

BUYLOG SECTION 15

Motor control centers - low voltage



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Introduction to low voltage (LV) motor control centers (MCC)

ABB motor control centers offer an ideal means of quickly providing centralized motor control and other related control equipment. All of ABB's LV MCC's are configured with ABB's empower tool which provides a bill of material, one lines, front views and delivery schedules.

A pre-engineered version of the ABB motor control center is available in various shipment cycles, including short cycle, to meet any project schedule. The short cycle product offering has limited scope as defined in the following pages, which includes certain combination starter units and feeder units to be installed in a single, floor-mounted enclosure and fed from a common enclosed horizontal and vertical bus system.

Each ABB motor control center vertical section is constructed of 12 and 13 gauge steel which is subjected to a special corrosion-resistant zinc-phosphate treatment followed by a powder paint process using ANSI-61 light gray alkyd-enamel paint. Refer to the factory for additional color options. Each section houses the horizontal and vertical bus, horizontal and vertical wireways and the compartmentalized individual control units. Standard unit construction is Class I Type B wiring¹. Factory assembled, wired and tested units are mounted in each vertical section, and sections are easily bolted together to form a motor control center line-up. The entire line-up is then powered by either a main lug only (MLO) unit or a main circuit breaker (MCB) unit.

ABB LV MCC's are available in main bus ratings up to 4000A, three-phase copper bus and vertical bus amperages up to 1200A, with bus bracing up to 100,0000 rms symmetrical.

Motor control centers product literature and reference material:

Product references

Engineered products catalog	Section 10
Application and selection guide	E9000 DET291 ¹
Application and selection guide	Spectra/8000 GET6729
Application and selection guide MNS MCC	2TDC190003
Renewal parts bulletin ReliaGear MCC	9AKK107991A9878
Renewal parts bulletin E9000 MCC	9AKK107991A9963
Renewal parts bulletin 8000 MCC	GEF-4628B
Renewal parts bulletin 7700 MCC	GEF-4629B
Installation guide ReliaGear MCC	1VAL117401-MB
Technical application guide ReliaGear MCC	1VAL117401-TG
AFM retrofit kits instruction ReliaGear MCC	DEI-009

¹ Typical wiring diagrams can be found in the application and selection guide for DET291 section "L".



ReliaGear LV MCC

MNS-MCC

LV MCC	Key applications
ReliaGear	Flagship motor control center, suitable for all market applications featuring variable frequency drives up to 500HP, with bypass, isolation and harmonic filtering.
ReliaGear w/arc flash mitigation	Flagship motor control center, suitable for all market applications with features such as retractable stabs, closed door racking, closed door stab and shutter position indication
MNS	Heavy industrial motor control center, equipped with ACS880 drives
MNS arc resistant	Heavy industrial motor control center, equipped with ACS880 drives, emphasis on arc flash containment

Note: Pricing available through empower.

ReliaGear LV MCC key benefits

ReliaGear LV MCC is the new UL845 platform combining 70 years of MCC experience with ABB's cutting-edge technology in circuit breakers and variable frequency drives. ReliaGear LV MCC is suitable for a wide range of industrial applications, providing operational safety and performance. E9000 LV MCC is the legacy design that will continue to be supported with Fastrac units program and replacement parts.

Safety:

- Hi-visible trip indication
- Door and unit interlocks
- Seismic rated (see Technical Application Guide for exclusions)
- Six Sigma designed
- Finger safe device options available
- Taped bus options
- Voltage presence indicators optional
- Withdrawable stabs options
- Arc resistant enclosure option for E9000 only

Size:

- 6" size 1 FVNR
- 6" 225A feeder
- 12" 250A feeder
- 36" size 5 plug-in, two in a section
- 300VA CPT—no additional space
- Plug in buckets to size 5
- Plug in feeders to 600A
- Back to back in 25" deep with shared main bus
- Back to back in 40" deep separate bus with pluggable wraparound corner section

Simplicity:

- Easy unit insertion/removal
- Snap-in shelves
- Equipment and replacement units easily quoted in empower
- Replacement units; ability to retrofit existing MCC's to arc flash mitigation units
- Plug connection provision every 6" is standard
- 72" standard usable unit spacing per section
- Manufacturing flexibility, including short cycle shipment options

Scope:

- Main bus up to 3200A without use of fans
- Smart overloads, main metering options, communications and networking cabinets
- VFD's up to 500HP with bypass, isolation, line reactors and load filtering options
- 500 Hp SSS
- 250A and 600A stabs
- TVSS 65-200K surge current
- Automatic transfer switches to 1200A



ReliaGear LV MCC

Note: Pricing available through empower.

