transferred is also closed. After both sources are closed, the source from which power is being transferred is opened.

- Contacts overlap, with both sources providing power
- Both sources synchronize before transfer occurs
- Load is never disconnected from power during transfers when both services are available
- Transfers via open transition if one source fails or fails to sync
- External fail-safe timer provided



Closed Transition

CONTROLLERS

Three options. Endless solutions.

DECISION-MAKER® AUTOMATIC TRANSFER SWITCH CONTROLLERS

The controller is the brain behind your automatic transfer switch. It tells the switch what to do and when, dictating the logic that determines the reaction.

MPAC 1200

A customizable solution for your specific application, the ATS1200 gives you full control of system behavior including extended I/O to customize your needs.

MPAC 1500

When you need to manage your loads, use your system as a prime power application, or have a backup for your backup (i.e., a three-source system), this controller gets the job done.

DECISION-MAKER	MPAC 1200	MPAC 1500
Amperage	Up to 4000	Up to 4000
Phases	Single/Three	Single/Three
Poles	2, 3, 4	2, 3, 4
Voltage Range	115–600	115–600
Product Type		
Standard Open Transition	Yes	Yes
Standard Delayed Transition	Yes	Yes
Standard Closed Transition	Yes	Yes
Bypass-Isolation Open Transition		Yes
Bypass-Isolation Delayed Transition		Yes
Bypass-Isolation Closed Transition		Yes
Service Entrance		Yes

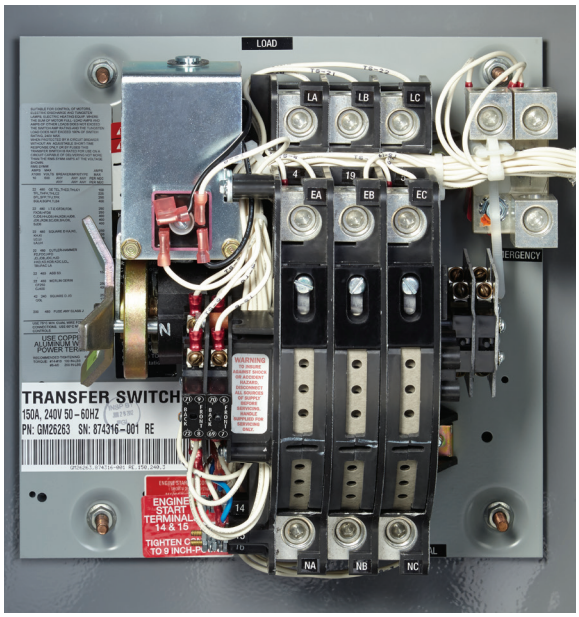
DECISION-MAKER	MPAC 1200	MPAC 1500
User Interface		
LED–Contactor Position/Source Available	Standard	Standard
LED–Service Required (Fault Indication)	Standard	Standard
LED–Not In Automatic Mode	Standard	Standard
Display	LCD	LCD
Programming	USB, Display	USB, Display
Voltage and Frequency Settings		
Pickup/Dropout Normal Source Voltage	Programmable	Programmable
Pickup/Dropout Emergency Source Voltage	Programmable	Programmable
Frequency Selection	50/60 Hz	50/60 Hz
Pickup/Dropout Normal Source Frequency		Programmable
Pickup/Dropout Emergency Source Frequency	Programmable	Programmable
Overvoltage Trip	Programmable	Programmable
Overfrequency Trip	Programmable	Programmable
Normal and Emergency Voltage Unbalance	Standard	Standard
In-Phase Monitor	Standard	Standard
Transfer Commit	Standard	Standard
Phase Rotation Sensing	Standard	Standard
Time Delays and Configuration Settings		
Transfer to Emergency/Transfer to Normal	Programmable	Programmable
Engine Cooldown	Programmable	Programmable
Generator Exerciser	21 Exercise Events	21 Exercise Events
Remote Peak Shave	Standard	Standard
Start-Time Delay	Programmable (Emergency Only)	Programmable
Fail to Acquire	Programmable (Emergency Only)	Programmable
Communications		
RS-485	Standard	Standard
Ethernet	Optional	Standard
Accessories		
Programmable Engine Exerciser	Standard	Standard
Extended I/O	Optional (Up to 4 Modules)	Optional (Up to 4 Modules)
Digital Meter	Optional	Optional
Source Priority Selector	Optional	Optional
Extended Engine Start-Time Delay	Optional	Optional
Controller Disconnect Switch	Optional	Optional
Load Shed	Optional	Optional
Load Control	Time-Based	Time- or Current-Based
Three-Source System		Standard
Prime Power		Standard

