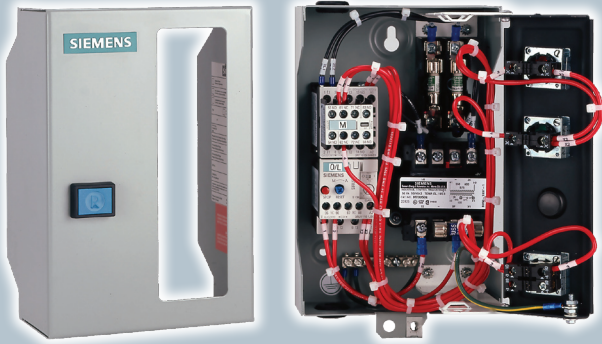


SIRIUS HP Rated Magnetic Starters

12



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SIRIUS HP Rated Magnetic Starters

Selection

Catalogue Number Selection Guide						
Starter Series	Disconnect Type	Starter Type	Enclosure Type	Contactor Ref. Number	Coil Voltage	Overload Relay Setting Range
page 12/3 through 12/18						page 12/18
V SIRIUS IEC HP rated Starter	1 Non-combination 2 Circuit breaker combination 3 Non-fusible type 4 Fusible combination	A FVNR	B CSA type 1 EEMAC type 1 general purpose	15 3RT1015	C 24V/60Hz 24V/50Hz	0A to 4M Standard Class 10 bimetal overload relay RB Optional Class 20 electronic overload relay 00 Provision for field mounting of overload relay
		B FVR	C CSA type 5 EEMAC type 12 dust tight industrial use	16 3RT1016	K 120V/60 Hz 110V/50Hz	
		N 2S1W constant or variable torque	D CSA type 4 EEMAC type 4 watertight	17 3RT1017	M 208V/60Hz	
		R 2S1W constant horsepower	F CSA type 4x EEMAC type 4x watertight corrosion resistant	25 3RT1025	P 240V/60Hz 220V/50Hz	
		U 2S2W constant horsepower	33 3RT1033	V 460V/60Hz 380V/50Hz	T 600V/60Hz	
		W 2S2W constant or variable torque	34 3RT1034	Z Others Specify		
			35 3RT1035			
			36 3RT1036			
			44 3RT1044			
			45 3RT1045			
			46 3RT1046			



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Catalogue Number Selection Guide

Power Line Voltage	Control Circuit	Additional Auxiliary Contacts	Pilot Devices				
			Operators		Indicators		
			Operators Type	Legend Plate(s)	Indicator Type	Functions	Colour Choice
page 12/19	page 12/20	page 12/20	pages 12/20-12/21		page 12/21	page 12/22	
6 600V Max. Distributor Stock	0 Separate control circuit, unfused	0 None	0 none	0 none	0 none	0 none	0 none
1 120V/1Ph/60Hz	N Separate control circuit, fused max 250V	E 4 N.O.	1 or 2 1 push button extended head red	A EMERGENCY STOP	1 or 2 Full Voltage 120V c/w legend plate(s)	1 to 5 1 indicator for 1 function	C to F Colour choice for 1 indicator
2 208V/3Ph/60Hz	P One control fuse for 120V 1 ph.	F 1 N.O. + 1 N.C.	3 or 4 1 twist lock mushroom red	B STOP	3 or 4 Full Voltage 24V c/w legend plate(s)	6 to 8 and A to E 2 indicators for 2 functions	1 to 6 Colour choice for 2 indicators
3 230V/3Ph/60Hz	R Standard control transformer c/w 2 prim. & 1 sec. 120V fuse	J 3 N.O. + 1 N.C.	5 or 6 2 push buttons 1-red, 1-green	C START STOP	5 or 6 Full Voltage 120V LED c/w legend plate(s)	F to R 3 indicators for 3 functions	K to P Colour choice for 3 indicators
4 460V/3Ph/60Hz	U Extra 50VA capacity Control Transformer	K 2 N.C.	7 or 8 3 push buttons 1-red, 2-black	D ON OFF	7 or 8 Full Voltage 24V LED c/w legend plate(s)	9 Other Specify each function per colour	9 Other Specify each colour per function
5 575V/3Ph/60Hz	W Extra 100VA capacity Control Transformer	L 2 N.O.	A or B 2 pos. selector switch	E to J 3 legend plates for 3 push button	9 Other Specify		
7 230V/1Ph/60Hz	g Other Specify	M 2 N.O. + 2 N.C.	C or D 2 pos. selector switch spring return	K to T 1 legend plate for 2 pos. selector switch			
8 208V/3Ph/60Hz with 4 wires (+Neutral)		g Other Specify	E or F 2 pos. selector switch key operated	1 to 8 1 legend plate for 3 pos. selector switch	A Full Voltage 120V w/o legend plate(s)		
9 Other Specify			G or H 3 pos. selector switch	X 3 legend plates for 3 pos. selector switch and START STOP push button	B Full Voltage 24V w/o legend plate(s)		
			J or K 3 pos. selector switch spring return	9 Other Specify	C Full Voltage 120V LED w/o legend plate(s)		
			L or M 3 pos. selector switch key operated		D Full Voltage 24V LED w/o legend plate(s)		
			N or P 3 pos. selector switch spring return key operated		9 Other Specify		
			T or U 3 pos. selector switch and 2 push buttons START STOP for hand operation				
			g Other Specify				