MNS LV MCC key benefits

MNS-MCC builds on over 40 years of experience in the development, design and manufacturing of low voltage systems for a wide range of industrial applications, providing operational safety and performance.

With its unique SafeT® Connect technology, the MNS-MCC low voltage motor control center provides a higher level of safety while minimizing factory downtime. Central to this design is the multifunction wall, which offers advanced insulating and isolating properties and a “closed-door, no-tool” unit removal for superior safety and reliability.

A pre-engineered version of the ABB MNS-MCC motor control center bucket is available at short-cycle and mid-cycle shipment. The product scope available is more limited than with normal cycle shipments and includes certain combination starter units and feeder units to be installed.

Industry applications

Main applications are in these industry segments:

- Chemical, oil and gas
- Mining and metals
- Power generation and distribution
- Process industry
- Water and wastewater
- Food and beverage

Ratings

- Up to 4000A horizontal bus
- 800A vertical bus standard
- Optional 1600A vertical bus
- 42kA, 65kA, or 100kA SCCR at 480V
- 42kA, 65kA SCCR at 600V

Arc resistant option

- Up to 2500A horizontal bus, 800A vertical bus
- 65kA SCCR at 480V and 600V

Unit types

- Main lug only (MLO) incomers up to 4000A
- Emax 2 air circuit breaker incomers up to 3200A
- Circuit breaker feeders up to 800A
- Across the line starters up to NEMA size 6 with electronic overload relays or UMC100.3 microprocessor programmable overload relays
- Full voltage contactor units
- Softstarter units up to 400HP @ 480V
- ACS880 variable frequency drives up to 300HP @ 480V

Intelligent MCC options

- Factory wired and tested fieldbus network with serial or Ethernet protocols:
 - Modbus RTU, Modbus TCP/IP
 - Profibus, Profinet
 - EtherNet/IP

Note: Pricing available through empower.



MNS-MCC



ReliaGear LV MCC FastFlex/short cycle (SC) program

Features

The ReliaGear LV MCC FastFlex program includes pre-engineered, factory assembled, fully tested motor control center sections and units; individual units and sections are engineered and built with the same components and layout as the standard units. Power wiring is provided; however, to allow the maximum flexibility for OEM users, no control wiring is provided.

All sections and units will be UL labeled where possible. Factory will advise when UL labeling is not available. Any modification or added equipment to units, sections and shipping splits may require field evaluation by UL/CSA to retain listing/certification.

Please contact your distributor or ABB for scope, pricing, and ordering.

No changes are allowed to bill-of-material after order entry. Please cancel and re-order.

Highlights of the ReliaGear LV MCC SC program:

I Structure (20-inch wide is standard)

- 20-inch deep
- NEMA 1, 12
- 24- and 20-inch wide enclosures
- Engraved nameplates (optional)

II Bus systems

- Voltage: 480, 600 volts
- 3-phase, 3-wire, or 3-phase, 4-wire
- Main bus: up to 2000A
- Vertical bus: 300, 600 ampere
- Optional ground bus: 300, 600 ampere
- Neutral bus: 300, 400, 600, 800, 1000 ampere
- “Vertical bus plugs” installed in unused stab openings

III Incoming line

- MLO up to 2000A
- Tmax XT and Emax 2 circuit breaker up to 2000A

IV Feeders

- Feeders—800-ampere Tmax® XT

V Combination starter units

- Control power transformer (CPT) (optional)
- “Extra” auxiliary interlocks (optional)
- Line-to-neutral control
- Separate control power or common CPT
- FVNR—size 1 thru 5
- FVR—size 1 thru 4
- RVNR—size 2 thru 5
- NEMA Type 1-AM (unwired)