POLES AND NEUTRAL SWITCHING

Ground-fault protection without compromise.

A solid neutral or a switched neutral must be chosen when specifying an automatic transfer switch. A 2-pole/3-pole ATS has a solid, unswitched neutral; a 4-pole ATS has a fully rated switched neutral that follows the contactor position. The neutral switching can be open or overlapping (closed).

The emergency system grounding and ground-fault protection method determine the use of a 2-pole/3-pole or 4-pole transfer switch.



Solid

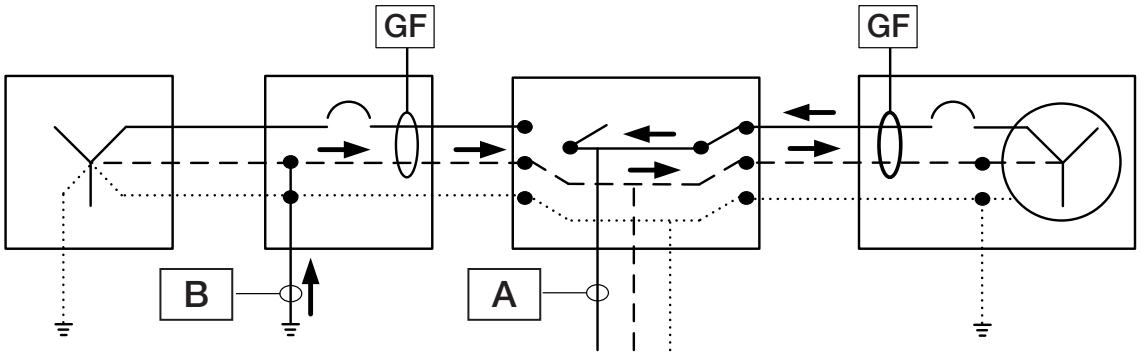
- 2-pole or 3-pole
- Constant contact
- Generator is not a separately derived source

Switched

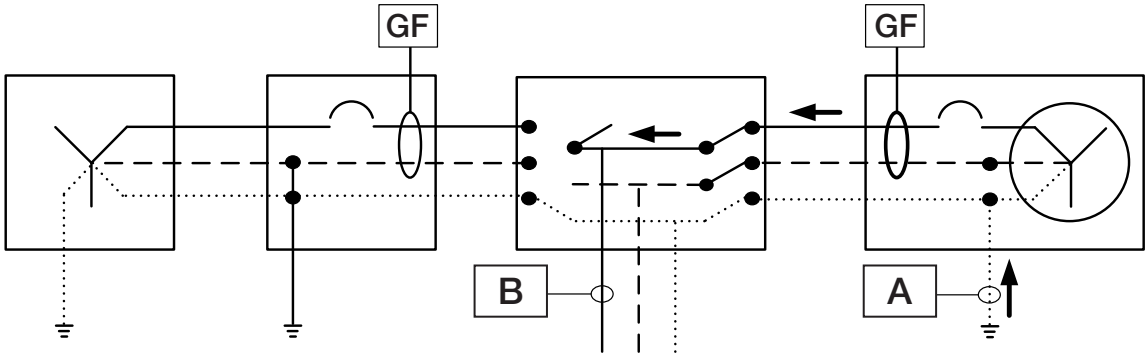
- 4-pole
- Break-before-make on neutral
- Switching neutral with phase contacts
- Generator is a separately derived source

