

Models - KAS/KAP Automatic Transfer Switches Electrically Operated Bypass/Isolation



Controller

• Decision-Maker® MPAC 1500

Ratings

Italinge		
Model	Current	Voltage, Frequency
KAS	150,600 ampa	208-600 VAC
KAP	150-600 amps	50/60 Hz

Transfer Switch Standard Features

- UL 1008 listed, file #E108981
- CSA certification available
- Bypass/isolation switches for uninterrupted power to the load during switch maintenance and testing
- Electrically operated: bypass the primary mechanism at the touch of a button
- One-line diagram with LEDs to indicate transfer switch and bypass status
- Available in 2, 3, or 4 pole configurations
- Integral solid neutral provides line-to-neutral monitoring
- Electrically operated, mechanically held mechanism
- · High withstand and close-on ratings
- Fully rated for use as a manual 3-position transfer switch
- Heavy duty mechanical interlocks
- Bypass switch and contactor position indicators
- Drawout contactor for ease of maintenance
- Design suitable for emergency and standby applications on all classes of load, 100% tungsten rated through 400 amps
- Reliable, field-proven solenoid mechanism
- Switching mechanisms lubricated for life
- Main shaft auxiliary contacts
- Front-connection standard
- Standard one-year limited warranty. Extended limited warranties are available.

Standard-Transition Models (KAS)

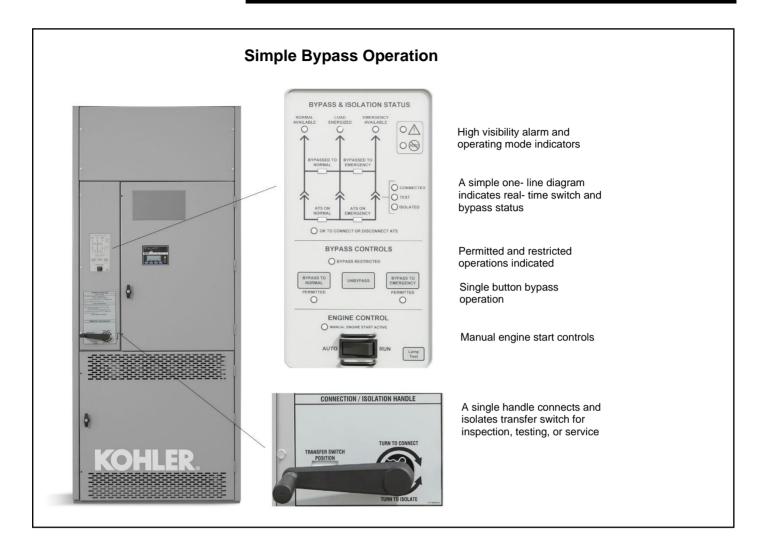
- Standard-transition transfer time less than 100 milliseconds (6 cycles @ 60 Hz)
- Double-throw, mechanically interlocked design (break-before-make)
- Solid, switched, or overlapping neutral

Programmed-Transition Models (KAP)

- Programmed-transition operation provides a center OFF position that allows residual voltages in the load circuits to decay
- Programmable OFF time
- Double-throw, mechanically interlocked design (break both sides)
- Solid or switched neutral



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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"
- 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
- Modbus communication is standard
- 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 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
 - o IEC 1000-4-2, Electrostatic Discharge
 - o IEC 1000-4-3, Radiated Electromagnetic Fields
 - o IEC 1000-4-4, Electrical Fast Transients (Bursts)
 - o IEC 1000-4-5, Surge Voltage
 - o IEC 1000-4-6, Conducted RF Disturbances
 - o IEC 1000-4-8, Magnetic Fields
 - o IEC 1000-4-11, Voltage Dips and Interruptions
- 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
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems, file # E108981



Models -**KAS/KAP**

Automatic Transfer Switches Electrically Operated Bypass/Isolation

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								

Auxiliary Position Indicating Contacts (rated 10 amps @ 32 VDC/250 VAC)						
	Number of Contacts Indicating Normal, Emergency					
Switch Rating, Amps	KAS	KAP				
150- 600	8, 8	7, 7				

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

UL-Listed Solderless Screw-Type Terminals for External Power Connections								
	Range of Wire Sizes, Copper or	Aluminum *						
Switch Rating, Amps	Normal, Emergency, and Load Terminals Per Phase and Neutral	Ground						
150- 400	(1) #4 AWG to 600 KCMIL or (2) 1/0 AWG to 250 KCMIL	(3) 600 KCMIL						
600	(2) #2 AWG to 600 KCMIL	(6) 600 KCMIL						
* Use 75°0	C minimum Cu/Al wire for power connections	3.						