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Empty sections for plug-in units

Description	Main amp rating	System type	Vertical bus amp rating	Section depth (in)	Section width (in)	Space for plug-in units (in)	Accept units Y/N	Product number
Empty section (modular) 1200A, 65kA 3P-3W, VBB850A	1200A	3p-3w	850A	20	20	72	Y	CAN-TTL2S01F8A
Empty section (modular) 1200A, 65kA 3P-4W, VBB850A	1200A	3p-4w	850A	20	20	72	Y	CAN-4TTL2S01F8A
Empty section (modular) 2000A, 65kA 3P-3W, VBB850A	2000A	3p-3w	850A	22	20	72	Y	CAN23TTL2S01F8A
Empty section (modular) 2000A, 65kA 3P-4W, VBB850A	2000A	3p-4w	850A	22	20	72	Y	CAN24TTL2S01F8A

Empty sections for feeder breaker + back panel

Description	Main amp rating	System type	Vertical bus amp rating	Section depth (in)	Section width (in)	Mounting plate height (in)	Space for FDRs height Y/N	Circuit breaker model	Product number
Full section mounting plate 1200A, 65kA 3P-3W, 20in W_XT2_XT4	1200A	3p-3w	300A	20	20	66	Y (1 space 6in)	XT2/XT4	CAN-SEC4001212S
Full section mounting plate 1200A, 65kA 3P-3W, 24in W_XT2_XT4	1200A	3p-3w	300A	20	24	66	Y (1 space 6in)	XT2/XT4	CAN-SEC4041212S
Full section mounting plate 1200A, 65kA 3P-3W, 30in W_XT2_XT4	1200A	3p-3w	300A	20	30	72	N ¹	XT2/XT4	CAN-SEC4031212S
Full section mounting plate 2000A, 65kA 3P-3W, 20in W_XT2_XT4	2000A	3p-3w	300A	22	20	66	Y (1 space 6in)	XT2/XT4	CAN-SEC4002012S
Full section mounting plate 2000A, 65kA 3P-3W, 24in W_XT2_XT4	2000A	3p-3w	300A	22	24	66	Y (1 space 6in)	XT2/XT4	CAN-SEC4042012S
Full section mounting plate 2000A, 65kA 3P-3W, 30in W_XT2_XT4	2000A	3p-3w	300A	22	30	72	N ¹	XT2/XT4	CAN-SEC4032012S
Full section mounting plate 1200A, 65kA 3P-3W, 20in W_XT5	1200A	3p-3w	600A	20	20	72	N ¹	XT5 (500A)	CAN-SEC4001212S5
Full section mounting plate 1200A, 65kA 3P-3W, 24in W_XT5	1200A	3p-3w	600A	20	24	72	N ¹	XT5 (500A)	CAN-SEC4041212S5
Full section mounting plate 1200A, 65kA 3P-3W, 30in W_XT5	1200A	3p-3w	600A	20	30	72	N ¹	XT5 (500A)	CAN-SEC4031212S5
Full section mounting plate 2000A, 65kA 3P-3W, 20in W_XT5	2000A	3p-3w	600A	22	20	72	N ¹	XT5 (500A)	CAN-SEC4002012S5
Full section mounting plate 2000A, 65kA 3P-3W, 24in W_XT5	2000A	3p-3w	600A	22	24	72	N ¹	XT5 (500A)	CAN-SEC4042012S5
Full section mounting plate 2000A, 65kA 3P-3W, 30in W_XT5	2000A	3p-3w	600A	22	30	72	N ¹	XT5 (500A)	CAN-SEC4032012S5
Full section empty with back panel Available, 1200A, 65kA, 3P-3W, 20W	1200A	3p-3w	-	20	20	72	N ¹	-	CAN-4TE12S20W
Full section empty with back panel Available, 1200A, 65kA, 3P-3W, 24W	1200A	3p-3w	-	20	24	72	N ¹	-	CAN-4TE12S24W
Full section empty with back panel Available, 1200A, 65kA, 3P-3W, 30W	1200A	3p-3w	-	20	30	72	N ¹	-	CAN-4TE12S30W
Full section empty with back panel Available, 2000A, 65kA, 3P-3W, 20W	2000A	3p-3w	-	22	20	72	N ¹	-	CAN-4TE20S20W
Full section empty with back panel Available, 2000A, 65kA, 3P-3W, 24W	2000A	3p-3w	-	22	24	72	N ¹	-	CAN-4TE20S24W
Full section empty with back panel Available, 2000A, 65kA, 3P-3W, 30W	2000A	3p-3w	-	22	30	72	N ¹	-	CAN-4TE20S30W