SIRIUS HP Rated Magnetic Starters

Full Voltage Non-Reversing

Selection

General



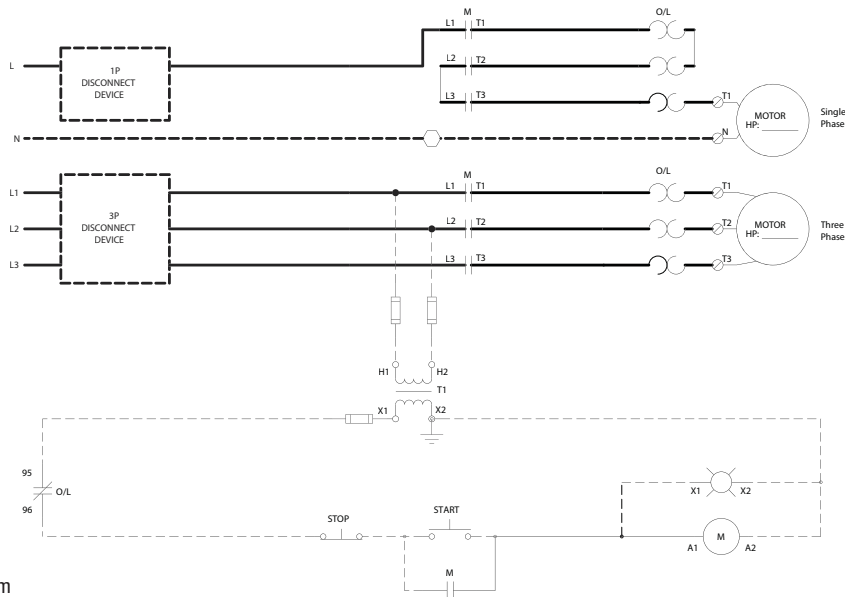
Description

Siemens full voltage non-reversing type starters are designed for full voltage across-the-line starting of single or 3-phase squirrel cage motors. They also can be used as the primary control of wound rotor motors.

Combined with short circuit protection, FVNR starters are also offered as combination starters.

- Fusible disconnect type complete with Form II, Class C fuse clips, or as an option, Form I, Class J fuse clips.
- Circuit breaker type or as Non-Fusible Controller.

FVNR starters are available up to 100HP, 600V AC, EEMAC type 1 or 12 sheet metal enclosed. They are an assembly of the proven 3RT contactors and the exclusive 3RU bimetal overload relays.



FVNR Typical Wiring Diagram

Catalogue No.:

HP Rated Starter

V 1 A B 1 5 K Z . . .

Disconnect Type

Starter Type

Enclosure Type

Contactor Ref.

Coil Voltage

Overload Relay P. 12/18

Power Line Volt. and Control Circuit P. 12/19

Additional Aux. Contacts P. 12/20

Pilot Devices Operators P. 12/21

Pilot Devices Indicators P. 12/22

Other options P. 12/23

(fuse clips, control & timing relays, metering & protective devices, etc)

