

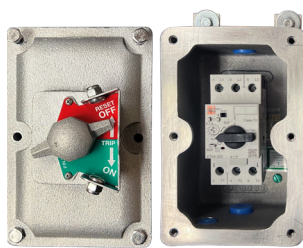
Enclosed Motor Controllers and Molded Case Circuit Breakers



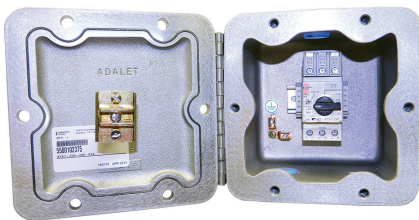
KTA9 Type-E Self Protected Manual Motor Controllers
Page F4:2



Explosion-Proof Motor Controllers



KTA9_EX
Page F4:6



KTA9_EZ
Page F4:7

The following pages contain a selection of single enclosed KTA9 & KTC9 motor controllers which can be applied as an individual Manual Self-Protected Combination Motor Controller or as an individual Manual Motor Starter dependent on the ratings of the individual unit.

- A Self-protected Combination Motor Controller (UL508 Construction Type E) performs all the functions of a Manual Combo starter including a UL approved means "Disconnect" with lockable and defeatable handle mechanism, short-circuit protection and overload protection for motor applications.
- A UL508 Manual Motor Controller is a manual motor starter including a motor disconnect combined with an overload relay.

Both can be combined with auxiliary contacts, shunt-trip or under-voltage trip units to meet your application requirements. The section that follows includes non-metallic enclosures, metallic enclosures and explosion-proof enclosures.

Enclosed Molded Case Circuit Breakers

The following pages contain a selection of individual enclosed KTU9 molded case circuit breakers for the protection of non-motor loads. KTU9 is a 480Y/277Volt or 600Y/347 volt UL489 approved circuit breaker and the selection of enclosures or combined with matching environmentally approved thru-the-door handle disconnect mechanism which also complies with UL489 standards. KTU9 offers at least 65 KAIC withstand ratings which exceeds those offered by many 600 Volt Class Molded Case Circuit Breakers which



KTU9 Molded Case Circuit Breakers
Page F4:8

are larger and more expensive. Enclosed KTU9 can be combined with auxiliary contacts, shunt-trip or under-voltage trip units to meet your application requirements.

Enclosed Type E/F Combination Starters

KTA9 or KTC9 can be applied in combination with a CA7 contactor for remote control and an enclosure with matching environmentally approved thru-the-door handle disconnect mechanism to meet all requirements for a Construction Type E or F Combination Starter. The following pages contain a selection of individual Combo starters which are smaller and less expensive than Classic Construction Type A (Fusible), or Type C (Thermal-magnetic Molded Case Circuit Breaker) as offered in Section C of this catalog. The following types are offered:

- Non-metallic enclosed Combo KwikStarter CX7 and CXU7 with AC or DC coils available as factory assembled or in kit form for field assembly
- Metallic enclosed Combo CX7 and CXU7 with AC or DC coils
- Explosion-proof enclosed CX7 and CXU7 with AC or DC coils

A variety of modifications are available.



CX7 Ecombo KwikStarter
Page F4:13



CX7 Combination Controllers
Page F4:19

F4

Enclosed Motor Circuit Controllers

Enclosed KTA9 - Type 4/4X/12K - IP66

Amp / Horsepower Rating						Non-metallic Enclosure	
							
Max. Horsepower ❶❷❸				O/L Relay Ampere Range	Magnetic Res. Current	Catalog Number ❹	Dimension Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-CG	AY
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-CG	AY
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-CG	AY
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-CG	AY
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-CG	AY
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-CG	AY
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-CG	AY
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-CG	AY
1	1-1/2	3	5 ❹	4.0...6.3	88	KTA9-32S-6.3A-CG	AY
2	2	5	7-1/2 ❹	6.3...10	140	KTA9-32S-10A-CG	AY
3	5	10	10 ❹	10...16 ❺	224	KTA9-32S-16A-CG	AY

Includes:

- Non-metallic (Type 4/4X/12K - IP66) enclosure with integrated operator – watertight, dusttight
- KTA9-32S (Standard Interrupting Capacity) "Type E" Self-protected Combination Manual Controller ⑤
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- Gray and black handle ④⑥

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max.	
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S
Side Mount 600V max.	
2 NC Auxiliaries	-AS02
2 NO Auxiliaries	-AS20
1 NO + 1 NC Auxiliary	-AS11
Accessories	
Undervoltage Release Module	-UA*
Shunt Release Module	-AA*

Enclosure Only - Type 4/4X/12K - IP66

	Description	For use With	Catalog Number
	Gray/Black handle	KTA9-32S up to 13A	KT9-ENN
	Red/Yellow handle	KTA9-32S up to 13A	KT9-ENRY

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- ② Magnetic trip is fixed at 14x the maximum value of the current adjustment range. Refer to page F1:5 for applied KAIC ratings.
- ③ KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote 1 for device selection criteria.
- ④ A red and yellow handle may be selected instead of the standard gray and black handle. Change "CG" suffix to "CJ". Ex: Change KTA9-32S-0.16A-CG to KTA9-32S-0.16A-CJ.
- ⑤ Handles are built-in to the enclosure and are not available as components.
- ⑥ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.
- ⑦ This device is 30 KAIC approved up to 13 amps.

-UA..-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

Enclosed KTA9 - Type 4 / 4X / 12

Amp / Horsepower Rating						Non-metallic, Type 4 / 4X / 12 Enclosure	
							
Max. Horsepower ❶❷				O/L Relay Ampere Range	Magnetic Res. Current	Catalog Number ❸	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-VG	Q5
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-VG	Q5
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-VG	Q5
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-VG	Q5
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-VG	Q5
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-VG	Q5
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-VG	Q5
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-VG	Q5
1	1-1/2	3	5 ❹	4.0...6.3	88	KTA9-32S-6.3A-VG ❹	Q5
2	2	5	7-1/2 ❹	6.3...10	140	KTA9-32S-10A-VG ❹	Q5
3	5	10	10 ❹	10...16	224	KTA9-32S-16A-VG ❹	Q5
5 ❹	5 ❹	10 ❹	15 ❹	14.5...20	280	KTA9-32S-20A-VG ❹	Q5
5 ❹	7-1/2 ❹	15 ❹	20 ❹	18...25	330	KTA9-32S-25A-VG ❹	Q5
7-1/2 ❹	10 ❹	20 ❹	25 ❹	23...29	406	KTA9-32S-29A-VG ❹	Q5
7-1/2 ❹	10 ❹	20 ❹	30 ❹	26.5...32	448	KTA9-32S-32A-VG ❹	Q5
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	KTA9-40H-0.63A-VG	Q6
~	~	1/2	1/2	0.63...1.0	14	KTA9-40H-1.0A-VG	Q6
~	~	3/4	~	1.0...1.6	22	KTA9-40H-1.6A-VG	Q6
1/2	1/2	1	1-1/2	1.6...2.5	33	KTA9-40H-2.5A-VG	Q6
3/4	3/4	2	3	2.5...4.0	52	KTA9-40H-4.0A-VG	Q6
1	1-1/2	3	5	4.0...6.3	82	KTA9-40H-6.3A-VG	Q6
2	2	5	7-1/2	6.3...10	130	KTA9-40H-10A-VG	Q6
3	5	10	10	10...16	208	KTA9-40H-16A-VG	Q6
5	5	10	15 ❹	14.5...20	260	KTA9-40H-20A-VG ❹	Q6
5	7-1/2	15	20 ❹	18...25	325	KTA9-40H-25A-VG ❹	Q6
7-1/2	10	20	25 ❹	23...29	406	KTA9-40H-29A-VG ❹	Q6
7-1/2	10	20	30 ❹	26.5...32	448	KTA9-40H-32A-VG ❹	Q6
10	10	25	30 ❹	30...36	432	KTA9-40H-36A-VG ❹	Q6
10	10	30	30 ❹	34...40	480	KTA9-40H-40A-VG ❹	Q6
KTA7-45H High Interrupting Capacity							
2	3	5	7-1/2	6.3...10	130	KTA7-45H-10A-VG	Q7
3	5	10	10	10...16	208	KTA7-45H-16A-VG	Q7
5	5	10	15	14.5...20	260	KTA7-45H-20A-VG	Q7
7-1/2	7-1/2	15	20	18...25	325	KTA7-45H-25A-VG	Q7
7-1/2	10	20	30	23...32	416	KTA7-45H-32A-VG	Q7
10	15	30	40 ❹	32...45	585	KTA7-45H-45A-VG	Q7

Includes:

- Type 4 / 4X / 12 enclosure – watertight, dusttight, corrosion resistant
- KTA9 "Type E" Self-protected Combination Manual Controller (Standard Interrupting Capacity) ⑤
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ④

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max.	
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC	-R
1 NO SC+OL + 1 NO	-S
Side Mount 600V max.	
2 NC Auxiliaries	-AS02
2 NO Auxiliaries	-AS20
1 NO + 1 NC Auxiliary	-AS11
Accessories	
Undervoltage Release Module	-UA*
Shunt Release Module	-AA*

-UA..-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range.
Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote 1 for device selection criteria.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "VG" suffix to "VJ". Ex: Change KTA9-32S-0.16-VG to KTA9-32S-0.16-VJ.

④ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.

Enclosed KTA9 - Type 12

Amp / Horsepower Rating						Painted Steel, Type 12 Enclosure						
Max. Horsepower ❶❷❸					O/L Relay Ampere Range	Magnetic Res. Current		Dim Code				
									Three Phase			
									200V	230V	460V	575V
Catalog Number ❹												
KTA9-32S Standard Interrupting Capacity												
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-DG	L					
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-DG	L					
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-DG	L					
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-DG	L					
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-DG	L					
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-DG	L					
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-DG	L					
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-DG	L					
1	1-1/2	3	5 ❹	4.0...6.3	88	KTA9-32S-6.3A-DG ❹	L					
2	2	5	7-1/2 ❹	6.3...10	140	KTA9-32S-10A-DG ❹	L					
3	5	10	10 ❹	10...16	224	KTA9-32S-16A-DG ❹	L					
5 ❹	5 ❹	10 ❹	15 ❹	14.5...20	280	KTA9-32S-20A-DG ❹	L					
5 ❹	7-1/2 ❹	15 ❹	20 ❹	18...25	330	KTA9-32S-25A-DG ❹	L					
7-1/2 ❹	10 ❹	20 ❹	25 ❹	23...29	406	KTA9-32S-29A-DG ❹	L					
7-1/2 ❹	10 ❹	20 ❹	30 ❹	26.5...32	448	KTA9-32S-32A-DG ❹	L					
KTA9-40H High Interrupting Capacity												
~	~	~	~	0.40...0.63	8.8	KTA9-40H-0.63A-DG	L					
~	~	1/2	1/2	0.63...1.0	14	KTA9-40H-1.0A-DG	L					
~	~	3/4	~	1.0...1.6	22	KTA9-40H-1.6A-DG	L					
1/2	1/2	1	1-1/2	1.6...2.5	33	KTA9-40H-2.5A-DG	L					
3/4	3/4	2	3	2.5...4.0	52	KTA9-40H-4.0A-DG	L					
1	1-1/2	3	5	4.0...6.3	82	KTA9-40H-6.3A-DG	L					
2	2	5	7-1/2	6.3...10	130	KTA9-40H-10A-DG	L					
3	5	10	10	10...16	208	KTA9-40H-16A-DG	L					
5	5	10	15 ❹	14.5...20	260	KTA9-40H-20A-DG ❹	L					
5	7-1/2	15	20 ❹	18...25	325	KTA9-40H-25A-DG ❹	L					
7-1/2	10	20	25 ❹	23...29	406	KTA9-40H-29A-DG ❹	L					
7-1/2	10	20	30 ❹	26.5...32	448	KTA9-40H-32A-DG ❹	L					
10	10	25	30 ❹	30...36	432	KTA9-40H-36A-DG ❹	L					
10	10	30	30 ❹	34...40	480	KTA9-40H-40A-DG ❹	L					

Includes:

- Type 12 enclosure – dusttight
- KTA9 "Type E" Self-protected Combination Manual Controller ⑤
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ④

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max.	
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC	-R
1 NO SC+OL + 1 NO	-S
Side Mount 600V max.	
2 NC Auxiliaries	-AS02
2 NO Auxiliaries	-AS20
1 NO + 1 NC Auxiliary	-AS11
Accessories	
Undervoltage Release Module	-UA*
Shunt Release Module	-AA*

-UA..-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range.
Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote 1 for device selection criteria.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "DG" suffix to "DJ". Ex: Change KTA9-32S-0.16-DG to KTA9-32S-0.16-DJ.

④ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.

Enclosed KTA9 - Type 4 / 12

Amp / Horsepower Rating						Painted Steel, Type 4 / 12 Enclosure		
Max. Horsepower ❶❷ Three Phase 200V230V460V575V					O/L Relay Ampere Range	Magnetic Res. Current	Catalog Number ❸	Dim Code
KTA9-32S Standard Interrupting Capacity								
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-WG	W6	
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-WG	W6	
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-WG	W6	
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-WG	W6	
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-WG	W6	
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-WG	W6	
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-WG	W6	
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-WG	W6	
1	1-1/2	3	5 ❹	4.0...6.3	88	KTA9-32S-6.3A-WG ❹	W6	
2	2	5	7-1/2 ❹	6.3...10	140	KTA9-32S-10A-WG ❹	W6	
3	5	10	10 ❹	10...16	224	KTA9-32S-16A-WG ❹	W6	
5 ❹	5 ❹	10 ❹	15 ❹	14.5...20	280	KTA9-32S-20A-WG ❹	W6	
5 ❹	7-1/2 ❹	15 ❹	20 ❹	18...25	330	KTA9-32S-25A-WG ❹	W6	
7-1/2 ❹	10 ❹	20 ❹	25 ❹	23...29	406	KTA9-32S-29A-WG ❹	W6	
7-1/2 ❹	10 ❹	20 ❹	30 ❹	26.5...32	448	KTA9-32S-32A-WG ❹	W6	
KTA9-40H High Interrupting Capacity								
~	~	~	~	0.40...0.63	8.8	KTA9-40H-0.63A-WG	W6	
~	~	1/2	1/2	0.63...1.0	14	KTA9-40H-1.0A-WG	W6	
~	~	3/4	~	1.0...1.6	22	KTA9-40H-1.6A-WG	W6	
1/2	1/2	1	1-1/2	1.6...2.5	33	KTA9-40H-2.5A-WG	W6	
3/4	3/4	2	3	2.5...4.0	52	KTA9-40H-4.0A-WG	W6	
1	1-1/2	3	5	4.0...6.3	82	KTA9-40H-6.3A-WG	W6	
2	2	5	7-1/2	6.3...10	130	KTA9-40H-10A-WG	W6	
3	5	10	10	10...16	208	KTA9-40H-16A-WG	W6	
5	5	10	15 ❹	14.5...20	260	KTA9-40H-20A-WG ❹	W6	
5	7-1/2	15	20 ❹	18...25	325	KTA9-40H-25A-WG ❹	W6	
7-1/2	10	20	25 ❹	23...29	406	KTA9-40H-29A-WG ❹	W6	
7-1/2	10	20	30 ❹	26.5...32	448	KTA9-40H-32A-WG ❹	W6	
10	10	25	30 ❹	30...36	432	KTA9-40H-36A-WG ❹	W6	
10	10	30	30 ❹	34...40	480	KTA9-40H-40A-WG ❹	W6	
KTA7-45H High Interrupting Capacity								
2	3	5	7-1/2	6.3...10	130	KTA7-45H-10A-WG	R/F	
3	5	10	10	10...16	208	KTA7-45H-16A-WG	R/F	
5	5	10	15	14.5...20	260	KTA7-45H-20A-WG	R/F	
7-1/2	7-1/2	15	20	18...25	325	KTA7-45H-25A-WG	R/F	
7-1/2	10	20	30	23...32	416	KTA7-45H-32A-WG	R/F	
10	15	30	40 ❹	32...45	585	KTA7-45H-45A-WG ❹	R/F	

Includes:

- Type 4 / 12 enclosure – watertight, dusttight
- KTA9 "Type E" Self-protected Combination Manual Controller ④
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ③

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max. 1 NO Auxiliary 1 NC Auxiliary 1 NO + 1 NC Auxiliary 2 NO Auxiliaries 1 NO SC+OL + 1 NC 1 NO SC+OL + 1 NO	-B -A -C -D -R -S
Side Mount 600V max. 2 NC Auxiliaries 2 NO Auxiliaries 1 NO + 1 NC Auxiliary	-AS02 -AS20 -AS11
Accessories Undervoltage Release Module Shunt Release Module	-UA* -AA*

-UA...-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

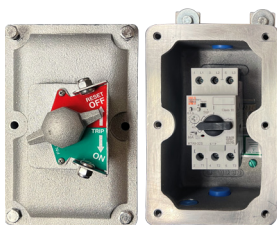
- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range.
Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote 1 for device selection criteria.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "WG" suffix to "WJ". Ex: Change KTA9-32S-0.16-WG to KTA9-32S-0.16-WJ.

④ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.