¹ The sections do not include neutral

ReliaGear LV MCC FastFlex/short cycle (SC) program

Incoming section: main lug only

Description	Main amp rating	System type	Vertical bus amp rating	Section depth (in)	Section width (in)	Unit height (in)	Space for plug in units height Y/N	Incoming direction	Product number
MLO 1200A, 65kA TOP 3P-3W	1200A	3p-3w	300A	20	20	24	Y (Space 60in)	Top	CAN-TTL2L01F
MLO 1200A, 65kA BOT 3P-3W	1200A	3p-3w	300A	20	20	36	Y (Space 42in)	Bottom	CAN-TBL2L01F
MLO 1200A, 65kA TOP 3P-4W	1200A	3p-4w	300A	20	20	24	Y (Space 60in)	Top	CAN-4TTL2L01F
MLO 1200A, 65kA BOT 3P-4W	1200A	3p-4w	300A	20	20	36	Y (Space 42in)	Bottom	CAN-4TBL2L01F
MLO 2000A, 65kA TOP 3P-4W	2000A	3p-4w	-	30	35	72	N	Top	CAN24TTL2L01F
MLO 2000A, 65kA BOT 3P-4W	2000A	3p-4w	-	30	35	72	N	Bottom	CAN24TBL2L01F

Incoming section: main circuit breaker

Description	Main amp rating	System type	Vertical bus amp rating	Section depth (in)	Section width (in)	Unit height (in)	Space for plug in units height Y/N	Incoming direction	Trip unit	Product number
Main 480V, 1200A, 65kA, XT7H, BOT Touch 3P-3W LSI	1200A	3p-3w	300A	20	20	60	Y (Space 18in)	Bottom	Ekip Touch LSI	CAN-RTBL2C21FB412D
Main 480V, 1200A, 65kA, XT7H, TOP Touch 3P-3W LSI	1200A	3p-3w	300A	20	20	48	Y (Space 36in)	Top	Ekip Touch LSI	CAN-RTTL2C21FT412D
Main 480V, 1200A, 65kA, XT7H, BOT Touch 3P-3W LSIG	1200A	3p-3w	300A	20	20	60	Y (Space 18in)	Bottom	Ekip Touch LSIG	CAN-RTBL2C21FB412G
Main 480V, 1200A, 65kA, XT7H, TOP Touch 3P-3W LSIG	1200A	3p-3w	300A	20	20	48	Y (Space 36in)	Top	Ekip Touch LSIG	CAN-RTTL2C21FT412G
Main 480V, 1200A, 65kA, XT7H, BOT Touch 3P-4W LSI	1200A	3p-4w	300A	20	20	60	Y (Space 18in)	Bottom	Ekip Touch LSI	CAN-RTBL2D21FB412D
Main 480V, 1200A, 65kA, XT7H, TOP Touch 3P-4W LSI	1200A	3p-4w	300A	20	20	48	Y (Space 36in)	Top	Ekip Touch LSI	CAN-RTTL2D21FT412D

