

IEC Starters

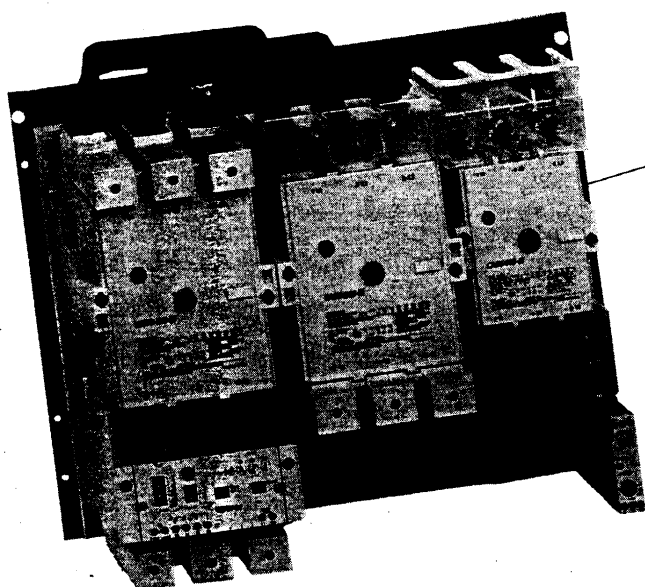
Overview

The right starter for all applications

Rockwell Automation's solutions are reliable, economical, time-saving, easy to maintain, and future-oriented.

Starter Overview

Type		Compact Starter	On KB Device Support	On Bulletin 140 Mounting System	Conventional
Motor Protection	Circuit breaker	●	●	●	-
	Electronic overload relay	-	-	-	●
	Thermal overload relay	-	-	-	●
Function	Direct-on-line starter	●	●	●	●
	Reversing starter	-	●	●	●
	Y - Δ -Starter	-	-	●	●
Coordination Type	«1»	●	●	●	●
	«2»	●	●	●	●
Contactor Line	100-M	-	●	-	●
	100-C	●	-	●	●
	CAB6	-	-	-	●

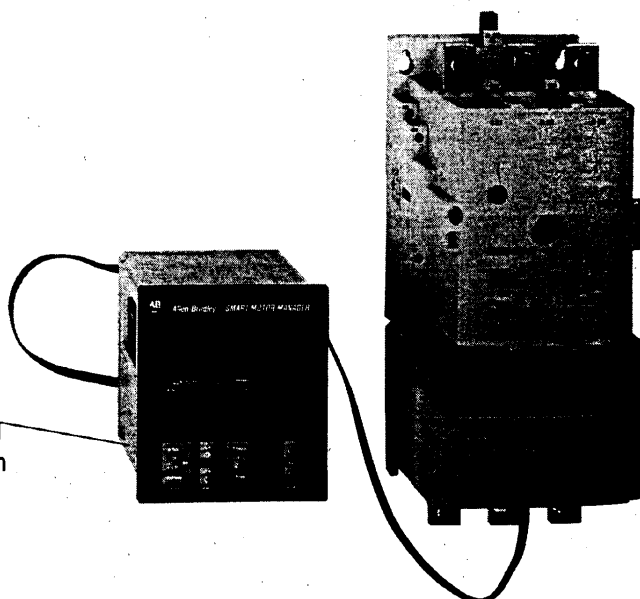


Star-Delta starter 75... 400 kW

with CAB6 contactor and CEFB1 electronic overload relay with main interlock mounted on a mounting plate

Direct-on-line starter 45... 250 kW

with CAB6 contactor, current converter module, and Bulletin 825 electronic control and protection system



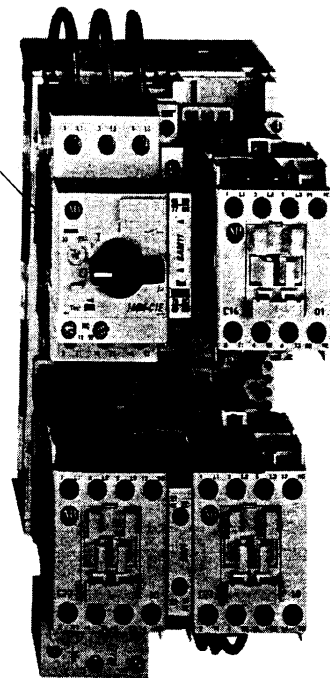


Compact Starter 0.02... 11 kW

- Bulletin 100-C contactor
- Bulletin 140M circuit breaker
- Mounts to 35, 2 x 35 or 70 mm DIN Rail
- Ready for installation with internal wiring
- Sealable cover
- All control ports down