Cable Sizes

Weights and Dimensions

Note: Weights and dimensions are provided for reference only. 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 bypass/isolation transfer switches in NEMA type 1 enclosures. See the transfer switch dimension drawings for other enclosure types.

		Dimensions mm (in.)			v	Dimension		
Model	Amps	Height	Width	Depth	2-Pole	3-Pole	4-Pole	Drawing
	150-260	2162 (85.1)	864 (34)	711 (28)**	431 (950)	431 (950)	431 (950)	
KAS KAP	150-600 w/ 12" pull box †	2162 (85.1)	1168 (46)	711 (28)**	431 (950)	431 (950)	431 (950)	ADV-9230
KAP	150-600 w/ 15" pull box †	2162 (85.1)	1245 (49)	711 (28)**	431 (950)	431 (950)	431 (950)	

* Approximate weights

† Pull box is required for bottom cable entry on 400-600 amp units; optional on 150- 260 amp units.

Transfer switch carriage manual crank handle can be removed. Also note that the transfer switch carriage manual crank handle can be left in place and folded down. Recommended front clearance is 32 in. minimum.

Withstand and Close-On Ratings (WCR)

Maximum current in RMS symmetrical amperes when coordinated with customer-supplied fuses or circuit breakers. All values are available symmetrical RMS amperes and tested in accordance with the withstand and close-on requirements of UL 1008. Application requirements may permit higher withstand ratings for certain size switches. Contact the factory for assistance.

Note: For specific breaker ratings, refer to the next table.

		Withstand Current Ratings in RMS Symmetrical Amperes									Short Time Ratings (sec.) ‡					
Switch	C	Current-Limiti	ng Fuses		Tim	e-Based Rati	ng *	4	480 V	Max.		600 V Max.				
Rating, Amps	Amps @ 480 V	Amps @ 600 V	Amps, Max.	Fuse Class	Amps @ 240 V	Amps @ 480 V	Amps @ 600 V	.13	.2	.3	.5	.1	.13	.3	.5	
150 225			600	J				7500A		_						
260 400 600	200kA	200kA 80	800	L	65kA	42kA †	35kA					_				

Applicable to 2-pole, 3-pole, and conventional 4-pole switches only. Overlapping neutral switches have "any" breaker ratings of 35kA, 0.050 seconds t at 480 V.

Short time ratings are provided for applications involving breakers that utilize trip delay settings for system selective coordination. ±



Ratings with Specific Manufacturers' Circuit Breakers

The following charts list power switching device withstand and close-on ratings (WCR) in RMS symmetrical amperes for circuit breakers from specific manufacturers. Ratings apply to both open- and programmed-transition models. Circuit breakers are supplied by the customer.