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Feeder breaker units

Description	Trip unit	Rating (A)	Unit height (in)	Product number
Feeder 480V, 65kA Ekip Dip LSI, 600A	Ekip Dip LSI	600	30	CAN-RFB600XT5HA
Feeder 480V, 65kA Ekip Dip LSI, 25A	Ekip Dip LSI	25	6	CAN-RFB025XT2HAD
			12	CANRFB025XT2HD12
			18	CANRFB025XT2HD18
Special provision 480V, 40A, 65kA, 36in Ekip DIP	Ekip Dip LSI	40	36	CAN-RFD4653040D-36
Feeder 480V, 65kA Ekip Dip LSI, 60A	Ekip Dip LSI	60	6	CAN-RFB060XT2HAD
			12	CANRFB060XT2HD12
			18	CANRFB060XT2HD18
Special provision 480V, 100A, 65kA, 48in Ekip DIP	Ekip Dip LSI	100	48	CAN-RFD4656100D-48
Feeder 480V, 65kA Ekip Dip LSI, 125A	Ekip Dip LSI	125	6	CAN-RFB125XT2HAD
			12	CANRFB125XT2HD12
			18	CANRFB125XT2HD18
Feeder 480V, 65kA Ekip Dip LSI, 225A	Ekip Dip LSI	225	6	CAN-RFB225XT4HAD
			12	CANRFB225XT4HD12
			18	CANRFB225XT4HD18
Feeder 480V, 65kA Ekip Dip LSI, 250A	Ekip Dip LSI	250	12	CAN-RFB250XT4HAD
			18	CANRFB250XT4HD18
			24	CANRFB250XT4HD24
Feeder 480V, 65kA Ekip Touch LSI, 40A	Ekip Touch LSI	40	6	CAN-RFB040XT2HADT
			12	CANRFB040XT2HT12
			18	CANRFB040XT2HT18
Feeder 480V, 65kA Ekip Touch LSI, 100A	Ekip Touch LSI	100	6	CAN-RFB100XT2HADT
			12	CANRFB100XT2HT12
			18	CANRFB100XT2HT18
Feeder 480V, 65kA Ekip Touch LSI, 250A	Ekip Touch LSI	250	12	CAN-RFB250XT4HADT
			18	CANRFB250XT4HT18
			24	CANRFB250XT4HT24
Feeder 480V, 65kA Ekip Touch LSI, 600A	Ekip Touch LSI	600	30	CAN-RFB600XT5HADT
			36	CANRFB600XT5HT36
			42	CANRFB600XT5HT42
Feeder 480V, 65kA Ekip Touch LSI, 500A, Available for mounting plate	Ekip Touch LSI	500	30	CANRFB500XT5HADT

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Full-voltage non-reversing starter units

Description	Starter type	Rating (HP)	Overload	Unit height (in)	Product number
FVNR 480V, 65kA, Sz 1 0.5HP max Solid State	FVNR N1	0.5	Solid state	12	CAN-RFVNR4105XS
				18	CAN-RFVNR4105XS18
				24	CANRFVNR4105XS24
FVNR 480V, 65kA, Sz 1 0.75-1.5HP max Solid State	FVNR N1	1.5	Solid state	12	CAN-RFVNR4115XS
				18	CAN-RFVNR4115XS18
				24	CANRFVNR4115XS24
FVNR 480V, 65kA, Sz 1 2-3HP max Solid State	FVNR N1	3	Solid state	12	CAN-RFVNR417AXS
				18	CANRFVNR417AXS18
				24	CANRFVNR417AXS24
FVNR 480V, 65kA, Sz 1 5-7.5HP max Solid State	FVNR N1	7.5	Solid state	12	CAN-RFVNR4175XS
				18	CANRFVNR4175XS18
				24	CANRFVNR4175XS24
FVNR 480V, 65kA, Sz 1 10HP Solid State	FVNR N1	10	Solid state	12	CAN-RFVNR41XS
				18	CANRFVNR41XS18
				24	CANRFVNR41XS24
FVNR 480V, 65kA, Sz 2 15HP max Solid State	FVNR N2	15	Solid state	12	CAN-RFVNR4215XS
				18	CANRFVNR4215XS18
				24	CANRFVNR4215XS24
FVNR 480V, 65kA, Sz 2 20-25HP max Solid State	FVNR N2	25	Solid state	12	CAN-RFVNR42XS
				18	CANRFVNR42XS18
				24	CANRFVNR42XS24
FVNR 480V, 65kA, Sz 3 30-40HP max Solid State	FVNR N3	40	Solid state	18	CAN-RFVNR4340XS
				24	CANRFVNR4340XS24
				30	CANRFVNR4340XS30
FVNR 480V, 65kA, Sz 3 50HP max Solid State	FVNR N3	50	Solid state	18	CAN-RFVNR43XS
				24	CANRFVNR43XS24
				30	CANRFVNR43XS30
FVNR 480V, 65kA, Sz 4 60-100HP max Solid State	FVNR N4	100	Solid state	24	CAN-RFVNR44XS
				30	CANRFVNR4475XS30
				36	CANRFVNR44XS36
FVNR 480V, 65kA, Sz 1 (1/3)-3HP max UMC	FVNR N1	3	Intelligent	12	CAN-RFVNR417AXU
				18	CANRFVNR417AXU18
				24	CANRFVNR417AXU24
FVNR 480V, 65kA, Sz 1 5-10HP UMC	FVNR N1	10	Intelligent	12	CAN-RFVNR41XU
				18	CANRFVNR41XU18
				24	CANRFVNR41XU24
FVNR 480V, 65kA, Sz 2 15-25HP max UMC	FVNR N2	25	Intelligent	12	CAN-RFVNR42XU
				18	CANRFVNR42XU18
				24	CANRFVNR42XU24