Full Voltage Non-Reversing Non-Combination

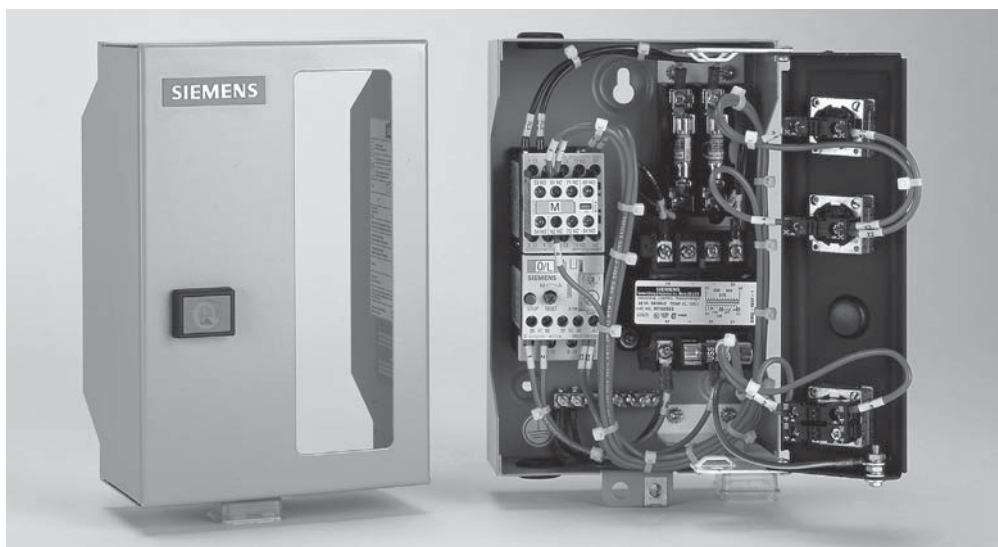
Selection

Standard Features	Ordering Information Required	Coil Voltage Codes		
<ul style="list-style-type: none"> ▶ 1 NO auxiliary contact on all 20A enclosed, 10 HP at 600V starters ▶ 2 NO + 2NC auxiliary contacts on all other sizes ▶ Class 10 bimetal overload relays including: <ul style="list-style-type: none"> - Manual or Automatic reset - Phase Loss Protection - Separate Trip and Alarm contact ▶ All enclosures are designed to accept a standard sized control transformer ▶ All enclosures have provisions for up to 4 pilot devices 	<ul style="list-style-type: none"> ▶ Select basic type nr. from table below. ▶ Add suffix for overload relay setting range from page 12/18 ▶ Add suffix for factory modification from page 12/19 to 12/23 	ACV 60 Hz.	ACV 50 Hz	Coil Suffix
		24 120 208 240 460 600	20 110 – 220 380 –	C K M P V T
		other voltages and frequencies are available upon request		

All prices in the table below include a standard Class 10 bimetal overload relay.

The type numbers in the selection table specify a 120V 60 Hz coil. If a different coil voltage is required, change the "K" (7 digit) as per Coil Suffix Table above.

Non-Combination													
Enclosed Amps	CSA MAXIMUM HP RATING						Contactor reference number	Aux. Contacts supplied as standard per contactor		Enclosure Sheet Metal			
	1 phase		3 phase							CSA / EEMAC Type 1 General Purpose Enclosure		CSA Type 5 / EEMAC Type 12 Industrial Use	
	115V	230V	200V	230V	460V	575V		NO	NC	Catalogue No.	Encl. Fig.	Catalogue No.	Encl. Fig.
	20	1/4	3/4	1 1/2	2	3		5	15	1	–	V1AB15K..	V0
20	1/3	1	2	3	5	7 1/2	16	1	–	V1AB16K..	V0	V1AC16K..	S
20	1/2	2	3	3	7 1/2	10	17	1	–	V1AB17K..	V0	V1AC17K..	S
35	1	3	5	5	10	15	25	2	2	V1AB25K..	V1	V1AC25K..	S
35	2	3	7 1/2	7 1/2	15	20	26	2	2	V1AB26K..	V1	V1AC26K..	S
35	2	5	7 1/2	10	20	25	33	2	2	V1AB33K..	V1	V1AC33K..	S
45	2	5	10	10	25	30	34	2	2	V1AB34K..	V1	V1AC34K..	S
55	3	7 1/2	10	15	30	40	35	2	2	V1AB35K..	V1	V1AC35K..	S
55	3	10	15	15	40	50	36	2	2	V1AB36K..	V1	V1AC36K..	S
90	5	15	20	25	50	60	44	2	2	V1AB44K..	V2	V1AC44K..	H2
105	7 1/2	15	25	30	60	75	45	2	2	V1AB45K..	V2	V1AC45K..	H2
105	10	–	30	30	75	100	46	2	2	V1AB46K..	V2	V1AC46K..	H2