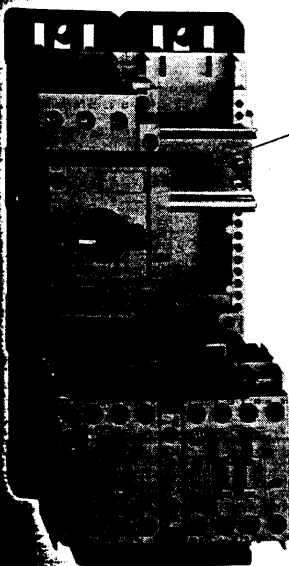
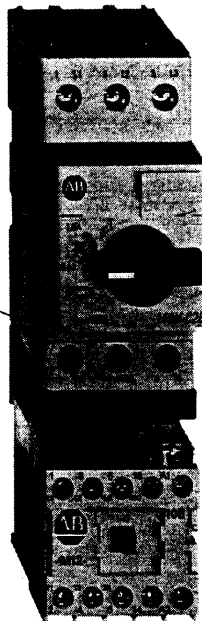
Star-Delta Starter 1.1... 45 kW

- Bulletin 100-C contactor
- Ready to mount to device support
- Snaps on to 35 mm DIN Rail or screw-mountable



Direct-on-line Starter 0.02... 4 kW

- Bulletin 100-M miniature contactor
- Snaps on to 35 mm DIN Rail or screw-mountable

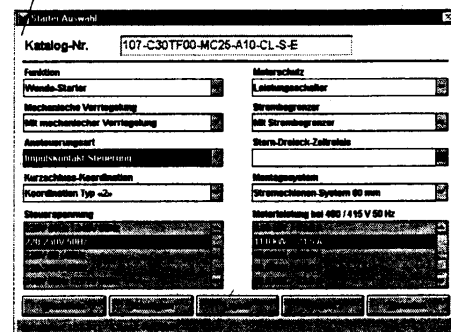


Reversing Starter 0.02... 45 kW

- Bulletin 100-C contactor
- Ready for installation
- Snaps to 35 mm DIN Rail or screw-mountable

MCS-Star

for quick selection and dimensioning of MCS starters, request the free Motor Management CD-ROM



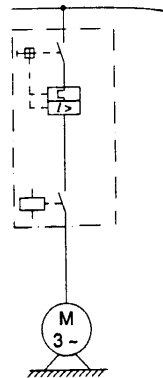
Bulletin 190S
IEC Compact Starters
Product Selection

- Contactor and circuit breaker auxiliary contacts prewired to terminal block at the base of the compact starter

- Uses Bulletin 140M circuit breaker and Bulletin 100-C contactor accessories

Mounting options:

- Screw mounting
- Snaps on to one or two 35 mm DIN Rails
- Snaps on to 75 mm DIN Rail



Type 1 Coordination per IEC 947-4-1

Conditional rated short-circuit current $I_q = I_{cu}$

Rated operating voltage 400/415V 50 Hz,

Starters for motor voltages up to 690V available on request.