KTA9 Explosion Proof Motor Controllers - NEMA Type 7/9

Amp / Horsepower Rating							
Max. Horsepower ①②				O/L Relay Ampere Range	Magnetic Res. Current	Catalog Number	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-EX	EX
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-EX	EX
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-EX	EX
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-EX	EX
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-EX	EX
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-EX	EX
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-EX	EX
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-EX	EX
1	1-1/2	3	5 ③	4.0...6.3	88	KTA9-32S-6.3A-EX ③	EX
2	2	5	7-1/2 ③	6.3...10	140	KTA9-32S-10A-EX ③	EX
3	5	10	10 ③	10...16	224	KTA9-32S-16A-EX ③	EX

Includes:

- Class I, Div 1, 2, Group C, D
Class II, Div 1, 2, Group E, F & G enclosure
Class III
NEMA Type 7/9
- KTA9 "Type E" Self-protected Combination Manual Motor Controller ④
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max. 1 NO Auxiliary 1 NC Auxiliary 1 NO + 1 NC Auxiliary 2 NO Auxiliaries 1 NO SC+OL + 1 NC 1 NO SC+OL + 1 NO	-B -A -C -D -R -S
Side Mount 600V max. 2 NC Auxiliaries 2 NO Auxiliaries 1 NO + 1 NC Auxiliary	-AS02 -AS20 -AS11
Additional KT9 Trip Contacts Side Mounts 600V max. 1 NO SC+OL+1 NO SC 1 NO SC+OL+1 NC SC 1 NC SC+OL+1 NO SC	-R00 -R01 -R10
Enclosure Modifications Breather/Drain	-BD

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

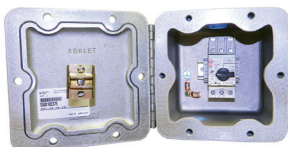
- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range.
Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote 1 for device selection criteria.

③ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.

④ -UA* and -AA* options not possible in the -EX Enclosure.

KTA9 Explosion Proof Motor Controllers – NEMA Type 4/7/9 with Gasket

Amp / Horsepower Rating						 EY Enclosure shown	
Max. Horsepower ❶❷				O/L Relay Ampere Range	Magnetic Res. Current	Catalog Number ❸	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	KTA9-32S-0.16A-EY	EY
~	~	~	~	0.16...0.25	3.5	KTA9-32S-0.25A-EY	EY
~	~	~	~	0.25...0.40	5.6	KTA9-32S-0.40A-EY	EY
~	~	~	~	0.40...0.63	8.8	KTA9-32S-0.63A-EY	EY
~	~	1/2	1/2	0.63...1.0	14	KTA9-32S-1.0A-EY	EY
~	~	3/4	~	1.0...1.6	22	KTA9-32S-1.6A-EY	EY
1/2	1/2	1	1-1/2	1.6...2.5	35	KTA9-32S-2.5A-EY	EY
3/4	3/4	2	3	2.5...4.0	52	KTA9-32S-4.0A-EY	EY
1	1-1/2	3	5 ❸	4.0...6.3	88	KTA9-32S-6.3A-EY	EY
2	2	5	7-1/2 ❸	6.3...10	140	KTA9-32S-10A-EY	EY
3	5	10	10 ❸	10...16	224	KTA9-32S-16A-EY	EY
5 ❸	5 ❸	10 ❸	15 ❸	14.5...20	280	KTA9-32S-20A-EY	EY
5 ❸	7-1/2 ❸	15 ❸	20 ❸	18...25	330	KTA9-32S-25A-EY	EY
7-1/2 ❸	10 ❸	20 ❸	25 ❸	23...29	406	KTA9-32S-29A-EY	EY
7-1/2 ❸	10 ❸	20 ❸	30 ❸	26.5...32	448	KTA9-32S-32A-EY	EY
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	KTA9-40H-0.63A-EY	EY
~	~	1/2	1/2	0.63...1.0	14	KTA9-40H-1.0A-EY	EY
~	~	3/4	~	1.0...1.6	22	KTA9-40H-1.6A-EY	EY
1/2	1/2	1	1-1/2	1.6...2.5	33	KTA9-40H-2.5A-EY	EY
3/4	3/4	2	3	2.5...4.0	52	KTA9-40H-4.0A-EY	EY
1	1-1/2	3	5	4.0...6.3	82	KTA9-40H-6.3A-EY	EY
2	2	5	7-1/2	6.3...10	130	KTA9-40H-10A-EY	EY
3	5	10	10	10...16	208	KTA9-40H-16A-EY	EY
5	5	10	15 ❸	14.5...20	260	KTA9-40H-20A-EY	EY
5	7-1/2	15	20 ❸	18...25	325	KTA9-40H-25A-EY	EY
7-1/2	10	20	25 ❸	23...29	406	KTA9-40H-29A-EY	EY
7-1/2	10	20	30 ❸	26.5...32	448	KTA9-40H-32A-EY	EY
10	10	25	30 ❸	30...36	432	KTA9-40H-36A-EY	EY
10	10	30	30 ❸	34...40	480	KTA9-40H-40A-EY	EY
KTA7-45H High Interrupting Capacity							
2	3	5	7-1/2	6.3...10	130	KTA7-45H-10A-EZ	EZ
3	5	10	10	10...16	208	KTA7-45H-16A-EZ	EZ
5	5	10	15	14.5...20	260	KTA7-45H-20A-EZ	EZ
7-1/2	7-1/2	15	20	18...25	325	KTA7-45H-25A-EZ	EZ
7-1/2	10	20	30	23...32	416	KTA7-45H-32A-EZ	EZ
10	15	30	40 ❸	32...45	585	KTA7-45H-45A-EZ	EZ

Includes:

- Class I, Div 1, 2, Group C, D
Class II, Div 1, 2, Group E, F & G enclosure
Class III
- NEMA Type 4/7/9
- KTA9 "Type E" Self-protected Combination Manual Motor Controller ③
- Terminal Adaptor for Type E Applications
(Cat.# KT9-40-TE or KT7-45-TE)

Modifications (Factory Assembled)

Description	Add Suffix to Cat. Number
KT9 Auxiliaries & Trip Contacts, Front Mount 250V max. 1 NO Auxiliary 1 NC Auxiliary 1 NO + 1 NC Auxiliary 2 NO Auxiliaries 1 NO SC+OL + 1 NC 1 NO SC+OL + 1 NO	-B -A -C -D -R -S
Side Mount 600V max. 2 NC Auxiliaries 2 NO Auxiliaries 1 NO + 1 NC Auxiliary	-AS02 -AS20 -AS11
Accessories Undervoltage Release Module Shunt Release Module	-UA* -AA*
Enclosure Modifications Breather/Drain	-BD

-UA..-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

① Horsepower ratings shown in the table above are for reference. *The final selection of the controller depends on the actual motor full load current and service factor.*

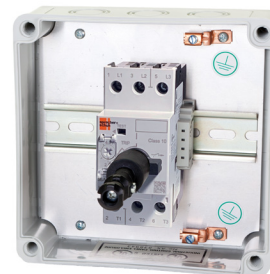
- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② KTA9 may be applied to single phase loads if 3 poles of device are wired in series. See footnote ① for device selection criteria.

③ Catalog numbers with specific voltages (i.e. @ 575V) shaded in gray are suitable for use as a manual motor starter only because they are not Type E rated. See page F1:5 for ratings.

Enclosed KTU9 Circuit Breaker - Type 4 / 4X / 12

Amp / Interrupt Rating					Non-metallic, Type 4 / 4X / 12 Enclosure	
						
① Fixed Thermal Current Rating [A]	Magnetic Trip [A]	Interrupting Rating (60Hz) [KA]			Catalog Number	Dimension Code
		240V	480Y /277V	600Y /347V		
KTU9-D — High Interrupting Capacity – 2-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-2D-0.5-VG	Q6 ①
1.0	15...20xI _N	100	100	50	KTU9-40H-2D-1-VG	
2.0	15...20xI _N	100	100	50	KTU9-40H-2D-2-VG	
3.0	15...20xI _N	100	100	50	KTU9-40H-2D-3-VG	
4.0	15...20xI _N	100	100	50	KTU9-40H-2D-4-VG	
5.0	15...20xI _N	100	100	50	KTU9-40H-2D-5-VG	
6.0	15...20xI _N	100	100	50	KTU9-40H-2D-6-VG	
8.0	15...20xI _N	100	100	50	KTU9-40H-2D-8-VG	
10.0	15...20xI _N	100	100	50	KTU9-40H-2D-10-VG	
12.0	15...20xI _N	65	65	25	KTU9-40H-2D-12-VG	
15.0	15...20xI _N	65	65	25	KTU9-40H-2D-15-VG	
20.0	15...20xI _N	65	65	~	KTU9-40H-2D-20-VG	
25.0	15...20xI _N	65	65	~	KTU9-40H-2D-25-VG	
30.0	15...20xI _N	65	65	~	KTU9-40H-2D-30-VG	
35.0	14 x I _N	65	65	~	KTU9-40H-2D-35-VG	
40.0	12 x I _N	65	65	~	KTU9-40H-2D-40-VG	
KTU9-D — High Interrupting Capacity – 3-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-3D-0.5-VG	Q6 ①
1.0	15...20xI _N	100	100	50	KTU9-40H-3D-1-VG	
2.0	15...20xI _N	100	100	50	KTU9-40H-3D-2-VG	
3.0	15...20xI _N	100	100	50	KTU9-40H-3D-3-VG	
4.0	15...20xI _N	100	100	50	KTU9-40H-3D-4-VG	
5.0	15...20xI _N	100	100	50	KTU9-40H-3D-5-VG	
6.0	15...20xI _N	100	100	50	KTU9-40H-3D-6-VG	
8.0	15...20xI _N	100	100	50	KTU9-40H-3D-8-VG	
10.0	15...20xI _N	100	100	50	KTU9-40H-3D-10-VG	
12.0	15...20xI _N	65	65	25	KTU9-40H-3D-12-VG	
15.0	15...20xI _N	65	65	25	KTU9-40H-3D-15-VG	
20.0	15...20xI _N	65	65	~	KTU9-40H-3D-20-VG	
25.0	15...20xI _N	65	65	~	KTU9-40H-3D-25-VG	
30.0	15...20xI _N	65	65	~	KTU9-40H-3D-30-VG	
35.0	14 x I _N	65	65	~	KTU9-40H-3D-35-VG	
40.0	12 x I _N	65	65	~	KTU9-40H-3D-40-VG	



Includes:

- Type 4 / 4X / 12 enclosure – watertight, dusttight, corrosion resistant
- KTU9 UL489 Molded Case Circuit Breaker
- Black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN Series E) ②

Modifications (Factory Assembled) ③

KT9 Auxiliaries & Trip Contacts - Front Mount 250V max.	Add Suffix to Cat. Number
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S

① KTU9 is 80% rated in this enclosure.

② A red and yellow handle may be selected instead of the standard black handle. Change "VG" suffix to "VJ". Ex: Change KTU9-40H-2D-0.16-VG to KTU9-40H-2D-0.16-VJ.

③ Load Terminal Cover KT9-PEFC is included with any factory modifications.

Enclosed KTU9 Circuit Breaker - Type 12

Amp / Interrupt Rating					Painted Steel, Type 12 Enclosure	
						
① Fixed Thermal Current Rating [A]	Magnetic Trip [A]	Interrupting Rating (60Hz) [KA]			Catalog Number	Dim Code
		240V	480Y /277V	600Y /347V		
KTU9-40H-2D — High Interrupting Capacity – 2-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-2D-0.5-DG	L ①
1.0	15...20xI _N	100	100	50	KTU9-40H-2D-1-DG	
2.0	15...20xI _N	100	100	50	KTU9-40H-2D-2-DG	
3.0	15...20xI _N	100	100	50	KTU9-40H-2D-3-DG	
4.0	15...20xI _N	100	100	50	KTU9-40H-2D-4-DG	
5.0	15...20xI _N	100	100	50	KTU9-40H-2D-5-DG	
6.0	15...20xI _N	100	100	50	KTU9-40H-2D-6-DG	
8.0	15...20xI _N	100	100	50	KTU9-40H-2D-8-DG	
10.0	15...20xI _N	100	100	50	KTU9-40H-2D-10-DG	
12.0	15...20xI _N	65	65	25	KTU9-40H-2D-12-DG	
15.0	15...20xI _N	65	65	25	KTU9-40H-2D-15-DG	
20.0	15...20xI _N	65	65	~	KTU9-40H-2D-20-DG	
25.0	15...20xI _N	65	65	~	KTU9-40H-2D-25-DG	
30.0	15...20xI _N	65	65	~	KTU9-40H-2D-30-DG	
35.0	14 x I _N	65	65	~	KTU9-40H-2D-35-DG	
40.0	12 x I _N	65	65	~	KTU9-40H-2D-40-DG	
KTU9-40H-3D — High Interrupting Capacity – 3-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-3D-0.5-DG	L ①
1.0	15...20xI _N	100	100	50	KTU9-40H-3D-1-DG	
2.0	15...20xI _N	100	100	50	KTU9-40H-3D-2-DG	
3.0	15...20xI _N	100	100	50	KTU9-40H-3D-3-DG	
4.0	15...20xI _N	100	100	50	KTU9-40H-3D-4-DG	
5.0	15...20xI _N	100	100	50	KTU9-40H-3D-5-DG	
6.0	15...20xI _N	100	100	50	KTU9-40H-3D-6-DG	
8.0	15...20xI _N	100	100	50	KTU9-40H-3D-8-DG	
10.0	15...20xI _N	100	100	50	KTU9-40H-3D-10-DG	
12.0	15...20xI _N	65	65	25	KTU9-40H-3D-12-DG	
15.0	15...20xI _N	65	65	25	KTU9-40H-3D-15-DG	
20.0	15...20xI _N	65	65	~	KTU9-40H-3D-20-DG	
25.0	15...20xI _N	65	65	~	KTU9-40H-3D-25-DG	
30.0	15...20xI _N	65	65	~	KTU9-40H-3D-30-DG	
35.0	14 x I _N	65	65	~	KTU9-40H-3D-35-DG	
40.0	12 x I _N	65	65	~	KTU9-40H-3D-40-DG	



Includes:

- Type 12 enclosure – dusttight
- KTU9 UL489 Molded Case Circuit Breaker
- Black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ②

Modifications (Factory Assembled) ③

KT9 Auxiliaries & Trip Contacts - Front Mount 250V max.	Add Suffix to Cat. Number
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S

① KTU9 is 80% rated in this enclosure.

② A red and yellow handle may be selected instead of the standard black handle. Change "DG" suffix to "DJ". Ex: Change KTU9-40H-2D-0.16-DG to KTU9-D-2D-0.16-DJ.

③ Load Terminal Cover KT9-PEFC is included with any factory modifications.

Enclosed KTU9 Circuit Breaker - Type 4 / 12

Amp / Interrupt Rating					Painted Steel, Type 4 / 12 Enclosure	
						
① Fixed Thermal Current Rating [A]	Magnetic Trip [A]	Interrupting Rating (60Hz) [KA]			Catalog Number	Dimension Code
		240V	480Y /277V	600Y /347V		
KTU9-40H-2D — High Interrupting Capacity – 2-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-2D-0.5-WG	WG ①
1.0	15...20xI _N	100	100	50	KTU9-40H-2D-1-WG	
2.0	15...20xI _N	100	100	50	KTU9-40H-2D-2-WG	
3.0	15...20xI _N	100	100	50	KTU9-40H-2D-3-WG	
4.0	15...20xI _N	100	100	50	KTU9-40H-2D-4-WG	
5.0	15...20xI _N	100	100	50	KTU9-40H-2D-5-WG	
6.0	15...20xI _N	100	100	50	KTU9-40H-2D-6-WG	
8.0	15...20xI _N	100	100	50	KTU9-40H-2D-8-WG	
10.0	15...20xI _N	100	100	50	KTU9-40H-2D-10-WG	
12.0	15...20xI _N	65	65	25	KTU9-40H-2D-12-WG	
15.0	15...20xI _N	65	65	25	KTU9-40H-2D-15-WG	
20.0	15...20xI _N	65	65	~	KTU9-40H-2D-20-WG	
25.0	15...20xI _N	65	65	~	KTU9-40H-2D-25-WG	
30.0	15...20xI _N	65	65	~	KTU9-40H-2D-30-WG	
35.0	14 x I _N	65	65	~	KTU9-40H-2D-35-WG	
40.0	12 x I _N	65	65	~	KTU9-40H-2D-40-WG	
KTU9-40H-3D — High Interrupting Capacity – 3-Pole						
0.5	15...20xI _N	100	100	50	KTU9-40H-3D-0.5-WG	WG ①
1.0	15...20xI _N	100	100	50	KTU9-40H-3D-1-WG	
2.0	15...20xI _N	100	100	50	KTU9-40H-3D-2-WG	
3.0	15...20xI _N	100	100	50	KTU9-40H-3D-3-WG	
4.0	15...20xI _N	100	100	50	KTU9-40H-3D-4-WG	
5.0	15...20xI _N	100	100	50	KTU9-40H-3D-5-WG	
6.0	15...20xI _N	100	100	50	KTU9-40H-3D-6-WG	
8.0	15...20xI _N	100	100	50	KTU9-40H-3D-8-WG	
10.0	15...20xI _N	100	100	50	KTU9-40H-3D-10-WG	
12.0	15...20xI _N	65	65	25	KTU9-40H-3D-12-WG	
15.0	15...20xI _N	65	65	25	KTU9-40H-3D-15-WG	
20.0	15...20xI _N	65	65	~	KTU9-40H-3D-20-WG	
25.0	15...20xI _N	65	65	~	KTU9-40H-3D-25-WG	
30.0	15...20xI _N	65	65	~	KTU9-40H-3D-30-WG	
35.0	14 x I _N	65	65	~	KTU9-40H-3D-35-WG	
40.0	12 x I _N	65	65	~	KTU9-40H-3D-40-WG	



Includes:

- Type 4/12 enclosure – watertight, dusttight
- KTU9 UL489 Molded Case Circuit Breaker
- Black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ②

Modifications (Factory Assembled) ③

KT9 Auxiliaries & Trip Contacts - Front Mount 250V max.	Add Suffix to Cat. Number
1 NO Auxiliary	-B
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S

① KTU9 up to 15 Amp is 100% rated in this enclosure. KTU9 20...30 Amp is 80% rated.