lating, amps	WCR, amps RMS	Voltage, Max.	Manufacturer	Type	Max, Size
amps	RIVIS	IVIAX.	Wanuacturer	THQMV	amps 225
			GE	SGL1, SGL4, SGL6, SGP1, SGP4, SGP6	600
	65,000		Eaton/Cutler	LDC, CLDC, HLD, CHLD	600
	05,000		Hammer		
			Siemens/ITE	HLD6, HLXD6	600
		240	Square D	QG, QJ	250
	100,000	_		LJ (current limiting)	600
	125,000		Square D	LL (current limiting)	600
				LR (current limiting)	600
	200,000		Eaton/Cutler	PD2 (current limiting)	225
	,		Hammer	PD3 (current limiting)	600
				HFDE, FDC, FDCE	225
				NHH	250
			Eaton/Cutler	JDC, JGU, JGX	350
			Hammer	HKD, CHKD, KDC, HKDB, CHKDB, LHH	400
			riaminer	HLD, CHLD, LDC, CLDC, LGH*, LGC*, LGU*, LGX*	600
				HMDLB, CHMDLB	800
				SEL, SEP	150
				SFL, SFP, FEN, FEH	250
				TBC4	400
			GE	FGN, FGH, FGL, FGP, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6.	
				TJL4V, TJL1S- 6S, TBC6	600
	50,000			TB8	800
				HDG, LDG	150
				HFD, HFD6, HFXD, HFXD6, HHFD6, HHFXD6, CFD6, HFG, LFG	250
		400	Siemens/ITE	HJD, HJD6, HJXD, HJXD6, SHJD, SHJD6, HHJD6, HHJXD6,	
		480		CJD6, SCJD6, HJG, LJG, LLG	400
150				HLD6, HLXD6, HHLD6, HHLXD6, CLD6, SHLD6, SCLD6, HLG	600
225				HJ, HL	150
				KC, KI, CF250L, NSF250	250
				CK400N, CK400NN, CK400H, CK400HH, CJ400L, NSJ400	400
				LC, DJ, DL, LI, NSJ600	600
		-	Square D	MasterPact STR 28D, PK, PJ, PL	800
	65,000			JJ (current limiting)	250
	,	-		LJ (current limiting)	600
				JL (current limiting)	250
	100,000			LL (current limiting)	600
	100,000		Eaton/Cutler	PD2 (current limiting)	225
		ļ	Hammer	PD3 (current limiting)	600
	200,000		Square D	JR (current limiting)	250
	200,000		Oqualo D	LR (current limiting)	600
			Eaton/Cutler	JGU, JGX, JGH	250
			Hammer	KDC	400
				LDC, CLDC	600
			GE	TBC4	400
				SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGP	600
	42,000			HJD, CFD6	250
	72,000		Siemens/ITE	HHJD6, HHJXD6, CJD6, SCJD6	400
		600		HHLD6, HHLXD6, CLD6, SCLD6, LNG, LPG, LGC*, LGU*, LGX*	600
		000		HJ, HL, HG	150
				KI, JJ, JL, JR, CF250L	250
			Square D	CK400H, CK400HH, CJ400L	400
				LI, MasterPact STR 28D, PK	600
	50,000			LL (current limiting)	600
	65,000		Eaton/Cutler	PD3 (current limiting)	600
			Hammer		
	100,000	1	Square D	LR (current limiting)	600