Standard 3-phase motors, AC-3 400/415V	Thermal Release Adjustment Range	Magnetic Release operating Current	I_{cu}	Direct-on-line Starter Cat. No.
[kW]	[A]	[A]	[kA]	
0.04	0.10...0.16	2.1	100	190S-AN®20-CA16
0.06	0.16...0.25	3.3	100	190S-AN®20-CA25
0.09	0.25...0.40	5.2	100	190S-AN®20-CA40C®
0.12	0.40...0.63	8.2	100	190S-AN®20-CA63C®
0.18...0.25	0.63...1.00	13	100	190S-AN®20-CB10C®
0.37...0.55	1.00...1.60	21	100	190S-AN®20-CB16C®
0.75	1.60...2.50	33	100	190S-AN®20-CB25C®
1.1...1.5	2.50...4.00	52	100	190S-AN®20-CB40C®
2.2	4.00...6.30	82	100	190S-AN®20-CB63C®
3.0...4.0	6.30...10.0	130	100	190S-AN®20-CC10C®
5.5	10.0...16.0	208	50	190S-BN®20-CC16C®
7.5	10.0...16.0	208	50	190S-CN®20-CC16C®
9.0	14.5...20.0	260	15	190S-DN®20-CC20C®
11.0	18.5...25.0	325	15	190S-DN®20-CC25C®

① Contactor Auxiliary Switch Assembly

Option 1: 1 N.C. contact

Option 2: 1 N.O. contact

② Circuit Breaker Front-Mounted Auxiliary Switch Assembly

Option A: 1 N.C. contact

Option B: 1 N.O. contact

Option C: 1 N.O. + 1 N. C. contact

Option D: 2 N.O. contacts

Option R: 1 N.C. contact + 1 N.O. trip contact

Option S: 1 N.O. contact + 1 N.O. trip contact



Type 2 coordination per IEC 947-4-1

Conditional rated short-circuit current $I_q = 50$ kA
Rated operating voltage 400/415 V 50 Hz,
Starters for motor voltages up to 690V available on request.

Standard 3-phase motors, AC-3 400/415V	Thermal Release Adjustment Range	Magnetic Release operating Current	I_{cu}	Direct-on-line Starter
[kW]	[A]	[A]	[kA]	Cat. No.
0.04	0.10...0.16	2.1	100	190S-AN®20-CA16C®
0.06	0.16...0.25	3.3	100	190S-AN®20-CA25C®
0.09	0.25...0.40	5.2	100	190S-AN®20-CA40C®
0.12	0.40...0.63	8.2	100	190S-AN®20-CA63C®
0.18...0.25	0.63...1.00	13	100	190S-AN®20-CB10C®
0.37...0.55	1.00...1.60	21	100	190S-AN®20-CB16C®
0.75	1.60...2.50	33	100	190S-AN®20-CB25C®
1.1...1.5	2.50...4.00	52	100	190S-AN®20-CB40C®
2.2	4.00...6.30	82	100	190S-AN®20-CB63C®
3.0...4.0	6.30...10.0	130	100	190S-AN®20-CC10C®
5.50	10.0...16.0	208	50	190S-BN®20-CC16C®
7.5	10.0...16.0	208	50	190S-CN®20-CC16C®
9.0	14.5...20.0	260	50	190S-DN®20-DC20C®
11.0	18.5...25.0	325	50	190S-DN®20-DC25C®

⊗ Standard Voltage Suffix Codes for AC Control

190S	[V]	12	24	32	36	42	48	100	100-110	110	120	127	200	200-220	200-230	208	208-240
	50 Hz	(R)	(K)	(V)	(W)	(X)	(Y)	(KP)	—	(D)	(P)	(S)	(KG)	—	—	—	—
	60 Hz	(Q)	(J)	—	(V)	—	(X)	—	(KP)	—	(D)	—	—	(KG)	—	(H)	(L)
	50/60 Hz	—	KJ	—	—	—	KY	(KP)	—	KD	—	—	(KG)	—	(KL)	—	—
	[V]	220-230	230	230-240	240	277	347	380	380-400	400	400-415	440	480	500	550	600	
	50 Hz	(F)	—	(VA)	(T)	—	—	—	(N)	—	(G)	(B)	—	(M)	(C)	—	
	60 Hz	—	—	—	(A)	(T)	(I)	(E)	—	—	—	(N)	(B)	—	—	(C)	
	50/60 Hz	—	KF	—	(KA)	—	—	—	—	KN	—	(KB)	—	—	—	—	

ⓘ Voltage suffix codes in parentheses: No inventory (longer delivery time)

Price adder for:	Type	Available Control Voltages	no price adder for:
Special control voltages	100-C	12...600V 50 Hz / 12...600V 60 Hz	> 20 pieces