② A red and yellow handle may be selected instead of the standard black handle. Change "WG" suffix to "WJ". Ex: Change KTU9-40H-2D-0.16-WG to KTU9-40H-2D-0.16-WJ.

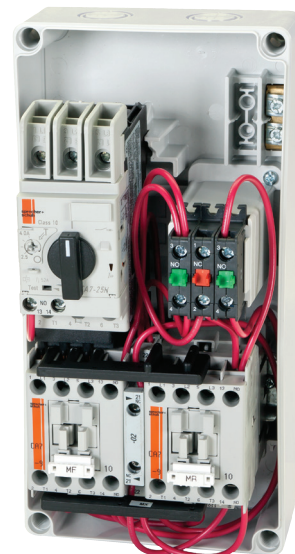
③ Load Terminal Cover KT9-PEFC is included with any factory modifications.

Combination KWIKstarters

Type E/F Combination Motor Controllers

KTA9 can be applied in combination with a CA7 contactor for remote control and an enclosure with matching environmentally approved thru-the-door handle disconnect mechanism to meet all requirements for a Construction Type E or F Combination Starter. This selection of individual Combination starters are smaller and are less expensive than Classic Construction Type A (Fusible), or Type C (Thermal-magnetic Molded Case Circuit Breaker), as offered in the following pages.

Sprecher + Schuh has developed a KWIKStarter version of the Combination Motor Controller which can be easily field assembled or can be purchased as a factory assembly.



Why Type E/F?

NEC430-53.C.1 defines that the short-circuit protection of a single motor branch circuit shall be provided by a set of fuses or a thermal-magnetic molded case circuit breaker. Alternatively NEC 430-53.C.6 also permits the use of a Self-protected Combination Motor Controller can be used to not only provide short-circuit protection for a single motor branch circuit but also provide a means of disconnect and overload protection. Self-protected Combination motor controllers like KTA9 can be combined with CA7, providing a coil for cover control or remote operation. This results in a Construction Type E or Type F (based on selection depending on published UL ratings) Combination starter per UL508. For details of UL, NEC and CSA application standards and rules please see our online white paper, Applying KT9 Motor Controllers.

F4

KWIKstarter Type

Non-reversing

CL KWIKstarter IEC 3-Phase

Reversing

CLU FVR KWIKstarter IEC

Contactor Size

Standard - Series CA7

709
712
716
723
730
737
743
755

Contactor Coil

Standard - Series CA7

024Z	012E
0120	024E
220W	036E
0277	048E
0415	110E
0480	220E
0600	

Enclosure Type

KAL Type 4/4X/12 - IP66 Plastic

CL - KAL 709 024Z - CB10B - 3U

Circuit Breaker

KT9, Type E

A16B	0.1-0.16A
A25B	0.16-0.25A
A40B	0.25-0.4A
A63B	0.4-0.63A
B10B	0.63-1A
B16B	1-1.6A
C10B	6.3-10A
C16B	10-16A
B10B	0.63-1A
B25B	1.6-2.5A
B40B	2.5-4A
B40B	2.5-4A
B63B	4-6.3A

Cover Control

Non-Reversing

1Y Pilot Light Only
3 "Start-Stop" PB
4 "On-Off" PB
5 "Hand-Auto" S/S
6 "Off-On" S/S
17 "Hand-Off-Auto" Illum. S/S
3U "Start-Stop" Multi-function PB
4U "I-O" Multi-function PB
9 "Emergency Stop"
0 Reset Only

Reversing

3U "For-Stop-Rev" Multi-function
4U "Up-Stop-Down" Multi-function
5U "Open-Stop-Close" Multi
6 "For-Off-Rev" S/S
7 "Up-Off-Close" S/S
8 "Open-Off-Close" S/S
0 Reset Only/Plug

Options

For complete listing of Option Codes, refer to each Modification table in the section.

This illustration is for reference only. Turn to the appropriate page to determine specific catalog number.

Enclosed Non-Reversing Combination Controller, Type 1/12K/IP66 ⑥⑦

Amp / Horsepower Rating						Non-Metallic Type 1/12K/IP66 Enclosure (KS7-COC4R)							
						Dim Code							
							Max. Horsepower ①②③				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ④⑤⑧⑨
							Three Phase						
							200V	230V	460V	575V			
KTA9-32S Standard Interrupting Capacity													
~	~	~	~	0.10...0.16	2.2	CL-KAL709*-CA16B-G▼	Q4						
~	~	~	~	0.16...0.25	3.5	CL-KAL709*-CA25B-G▼	Q4						
~	~	~	~	0.25...0.40	5.6	CL-KAL709*-CA40B-G▼	Q4						
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-CA63B-G▼	Q4						
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-CB10B-G▼	Q4						
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-CB16B-G▼	Q4						
1/2	1/2	1	1-1/2	1.6...2.5	35	CL-KAL709*-CB25B-G▼	Q4						
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-CB40B-G▼	Q4						
1	1-1/2	3	~	4.0...6.3	88	CL-KAL709*-CB63B-G▼	Q4						
2	2	5	~	6.3...10	140	CL-KAL712*-CC10B-G▼	Q4						
3	5	10	~	10...16	224	CL-KAL716*-CC16B-G▼	Q4						
KTA9-40H High Interrupting Capacity													
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-DA63B-G▼	Q4						
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-DB10B-G▼	Q4						
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-DB16B-G▼	Q4						
1/2	1/2	1	1-1/2	1.6...2.5	33	CL-KAL709*-DB25B-G▼	Q4						
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-DB40B-G▼	Q4						
1	1-1/2	3	5	4.0...6.3	82	CL-KAL709*-DB63B-G▼	Q4						
2	2	5	7-1/2	6.3...10	130	CL-KAL712*-DC10B-G▼	Q4						
3	5	10	10	10...16	208	CL-KAL716*-DC16B-G▼	Q4						

Includes:

- Type 1/12K Non-metallic enclosure (KS7-COC4R)
- KTA9 "Type E/F" Self-protected Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- CA7 contactor (for remote operation), AC coil
- Gray and black Type 1/12K; IP66 handle (KT9-SHB + KT9-KN) ⑧
- Power wiring
- Factory installed Pilot device option ⑥

Replace ▼ with option code.
See page F4:17 for
factory installed modifications

Contactor

AC Coil Codes (*) ④

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
120	110V	120V
220W	200-220V	208-240V
480 ⑤	440V	480V

Electronic DC Coil Codes (*) ④

DC Coil Codes	Voltage
24E	24V

KWIKstarter coils are wired standard from the factory to terminals "L1" and "L2" (for line voltage control). This means the coil voltage must match the line voltage. When a coil is specified for 120V or less, it will be wired for a separate control source (not wired to L1 and L2).

- ① Horsepower ratings shown in the table above are for reference. **The final selection of the controller depends on the actual motor full load current and service factor.** For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- ② Magnetic trip is fixed at 14x the maximum value of the current adjustment range.
- ③ CL-KAL may be applied to single phase loads. Contact factory for these specifications.
- ④ Other voltages available, see Section A in this catalog. CL-KAL with electronic DC coils are not interchangeable with non-electronic DC or AC coils.
- ⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.
- ⑥ One Pilot Device option must be selected. Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. Pilot Light option must match coil voltage 24V AC or DC, 120V AC or 240V AC only. See Section H for more information.

- ⑦ CPT not possible with KS7-COC4R. Refer to page F4:32 for wiring diagram and F4:33 for dimensional information.
- ⑧ A red and yellow handle may be selected instead of the standard gray and black handle. Change suffix "G" to "J". Ex: Change CL-KAL709*-DB25B-G▼ to CL-KAL709*-DB25B-J▼.
- ⑨ Catalog number includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Enclosed Non-Reversing Combination Controller with Red ON/Run Light, Type 1/12K/IP66 ⑥⑦

Amp / Horsepower Rating						Non-Metallic Type 1/12K/IP66 Enclosure (KS7-COC4R)	
							
Max. Horsepower ①②③				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ④⑥⑧⑨	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CL-KAL709*-CA16B-G1R4	Q4
~	~	~	~	0.16...0.25	3.5	CL-KAL709*-CA25B-G1R4	Q4
~	~	~	~	0.25...0.40	5.6	CL-KAL709*-CA40B-G1R4	Q4
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-CA63B-G1R4	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-CB10B-G1R4	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-CB16B-G1R4	Q4
1/2	1/2	1	1-1/2	1.6...2.5	35	CL-KAL709*-CB25B-G1R4	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-CB40B-G1R4	Q4
1	1-1/2	3	~	4.0...6.3	88	CL-KAL709*-CB63B-G1R4	Q4
2	2	5	~	6.3...10	140	CL-KAL712*-CC10B-G1R4	Q4
3	5	10	~	10...16	224	CL-KAL716*-CC16B-G1R4	Q4
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-DA63B-G1R4	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-DB10B-G1R4	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-DB16B-G1R4	Q4
1/2	1/2	1	1-1/2	1.6...2.5	33	CL-KAL709*-DB25B-G1R4	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-DB40B-G1R4	Q4
1	1-1/2	3	5	4.0...6.3	82	CL-KAL709*-DB63B-G1R4	Q4
2	2	5	7-1/2	6.3...10	130	CL-KAL712*-DC10B-G1R4	Q4
3	5	10	10	10...16	208	CL-KAL716*-DC16B-G1R4	Q4

Includes:

- Type 1/12K Non-metallic enclosure (KS7-COC4R)
- KTA9 "Type E/F" Self-protected Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- CA7 contactor (for remote operation)
- Gray and black Type 1/12K; IP66 handle (KT9-SHB + KT9-KN) ⑧
- Power wiring
- Factory installed Red ON/Run Pilot light ⑥

See page F4:17 for factory installed modifications

Contactor

AC Coil Codes (*) ④

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V

Electronic DC Coil Codes (*) ④

DC Coil Codes	Voltage
24E	24V

KWIKstarter coils are wired standard from the factory to terminals "L1" and "L2" (for line voltage control). This means the coil voltage must match the line voltage. When a coil is specified for 120V or less, it will be wired for a separate control source (not wired to L1 and L2).

- ① Horsepower ratings shown in the table above are for reference. *The final selection of the controller depends on the actual motor full load current and service factor.* For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- ② Magnetic trip is fixed at 14x the maximum value of the current adjustment range.
- ③ CL-KAL may be applied to single phase loads. Contact factory for these specifications.
- ④ Select coil code from this page only, CL-KAL with electronic DC coils are not interchangeable with non-electronic DC or AC coils.
- ⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.
- ⑥ Plastic Bezel is standard. Pilot device options include D7-BX_ Base Mounted contact blocks. Pilot Light option must match coil voltage 24V AC or DC, 120V AC or 240V AC only. See Section H for more information.

- ⑦ CPT not possible with KS7-COC4R. Refer to page F4:32 for wiring diagram and F4:33 for dimensional information.
- ⑧ A red and yellow handle may be selected instead of the standard gray and black handle. Change suffix "G" to "J". Ex: Change CL-KAL709*-DB25B-G1R4 to CL-KAL709*-DB25B-J1R4.
- ⑨ Catalog number includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Enclosed Non-Reversing Combination Controller with E-Stop, AC Operation - Type 1/12K/IP66 ①⑦⑧

Amp / Horsepower Rating						Non-Metallic Type 1/12K/IP66 Enclosure (KS7-COC4R)	
							
Max. Horsepower ㉔㉓㉔				O/L Relay Am- pere Range	Magnetic Response Current	Catalog Number ㉓㉔㉓㉔	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CL-KAL709*-CA16B-G3U-9	Q4
~	~	~	~	0.16...0.25	3.5	CL-KAL709*-CA25B-G3U-9	Q4
~	~	~	~	0.25...0.40	5.6	CL-KAL709*-CA40B-G3U-9	Q4
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-CA63B-G3U-9	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-CB10B-G3U-9	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-CB16B-G3U-9	Q4
1/2	1/2	1	1-1/2	1.6...2.5	35	CL-KAL709*-CB25B-G3U-9	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-CB40B-G3U-9	Q4
1	1-1/2	3	~	4.0...6.3	88	CL-KAL709*-CB63B-G3U-9	Q4
2	2	5	~	6.3...10	140	CL-KAL712*-CC10B-G3U-9	Q4
3	5	10	~	10...16	224	CL-KAL716*-CC16B-G3U-9	Q4
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-DA63B-G3U-9	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-DB10B-G3U-9	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-DB16B-G3U-9	Q4
1/2	1/2	1	1-1/2	1.6...2.5	33	CL-KAL709*-DB25B-G3U-9	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-DB40B-G3U-9	Q4
1	1-1/2	3	5	4.0...6.3	82	CL-KAL709*-DB63B-G3U-9	Q4
2	2	5	7-1/2	6.3...10	130	CL-KAL712*-DC10B-G3U-9	Q4
3	5	10	10	10...16	208	CL-KAL716*-DC16B-G3U-9	Q4

Includes:

- Type 1/12K Non-metallic enclosure (KS7-COC4R) ①
- KTA9 "Type E/F" Self-protected Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- CA7 contactor (for remote operation), AC coil
- Multifunction 2-position Push Button and Emergency Stop ⑦
- Gray and black Type 1/12K; IP66 handle (KT9-SHB + KT9-KN) ⑨
- Power wiring

This is a factory assembly.

Optional factory modifications are not available on this device.

Contactor

AC Coil Codes (*) ⑤

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
415	400-415V	~
480 ⑥	440V	480V
600 ⑥	550V	600V

KWIKstarter coils are wired standard from the factory to terminals "L1" and "L2" (for line voltage control). This means the coil voltage must match the line voltage. When a coil is specified for 120V or less, it will be wired for a separate control source (not wired to L1 and L2).

- ① This is a factory assembly. The KS7-COC4R does not include knock-outs for field assembly of this starter.
- ② Horsepower ratings shown in the table above are for reference. **The final selection of the controller depends on the actual motor full load current and service factor.** For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- ③ Magnetic trip is fixed at 14x the maximum value of the current adjustment range.
- ④ CL-KAL may be applied to single phase loads. Contact factory for these specifications.
- ⑤ Other voltages available, see Section A in this catalog.
- ⑥ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.
- ⑦ Uses D7P-U2EFFPX11 Two-Position Multifunction push button with legend I/O and D7P-MT44PX01 Emergency Stop Push Button.

- ⑧ CPT not possible with KS7-COC4R. Refer page F4:33 for dimensional information.
- ⑨ A red and yellow handle may be selected instead of the standard gray and black handle. Change suffix "G" to "J". Ex: CX7-9-10-*AS0.16A-A10-G4U-9 becomes CX7-9-10-*AS0.16A-A10-J4U-9.
- ⑩ Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Enclosed Reversing Combination Controller, Type 1/12K/IP66 ⑥⑦

Amp / Horsepower Rating						Non-Metallic Type 1/12K/IP66 Enclosure (KS7-C0C4R)	
							
Max. Horsepower ①②③				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ④⑥⑧⑨	Dim Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CL-KAL709*-CA16B-G▼	Q4
~	~	~	~	0.16...0.25	3.5	CL-KAL709*-CA25B-G▼	Q4
~	~	~	~	0.25...0.40	5.6	CL-KAL709*-CA40B-G▼	Q4
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-CA63B-G▼	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-CB10B-G▼	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-CB16B-G▼	Q4
1/2	1/2	1	1-1/2	1.6...2.5	35	CL-KAL709*-CB25B-G▼	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-CB40B-G▼	Q4
1	1-1/2	3	~	4.0...6.3	88	CL-KAL709*-CB63B-G▼	Q4
2	2	5	~	6.3...10	140	CL-KAL712*-CC10B-G▼	Q4
3	5	10	~	10...16	224	CL-KAL716*-CC16B-G▼	Q4
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CL-KAL709*-DA63B-G▼	Q4
~	~	1/2	1/2	0.63...1.0	14	CL-KAL709*-DB10B-G▼	Q4
~	~	3/4	~	1.0...1.6	22	CL-KAL709*-DB16B-G▼	Q4
1/2	1/2	1	1-1/2	1.6...2.5	33	CL-KAL709*-DB25B-G▼	Q4
3/4	3/4	2	3	2.5...4.0	52	CL-KAL709*-DB40B-G▼	Q4
1	1-1/2	3	5	4.0...6.3	82	CL-KAL709*-DB63B-G▼	Q4
2	2	5	7-1/2	6.3...10	130	CL-KAL712*-DC10B-G▼	Q4
3	5	10	10	10...16	208	CL-KAL716*-DC16B-G▼	Q4

Includes:

- Type 1/12K Non-metallic enclosure (KS7-C0C4R)
- KTA9 "Type E/F" Self-protected Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE)
- CAU7 reversing contactor (for remote operation)
- Gray and black Type 1/12K; IP66 handle (KT9-SHB + KT9-KN) ⑧
- Power wiring
- Factory installed Pilot device option ⑥

Replace ▼ with option code.
See page F4:17 for factory installed modifications

Contactor

AC Coil Codes (*) ④

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
024Z	24V	24V
0120	110V	120V
220W	200-220V	208-240V
0415	400-415V	~
0480 ⑤	440V	480V
0600 ⑤	550V	600V

Electronic DC Coil Codes (*) ④

DC Coil Codes	Voltage
24E	24V

KWIKstarter coils are wired standard from the factory to terminals "L1" and "L2" (for line voltage control). This means the coil voltage must match the line voltage. When a coil is specified for 120V or less, it will be wired for a separate control source (not wired to L1 and L2).