-	65,000		05	THQMV	Max. Siz amps			
-					225			
-			GE	SGL1, SGL4, SGL6, SGP1, SGP4, SGP6	600			
260 260	65,000		Eaton/Cutler Hammer	LDC, CLDC, HLD, CHLD				
-	65.000		Siemens/ITE	HLD6, HLXD6	600			
-	00,000	240		QG, QJ	250			
-	100,000	240	Square D	LJ (current limiting)	600			
	125,000	0		LL (current limiting)	600			
				LR (current limiting)	600			
	200,000		Eaton/Cutler	PD2 (current limiting)	225			
			Hammer	PD3 (current limiting)	600			
-				HFDE, FDCE, HFD, FDC, LHH	225			
				JDC, JGH, JGC, JGU, JGX	250			
			Eaton/Cutler	HKD, HKDB, CHKD, CHKDB, KDC	400			
			Hammer	HLD, CHLD, LDC, CLDC, LGH*, LGC*, LGU*, LGX*, NHH	600			
				MDL, CMDL, HMDL, CHMDL, NGS, NGH, NGC, MDLB, CMDLB,				
				HMDLB, CHMDLB	800			
				SFL, SFP, FEN, FEH	250			
				TBC4	400			
			GE	TBC6, TJL4V, TJL1S- 6S, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGN, FGH, FGL, FGP	600			
				TBC8, TKL4V, TKH8S- 12S, TKL8S- 12S, SKH8, SKL8, SKP8, TB8	800			
	50,000			HFD6, HFXD6, HHFD6, HHFXD6, CFD6, HFG, LFG	250			
				HJD6, HJXD6, SHJD6, HHJD6, HHJXD6, CJD6, SCJD6, HJG, LJG,	400			
				LLG	400			
			Siemens / ITE	HLD6, HLXD6, SHLD6, HHLD6, HHLXD6, CLD6, SCLD6, HLG	600			
		480		LMD, LMD6, LMXD, LMXD6, HLMD, HLMD6, HLMXD, HLMXD6, MD, MD6, MXD6, HMG, HMD6, HMXD6, SMD6, SHMD6, CMD6, SCMD6, LMG, MG	800			
				KI, KC, CF250L, NSF250	250			
				CK400N, CK400NN, CK400H, CK400HH, CJ400L, NSJ400				
				LC, DJ, DL, LJ, LL, LR, LI, NSJ600	600			
260				CK800N, CK800NN, CK800H, CK800HH, MasterPact STR 28D, MJ, PK, PJ, PL	800			
				CK1000HL	1000			
			Square D	CK1200NN, CK1200HH	1200			
	65,000			JJ (current limiting)	250			
L	05,000			LJ (current limiting)	600			
	100,000			JL (current limiting)	250			
	100,000			LL (current limiting)	600			
				JR (current limiting)	250			
	200,000			LR (current limiting)	600			
	200,000		Eaton/Cutler	PD2 (current limiting)	225			
			Hammer	PD3 (current limiting)	600			
F			Eaton/Cutler	JGU, JGX	250			
			Hammer	KDC	400			
				LDC, CLDC	600			
				TBC4	400			
			GE	TBC6, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGP	600			
				TBC8, TKL4V, TKL8S- 12S, SKL8, SKP8	800			
	40.000			HJD, CFD6	250			
	42,000		Siemens/ITE	HHJD6, HHJXD6, CJD6, SCJD6	400			
		600	Siemens/HE	HHLD6, HHLXD6, CLD6, SCLD6 HLMD6, HLMXD6, HMXD6, SHMD6, HMD6, CMD6, SCMD6, LMG,	600 800			
				LNG, LPG, LGC*, LGU*, LGX* KI, JL, JR, JJ, CF250L	250			
				CK400H, CK400HH, CJ400L	400			
			Square D		600			
			Oquare D	CK800H, CK800HH, MasterPact STR 28D, PK	800			
F	50,000			LL (current limiting)	600			
-	65,000		Eaton/Cutler Hammer	PD3 (current limiting)	600			
F	100,000		Square D	LR (current limiting)	600			