Overlapping

- 4-pole
- Make-before-break on neutral
- Neutral contact momentarily tied between two sources while switching sources
- Generator is a separately derived source



Two-Pole/Three-Pole Transfer Switches
A 2-pole/3-pole transfer switch has a solid neutral; the neutral connection is not dependent upon the position of the switch. In this system, the generator is not a separately derived source, and there is no neutral-to-ground link at the generator. Should a ground fault occur, it cannot be sensed by the generator breaker. In this example, it is sensed at the switchgear. If there is a ground fault at point A, the current will leave at point A and must find a way back to the generator (along the neutral). Its only option is to flow along the ground and return into the system at the neutral-to-ground bond at the switchgear (shown at point B).



Four-Pole Transfer Switches
In order for the generator's current-based ground fault sensor to detect the ground fault and trip the generator unit-mounted circuit breaker, a 4-pole transfer switch is needed. Because the neutral is switched and not continuous, the generator is a separately derived source that needs a neutral-to-ground link at the generator. In this example, if there is a ground fault at point B, the current will leave at point B, and it needs to find a way back to the generator (along the neutral). Its only option is to flow along the ground and return into the system at the neutral-to-ground bond at the generator (shown at point A). Because the sum of the current flow through the ground-fault sensor is above its trip point, the breaker will trip.

National Electrical Code (NEC) and National Fire Protection Association (NFPA) regulations specify how ground-fault protection (GFP) must be handled for a generator system, which in turn determines the number of poles and neutral switching type required of the transfer switch. These regulations also determine whether or not a system needs the generator as a separately derived source.

WITHSTAND AND CLOSE-ON RATING

Ensure the reliability of your ATS.

Withstand and close-on rating (WCR) is comprised of two measurements: the ability of the transfer switch to withstand fault (short circuit) current for a specific period of time while maintaining functionality and the ability of the transfer switch to close into a fault and continue to operate. The time period is determined by the time it takes for an upstream protective device to interrupt the current.

The required WCR level for a given application is driven by the electrical system's short-circuit study. Based on calculated available fault current at the transfer switch installation point and selective breaker trip times required to isolate and clear a fault at the point closest to the fault event, a realistic understanding of the transfer switch's withstand capability can be seen. Choosing the correct WCR is important. Selecting a transfer switch with an unnecessarily high withstand rating results in overspecification and added expense. On the other hand, a transfer switch with an insufficient withstand rating can incur significant damage to itself or other installed electrical equipment.

Specific Breaker
A specific-breaker-rated transfer switch (also referred to as series-rated) is tested in coordination with specific upstream circuit breakers. Based on actual fault-current test curves, breakers that trip within the time/current range of the tested breaker are identified. Only those breakers listed on the transfer switch rating decal may be used (refer to image, right). WCR ratings for specific-breaker-rated transfer switches are typically higher than any breaker ratings.

Time-Based ("Any breaker")
An ATS that passes the any breaker test (in accordance with UL 1008) can withstand a fault of a given magnitude for 3 cycles (or 1.5 cycles for transfer switches with a rating smaller than 230 A). This allows an ATS to be used with any UL 489 circuit breaker.

Current-Limiting Fuse
A current-limiting fuse limits the amount of current that passes through during a fault and protects downstream power system components from catastrophic failure.

BREAKER-RATING LABEL (EXAMPLE)

30,40,70,80,100,104,150,200,225 AMPS
TRANSFER SWITCH EQUIPMENT TYPE A(PC)

FOR USE ON EMERGENCY OR STAND-BY SYSTEMS RATED FOR TOTAL SYSTEM OR MOTOR LOADS

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 rating of other loads do not exceed the ampere rating of the switch and the tungsten load does not exceed 30 percent of switch rating.
Rated Frequency : 50/60 Hz
IEC Utilization Category : 32A, 32B

SHORT-CIRCUIT RATING

When protected by a circuit breaker, this Transfer Switch is suitable for use in a circuit capable of delivering the Short-Circuit current for the maximum time duration and voltage marked below. The circuit breaker must include an instantaneous trip response and shall not include a short-time response.
The maximum clearing time of the instantaneous trip response must be equal to or less than the time duration shown for the marked short-circuit current.