- ① Horsepower ratings shown in the table above are for reference. **The final selection of the controller depends on the actual motor full load current and service factor.** For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- ② Magnetic trip is fixed at 14x the maximum value of the current adjustment range.
- ③ CL-KAL may be applied to single phase loads. Contact factory for specifications.
- ④ Other voltages available, see Section A in this catalog. CL-KAL with electronic coils are not interchangeable with non-electronic DC or AC coils.
- ⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.
- ⑥ One Pilot Device option must be selected. Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. Pilot Light option must match coil voltage 24V AC or DC, 120V AC or 240V AC only. See Section H for more information.

- ⑦ CPT not possible with KS7-C0C4R. Refer to page F4:32 for wiring diagram and F4:33 for dimensional information.
- ⑧ A red and yellow handle may be selected instead of the standard gray and black handle. Change suffix "G" to "J". Ex: Change CL-KAL709*-CB16B-G▼ to CL-KAL709*-CB16B-J▼.
- ⑨ Catalog number includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

CL-KAL Non-Reversing Controller Modifications

Pilot Device Options - required	
Select one option only ①②③	Replace ▼ in catalog number with
START-STOP Multi-function	3U
I-O Multi-function	4U
OFF-ON 2-Position Selector switch	6
HAND-OFF-AUTO 3-Position Selector switch	17
Illuminated (Red)	7
Non-Illuminated (Black)	
Run Pilot Light Green	1G3
Run Pilot Light Red	1R4
D7-N8 22mm Hole Plug	0
Additional KT9 Auxiliaries & Trip Contacts	
Front Mount 250V maximum	
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-T10A01
1 NO SC+OL + 1 NO Auxiliary	-T10A10

CX7 Non-Reversing Controller Additions

Addition	Add to end of catalog number
CA7 Contactor Accessories	
Electronic Interface ④	-JE
Surge Suppressor RC	-RC
Surge Suppressor Varistor	-V
CA7 Auxiliary Contacts ⑤⑥	
1 NO Auxiliary	-S10
1 NC Auxiliary	-S01
1 NO + 1 NC Auxiliary	-S11
2 NO Auxiliaries	-S20
2 NC Auxiliaries	-S02
Alternate Aux. Contact Arrangement (CA7 only)	
1 NC in lieu of standard 1 NO	-SX10
2 NC in lieu of standard 2 NO (on CXU7 only)	-SX2
Unwired Terminal Blocks Specify quantity (▼)	-▼TB

CLU-KAL Reversing Controller Modifications

Pilot Device Options - required	
Select one option only ①②③	Replace ▼ in catalog number with
FOR-STOP-REV Multi-function	3U
UP-STOP-DOWN Multi-function	4U
OPEN-STOP-CLOSE Multi-function	5U
FOR-STOP-REV 3-Position Selector switch	6
UP-OFF-DOWN 3-Position Selector switch	7
OPEN-OFF-CLOSE 3-Position Selector switch	8
Overload Alarm Pilot Light (Red)	1R4
D7-N8 22mm Hole Plug	0
Additional KT7 Auxiliaries & Trip Contacts	
Front Mount 250V maximum	
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-T10A01
1 NO SC+OL + 1 NO Auxiliary	-T10A10

CXU7 Reversing Controller Additions

Addition	Add to end of catalog number
CA7 Contactor Accessories	
Electronic Interface ④	-JE
Surge Suppressor RC	-RC
Surge Suppressor Varistor	-V

- ① KS7-COC4R only has (1) 22mm hole to accommodate (1) pilot device.
- ② Currently supply D7 multi-function pushbuttons as standard which do not require protective boots to meet Type 4X.
See Section H in this catalog for description (all suffix's ending in "U").
- ③ Pilot Lights may be applied with 24VAC/VDC, 120VAC or 240VAC Control Circuit.
Pilot Lights with 380 VAC...575VAC require a control circuit transformer.
- ④ CRI7E-24 will be used. CRI7E-12 by special order only.

- ⑤ See Section A limitations on adding auxiliaries to Electronic DC Coil contactors.
- ⑥ Additional auxiliaries are per contactor. Number of auxiliaries is double for reversing applications. Multiply price adder by two (2).

CL-KAL KWIKstarter Enclosures for use with KTA9 Type E Motor Controllers and CA7 Contactors ①③

Component	Description	For Use With		Environmental Approvals	Catalog Number
		Type E Controller	Contactor		
	Enclosure for Combo KWIKstarter ① CL-KAL709...716 CLU-KAL709...716	KTA9-32S KTA9-40H	CA7-9...16 CA7-9E...16E CAU7-9...16 CAU7-9E...16E	cUL Type 1/12K IEC IP66	KS7-C0C4R

Handle Accessory for CX7/CXU7 KWIKstarters ①

Accessory	Description	For Use With	Color	Catalog Number
	Door Coupling Handle ① • Padlockable • NEMA Type 1/12K and IP66 • Includes handle coupling (shaft) • Requires KT9-KN1 Locking Knob	All KT9s	Gray/Black	T.B.A.
			Red/Yellow	T.B.A.
	Lockable Twist Knob • for use with KT9-SHB	All KT9s	Gray/Black	KT9-KN
	Universal Connector for CL-KAL/CLU-KAL • Provides electrical interconnection of KTA9 and CA7 (with AC or Electronic DC coil) • Applies to FVNR and FVR versions • Allows for mounting the CA7 on a single DIN rail	All KT9s	Black	T.B.A. ④

CL-KAL KWIKstarter Pilot Device Kits (for use with KS7-C0C4R Type 1/12K) ①②⑥

Kits	Description	Contact Blocks included		Catalog Number
		NO	NC	
	Multi-Function Pushbutton kit Non-illuminated START-STOP I-O	1	1	KS7-P3U KS7-P4U
	FOR-STOP-REV UP-STOP-DOWN OPEN-STOP-CLOSE	2	1	KS7-P3U-REV KS7-P4U-REV KS7-P5U-REV
	Selector switch kits Non-illuminated, includes legend plate			
	ON-OFF 2-Position	1	0	KS7-P6
	HAND-OFF-AUTO 3-Position	2	0	KS7-P7
	Run Pilot Light or Overload Alarm Pilot Light Plastic operator with diffuser lens in Red, Green or Yellow, with integrated LED power module	2	0	KS7-P6-REV KS7-P7-REV KS7-P8-REV
	Hole Plug used to plug 22.5mm holes.	Replace ☼ with color choice R = Red G = Green Y = Yellow		KS7-P1☼24V ⑥ KS7-P1☼120V KS7-P1☼240V
		Gray Plastic		D7-N8

- ① KS7-C0C4R is supplied with the following holes:
- (1) one 22mm hole for a Pilot Device option, select one kit from this page.
 - (1) one 22mm hole for KT9-SHB (or SHRY) Disconnect or Reset handle.
- ② Plastic bezel is standard. Pilot Device Kits include D7-BX_ Base Mounted contact blocks. See Section H for more information.

- ③ CPT not possible.
- ④ Standard KT9-32S-PEC23 does not work in CL-KAL/CLU-KAL Kwikstarters.
- ⑤ KS7-P1☼24V can be used with 24VAC or 24VDC.
- ⑥ KS7-C0C4R series B enclosures compatible to KTA9 series controllers
KS7-C0C4R series A enclosures compatible to KTA9 series controllers

Enclosed Non-Reversing Combination Controller, AC Operation - Type 4 / 12

Amp / Horsepower Rating						Painted Steel, Type 4 / 12 Enclosure	
							
Max. Horsepower ❶❷				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ❸❹	Dimension Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CX7-9-10-❖-AS0.16A-A10-WG	W6
~	~	~	~	0.16...0.25	3.5	CX7-9-10-❖-AS0.25A-A10-WG	W6
~	~	~	~	0.25...0.40	5.6	CX7-9-10-❖-AS0.40A-A10-WG	W6
~	~	~	~	0.40...0.63	8.8	CX7-9-10-❖-AS0.63A-A10-WG	W6
~	~	1/2	1/2	0.63...1.0	14	CX7-9-10-❖-AS1.0A-A10-WG	W6
~	~	3/4	~	1.0...1.6	22	CX7-9-10-❖-AS1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6...2.5	35	CX7-9-10-❖-AS2.5A-A10-WG	W6
3/4	3/4	2	3	2.5...4.0	52	CX7-9-10-❖-AS4.0A-A10-WG	W6
1	1-1/2	3	~	4.0...6.3	88	CX7-9-10-❖-AS6.3A-A10-WG	W6
2	2	5	~	6.3...10	140	CX7-12-10-❖-AS10A-A10-WG	W6
3	5	10	~	10...16	224	CX7-16-10-❖-AS16A-A10-WG	W6
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CX7-9-10-❖-AH0.63A-A10-WG	W6
~	~	1/2	1/2	0.63...1.0	14	CX7-9-10-❖-AH1.0A-A10-WG	W6
~	~	3/4	~	1.0...1.6	22	CX7-9-10-❖-AH1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6...2.5	33	CX7-9-10-❖-AH2.5A-A10-WG	W6
3/4	3/4	2	3	2.5...4.0	52	CX7-9-10-❖-AH4.0A-A10-WG	W6
1	1-1/2	3	5	4.0...6.3	82	CX7-9-10-❖-AH6.3A-A10-WG	W6
2	2	5	7-1/2	6.3...10	130	CX7-12-10-❖-AH10A-A10-WG	W6
3	5	10	10	10...16	208	CX7-16-10-❖-AH16A-A10-WG	W6
5	5	10	~	14.5...20	260	CX7-23-10-❖-AH20A-A10-WG	W6
5	7-1/2	15	~	18...25	325	CX7-23-10-❖-AH25A-A10-WG	W6
7-1/2	10	20	~	24...29	406	CX7-30-10-❖-AH29A-A10-WG	W6
7-1/2	10	25	~	27...32	448	CX7-37-10-❖-AH32A-A10-WG	W6
10	10	25	~	30...36	432	CX7-37-10-❖-AH36A-A10-WG	W6
10	10	30	~	34...40	480	CX7-43-10-❖-AH40A-A10-WG	W6
KTA7-45H High Interrupting Capacity							
3	3	7-1/2	10	6.3...10	130	CX7-30-10-❖-AH10A-A10-WG	W7
5	5	10	15	10...16	208	CX7-30-10-❖-AH16A-A10-WG	W7
5	7-1/2	15	20	14.5...20	260	CX7-30-10-❖-AH20A-A10-WG	W7
7-1/2	10	20	20	18...25	325	CX7-30-10-❖-AH25A-A10-WG	W7
7-1/2	10	20	25	23...32	416	CX7-30-10-❖-AH32A-A10-WG	W7
10	10	25	~	32...45	585	CX7-37-10-❖-AH45A-A10-WG	W7
10	15	30	~	32...45	585	CX7-43-10-❖-AH45A-A10-WG	W7

Includes:

- Type 4 / 12 enclosure - watertight, dusttight
- KTA9 "Type E/F" Self-protected Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- CA7 contactor (for remote operation), AC coil
- Power wiring
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ③
- Pilot device shown is factory installed option

See page F4:23 for factory installed modifications

Contactor AC Coil Codes (*) ④

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
415	400-415V	~
480 ⑤	440V	480V
600 ⑤	550V	600V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② CX7 may be applied to single phase loads. See footnote 1 for device selection criteria. To order single phase unit, change "CX7" in catalog number to "CBX7". Three pole series connection will be provided. Ex: Change CX7-9-10-**-0.16A-A10-WG to CBX7-9-10-**-0.16A-A10-WJ.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "WG" suffix to "WJ". Ex: Change CX7-9-10-**-0.16A-A10-WG to CX7-9-10-**-0.16A-A10-WJ.

④ Other voltages available, see Section A in this catalog.

⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.

⑥ Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Enclosed Non-Reversing Combination Controller, Electronic DC Coil - Type 4 / 12

Amp / Horsepower Rating						Painted Steel, Type 4 / 12 Enclosure			
Max. Horsepower ❶❷ Three Phase 200V230V460V575V						O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ❸	Dimension Code
KTA9-32S Standard Interrupting Capacity									
~	~	~	~	0.10...0.16	2.2	CX7-9E-10-❖-AS0.16A-A10-WG	W6		
~	~	~	~	0.16...0.25	3.5	CX7-9E-10-❖-AS0.25A-A10-WG	W6		
~	~	~	~	0.25...0.40	5.6	CX7-9E-10-❖-AS0.40A-A10-WG	W6		
~	~	~	~	0.40...0.63	8.8	CX7-9E-10-❖-AS0.63A-A10-WG	W6		
~	~	1/2	1/2	0.63...1.0	14	CX7-9E-10-❖-AS1.0A-A10-WG	W6		
~	~	3/4	~	1.0...1.6	22	CX7-9E-10-❖-AS1.6A-A10-WG	W6		
1/2	1/2	1	1-1/2	1.6...2.5	35	CX7-9E-10-❖-AS2.5A-A10-WG	W6		
3/4	3/4	2	3	2.5...4.0	52	CX7-9E-10-❖-AS4.0A-A10-WG	W6		
1	1-1/2	3	~	4.0...6.3	88	CX7-9E-10-❖-AS6.3A-A10-WG	W6		
2	2	5	~	6.3...10	140	CX7-12E-10-❖-AS10A-A10-WG	W6		
3	5	10	~	10...16	224	CX7-16E-10-❖-AS16A-A10-WG	W6		
KTA9-40H High Interrupting Capacity									
~	~	~	~	0.40...0.63	8.8	CX7-9E-10-❖-AH0.63A-A10-WG	W6		
~	~	1/2	1/2	0.63...1.0	14	CX7-9E-10-❖-AH1.0A-A10-WG	W6		
~	~	3/4	~	1.0...1.6	22	CX7-9E-10-❖-AH1.6A-A10-WG	W6		
1/2	1/2	1	1-1/2	1.6...2.5	33	CX7-9E-10-❖-AH2.5A-A10-WG	W6		
3/4	3/4	2	3	2.5...4.0	52	CX7-9E-10-❖-AH4.0A-A10-WG	W6		
1	1-1/2	3	5	4.0...6.3	82	CX7-9E-10-❖-AH6.3A-A10-WG	W6		
2	2	5	7-1/2	6.3...10	130	CX7-12E-10-❖-AH10A-A10-WG	W6		
3	5	10	10	10...16	208	CX7-16E-10-❖-AH16A-A10-WG	W6		
5	5	10	~	14.5...20	260	CX7-23E-10-❖-AH20A-A10-WG	W6		
5	7-1/2	15	~	18...25	325	CX7-23E-10-❖-AH25A-A10-WG	W6		
7-1/2	10	20	~	24...29	406	CX7-30E-10-❖-AH29A-A10-WG	W6		
7-1/2	10	25	~	27...32	448	CX7-37E-10-❖-AH32A-A10-WG	W6		
10	10	25	~	30...36	432	CX7-37E-10-❖-AH36A-A10-WG	W6		
10	10	30	~	34...40	480	CX7-43E-10-❖-AH40A-A10-WG	W6		
KTA7-45H High Interrupting Capacity									
3	3	7-1/2	10	6.3...10	130	CX7-30E-10-❖-AH10A-A10-WG	W7		
5	5	10	15	10...16	208	CX7-30E-10-❖-AH16A-A10-WG	W7		
5	7-1/2	15	20	14.5...20	260	CX7-30E-10-❖-AH20A-A10-WG	W7		
7-1/2	10	20	20	18...25	325	CX7-30E-10-❖-AH25A-A10-WG	W7		
7-1/2	10	20	25	23...32	416	CX7-37E-10-❖-AH32A-A10-WG	W7		
10	10	25	~	32...45	585	CX7-37E-10-❖-AH45A-A10-WG	W7		
10	15	30	~	32...45	585	CX7-43E-10-❖-AH45A-A10-WG	W7		

Includes:

- Type 4 / 12 enclosure - watertight, dustight
- KT9 "Type E/F" Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- CA7 contactor (for remote operation), Electronic DC coil
- Power wiring
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ③
- Pilot device shown is factory installed option

See page F4:23 for factory installed modifications

Contactor Electronic DC Coil Codes (*) ④

DC Coil Codes	Voltage
12E	12V
24E	24V
36E	36-48V
48E	48-72V
110E	110-125V
220E	220-250V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② CX7 may be applied to single phase loads. Contact factory for these specifications.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "WG" suffix to "WJ". Ex: Change CX7-9E-10-**-0.16A-A10-WG to CX7-9E-10-**-0.16A-A10-WJ

④ CX7-9E...43E with electronic coils are not interchangeable with non-electronic DC or AC coils.

⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code tables on this page for codes
Select modifications if required	

Enclosed Reversing Combination Controller, AC Operation - Type 4 / 12

Amp / Horsepower Rating					Painted Steel, Type 4 / 12 Enclosure		
							
Max. Horsepower ❶❷				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ❸❹	Dimension Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10..0.16	2.2	CXU7-9-22-❖-AS0.16A-A10-WG	W6
~	~	~	~	0.16..0.25	3.5	CXU7-9-22-❖-AS0.25A-A10-WG	W6
~	~	~	~	0.25..0.40	5.6	CXU7-9-22-❖-AS0.40A-A10-WG	W6
~	~	~	~	0.40..0.63	8.8	CXU7-9-22-❖-AS0.63A-A10-WG	W6
~	~	1/2	1/2	0.63..1.0	14	CXU7-9-22-❖-AS1.0A-A10-WG	W6
~	~	3/4	~	1.0..1.6	22	CXU7-9-22-❖-AS1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6..2.5	35	CXU7-9-22-❖-AS2.5A-A10-WG	W6
3/4	3/4	2	3	2.5..4.0	52	CXU7-9-22-❖-AS4.0A-A10-WG	W6
1	1-1/2	3	~	4.0..6.3	88	CXU7-9-22-❖-AS6.3A-A10-WG	W6
2	2	5	~	6.3..10	140	CXU7-12-22-❖-AS10A-A10-WG	W6
3	5	10	~	10..16	224	CXU7-16-22-❖-AS16A-A10-WG	W6
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40..0.63	8.8	CXU7-9-22-❖-AH0.63A-A10-WG	W6
~	~	1/2	1/2	0.63..1.0	14	CXU7-9-22-❖-AH1.0A-A10-WG	W6
~	~	3/4	~	1.0..1.6	22	CXU7-9-22-❖-AH1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6..2.5	33	CXU7-9-22-❖-AH2.5A-A10-WG	W6
3/4	3/4	2	3	2.5..4.0	52	CXU7-9-22-❖-AH4.0A-A10-WG	W6
1	1-1/2	3	5	4.0..6.3	82	CXU7-9-22-❖-AH6.3A-A10-WG	W6
2	2	5	7-1/2	6.3..10	130	CXU7-12-22-❖-AH10A-A10-WG	W6
3	5	10	10	10..16	208	CXU7-16-22-❖-AH16A-A10-WG	W6
5	5	10	~	14.5...20	260	CXU7-23-22-❖-AH20A-A10-WG	W6
5	7-1/2	15	~	18..25	325	CXU7-23-22-❖-AH25A-A10-WG	W6
7-1/2	10	20	~	24..29	406	CXU7-30-22-❖-AH29A-A10-WG	W6
7-1/2	10	25	~	27..32	448	CXU7-37-22-❖-AH32A-A10-WG	W6
10	10	25	~	30..36	432	CXU7-37-22-❖-AH36A-A10-WG	W6
10	10	30	~	34..40	480	CXU7-43-22-❖-AH40A-A10-WG	W6
KTA9-45H High Interrupting Capacity							
3	3	7-1/2	10	6.3..10	130	CXU7-30-22-❖-AH10A-A10-WG	W7
5	5	10	15	10..16	208	CXU7-30-22-❖-AH16A-A10-WG	W7
5	7-1/2	15	20	14.5...20	260	CXU7-30-22-❖-AH20A-A10-WG	W7
7-1/2	10	20	20	18..25	325	CXU7-30-22-❖-AH25A-A10-WG	W7
7-1/2	10	20	25	23..32	416	CXU7-37-22-❖-AH32A-A10-WG	W7
10	10	25	~	32..45	585	CXU7-37-22-❖-AH45A-A10-WG	W7
10	15	30	~	32..45	585	CXU7-43-22-❖-AH45A-A10-WG	W7

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② CXU7 may be applied to single phase loads. Contact factory for these applications.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "WG" suffix to "WJ". Ex: Change CXU7-9-10-*0.16A-A10-WG to CXU7-9-10-*0.16A-A10-WJ.

④ Other voltages available, see Section A in this catalog.

⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.

Includes:

- Type 4 / 12 enclosure - watertight, dusttight
- KT9 "Type E/F" Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- CA7 contactors (for remote operation), AC coil
- Power wiring
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ③
- Control power transformer, pilot device, terminals and other equipment shown are factory installed options

See page F4:23 for factory installed modifications

**Contactor
AC Coil Codes (*) ⑤**

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
415	400-415V	~
480 ⑥	440V	480V
600 ⑥	550V	600V

- ⑥ Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 250 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Enclosed Reversing Combination Controller, Electronic DC Coil - Type 4 / 12

Amp / Horsepower Rating						Painted Steel, Type 4 / 12 Enclosure	
							
Max. Horsepower ❶❷				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ❸	Dimension Code
Three Phase							
200V	230V	460V	575V				
KTA9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CXU7-9E-22-*AS0.16A-A10-WG	W6
~	~	~	~	0.16...0.25	3.5	CXU7-9E-22-*AS0.25A-A10-WG	W6
~	~	~	~	0.25...0.40	5.6	CXU7-9E-22-*AS0.40A-A10-WG	W6
~	~	~	~	0.40...0.63	8.8	CXU7-9E-22-*AS0.63A-A10-WG	W6
~	~	1/2	1/2	0.63...1.0	14	CXU7-9E-22-*AS1.0A-A10-WG	W6
~	~	3/4	~	1.0...1.6	22	CXU7-9E-22-*AS1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6...2.5	35	CXU7-9E-22-*AS2.5A-A10-WG	W6
3/4	3/4	2	3	2.5...4.0	52	CXU7-9E-22-*AS4.0A-A10-WG	W6
1	1-1/2	3	~	4.0...6.3	88	CXU7-9E-22-*AS6.3A-A10-WG	W6
2	2	5	~	6.3...10	140	CXU7-12E-22-*AS10A-A10-WG	W6
3	5	10	~	10...16	224	CXU7-16E-22-*AS16A-A10-WG	W6
KTA9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CXU7-9E-22-*AH0.63A-A10-WG	W6
~	~	1/2	1/2	0.63...1.0	14	CXU7-9E-22-*AH1.0A-A10-WG	W6
~	~	3/4	~	1.0...1.6	22	CXU7-9E-22-*AH1.6A-A10-WG	W6
1/2	1/2	1	1-1/2	1.6...2.5	33	CXU7-9E-22-*AH2.5A-A10-WG	W6
3/4	3/4	2	3	2.5...4.0	52	CXU7-9E-22-*AH4.0A-A10-WG	W6
1	1-1/2	3	5	4.0...6.3	82	CXU7-9E-22-*AH6.3A-A10-WG	W6
2	2	5	7-1/2	6.3...10	130	CXU7-12E-22-*AH10A-A10-WG	W6
3	5	10	10	10...16	208	CXU7-16E-22-*AH16A-A10-WG	W6
5	5	10	~	14.5...20	260	CXU7-23E-22-*AH20A-A10-WG	W6
5	7-1/2	15	~	18...25	325	CXU7-23E-22-*AH25A-A10-WG	W6
7-1/2	10	20	~	24...29	406	CXU7-30E-22-*AH29A-A10-WG	W6
7-1/2	10	25	~	27...32	448	CXU7-37E-22-*AH32A-A10-WG	W6
10	10	25	~	30...36	432	CXU7-37E-22-*AH36A-A10-WG	W6
10	10	30	~	34...40	480	CXU7-43E-22-*AH40A-A10-WG	W6
KTA7-45H High Interrupting Capacity							
3	3	7-1/2	10	6.3...10	130	CXU7-30E-22-*AH10A-A10-WG	W7
5	5	10	15	10...16	208	CXU7-30E-22-*AH16A-A10-WG	W7
5	7-1/2	15	20	14.5...20	260	CXU7-30E-22-*AH20A-A10-WG	W7
7-1/2	10	20	20	18...25	325	CXU7-30E-22-*AH25A-A10-WG	W7
7-1/2	10	20	25	23...32	416	CXU7-37E-22-*AH32A-A10-WG	W7
10	10	25	~	32...45	585	CXU7-37E-22-*AH45A-A10-WG	W7
10	15	30	~	32...45	585	CXU7-43E-22-*AH45A-A10-WG	W7

Includes:

- Type 4 / 12 enclosure - watertight, dusttight
- KTA9 "Type E/F" Combination Motor Controller with 1 NO front mount Auxiliary Contact (Cat #: KT9-PE1-10)
- Terminal Adaptor for Type E Applications (Cat.# KT9-40-TE or KT7-45-TE)
- CA7 contactors (for remote operation), Electronic DC coil
- Power wiring
- Gray and black Type 4/4X/12; IP66 handle (Cat.# KT9-HTN) ③
- Control power transformer, pilot device, terminals and other equipment shown are factory installed options

See page F4:23 for factory installed modifications

Contactor Electronic DC Coil Codes (*) ④

DC Coil Codes	Voltage
12E	12V
24E	24V
36E	36-48V
48E	48-72V
110E	110-125V
220E	220-250V

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code Select modifications if required	See Coil Code tables on this page for codes

① Horsepower ratings shown in the table above are for reference.

The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.

② CXU7 may be applied to single phase loads. Contact factory for these applications.

③ A red and yellow handle may be selected instead of the standard gray and black handle. Change "WG" suffix to "WJ". Ex: Change CXU7-9E-10-*****-0.16A-A10-WG to CXU7-9E-10-*****-0.16A-A10-WJ.

④ CXU7-9E...43E with electronic coils are not interchangeable with non-electronic DC or AC coils.

⑤ KAIC Assembly Rating Index. See pages F3:17-F3:20 for Application Rating Guide.

Non-Reversing and Reversing CX7 Combination Controller Modifications (Factory Assembled)

Description	Add Suffix to Catalog Number
Pilot Devices ①	
START-STOP multi-function pushbutton	3U
ON-OFF multi-function pushbutton	4U
FOR-STOP-REV multi-function pushbutton	3U
UP-STOP-DOWN multi-function pushbutton	4U
OPEN-STOP-CLOSE multi-function pushbutton	5U
HAND-AUTO selector switch	5
OFF-ON selector switch	6
HAND-OFF-AUTO selector switch	7
FOR-OFF-REV selector switch	6
UP-OFF-DOWN selector switch	7
OPEN-OFF-CLOSE selector switch	8
Pilot light only ③	1
Pilot lights only (2) ③	2
Pilot light w/ START-STOP multi-function pushbutton ③	13U
Pilot light w/ ON-OFF multi-function pushbutton ③	14U
Pilot light w/ HAND-AUTO selector switch ③	15
Pilot light w/ OFF-ON selector switch ③	16
Pilot light w/ HAND-OFF-AUTO selector switch ③	17
Control Power Transformer	
(with fused primary and secondary)	Replace (*) in catalog # with the following codes ②
Primary volts Secondary volts	
208 120	XA
240 120	XB
50 watt 480 120	XC
Standard 575 120	XD
Capacity 380 110	XG
240 24	XE
480 24	XF
600 24	XJ
KT9 Auxiliaries & Trip Contacts	
Front mount 250V maximum	
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S
Side Mount 600V maximum	
2 NC Auxiliaries	-AS02
2 NO Auxiliaries	-AS20
1 NO + 1 NC Auxiliary	-AS11

Description	Add Suffix to Catalog Number
Undervoltage & Shunt Modules	
KT9 Accessories	
Undervoltage Release Module Select coil voltage from table below	-UA*
Shunt Release Module	-AA*
CA7 Auxiliary Contacts ⑤	
1 NO Auxiliary	-S10
1 NC Auxiliary	-S01
1 NO + 1 NC Auxiliary	-S11
2 NO Auxiliaries	-S20
2 NC Auxiliaries	-S02
1 NO + 2 NC Auxiliary	-F12
2 NO + 1 NC Auxiliary	-F21
3 NO Auxiliaries	-F30
3 NC Auxiliaries	-F03
1 NO + 3 NC Auxiliary	-F13
3 NO + 1 NC Auxiliary	-F31
2 NO + 2 NC Auxiliary	-F22
4 NO Auxiliaries	-F40
4 NC Auxiliaries	-F04
Alternate Aux. Contact Arrangement (CA7 only)	
1 NC in lieu of standard 1 NO	-SX10
2 NC in lieu of standard 2 NO (on CXU7 only)	-SX2
CA7 Contactor Accessories	
Electronic Interface	-JE ④
Surge Suppressor RC	-RC
Surge Suppressor Varistor	-V
Unwired Terminal Blocks Specify quantity (▼)	-▼TB

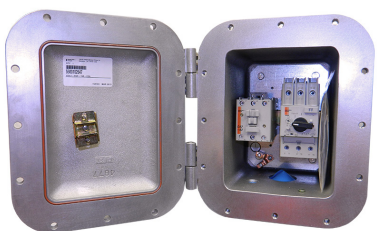
-UA..-AA Coil Codes (*)

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24	24V	24V...28V
120	110V	120V
230	220...230V	~
260	~	240...260V
277	~	277V
400	380...400V	~
480	415V	480V

- ① Currently supply D7 multi-function pushbuttons as standard which do not require protective boots to meet Type 4X. See Section H in this catalog for description (all suffix's ending in "U").
- ② Factory modifications often change the enclosure size. Refer to factory for dimensions when critical to the installation.

- ③ Pilot Lights may be applied with 24VAC/VDC, 120VAC or 240VAC Control Circuit. Pilot Lights with 277 VAC...575VAC require a control circuit transformer.
- ④ CRI7E-24 will be used. CRI7E-12 by special order only.
- ⑤ Additional auxiliaries are per contactor. Number of auxiliaries is double for reversing applications. Multiply price adder by two (2).

CX7 Explosion Proof Combination Controllers - NEMA Type 4/4X/7/9 with Type 4 Gaskets

Amp / Horsepower Rating							
Max. Horsepower ①②③				O/L Relay Ampere Range	Magnetic Response Current	Catalog Number ④	Dimension Code
Three Phase							
200V	230V	460V	575V				
KT9-32S Standard Interrupting Capacity							
~	~	~	~	0.10...0.16	2.2	CX7-9-10-*AS0.16A-A10-EZ	EZ
~	~	~	~	0.16...0.25	3.5	CX7-9-10-*AS0.25A-A10-EZ	EZ
~	~	~	~	0.25...0.40	5.6	CX7-9-10-*AS0.40A-A10-EZ	EZ
~	~	~	~	0.40...0.63	8.8	CX7-9-10-*AS0.63A-A10-EZ	EZ
~	~	1/2	1/2	0.63...1.0	14	CX7-9-10-*AS1.0A-A10-EZ	EZ
~	~	3/4	~	1.0...1.6	22	CX7-9-10-*AS1.6A-A10-EZ	EZ
1/2	1/2	1	1-1/2	1.6...2.5	35	CX7-9-10-*AS2.5A-A10-EZ	EZ
3/4	3/4	2	3	2.5...4.0	52	CX7-9-10-*AS4.0A-A10-EZ	EZ
1	1-1/2	3	~	4.0...6.3	88	CX7-9-10-*AS6.3A-A10-EZ	EZ
2	2	5	~	6.3...10	140	CX7-12-10-*AS10A-A10-EZ	EZ
3	5	10	~	10...16	224	CX7-16-10-*AS16A-A10-EZ	EZ
KT9-40H High Interrupting Capacity							
~	~	~	~	0.40...0.63	8.8	CX7-9-10-*AH0.63A-A10-EZ	EZ
~	~	1/2	1/2	0.63...1.0	14	CX7-9-10-*AH1.0A-A10-EZ	EZ
~	~	3/4	~	1.0...1.6	22	CX7-9-10-*AH1.6A-A10-EZ	EZ
1/2	1/2	1	1-1/2	1.6...2.5	33	CX7-9-10-*AH2.5A-A10-EZ	EZ
3/4	3/4	2	3	2.5...4.0	52	CX7-9-10-*AH4.0A-A10-EZ	EZ
1	1-1/2	3	5	4.0...6.3	82	CX7-9-10-*AH6.3A-A10-EZ	EZ
2	2	5	7-1/2	6.3...10	130	CX7-12-10-*AH10A-A10-EZ	EZ
3	5	10	10	10...16	208	CX7-16-10-*AH16A-A10-EZ	EZ
5	5	10	~	14.5...20	260	CX7-23-10-*AH20A-A10-EZ	EZ
5	7-1/2	15	~	18...25	325	CX7-23-10-*AH25A-A10-EZ	EZ
7-1/2	10	20	~	24...29	406	CX7-23-10-*AH29A-A10-EZ	EZ
7-1/2	10	25	~	27...32	448	CX7-23-10-*AH32A-A10-EZ	EZ
10	10	25	~	30...36	432	CX7-23-10-*AH36A-A10-EZ	EZ
10	10	30	~	34...40	480	CX7-23-10-*AH40A-A10-EZ	EZ
KT7-45H High Interrupting Capacity							
3	3	7-1/2	10	6.3...10	130	CX7-30-10-*AH10A-A10-EZ	EZ
5	5	10	15	10...16	208	CX7-30-10-*AH16A-A10-EZ	EZ
5	7-1/2	15	20	14.5...20	260	CX7-30-10-*AH20A-A10-EZ	EZ
7-1/2	10	20	20	18...25	325	CX7-30-10-*AH25A-A10-EZ	EZ
7-1/2	10	20	25	23...32	416	CX7-30-10-*AH32A-A10-EZ	EZ
10	10	25	~	32...45	585	CX7-37-10-*AH45A-A10-EZ	EZ
10	15	30	~	32...45	585	CX7-43-10-*AH45A-A10-EZ	EZ

Includes:

- Class I, Div I, Group B, C & D – Class II, Div I, Group E, F & G enclosure Class III, Zone I, IIB & H2
- KT9 "Type E" Self-protected Combination Manual Motor Controller with 1 NO front mount auxiliary contact (Cat.# KT9-PE1-10)
- Terminal Adaptor for Combo Type E/F Applications (Cat.# KT9-40-TE or KT7-45-TE)
- CA7 contactor (for remote operation), AC coil
- Power wiring

Modifications (Factory Assembled)

KT9 Auxiliaries & Trip Contacts,	Add Suffix to Cat. Number
Front Mount 250V max.	
1 NC Auxiliary	-A
1 NO + 1 NC Auxiliary	-C
2 NO Auxiliaries	-D
1 NO SC+OL + 1 NC Auxiliary	-R
1 NO SC+OL + 1 NO Auxiliary	-S
Side Mount 600V max.	
2 NO Auxiliaries	-AS20
1 NO + 1 NC Auxiliary	-AS11
CA7 Contactor Accessories	Add Suffix to Cat. Number
1 NC Auxiliary	-S01
1 NO Auxiliary	-S10
Electronic Interface	-JE
Surge Suppressor RC	-RC
Surge Suppressor Varistor	-V
Enclosure Modifications	
Dual START/STOP pushbutton	3
ON/OFF selector switch	6
H-O-A	7
Breather/Drain	-BD

Contactor AC Coil Codes (*) ④

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
415	400-415V	~
480 ⑤	440V	480V
600 ⑤	550V	600V

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KT9-32S-4.0A.