(Table continued on next page.)

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Full-voltage non-reversing starter units (continued)

Description	Starter type	Rating (HP)	Overload	Unit height (in)	Product number
FVNR 480V, 65kA, Sz 3 30-50HP max UMC	FVNR N3	50	Intelligent	18	CAN-RFVNR43XU
				24	CANRFVNR43XU24
				30	CANRFVNR43XU30
FVNR 480V, 65kA, Sz 4 60-100HP max UMC	FVNR N4	100	Intelligent	24	CAN-RFVNR44XU
				30	CANRFVNR44XU30
				36	CANRFVNR44XU36
FVNR 480V, 65kA, Sz 5 200HP max Solid State	FVNR N5	200	Solid state	42	CAN-RFVNR45XS20
FVNR 480V, 65kA, Sz 5 200HP max UMC	FVNR N5	200	Intelligent	48	CAN-RFVNR45XU20
FVR 480V, 65kA, Sz 1 0.5HP max Solid State	FVR N1	0.5	Solid state	18	CAN-RFVR4105XS
FVR 480V, 65kA, Sz 1 0.75-1.5HP max Solid State	FVR N1	1.5	Solid state	18	CAN-RFVR4115XS
FVR 480V, 65kA, Sz 1 2-3HP max Solid State	FVR N1	3	Solid state	18	CAN-RFVR417AXS
FVR 480V, 65kA, Sz 1 5-7.5HP max Solid State	FVR N1	7.5	Solid state	18	CAN-RFVR4175XS
FVR 480V, 65kA, Sz 1 10HP Solid State	FVR N1	10	Solid state	18	CAN-RFVR41XS
FVR 480V, 65kA, Sz 2 15HP max Solid State	FVR N2	15	Solid state	24	CAN-RFVR4215XS
FVR 480V, 65kA, Sz 2 20-25HP max Solid State	FVR N2	25	Solid state	24	CAN-RFVR42XS
FVR 480V, 65kA, Sz 3 30-40HP max Solid State	FVR N3	40	Solid state	36	CAN-RFVR4340XS
FVR 480V, 65kA, Sz 3 50HP max Solid State	FVR N3	50	Solid state	36	CAN-RFVR43XS
FVR 480V, 65kA, Sz 4 60-100HP max Solid State	FVR N4	100	Solid state	36	CAN-RFVR44XS
FVR 480V, 65kA, Sz 1 0.5-3HP max UMC	FVR N1	3	Intelligent	18	CAN-RFVR417AXU
FVR 480V, 65kA, Sz 1 5-10HP UMC	FVR N1	10	Intelligent	18	CAN-RFVR41XU
FVR 480V, 65kA, Sz 2 25HP max UMC	FVR N2	25	Intelligent	24	CAN-RFVR42XU
FVR 480V, 65kA, Sz 3 30-50HP max UMC	FVR N3	50	Intelligent	36	CAN-RFVR43XU
FVR 480V, 65kA, Sz 4 60-100HP max UMC	FVR N4	100	Intelligent	36	CAN-RFVR44XU
FVC 480V 65kA Sz1-18kw	FVC N1	18kW	-	12	CAN-RFVC41
FVC 480V 65kA Sz2-34kw	FVC N2	34kW	-	12	CAN-RFVC42