Switch Amperes	Short-Circuit Current (RMS Symmetrical Amepres x 1000)	Voltage (VOLTS AC, Maximum)	Time Duration (Sec. Maximum)	Agency
30-225A	10	480	0.025	UL / IEC / CSA
30-150A	10	600	0.025	UL / CSA

SHORT-TIME CURRENT RATING

This Transfer Switch does not include Short-Time Current Ratings

SHORT-CIRCUIT RATING WHEN PROTECTED BY FUSE

When protected by a fuse of the specific fuse class and maximum amperage rating as marked below, this transfer switch is suitable for use in circuits capable of delivering the Short-circuit current at the maximum voltage marked.

Switch Amperes	Short-Circuit Current (RMS Symmetrical Amepres x 1000)	Voltage (VOLTS AC, Maximum)	Fuse Class	Rating Amperes	Agency
30-225A	200	480	J	400A Max.	UL / IEC / CSA
30-150A	200	600	J	400A Max.	UL / CSA

USE COPPER WIRE ONLY

V-2331-B

SHORT-CIRCUIT RATINGS WHEN USING SPECIFIC CIRCUIT BREAKERS

When protected by a circuit breaker of specific manufacturer, type , and ampere rating as marked below, this Transfer Switch is suitable for use in a circuit capable of delivering the Short-Circuit current at the maximum voltage marked below.

	UL/IEC/CSA 30-225 amp 480V. max. Short-Circuit Current (RMS SYMM AMPS X 1000)	UL/CSA 30-150 amp 600V. max. Short-Circuit Current (RMS SYMM AMPS X 1000)	CSA 200-225 amp 600V. max. Short-Circuit Current (RMS SYMM AMPS X 1000)
With Specific manufacturing molded case circuit breakers (MCCB) per table A below	30		
With Specific manufacturing molded case circuit breakers (MCCB) per table B below		22	25

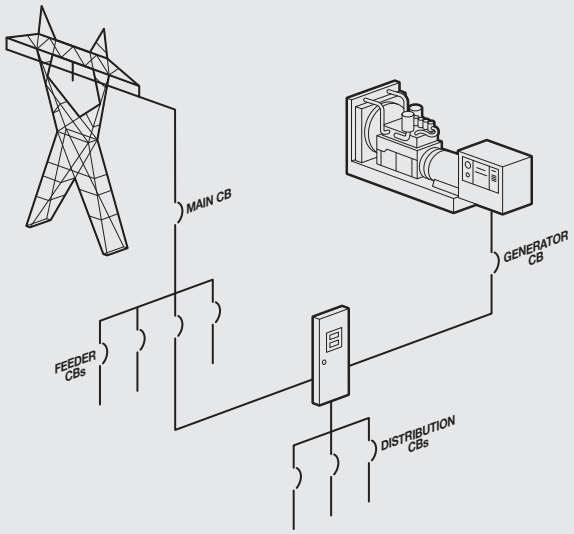
TABLE A

Manufacturer	Amp	Type
Eaton	100A. 125A. 225A. 250A. 400A.	FCL, FB Tri-Pac EGS, EGH, EGC FD, FDC, HFD JGS, JGH, JGC, JGU, JGX, JDB, JD, HJD, JDC, LCL, LCLA KDB, KD, CKD, HKD, CHKD, KDC, LCL, LCLA, LA Tri-Pac, NB Tri-Pac, LDC, CLDC, CHLD
Schneider	150A. 250A. 400A.	HG, HJ, HL, HR JG, JJ, JL, JR LG, LJ, LL, LR
ITE/Siemens	125A. 250A. 400A.	CED6, HED4, HED6, HHED6 CFD6, FD6, FXD6, HFD6, HFXD6, HHFD6, HHFXD6 CJD6, HHJD6, HHJXD6, HJD6, HJXD6, JD6, JXD6, SCJD6, SHJD6, SJD6
General Electric	100A. 150A. 225A. 250A. 400A.	FBH, FBL, FBN, FBV, FCH, FCL, FCN, FCV, TB1 SEL, SEP, THLC1 THK2, THLC2 FEH, FEL, FEN, SFH, SFL, SFP FGH4, FGL4, FGN4, FGP4, SGH4, SGL4, SGP4, TB4, THJK4, TJJ, TJK4, TLB4,