② Magnetic trip is fixed at 14x the maximum value of the current adjustment range.

③ CX7 may be applied to single phase loads. See footnote 1 for device selection criteria. To order single phase unit, change "CX7" in catalog number to "CBX7". Three pole series connection will be provided. Ex: Change CX7-9-10-*0.16A-A10-EZ to CBX7-9-10-*0.16A-A10-EZ.

④ Other voltages available, see Section A in this catalog.

⑤ Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 300 VAC maximum control circuit matching line voltage, or provided from separate source, used

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See tables on this page for codes
Select modifications if required	

to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Type E/F Simplex & Duplex Pump Controllers



Simplex Pump Controllers

A single KTA9 motor controller plus matching CA7 contactor can be combined in an enclosure as a Simplex Combination Controller for pumping applications. Additional space is provided for the customer to field addition of time clocks or float switches as required by the application. An environmentally approved thru-the-door handle provides for a required disconnect. These pump panels can be supplied with Suitable for Service Entrance (SUSE) label on demand. Type E/F pump panels are less expensive than the classic Construction Type A (Fusible) or Construction Type C (MCCB) versions shown in Section C of this catalog.

Type E/F Simplex Pump Controller Panels include:

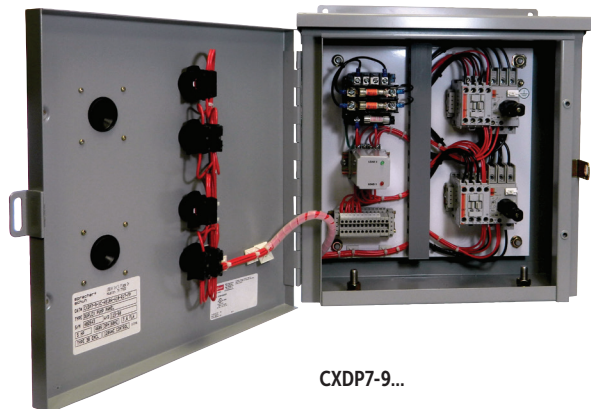
- Contactor (with AC coil)
- Type E Self-protected motor controller
- "START" Momentary Push Button
- "HOA" Selector Switch
- A minimum of 6" x 10" extra back pan space
- UL Type rated enclosure

Duplex Pump Controllers

Two starter duplex panels can be fed from one power source or two power sources and include lead/lag control circuitry to meet customers' need in pumping and many other applications. Two environmentally approved thru-the-door handle disconnect mechanisms means no main feeder device is required and smaller and less expensive panel than a classic duplex panel as offered in Section C of this catalog. The following pages include a selection of duplex controllers and you can contact your Sprecher + Schuh representative to modify the selection.

Type E/F Duplex Pump Controller Panels include:

- (2) Contactors (AC coil) and (2) Type E/F self protected motor controllers
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page F4:31



F4

Enclosed Motor Circuit Controllers

Series CXP7 & Type E/F Combo Pump Panel

Max. Horsepower ①②③ Three Phase				Current Adjustment Range (A)	Magnetic Response Current	Type 3R Rainproof (Metal)	Dimension Code	Type 4X Watertight Corrosion Resistant Non-metallic	Dimension Code
200V	230V	460V	575V			Catalog Number ④⑥		Catalog Number ④⑥	
KTA9-32S Standard Interrupting Capacity									
~	~	~	~	0.10..0.16	2.2	CXP7-9-10-*-AS0.16A-A10-RG	O	CXP7-9-10-*-AS0.16A-A10-CG	R/F
~	~	~	~	0.16..0.25	3.5	CXP7-9-10-*-AS0.25A-A10-RG	O	CXP7-9-10-*-AS0.25A-A10-CG	R/F
~	~	~	~	0.25..0.40	5.6	CXP7-9-10-*-AS0.40A-A10-RG	O	CXP7-9-10-*-AS0.40A-A10-CG	R/F
~	~	~	~	0.40..0.63	8.8	CXP7-9-10-*-AS0.63A-A10-RG	O	CXP7-9-10-*-AS0.63A-A10-CG	R/F
~	~	1/2	1/2	0.63...1.0	14	CXP7-9-10-*-AS1.0A-A10-RG	O	CXP7-9-10-*-AS1.0A-A10-CG	R/F
~	~	3/4	~	1.0..1.6	22	CXP7-9-10-*-AS1.6A-A10-RG	O	CXP7-9-10-*-AS1.6A-A10-CG	R/F
1/2	1/2	1	1-1/2	1.6..2.5	35	CXP7-9-10-*-AS2.5A-A10-RG	O	CXP7-9-10-*-AS2.5A-A10-CG	R/F
3/4	3/4	2	3	2.5..4.0	52	CXP7-9-10-*-AS4.0A-A10-RG	O	CXP7-9-10-*-AS4.0A-A10-CG	R/F
1	1-1/2	3	~	4.0..6.3	88	CXP7-9-10-*-AS6.3A-A10-RG	O	CXP7-9-10-*-AS6.3A-A10-CG	R/F
2	2	5	~	6.3...10	140	CXP7-12-10-*-AS10A-A10-RG	O	CXP7-12-10-*-AS10A-A10-CG	R/F
3	5	10	~	10..16	224	CXP7-16-10-*-AS16A-A10-RG	O	CXP7-16-10-*-AS16A-A10-CG	R/F
KTA9-40H High Interrupting Capacity									
~	~	~	~	0.40..0.63	8.8	CXP7-9-10-*-AH0.63A-A10-RG	O	CXP7-9-10-*-AH0.63A-A10-CG	R/F
~	~	1/2	1/2	0.63...1.0	14	CXP7-9-10-*-AH1.0A-A10-RG	O	CXP7-9-10-*-AH1.0A-A10-CG	R/F
~	~	3/4	~	1.0..1.6	22	CXP7-9-10-*-AH1.6A-A10-RG	O	CXP7-9-10-*-AH1.6A-A10-CG	R/F
1/2	1/2	1	1-1/2	1.6..2.5	33	CXP7-9-10-*-AH2.5A-A10-RG	O	CXP7-9-10-*-AH2.5A-A10-CG	R/F
3/4	3/4	2	3	2.5..4.0	52	CXP7-9-10-*-AH4.0A-A10-RG	O	CXP7-9-10-*-AH4.0A-A10-CG	R/F
1	1-1/2	3	5	4.0..6.3	82	CXP7-9-10-*-AH6.3A-A10-RG	O	CXP7-9-10-*-AH6.3A-A10-CG	R/F
2	2	5	7-1/2	6.3...10	130	CXP7-12-10-*-AH10A-A10-RG	O	CXP7-12-10-*-AH10A-A10-CG	R/F
3	5	10	10	10..16	208	CXP7-16-10-*-AH16A-A10-RG	O	CXP7-16-10-*-AH16A-A10-CG	R/F
5	5	10	~	14.5...20	260	CXP7-23-10-*-AH20A-A10-RG	O	CXP7-23-10-*-AH20A-A10-CG	R/F
5	7-1/2	15	~	18..25	325	CXP7-23-10-*-AH25A-A10-RG	O	CXP7-23-10-*-AH25A-A10-CG	R/F
7-1/2	10	20	~	24..29	406	CXP7-30-10-*-AH29A-A10-RG	O	CXP7-30-10-*-AH29A-A10-CG	R/F
7-1/2	10	25	~	27..32	448	CXP7-37-10-*-AH32A-A10-RG	O	CXP7-37-10-*-AH32A-A10-CG	R/F
10	10	25	~	30..36	432	CXP7-37-10-*-AH36A-A10-RG	O	CXP7-37-10-*-AH36A-A10-CG	R/F
10	10	30	~	34..40	480	CXP7-43-10-*-AH40A-A10-RG	O	CXP7-43-10-*-AH40A-A10-CG	R/F
KTA7-45H High Interrupting Capacity									
3	3	7-1/2	10	6.3...10	130	CXP7-30-10-*-AH10A-A10-RG	Q	CXP7-30-10-*-AH10A-A10-CG	R/F
5	5	10	15	10..16	208	CXP7-30-10-*-AH16A-A10-RG	Q	CXP7-30-10-*-AH16A-A10-CG	R/F
5	7-1/2	15	20	14.5...20	260	CXP7-30-10-*-AH20A-A10-RG	Q	CXP7-30-10-*-AH20A-A10-CG	R/F
7-1/2	10	20	20	18..25	325	CXP7-30-10-*-AH25A-A10-RG	Q	CXP7-30-10-*-AH25A-A10-CG	R/F
7-1/2	10	20	25	23..32	416	CXP7-30-10-*-AH32A-A10-RG	Q	CXP7-30-10-*-AH32A-A10-CG	R/F
10	10	25	~	32..45	585	CXP7-37-10-*-AH45A-A10-RG	Q	CXP7-37-10-*-AH45A-A10-CG	R/F
10	15	30	~	32..45	585	CXP7-43-10-*-AH45A-A10-RG	Q	CXP7-43-10-*-AH45A-A10-CG	R/F

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. Contact factory for DC applications.

Contactors AC Coil Codes (*) ⑤

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
024Z	24V	24V
0120	110V	120V
220W	200-220V	208-240V
0415	400-415V	~
0480 ⑥	440V	480V
0600 ⑥	550V	600V

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page
Factory Modifications available	Contact factory

① Horsepower ratings shown in the table above are for reference. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA9-32S-4.0A.
- Magnetic trip is fixed at 13x the maximum value of the current adjustment range.
- CXP7 may be applied to single phase loads. See footnote 1 for device selection criteria. To order single phase unit, change "CXP7" in catalog number to "CBX7". Three pole series connection will be provided. Ex: Change CXP7-9-10-*-0.16A-A10-RG to CBX7-9-10-*-0.16A-A10-RG.
- A red and yellow handle may be selected instead of the standard gray and black handle. Change "RG" suffix to "RJ". Ex: Change CXP7-9-10-*-0.16A-A10-RG to CXP7-9-10-*-0.16A-A10-RJ.
- Other voltages available, see Section A in this catalog.
- Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 300 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Series CXDP7 with Type E/F Combination Controller

Max. Horsepower Three Phase				Current Adjustment Range (A)	Magnetic Response Current	Type 3R Rainproof (Metal)	Dimension Code	Type 4X Watertight Corrosion Resistant Non-metallic	Dimension Code
200V	230V	460V	575V			Catalog Number ㉔		Catalog Number ㉔	
KTA9-32S Standard Interrupting Capacity									
~	~	~	~	0.10..0.16	2.2	CXDP7-9-10-**-AS0.16A-A10-RG	R/F	CXDP7-9-10-**-AS0.16A-A10-CG	R/F
~	~	~	~	0.16..0.25	3.5	CXDP7-9-10-**-AS0.25A-A10-RG	R/F	CXDP7-9-10-**-AS0.25A-A10-CG	R/F
~	~	~	~	0.25..0.40	5.6	CXDP7-9-10-**-AS0.40A-A10-RG	R/F	CXDP7-9-10-**-AS0.40A-A10-CG	R/F
~	~	~	~	0.40..0.63	8.8	CXDP7-9-10-**-AS0.63A-A10-RG	R/F	CXDP7-9-10-**-AS0.63A-A10-CG	R/F
~	~	1/2	1/2	0.63...1.0	14	CXDP7-9-10-**-AS1.0A-A10-RG	R/F	CXDP7-9-10-**-AS1.0A-A10-CG	R/F
~	~	3/4	~	1.0..1.6	22	CXDP7-9-10-**-AS1.6A-A10-RG	R/F	CXDP7-9-10-**-AS1.6A-A10-CG	R/F
1/2	1/2	1	1-1/2	1.6..2.5	35	CXDP7-9-10-**-AS2.5A-A10-RG	R/F	CXDP7-9-10-**-AS2.5A-A10-CG	R/F
3/4	3/4	2	3	2.5..4.0	52	CXDP7-9-10-**-AS4.0A-A10-RG	R/F	CXDP7-9-10-**-AS4.0A-A10-CG	R/F
1	1-1/2	3	~	4.0..6.3	88	CXDP7-9-10-**-AS6.3A-A10-RG	R/F	CXDP7-9-10-**-AS6.3A-A10-CG	R/F
2	2	5	~	6.3..10	140	CXDP7-12-10-**-AS10A-A10-RG	R/F	CXDP7-12-10-**-AS10A-A10-CG	R/F
3	5	10	~	10..16	224	CXDP7-16-10-**-AS16A-A10-RG	R/F	CXDP7-16-10-**-AS16A-A10-CG	R/F
KTA9-40H High Interrupting Capacity									
~	~	~	~	0.40..0.63	8.8	CXDP7-9-10-**-AH0.63A-A10-RG	R/F	CXDP7-9-10-**-AH0.63A-A10-CG	R/F
~	~	1/2	1/2	0.63...1.0	14	CXDP7-9-10-**-AH1.0A-A10-RG	R/F	CXDP7-9-10-**-AH1.0A-A10-CG	R/F
~	~	3/4	~	1.0..1.6	22	CXDP7-9-10-**-AH1.6A-A10-RG	R/F	CXDP7-9-10-**-AH1.6A-A10-CG	R/F
1/2	1/2	1	1-1/2	1.6..2.5	33	CXDP7-9-10-**-AH2.5A-A10-RG	R/F	CXDP7-9-10-**-AH2.5A-A10-CG	R/F
3/4	3/4	2	3	2.5..4.0	52	CXDP7-9-10-**-AH4.0A-A10-RG	R/F	CXDP7-9-10-**-AH4.0A-A10-CG	R/F
1	1-1/2	3	5	4.0..6.3	82	CXDP7-9-10-**-AH6.3A-A10-RG	R/F	CXDP7-9-10-**-AH6.3A-A10-CG	R/F
2	2	5	7-1/2	6.3..10	130	CXDP7-12-10-**-AH10A-A10-RG	R/F	CXDP7-12-10-**-AH10A-A10-CG	R/F
3	5	10	10	10..16	208	CXDP7-16-10-**-AH16A-A10-RG	R/F	CXDP7-16-10-**-AH16A-A10-CG	R/F
5	5	10	~	14.5...20	260	CXDP7-23-10-**-AH20A-A10-RG	R/F	CXDP7-23-10-**-AH20A-A10-CG	R/F
5	7-1/2	15	~	18...25	325	CXDP7-23-10-**-AH25A-A10-RG	R/F	CXDP7-23-10-**-AH25A-A10-CG	R/F
7-1/2	10	20	~	24...29	406	CXDP7-30-10-**-AH29A-A10-RG	R/F	CXDP7-30-10-**-AH29A-A10-CG	R/F
7-1/2	10	25	~	27..32	448	CXDP7-37-10-**-AH32A-A10-RG	R/F	CXDP7-37-10-**-AH32A-A10-CG	R/F
10	10	25	~	30..36	432	CXDP7-37-10-**-AH36A-A10-RG	R/F	CXDP7-37-10-**-AH36A-A10-CG	R/F
10	10	30	~	34..40	480	CXDP7-43-10-**-AH40A-A10-RG	R/F	CXDP7-43-10-**-AH40A-A10-CG	R/F
KTA7-45H High Interrupting Capacity									
3	3	7-1/2	10	6.3..10	130	CXDP7-30-10-**-AH10A-A10-RG	R/F	CXDP7-30-10-**-AH10A-A10-CG	R/F
5	5	10	15	10..16	208	CXDP7-30-10-**-AH16A-A10-RG	R/F	CXDP7-30-10-**-AH16A-A10-CG	R/F
5	7-1/2	15	20	14.5...20	260	CXDP7-30-10-**-AH20A-A10-RG	R/F	CXDP7-30-10-**-AH20A-A10-CG	R/F
7-1/2	10	20	20	18..25	325	CXDP7-30-10-**-AH25A-A10-RG	R/F	CXDP7-30-10-**-AH25A-A10-CG	R/F
7-1/2	10	20	25	23..32	416	CXDP7-30-10-**-AH32A-A10-RG	R/F	CXDP7-30-10-**-AH32A-A10-CG	R/F
10	10	25	~	32..45	585	CXDP7-37-10-**-AH45A-A10-RG	R/F	CXDP7-37-10-**-AH45A-A10-CG	R/F
10	15	30	~	32..45	585	CXDP7-43-10-**-AH45A-A10-RG	R/F	CXDP7-43-10-**-AH45A-A10-CG	R/F

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. Contact factory for DC applications.

Contactor AC Coil Codes (*) ①

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
024Z	24V	24V
0120	110V	120V
220W	200-220V	208-240V
0415	400-415V	~
0480 ②	440V	480V
0600 ②	550V	600V

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

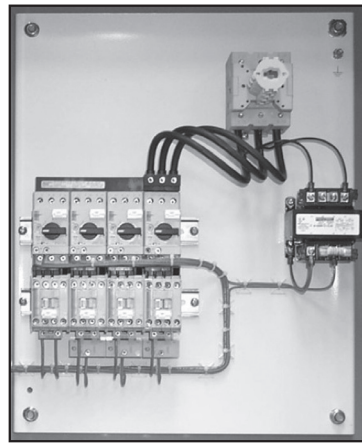
Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page
Factory Modifications available	Contact factory

- ① Other voltages available, see Section A in this catalog.
- ② Catalog number (-A10) includes front-mounted auxiliary KT9-PE1-10 with 300 VAC maximum control circuit matching line voltage, or provided from separate source, used to de-energize contactor coil under fault condition (auxiliary not available for customer use). For control circuits greater than 300 VAC, which is common with line voltage, the auxiliary will not be wired into the control circuit since the contactor coil will be de-energized when KTA9 is tripped due to overload or short circuit; therefore, the KT9-PE1-10 auxiliary is available for customer use.