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Variable frequency drive starter units

Description	Main amp rating	Unit size H x W x D (in)	Accept units Y/N	VFD duty and frame	Rating (HP)	Product number
VFD 480V, 65kA, 7.5HP SD R1	–	30 H (plug-in)	–	Standard duty R1	7.5	CAN-RVFDSDR1075
VFD 480V, 65kA, 15HP SD R2	–	36 H (plug-in)	–	Standard duty R2	15	CAN-RVFDSDR2015
VFD 480V, 65kA, 30HP SD R3	–	36 H (plug-in)	–	Standard duty R3	30	CAN-RVFDSDR3030
VFD 480V, 65kA, 60HP SD R5	–	42 H (plug-in)	–	Standard duty R5	60	CAN-RVFDSDR4060
VFD 480V, 65kA, 75HP SD R5	–	42 H (plug-in)	–	Standard duty R5	75	CAN-RVFDSDR5075
VFD 480V, 65kA, 100HP SD R6, 1200A	1200A	66 x 20 x 20	Y ¹	Standard duty R6	100	CAN-RVFDSDR6100
VFD 480V, 65kA, 150HP SD R7, 1200A	1200A	78 x 24 x 20	N ²	Standard duty R7	150	CAN-RVFDSDR7150
VFD 480V, 65kA, 200HP SD R8, 1200A	1200A	78 x 24 x 20	N ²	Standard duty R8	200	CAN-RVFDSDR8200
VFD 480V, 65kA, 350HP SD R9, 1200A	1200A	78 x 24 x 20	N ²	Standard duty R9	350	CAN-RVFDSDR9350
VFD 480V, 65kA, 5HP HD R1	–	30 H (plug-in)	–	Heavy duty R1	5	CAN-RVFDHR1005
VFD 480V, 65kA, 7.5HP HD R2	–	36 H (plug-in)	–	Heavy duty R2	7.5	CAN-RVFDHR1075
VFD 480V, 65kA, 15HP HD R3	–	36 H (plug-in)	–	Heavy duty R3	15	CAN-RVFDHR2015
VFD 480V, 65kA, 25HP HD R3	–	36 H (plug-in)	–	Heavy duty R3	25	CAN-RVFDHR3025
VFD 480V, 65kA, 30HP HD R4	–	42 H (plug-in)	–	Heavy duty R4	30	CAN-RVFDHR3030
VFD 480V, 65kA, 60HP HD R5	–	42 H (plug-in)	–	Heavy duty R5	60	CAN-RVFDHR4060
VFD 480V, 65kA, 75HP HD R6, 1200A	1200A	66 x 20 x 20	Y ¹	Heavy duty R6	75	CAN-RVFDHR6075
VFD 480V, 65kA, 100HP HD R7, 1200A	1200A	78 x 24 x 20	N ²	Heavy duty R7	100	CAN-RVFDHR7100
VFD 480V, 65kA, 150HP HD R8, 1200A	1200A	78 x 24 x 20	N ²	Heavy duty R8	150	CAN-RVFDHR8150
VFD 480V, 65kA, 200HP HD R9, 1200A	1200A	78 x 24 x 20	N ²	Heavy duty R9	200	CAN-RVFDHR9200
VFD 480V, 65kA, 300HP HD R9, 1200A	1200A	78 x 24 x 20	N ²	Heavy duty R9	300	CAN-RVFDHR9300
VFD 480V, 65kA, 100HP SD R6, 2000A	2000A	66 x 20 x 22	Y ¹	Standard duty R6	100	CAN-RVFDSDR61002
VFD 480V, 65kA, 150HP SD R7, 2000A	2000A	78 x 24 x 22	N ²	Standard duty R7	150	CAN-RVFDSDR71502
VFD 480V, 65kA, 200HP SD R8, 2000A	2000A	78 x 24 x 22	N ²	Standard duty R8	200	CAN-RVFDSDR82002
VFD 480V, 65kA, 350HP SD R9, 2000A	2000A	78 x 24 x 22	N ²	Standard duty R9	350	CAN-RVFDSDR93502
VFD 480V, 65kA, 75HP HD R6, 2000A	2000A	66 x 20 x 22	Y ¹	Heavy duty R6	75	CAN-RVFDHR60752
VFD 480V, 65kA, 100HP HD R7, 2000A	2000A	78 x 24 x 22	N ²	Heavy duty R7	100	CAN-RVFDHR71002
VFD 480V, 65kA, 150HP HD R8, 2000A	2000A	78 x 24 x 22	N ²	Heavy duty R8	150	CAN-RVFDHR81502
VFD 480V, 65kA, 200HP HD R9, 2000A	2000A	78 x 24 x 22	N ²	Heavy duty R9	200	CAN-RVFDHR92002
VFD 480V, 65kA, 300HP HD R9, 2000A	2000A	78 x 24 x 22	N ²	Heavy duty R9	300	CAN-RVFDHR93002