Models - KAS/KAP



Automatic Transfer Switches Electrically Operated Bypass/Isolation

Switch				Molded-Case Circuit Breakers				
Rating, Imps	WCR, amps RMS	Voltage, Max.	Manufacturer	Туре	Max. Size amps			
			05	THQMV	225			
	65,000		GE	SGL1, SGL4, SGL6, SGP1, SGP4, SGP6	600			
			Estas (Ostilar	LDC, CLDC, HLD, CHLD				
	200,000	- 240	Eaton/Cutler Hammer	PD2 (current limiting)	225			
	200,000			PD3 (current limiting)	600			
	CE 000	240	Siemens / ITE	HLD6, HLXD6	600			
	65,000			QG, QJ	250			
	100,000		Squara D	LJ (current limiting)	600			
	125,000		Square D	LL (current limiting)	600			
	200,000			LR (current limiting)	600			
				JGH, JGC, NHH	250			
				HKD, CHKD, KDC, HKDB, CHKDB, LHH	400			
			Eaton/Cutler	CHLD, LDC, CLDC, LGH*, LGC*, LGU*, LGX*	600			
			Hammer	MDL, CMDL, HMDL, CHMDL, NGS, NGH, NGC, MDLB, CMDLB, HMDLB, CHMDLB	800			
				NGU	1600			
				TBC4	400			
			GE	TBC6, TJL4V, TJL1S- 6S, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGN, FGH, FGL, FGP	600			
		50,000		TBC8, TKL4V, TKH8S- 12S, TKL8S- 12S, SKH8, SKL8, SKP8, TB8	800			
	50,000		Siemens/ITE	HFD6, HFXD6, HFG, LFG	250			
		400		HJD6, HJXD6, SHJD6, HHJD6, HHJXD6, CJD6, SCJD6, HJG, LLG, LJG	400			
		480		HLD6, HLXD6, SHLD6, HHLD6, HHLXD6, CLD6, SCLD6, HLG	600			
				LMD6, LMXD6, HLMD6, HLMXD6, MD6, MXD6, HMD6, HMXD6, SMD6, SHMD6, CMD6, SCMD6, HMG, LMG	800			
400				CK400N, CK400NN, CK400H, CK400HH, CJ400L, NSJ400	400			
				LC, DJ, DL, LJ, LL, LR, LI, NSJ600	600			
				CK800N, CK800NN, CK800H, CK800HH, MJ	800			
			Square D	СК1000НН	1000			
			Square D	PK, PJ, PL, MH, MasterPact STR 28D, CK1200HH	1200			
	65,000			LJ (current limiting)	600			
	100,000			LL (current limiting)	600			
	200,000			LR (current limiting)	600			
	100,000		Eaton/Cutler Hammer	PD3 (current limiting)	600			
	40.000			KDC	400			
	42,000		Eaton/Cutler	LDC, CLDC, LGC*, LGU*, LGX*	600			
	65,000	1	Hammer	PD3 (current limiting)	600			
				TBC4	400			
			GE	TBC6, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGP	600			
				TBC8, TKL4V, TKL8S- 12S, SKL8, SKP8	800			
				HHJD6, HHJXD6, CJD6, SCJD6	400			
		600	Sigmona / ITE	HHLD6, HHLXD6, CLD6, SCLD6	600			
	42,000	000	Siemens / ITE	HLMD6, HLMXD6, HMXD6, SHMD6, HMD6, CMD6, SCMD6, LMG	800			
				LNG, LPG	1200			
				CK400H, CK400HH, CJ400L	400			
				LI	600			
			Squara D	СК800Н, СК800НН	800			
			Square D	MasterPact STR 28D, PK	1200			
	50,000			LL (current limiting)	600			
	100,000]		LR (current limiting)	600			

Models - KAS/KAP



Automatic Transfer Switches Electrically Operated Bypass/Isolation

Switch	Molded-Case Circuit Breakers						
Rating, amps	WCR, amps RMS	Voltage, Max.	Manufacturer	Туре	Max. Size amps		
			GE	THQMV	225		
			GL	SGL1, SGL4, SGL6, SGP1, SGP4, SGP6	600		
	65.000		Siemens/ITE				
	00,000		Eaton/Cutler Hammer	LDC, CLDC, HLD, CHLD	600		
		240		QG, QJ	250		
	100,000	-	Cause D	LJ (current limiting)	600		
	125,000	-	Square D	LL (current limiting)	600		
				LR (current limiting)	600		
	200,000		Eaton/Cutler	PD2 (current limiting)	225		
			Hammer	PD3 (current limiting)	600		
				JGH, JGC, HFG, LFG	250		
			Eaton/Cutler	HLD, CHLD, LDC, CLDC, LGH*, LGC*, LGU*, LGX*	600		
			Hammer	MDL, CMDL, HMDL, CHMDL, NGS, NGH, NGC, NGU, MDLB, CMDLB, NF	800		
				TBC6, TJL4V, TJL1S- 6S, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGN, FGH, FGL, FGP	600		
			GE Siemens/ITE	TBC8, TKL4V, TKH8S- 12S, TKL8S- 12S, SKH8, SKL8, SKP8, TB8	800		
				SKL12, SK12P	1200		
				HLD6, HLXD6, SHLD6, HHLD6, HHLXD6, CLD6, SCLD6, HLG, LLG			
	50,000			LMD6, LMXD6, HLMD6, HLMXD6, MD6, MXD6, HMD6, HMXD6, SMD6, SHMD6, CMD6, SCMD6, HMG, LMG			
				HND6, HNXD6, SND6, SHND6, ND6, NXD6, HNG, LNG, CND6	1200		
		480		LC, DJ, DL, LI, NSJ600	600		
				CK800N, CK800NN, MJ	800		
600				MH, CK1200N, CK1200NN, CK1200H, CK1200HH, NT- H, NT- L1, NT- L, NT- LF, PK, PJ, PL	1200		
				СМ2000НН	2000		
			Square D	CM2500HH	2500		
	85,000			PL1200	1200		
	65,000			LJ (current limiting)	600		
	100,000			LL (current limiting)	600		
	200,000	-		LR (current limiting)	600		
	100,000		Eaton/Cutler Hammer	PD3 (current limiting)	600		
				JGC	250		
			Eaton/Cutler	TBC4	400		
			Hammer	LDC, CLDC	600		
				TBC6, SGL1, SGL4, SGL6, SGP1, SGP4, SGP6, FGP	600		
			GE	TBC8, TKL4V, TKL8S- 12S, SKL8, SKP8	800		
				SKL12, SKP12	1200		
	42,000			HHLD6, HHLXD6, CLD6, SCLD6	600		
	42,000		Siemens/ITE	HLMD6, HLMXD6, HMXD6, SHMD6, HMD6, CMD6, SCMD6, LMG	800		
		600	Olemens/TE	HND6, HNXD6, HNG, LNG, SHND6	1200		
					600		
				СК800Н, СК800НН	800		
			Square D	CK1000HL	1000		
			Oquare D	CK1200HL CK1200HH, NT- H, NT- L, NT- LF, NT- L1,	1200		
	50.000	-					
	50,000 65,000	-	Eaton/Cutler	LL (current limiting) PD3 (current limiting)	600 600		
		-	Hammer				
	100,000	LSG Inst. O	Square D	LR (current limiting)	600		