Custom Multi-Starter Control Panels

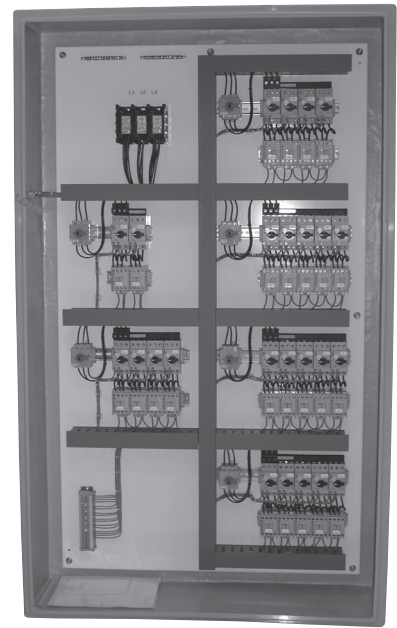
From 10 to 100 or more,
consult the experts



Your Motor Control + Protection Consultant

Sprecher + Schuh's slogan is "Motor control + protection consultant". This means part of our job is to be knowledgeable about these issues and to help customers choose components that not only comply with UL, NEC and CSA standards but also maximizes the SCCR rating of the assembled multi-starter panel, leading to increased protection of equipment and personnel.

Multiple KTA9, KTB9 or KTC9 motor controllers plus matching CA7 contactors can be combined in a single assembly as a multi-motor starter custom control panel. Three, 33, 133 or more motor controllers and KTU9 molded case circuit breakers, as well as other power components and control circuits, can be designed and



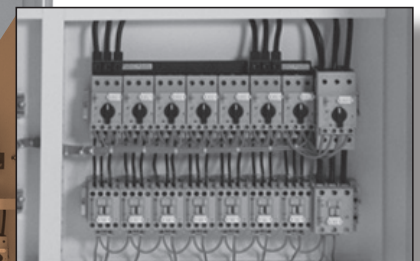
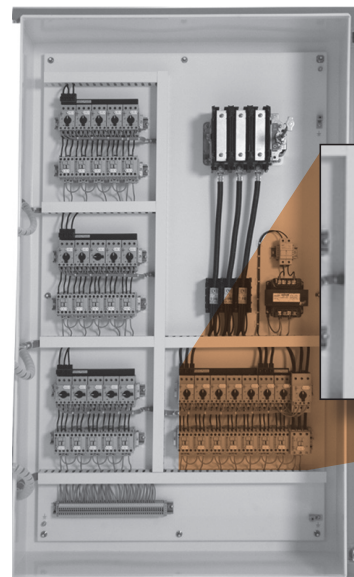
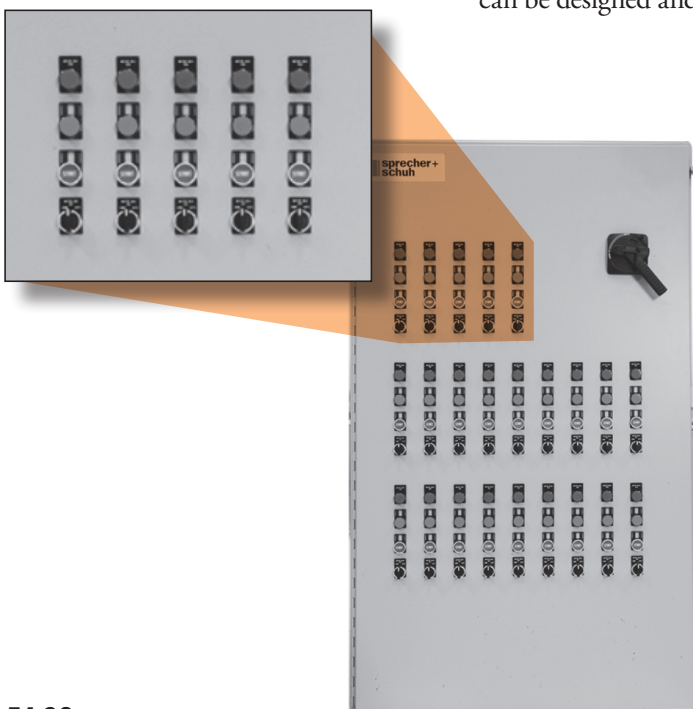
assembled into a custom multi-motor starter by Sprecher + Schuh to meet customers' unique application requirements. These pages include a few pictures of custom multi-starter control panels built by Sprecher + Schuh. Contact your Sprecher + Schuh motor control and protection representative for consultation regarding design, quotations, or help explaining the complex UL, NEC and CSA codes that apply to a custom assembly.

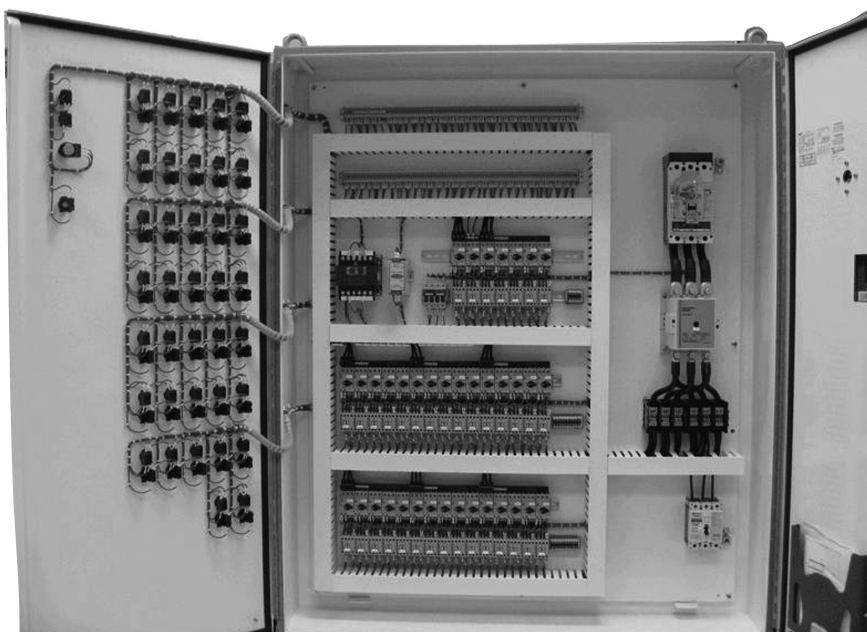
F4

Enclosed Motor Circuit Controllers

For your
**Custom
application**

contact
customquotes@sprecherschuh.com



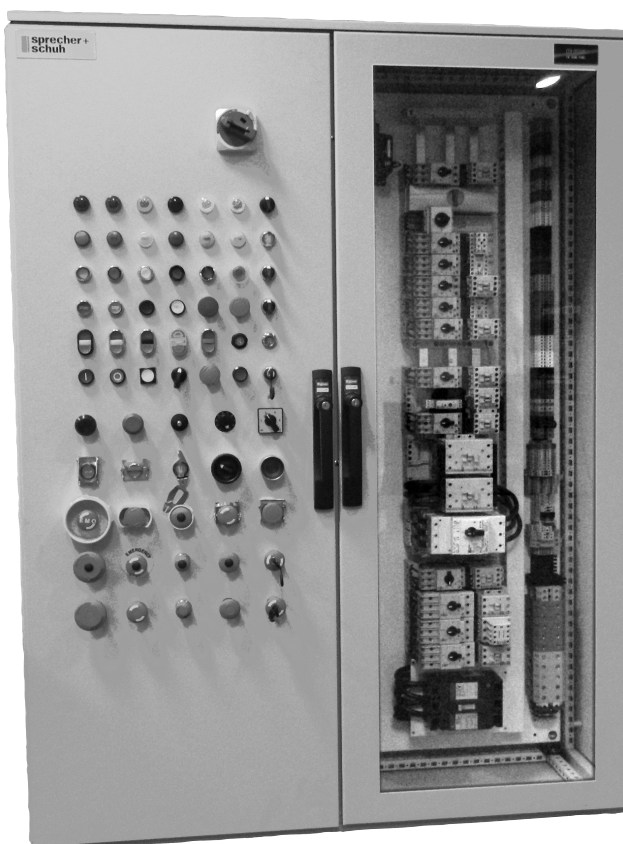


Short Circuit Current Ratings (SSCR)

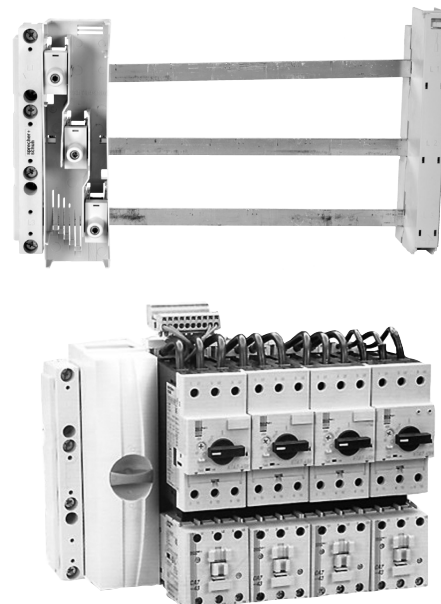
Short Circuit Current Ratings as defined by UL is a hot topic of discussion within the controls marketplace.

UL 508A Industrial Control Panel specifications require every multiple motor starter panel assembly to be labeled with the Short-Circuit Current Rating (SCCR), which depends on the weakest component's KAIC rating. The SCCR rules are complicated and UL conducts classes around the country on this subject. Sprecher + Schuh conducted a survey of multi-starter panel builders which indicated an increased concern on

the part of panel builders to comply with the UL regulations; yet many do not truly understand the complexity of the rules. This is another reason to consult the experts at Sprecher + Schuh.



3-Phase 60mm Bus Bar System vertically arranged to maximize space



Custom Bus Bar Systems

Sprecher + Schuh has teamed-up with *Wöhner* to supply 3-phase 60 mm bus bar systems. Bus Bar systems offer more flexibility, and a smaller, more economical alternative to a Motor Control Center that uses 'bucket' design.

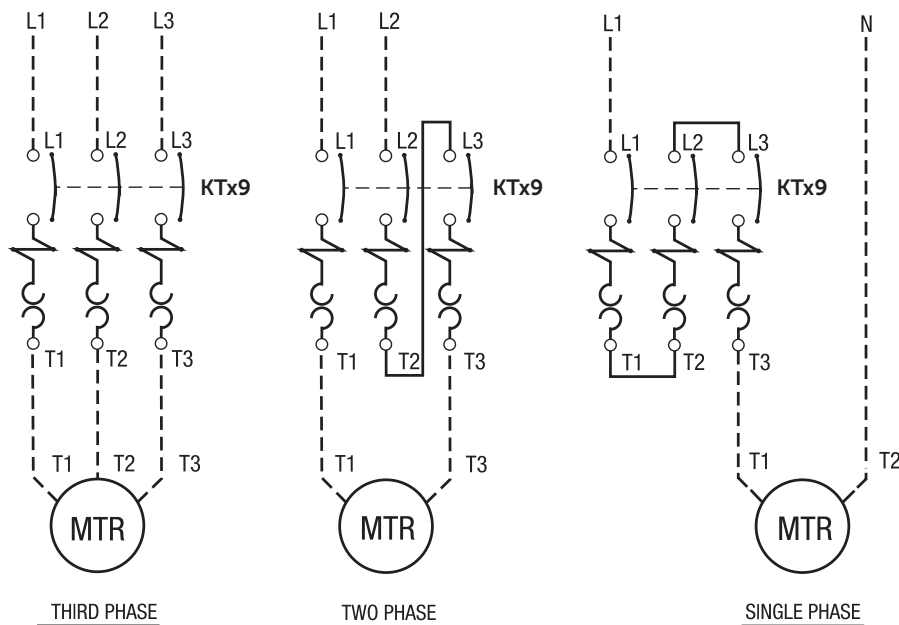
- Sprecher + Schuh can supply 3-phase 60 mm bus bar components for customer assembly into a control panel.
- We can help design a 3-phase 60 mm bus bar system and provide it with or without components and ship to the customer as open assembly.
- Sprecher + Schuh can help design a 3-phase 60 mm bus bar system and integrate that bus system into an enclosed assembly or multi-starter custom control panel to meet customers' unique specifications.

Please contact your local Sprecher + Schuh Representative or our Technical Support Team to help design our components to meet your needs, which can include building the custom control.

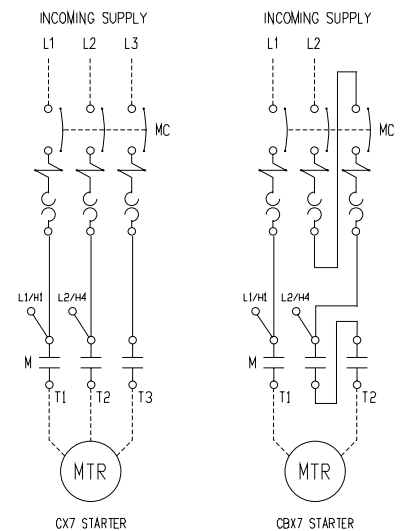
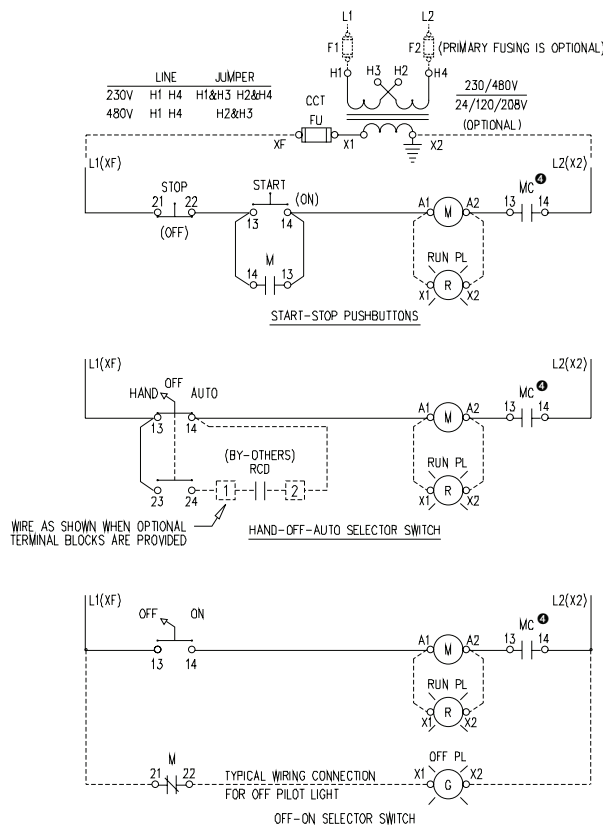
F4

Enclosed Motor Circuit Controllers

Single, Two and Three Phase Connection Diagram



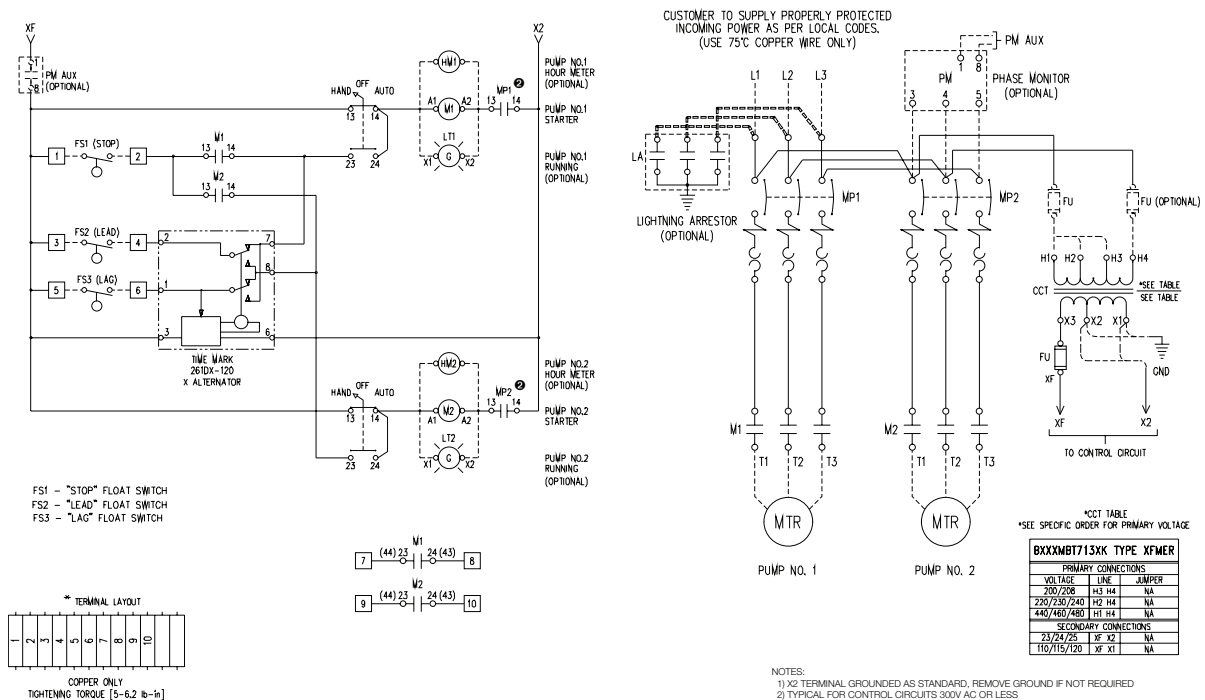
Type E/F Combination Controller Full Voltage Non-Reversing
AC Control with D7 Series Pilot Devices