TABLE B

Eaton	100A. 225A. 250A. 400A.	FB Tri-Pac FDC, HFD HJD, JDC, JGC, JGH, JGU, JGX, CHKD, CHLD, CKD, CLDC, HKD, KD, KDB, KDC, LA Tri-Pac, LDC, NB Tri-Pac
Schneider	150A. 250A. 400A.	HJ, HL, HR JJ, JL, JR LJ, LL, LR
ITE/Siemens	125A. 250A. 400A.	CED6, HHED6 CFD6, FD6, FXD6, HFD6, HFXD6, HHFD6, HHFXD6 CJD6, HHJD6, HHJXD6, HJD6, HJXD6, JD6, JXD6 SCJD6, SJD6, SHJD6
General Electric	100A. 150A. 225A. 250A. 400A.	FBH, FBL, FBN, FBV, FCH, FCL, FCN, FCV, TB1 SEL, SEP, THLC1 THLC2, THK2 FEH, FEL, FEN, SFH, SFL, SFP FGH4, FGL4, FGN4, FGP4, SGH4, SGL4, SGP4, TB4, THJK4, TJJ, TJK4, TLB4

Sample breaker-rating label that appears inside every automatic transfer switch enclosure. The information will vary depending on rating.



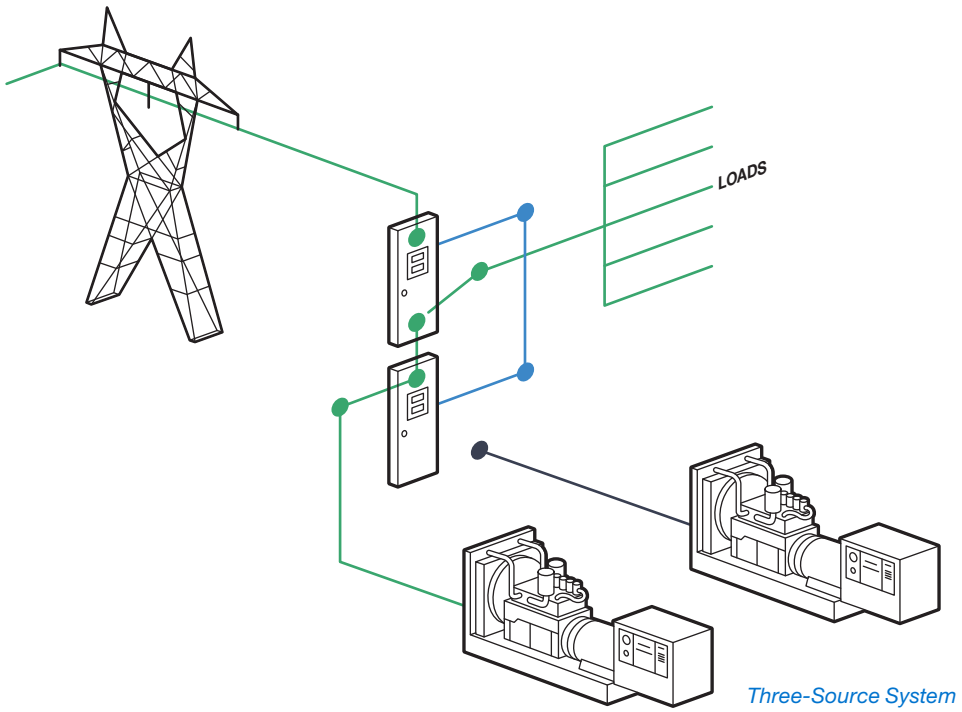
Short-Time Rating

The short-time ratings require longer duration application of fault current and are intended for selective coordination purposes, where an extended delay is needed to allow for downstream protective devices to clear a fault closer to its source. Because the tested ATS needs to carry the fault energy over an extended period, the WCR level that a given switch obtains under short-time ratings is the lowest among the four rating types.