Controller Accessories

See the controller specification sheets 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
- Padlockable User Interface Cover
- Supervised Transfer Control Switch

Transfer Switch Accessories

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

CSA Certification

Digital Meter

- Measure and display voltage, current, frequency, and power
- 35 programmable alarms
- LCD display, 67 x 62.5 mm (2.65 x 2.5 in.)
- Pushbutton operation
- Password- protected programming menus
- Two digital inputs
- Two digital outputs
- Two Form A relay outputs
- Serial port for optional network connections
- Data logging
- Factory- installed

Engine Start Circuit Monitor

• See Specification Sheet G6-165.

Export Packaging

Extended Limited Warranties

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

□ Heater, Anti-Condensation

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

Literature Kits

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

Load Shed Kit

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

Pull Boxes

- Required for bottom cable entry on 400- 600 amp units
- Optional for 150- 260 amp units
- Available in 305 and 381 mm (12 and 15 inch) widths

□ 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

Surge Protection Device (SPD)

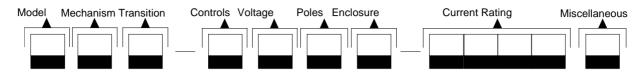
- SPD available for the normal source supply
- · Surge protection reduces transient voltages to harmless levels
- Protection modes: L-L/L-N/L-G/N-G
- Replaceable phase and neutral cartridges for service
- Frequency: 50- 60 Hz
- Operating Temperature Range: 40 to 176°F (- 40 to 80°C)
- Remote contacts 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 SPD specifications below

	SPD Specifications												
Nominal Voltage	Max. Discharge Current			UL VPR 3rd Ed (L-N/N-G/L-G)	Limiting Voltage, (L-N/N-G/L-G) (kV)		Short Circuit Withstand	Maximum Continuous Operating					
(V±15%)	(kA)	Phase	Poles	(L 10/1 0/2 0/ (kV)	at 3kAmps	at 10kAmp	Current (kA)	Voltage (VAC)					
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	320/640					
240/120	40	HLD	4	1.0/1.2/ 1.1	1.0/0.4/1.0	1.2/0.7/1.2	200	320/640					
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					

Models - KAS/KAP



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: KAS-DMVA-0400S

Model

K: Kohler

Mechanism

A: Electrically Operated Bypass/Isolation

Transition

- S: Standard
- P: Programmed

Controller

A: Decision-Maker® MPAC1500, 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	S:	400 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
- W: 4 Poles/4 Wires, Overlapping Neutral (KAS only)

Enclosure A: NEMA 1

C: NEMA 3R

Current, Amps

Connections

S: Standard

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

Availability is subject to change without notice. Discovery Energy, LLC reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local authorized distributor for availability.