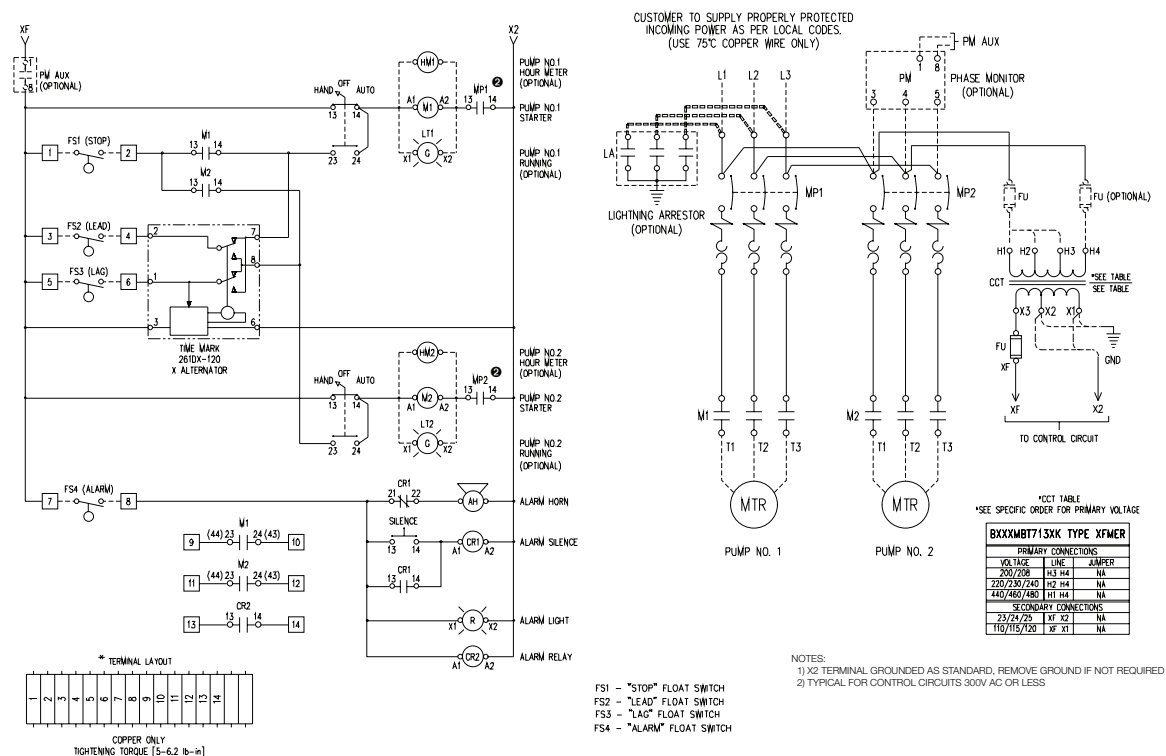
- NOTES:
- 1) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER
 - 2) MC: K79 'TYPE E' MOTOR CONTROLLER
 - 3) X2 TERMINAL GROUNDED AS STANDARD, REMOVE GROUND IF NOT REQUIRED
 - 4) TYPICAL FOR CONTROL CIRCUITS 300V AC OR LESS

IRED

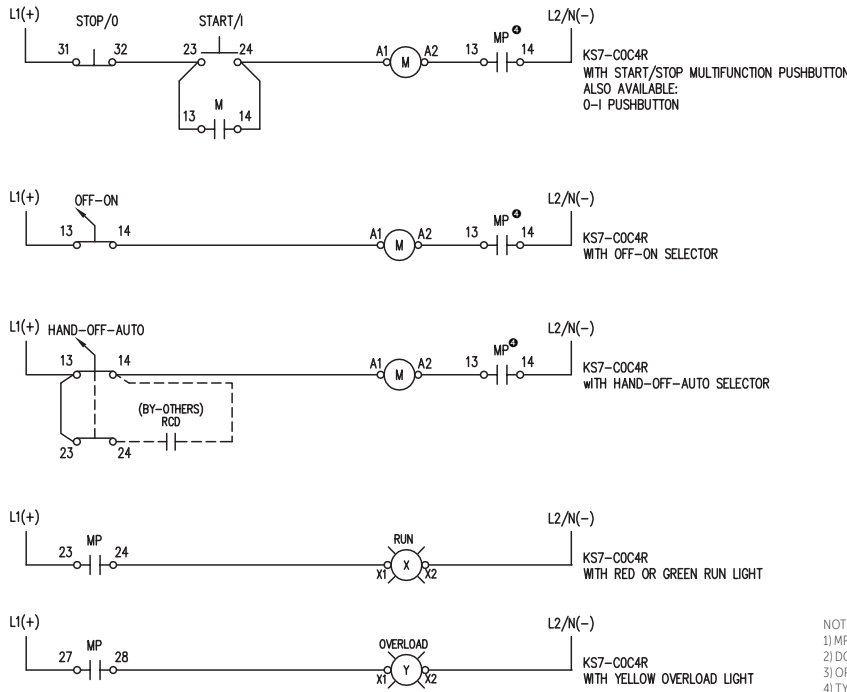
KT A9 Type E/F Combination 3-PH FVNR Duplex Alternating Panel
with H-O-A, Lead, Lag and Stop 1-Pole Float Switches



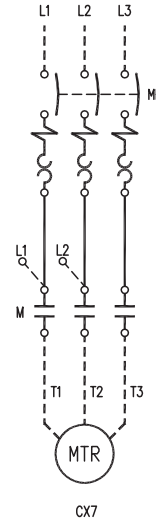
KT A9 Type E/F Combination 3-PH FVNR Duplex Alternating Panel
with H-O-A, Alarm Circuit, Lead, Lag, Stop, 1-Pole Float Switches



ECombo/EComboPlus/CX7 KWIKstarters Non-Reversing

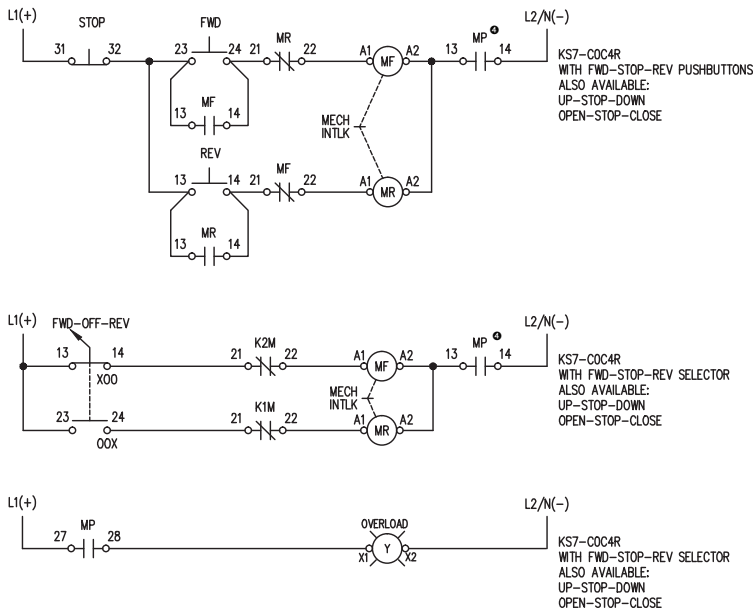


CUSTOMER TO SUPPLY PROPER BRANCH CIRCUIT PROTECTION AS PER LOCAL CODES. (USE 75°C COPPER WIRE ONLY)

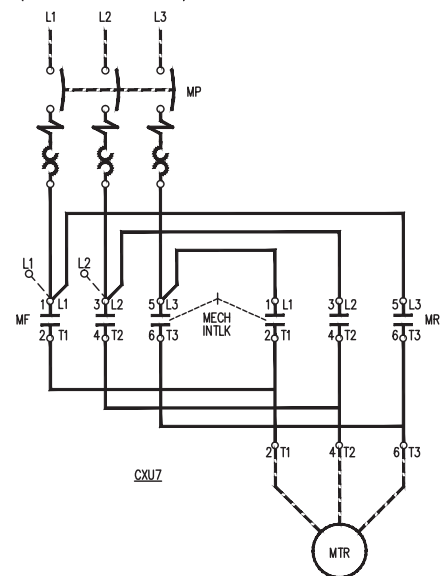


- NOTES:
- 1) MP: KT9 "TYPE E" MOTOR CONTROLLER
 - 2) DO NOT CONNECT A1-A2 TO L1-L2 UNLESS COIL VOLTAGE MATCHES LINE VOLTAGE
 - 3) OPTIONAL RUN LIGHT, MAYBE RED OR GREEN
 - 4) TYPICAL FOR CONTROL CIRCUITS 300V AC OR LESS

ECombo/EComboPlus/CXU7 KWIKstarters Reversing



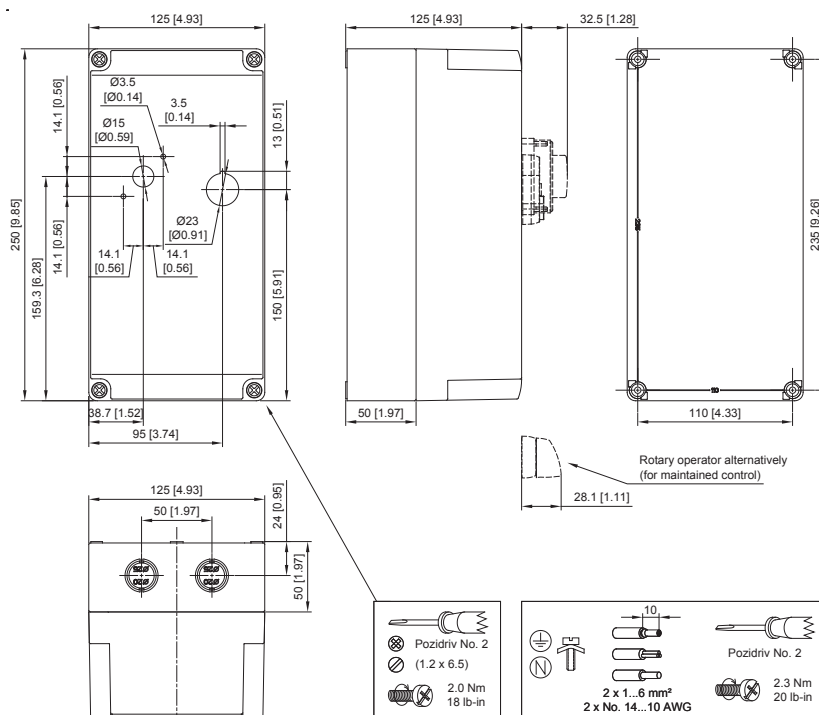
CUSTOMER WILL PROVIDE BRANCH CIRCUIT PROTECTION (F1) SEE THE APPLICATION INSTRUCTION SHEET - COMPONENT SELECTION TABLES FOR MAX. FUSE SIZE, CLASS, AND APPLICABLE SHORT CIRCUIT RATING (USE 75°C COPPER WIRE ONLY)



- NOTES:
- 1) MECHANICAL INTERLOCK
 - 2) MP: KT9 "TYPE E" MOTOR CONTROLLER
 - 3) DO NOT CONNECT A1-A2 TO L1-L2 UNLESS COIL VOLTAGE MATCHES LINE VOLTAGE
 - 4) TYPICAL FOR CONTROL CIRCUITS 300V AC OR LESS

CX7/CXU7 KWIKstarter Enclosure KS7-COC4R (Dimension Code Q4)

Dimensions are in decimal inches. Dimensions not intended for manufacturing purposes.


Enclosure Dimensions

Dimensions are in decimal inches. Dimensions not intended for manufacturing purposes. See dimension drawings on next page.

TYPE 4/4X/12K - IP66 ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth	Mtg Centers		Panel Size Sub-Pan	
		A	B	C		E	F	N/A	N/A
AY	1	6.4	3.9	4.90	N/A	N/A	5.6	N/A	N/A

TYPE-4/4X/12 ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth	Mtg Centers		Panel Size Sub-Pan	
		A	B	C		E	F	N/A	N/A
Q5	2	7.00	5.03	5.02	4.3	4.21	6.18	N/A	N/A
Q6	3	7.00	7.00	6.02	5.3	6.18	6.18	N/A	N/A
Q7	4	11.87	7.31	10.6	7.23	6.54	11.10	N/A	N/A

TYPE-4/12 & 12 ENCLOSURES

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth	Mtg Centers		Panel Size Sub-Pan		H
		A	B	C		E	F	N/A	N/A	
W6	5	9.84	7.87	8.24	5.31	5.31	9.13	9.09	7.13	-
W7	5	13.78	11.81	10.2	7.28	9.25	13.07	13.03	11.06	-
L	6	8	6	6	5.53	4	8.75	6.75	4.88	9.5

TYPE 4/7/9 ENCLOSURES

Encl. ID Dim.	Figure No.	Mtg. Dim.			Inside Dim.	Outside Dim.				Conduit Entry Top & Bot
		A	B	C		D	E	F	G	
EX	7	3.25	7.75	3.5	6.0	3.0	4.56	7.06	6.25	0.75
EY	7	5.50	8.50	5.50	5.50	6.0	7.0	7.0	7.38	1.0
EZ	8	9.13	4.50	6.0	8.0	6.63	9.25	11.25	9.34	1.50

Enclosures

See Enclosure Dimension Charts on Previous Page.

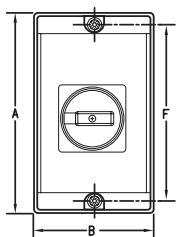


FIGURE NO. 1

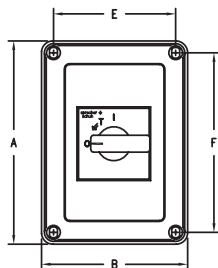


FIGURE NO. 2

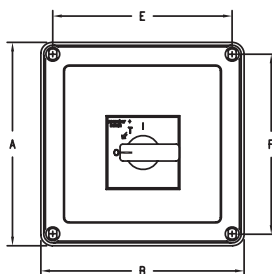


FIGURE NO. 3

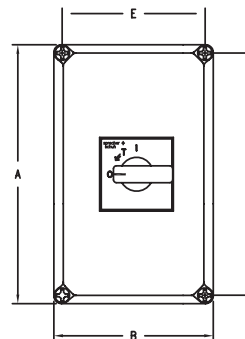
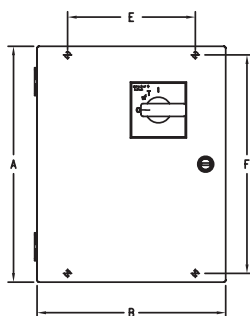
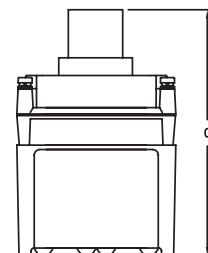
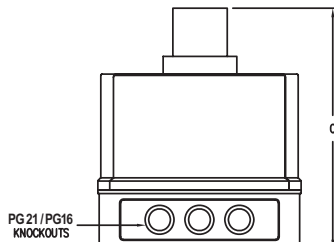
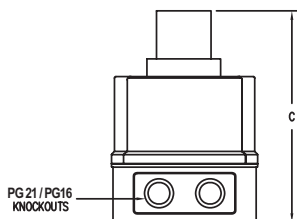
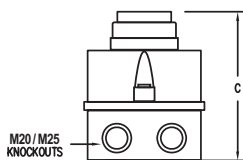


FIGURE NO. 4



TYPE 4/12
FIGURE NO. 5

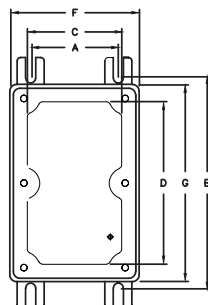
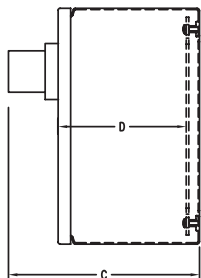


FIGURE NO. 7

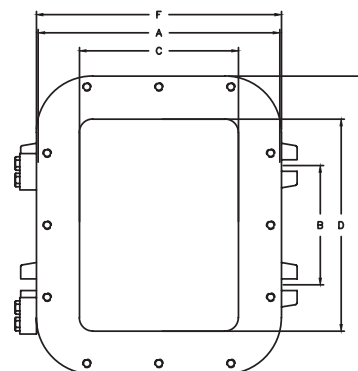
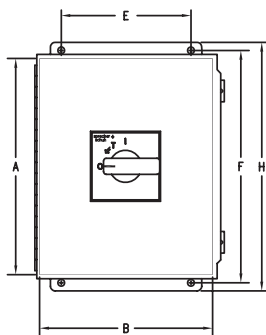
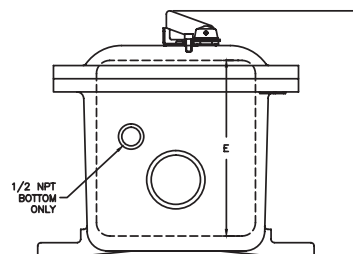
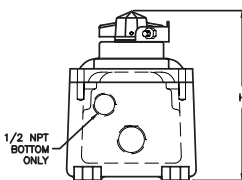
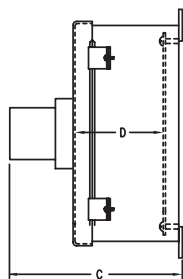


FIGURE NO. 8



TYPE 12
FIGURE NO. 6



F4

Enclosed Motor Circuit Controllers