The WCR required for a specific application may dictate the choice of breaker. Current-limiting fuses offer the highest rating, but fuses need to be replaced after a fault event. A specific breaker provides a higher rating but it limits your choice of circuit breaker. A time based breaker provides a lower rating and offers the most flexibility when choosing a breaker or working with existing electrical equipment.

THE KOHLER DIFFERENCE

Simple solutions to complex problems.



Three-Source System

THREE-SOURCE SYSTEM: BACKUP TO YOUR BACKUP

A three-source system offers redundancy without the complexity or cost of a paralleling system. Available with the MPAC® 1500 controller, the system is based on two generators and two automatic transfer switches.

- The first ATS determines if the load is powered by utility or generator
- The second ATS determines which generator is powering the load

THE BENEFITS ARE MANY

- One generator is available when the other is being serviced
- You have automatic backup power from the second generator; many critical power applications require this
- By alternating generator runtime and extending the time it takes to accumulate engine hours, you extend time between maintenance and overhauls
- You lengthen the time between refueling, because you have two fuel sources—one for each generator
- You have peace of mind knowing that if one generator fails, the other is automatic—it's backup to your backup

MANAGING LOADS

Power critical loads at all times.

A generator is only as good as its power output. If the loads exceed the output capacity, the system's voltage and frequency can destabilize and stress the generator. To prevent damage to the system, the generator will shut down.

One way to maintain a stable system is to remove or add certain loads as needed. This keeps the generator powering the more critical loads at all times. Kohler offers several ways to accomplish this.

LOAD SHED

Load shed allows a programmed transition switch to transfer to the off position, removing all loads of the ATS from the generator. This should only be used for an ATS that powers lower-priority loads. Once shed, the switch remains in the off position until power is returned to the utility; the switch then transfers to utility. To use this feature, a load-shed module must be installed.

CURRENT-BASED LOAD CONTROL

Current-based load control adds and removes load based on the current measurement of the system. To utilize this feature, a current-sensing kit and I/O modules must be installed. Removing or adding loads based on current can be done at any time during the operation of the ATS.

For example, when output capacity cannot meet the load demands, the system removes low-priority loads when the current is not within a tolerable limit. By removing the low-priority loads, the output of the generator can meet the demand and allow for a stable system. As the system remains stable, the load control determines if and when additional loads can be added back to the system.

LOAD CONTROL

Load control allows up to nine individual loads to be added or removed.

TIME-BASED LOAD CONTROL

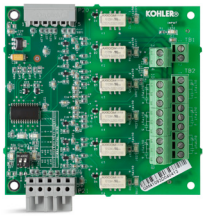
Time-based load control adds and removes loads based on pretransfer and posttransfer of the switch. To use this feature, I/O modules must be installed. The removal and addition of the loads is done only at the time of transfer.

For example, in some applications, several motors might be powered by one generator. Due to the motors' current draw at initial start, the generator can't start all of them at once. Time-based load control allows one or several motors to be placed on a time delay at start-up, allowing the generator set to start some motors at initial start-up and then add other motors when the time delay expires. Without the time delay, a larger generator or multiple generators may be required.

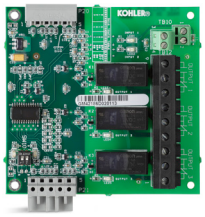
TRANSFER SWITCH ACCESSORIES

Add function and flexibility.

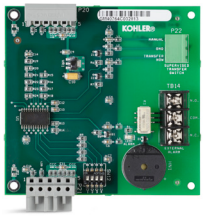
While every ATS comes to you fully featured, KOHLER® transfer switch accessories allow further customization to suit your facility's unique needs.



Standard I/O Module



High-Voltage/Current I/O Module



Alarm Module

Extended Battery Supply Module

INPUT-OUTPUT (I/O) MODULES

Programmable Standard I/O Module
This is a separate I/O module with two programmable inputs and six programmable outputs (0.5 A @ 30 VDC/120 VAC).