Replacement Parts Circuit Breaker Combination

Selection

Standard Features	Ordering Information Required	Coil Voltage Codes		
<ul style="list-style-type: none"> ▶ 1 NO auxiliary contact on all 20A enclosed, 10 HP at 600V starters ▶ 2 NO + 2NC auxiliary contacts on all other sizes ▶ Class 10 bimetal overload relays including: <ul style="list-style-type: none"> - Manual or Automatic reset - Phase Loss Protection - Separate Trip and Alarm contact ▶ All enclosures are designed to accept a standard sized control transformer ▶ All enclosures have provisions for up to 4 pilot devices 	<ul style="list-style-type: none"> ▶ Select basic type nr. from table below ▶ Add suffix for overload relay setting range from page 12/18 ▶ Add suffix for factory modification from page 12/19 to 12/23 	ACV 60 Hz.	ACV 50 Hz	Coil Suffix
		24	20	C
		120	110	K
		208	–	M
		240	220	P
		460	380	V
		600	–	T
other voltages and frequencies are available upon request				

All prices in the table below include a standard Class 10 bimetal overload relay.
The type numbers in the selection table specify a 120V 60 Hz coil. If a different coil voltage is required, change the “K” (7 digit) as per Coil Suffix Table above.

Circuit Breaker Combination ①															
Enclosed Amps	CSA MAXIMUM HP RATING						Contactor reference number	Aux, Contacts supplied as standard per contactor		Enclosure Sheet Metal					
	1 phase		3 phase							CSA / EEMAC Type 1 General Purpose Enclosure			CSA Type 5 / EEMAC Type 12 Industrial Use		
	115V	230V	200V	230V	460V	575V		NO	NC	Catalogue No.		Encl. Fig.	Catalogue No.		Encl. Fig.
20	1/4	3/4	1 1/2	2	3	5	15	1	–	V2AB15K..	1028.	V2	V2AC15K..	1206.	H2
20	1/3	1	2	3	5	7 1/2	16	1	–	V2AB16K..	1028.	V2	V2AC16K..	1206.	H2
20	1/2	2	3	3	7 1/2	10	17	1	–	V2AB17K..	1082	V2	V2AC17K..	1262.	H2
35	1	3	5	5	10	15	25	2	2	V2AB25K..	1117.	V2	V2AC25K..	1297.	H2
35	2	3	7 1/2	7 1/2	15	20	26	2	2	V2AB26K..	1133.	V2	V2AC26K..	1311.	H2
35	2	5	7 1/2	10	20	25	33	2	2	V2AB33K..	1395.	V2	V2AC33K..	1650.	H2
45	2	5	10	10	25	30	34	2	2	V2AB34K..	1395.	V2	V2AC34K..	1650.	H2
55	3	7 1/2	10	15	30	40	35	2	2	V2AB35K..	1395.	V2	V2AC35K..	1650.	H2
55	3	10	15	15	40	50	36	2	2	V2AB36K..	1879.	V2	V2AC36K..	2252.	H2
90	5	15	20	25	50	60	44	2	2	V2AB44K..	2345.	V4	V2AC44K..	2684.	H5
105	7 1/2	15	25	30	60	75	45	2	2	V2AB45K..	2345.	V4	V2AC45K..	2684.	H5
105	10	–	30	30	75	100	46	2	2	V2AB46K..	3759.	V4	V2AC46K..	4183.	H5

① Factory will automatically select the circuit breaker based on standard or given motor full-load current and the following:

- Continuous-current rating of a minimum 115% of motor full-load current.
- Trip-setting position is 11 times motor full load current.

Full Voltage Non-Reversing Fusible Switch Combination and Non-Fusible Starter

Selection

Standard Features	Ordering Information Required	Coil Voltage Codes		
<ul style="list-style-type: none"> ▶ 1 NO auxiliary contact on all 20A enclosed, 10 HP at 600V starters ▶ 2 NO + 2NC auxiliary contacts on all other sizes ▶ Class 10 bimetal overload relays including: <ul style="list-style-type: none"> - Manual or Automatic reset - Phase Loss Protection - Separate Trip and Alarm contact ▶ All enclosures are designed to accept a standard sized control transformer ▶ All enclosures have provisions for up to 4 pilot devices 	<ul style="list-style-type: none"> ▶ Select basic type nr. from table below ▶ Add suffix for overload relay setting range from page 12/18 ▶ Add suffix for factory modification from page 12/18 to 12/23 	ACV 60 Hz.	ACV 50 Hz	Coil Suffix
		24 120 208 240 460 600	20 110 – 220 380 –	C K M P V T
		other voltages and frequencies are available upon request		

All prices in the table below include a standard Class 10 bimetal overload relay.