Programmable High-Voltage/Current I/O Module
This is a separate I/O module with two programmable inputs and three programmable outputs (2 A @ 480 VAC or 10 A @ 240 VAC).

Programmable Alarm Module
This module offers a 90–dB alarm horn and programmable values for alarm annunciation. The module allows preferred source, supervised transfer control switch, and Chicago alarm functions. Preferred-source selection lets the operator designate "normal" or "emergency" source. User interface with system-alert LED indicator shows when the alarm is silenced.

External Battery Supply Module
The external battery supply module (EBSM) provides power to the controller while waiting for the generator to start. It allows for an extended generator start-time delay and is required to power the controller on the second ATS in a three-source system. It produces 12 VDC output with 9–36 VDC input and is reverse-polarity protected.

ANTICONDENSATION HEATER

The strip heater is provided in 125– or 250–W models. A hygrostat, which is user-selectable for proper humidity, is also included.

CONTROLLER DISCONNECT SWITCH

This switch removes power from the controller to allow servicing or maintenance.

CURRENT-SENSING KIT

The current-sensing kit is sized when the transfer switch is configured. It's installed on the load side of the contactor. A shorting-type terminal block is used to allow safe disconnection to the controller. The current in each line is displayed on the LCD user interface screen, within two percent accuracy.

DIGITAL METER KIT

The digital meter kit provides an LED display for voltage (phase to phase), amperage (each phase), frequency, power (kilowatts), volt-amperes (VA), reactive volt-amperes (VAR), power factor, and watt demand. Includes two digital inputs/outputs and two relay outputs.

Generator Connection Box

GENERATOR CONNECTION BOX

The generator connection box enables a quick, safe connection of a generator set to the source terminals of a transfer switch. It's designed to function as a permanently installed, inlet-style assembly rated at 600 VAC or less. It has a NEMA 3R enclosure for outdoor or indoor installation with a hinged, lockable door for controlled access.

LINE-TO-NEUTRAL VOLTAGE MONITOR

This module enables the user to view line-to-neutral voltage on 2- and 3-pole transfer switches. Four-pole switches and 30–230 A KCS switches include line-to-neutral voltage monitoring capability as standard.

LOAD-SHED MODULE

The load-shed module allows the programmed transition transfer switch to transfer the load from the emergency position to the off position using an external contact closure input.

MONITOR III COMMUNICATIONS PROGRAM

The program allows the status and control of transfer switches in local and remote-area networks to be displayed on a PC.

ENGINE START CIRCUIT MONITORING SYSTEM

The system consists of two modules: ATS Module and GEN Module. When paired together, the modules monitor the integrity of the start circuit wiring between the automatic transfer switch and the generator. The system meets the requirements adopted in NEC 2017.

REMOTE ANNUNCIATOR

The remote annunciator allows remote monitoring and testing of up to four transfer switches connected in an RS-485 or Ethernet network.

SUPERVISED TRANSFER SWITCH

The three-position selector switch (auto-manual-transfer) is key-operated to place the ATS in one of three modes:

- Automatic position allows complete automatic function of the controller
- Manual position requires supervised control of the transfer when two sources are available
- Transfer position enables the controller to perform a transfer function

The supervised transfer switch has fail-safe operation; the transfer occurs automatically if the source to which that transfer switch is positioned fails and the alternate source is available.

SURGE PROTECTIVE DEVICES (SPD)

The surge suppressor is a 10-mode, 100–kA device with LED indication of condition, an auxiliary contact with terminal block and a 30–A circuit breaker disconnect.

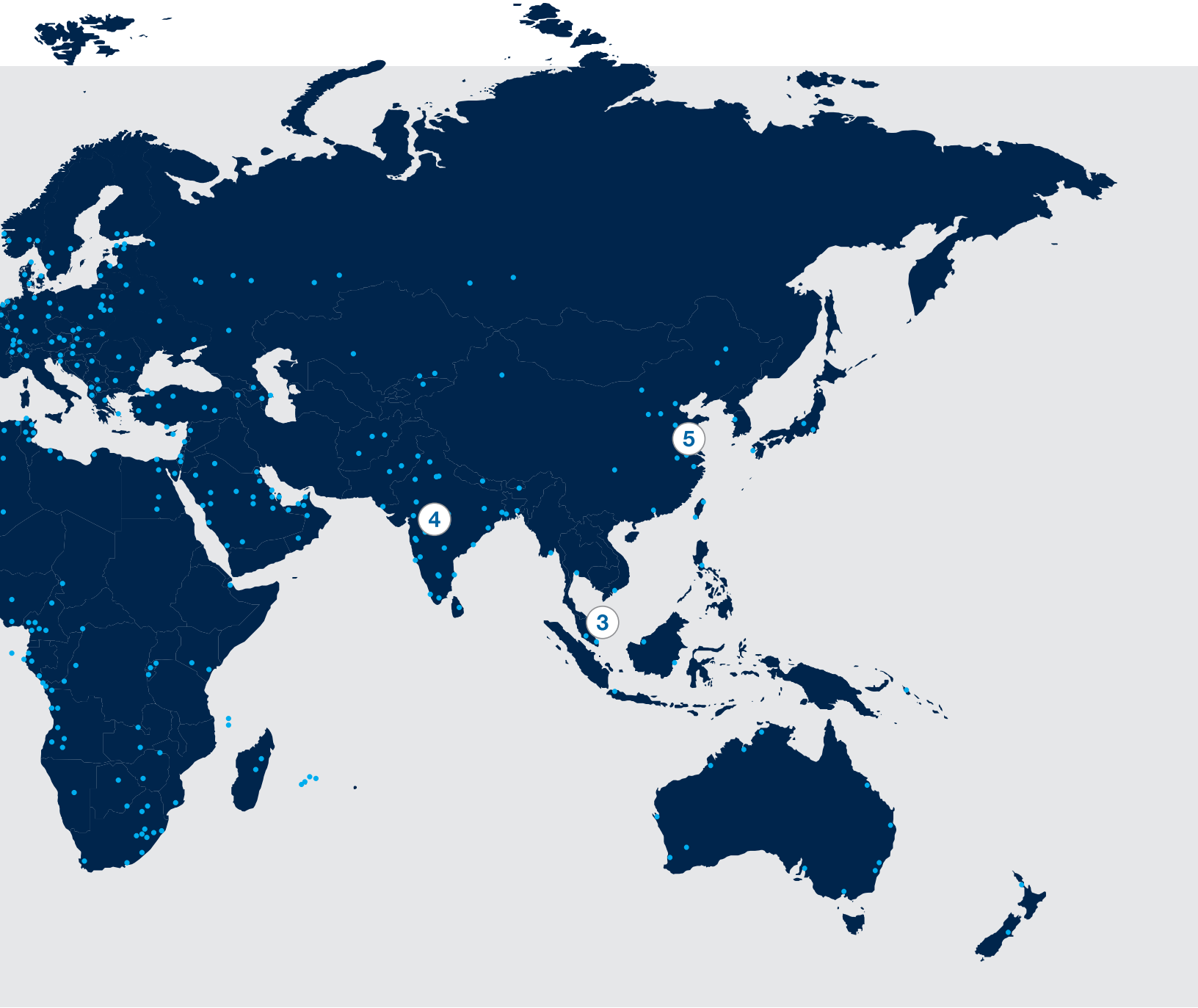
USER INTERFACE COVER

The cover is hinged and lockable with a padlock and protects the door-mounted user interface.

SERVICE AND SUPPORT

The help you need. Any time, anywhere.

You're never too far from Kohler. Across the world, more than 800 locations are ready to provide sales, installation, and aftermarket support services. And each one offers expertise in power specifications, equipment, and integration. There's no question they can't answer. We should know, we trained them ourselves. Plus, if you ever need assistance in the middle of the night, we'll take care of you. Kohler Power professionals are available to offer troubleshooting, advice, service, and support.



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