The type numbers in the selection table specify a 120V 60 Hz coil. If a different coil voltage is required, change the "K" (7 digit) as per Coil Suffix Table above.

Fusible Switch Combinations and Non-Fusible Starters																
En-closed Amps	CSA MAXIMUM HP RATING						FUSE [Ⓞ] CLIPS Type IIC Amps	Contactor reference number	Aux. Contacts supplied as standard per contactor		Enclosure Sheet Metal					
	1 phase		3 phase						NO	NC	CSA / EEMAC Type 1 General Purpose Enclosure		CSA Type 5 / EEMAC Type 12 Industrial Use			
	115V	230V	200V	230V	460V	575V					Catalogue No.	Encl. Fig.	Catalogue No.	Encl. Fig.		
20	1/4	3/4	1 1/2	2	3	5	NONE 30	15	1	–	V3AB15K..	655.	V2	V3AC15K..	833.	H2
											V4AB15K..	680.	V2	V4AC15K..	858.	H2
20	1/3	1	2	3	5	7 1/2	NONE 30	16	1	–	V3AB16K..	655.	V2	V3AC16K..	833.	H2
											V4AB16K..	680.	V2	V4AC16K..	858.	H2
20	1/2	2	3	3	7 1/2	10	NONE 30	17	1	–	V3AB17K..	721.	V2	V3AC17K..	908.	H2
											V4AB17K..	747.	V2	V4AC17K..	933.	H2
35	1	3	5	5	10	15	NONE 30 60	25	2	2	V3AB25K..	746.	V2	V3AC25K..	924.	H2
											V4AB25K..	771.	V2	V4AC25K..	949.	H2
											V4AB25K..	771.	V2	V4AC25K..	949.	H2
35	2	3	7 1/2	7 1/2	15	20	NONE 30 60	26	2	2	V3AB26K..	759.	V2	V3AC26K..	938.	H2
											V4AB26K..	785.	V2	V4AC26K..	963.	H2
											V4AB26K..	785.	V2	V4AC26K..	963.	H2
35	2	5	7 1/2	10	20	25	NONE 30 60	33	2	2	V3AB33K..	988.	V2	V3AC33K..	1243.	H2
											V4AB33K..	1099.	V2	V4AC33K..	1353.	H2
											V4AB33K..	1099.	V2	V4AC33K..	1353.	H2
45	2	5	10	10	25	30	NONE 30 60	34	2	2	V3AB34K..	988.	V2	V3AC34K..	1243.	H2
											V4AB34K..	1099.	V2	V4AC34K..	1353.	H2
											V4AB34K..	1099.	V2	V4AC34K..	1353.	H2
55	3	7 1/2	10	15	30	40	NONE 30 60	35	2	2	V3AB35K..	988.	V2	V3AC35K..	1243.	H2
											V4AB35K..	1099.	V2	V4AC35K..	1353.	H2
											V4AB35K..	1099.	V2	V4AC35K..	1353.	H2
55	3	10	15	15	40	50	NONE 30 60 100	36	2	2	V3AB36K..	1489.	V2	V3AC36K..	1743.	H2
											V4AB36K..	1540.	V2	V4AC36K..	1794.	H2
											V4AB36K..	1540.	V2	V4AC36K..	1794.	H2
											V4AB36K..	1540.	V2	V4AC36K..	1794.	H2
90	5	15	20	25	50	60	NONE 30 60 100	44	2	2	V3AB44K..	1981.	V4	V3AC44K..	2511.	H5
											V4AB44K..	2193.	V4	V4AC44K..	2723.	H5
											V4AB44K..	2193.	V4	V4AC44K..	2723.	H5
											V4AB44K..	2532.	V4	V4AC44K..	3062.	H5
105	7 1/2	15	25	30	60	75	NONE 60 100 200	45	2	2	V3AB45K..	1981.	V4	V3AC45K..	2511.	H5
											V4AB45K..	2193.	V4	V4AC45K..	2723.	H5
											V4AB45K..	2193.	V4	V4AC45K..	2723.	H5
											V4AB45K..	2532.	V4	V4AC45K..	3062.	H5
105	10	–	30	30	75	100	NONE 200	46	2	2	V3AB46K..	2411.	V4	V3AC46K..	3090.	H5
											V4AB46K..	2631.	V4	V4AC46K..	3310.	H5

Ⓞ Starters are suitable for HRC IIC Fuses. Refer to page 12/23 for HRC IJ Fuse Clips.