¹ Max 300A in vertical bus bar

² The sections do not include neutral

Note: Pricing available through empower.

ReliaGear LV MCC FastFlex/short cycle (SC) program

Phase monitor relay plug-in unit

Description	Unit height (in)	Product number
Phase relay 3P-3W	12	CAN-PFR-RG1

Power meter

Description	Unit height (in)	Power meter	Product number
Power meter (3P-3W and 3P-4W) Basic Modbus	12	PM basic	CAN-PM-RG1
Power meter (3P-3W and 3P-4W) Advanced Ethernet	12	PM advanced	CAN-PM-RG2

Surge protective device unit

Description	Unit height (in)	System type	Product number
TVSS bucket 480V, 65kA, 3P-3W, 200KAIC	24	3p-3w	CAN-TVSS-480-80
TVSS bucket 480V, 65kA, 3P-4W, 200KAIC	24	3p-4w	CAN-TVSS-4480-80

Auxiliary unit (includes fuse block)

Description	Unit height (in)	Product number
MCC-accessories unit 12in	12	CAN-ACCS-12
MCC-accessories unit 18in	18	CAN-ACCS-18

Door and unit shelf kits

Description	Unit height (in)	Qty. parts	Product number
Kit with 6 blank unit doors assembly of size 6in	6	6	CANR06BUDA
Kit with 6 blank unit doors assembly of size 12in	12	6	CANR12DA
Kit with 6 shelf and bracket assembly	-	6	CANRSABA

Note: Pricing available through empower.

ReliaGear renewal parts

Renewal parts

Part	Description	Product number
O/L reset assembly	Size 1 standard O/L	9000RSG1
	Size 1 electronic O/L	9000RSG2
	Size 2,5 standard O/L	9000RSG3
	Size 2,5 electronic O/L	9000RSG4
	Size 3,4 standard O/L	9000RSG5
	Size 3,4 electronic O/O	9000RSG6
Door hinges	Door hinges	190B1013P1
Terminal blocks	Power pull apart terminal block 50A	190B1691G1
	Terminal block Din rail assembly 18 points max	190B2070G6
	Terminal block Din rail assembly 18 points max w/ TB	190B0270G12
	Control TB 30A male and female	190B1692G1
Wireway covers	Wireway covers top 12" with hinges	110C1440G1
	Wireway covers top 18" with hinges	110C1440G2
Control power transformers	CPT 150VA, 480/120 Size 1 and 2 w/o fuse block	9T58K0504G37
	CPT 300VA, 480/120 Size 1 and 2 with fuse block	9T58K0504G38
	CPT 100VA 480/120 Size 1 1/2X, size 5 w/o fuse block	MIC#B100-2989-5
Miscellaneous	Standard shelf	110C1059P1
	Shelf grounding bracket	270A1343G1
	Vertical bus shutter ASM at top	110C1783G1
	Vertical bus stab covers	190B1215P1
	Wireway knock out panel	190B1014P1
	Shelf support – 72" high	110C1010G11
	Handle Escutcheon ASM, SZ1-4, XT2, XT4	190B3989G1
	Handle Escutcheon ASM, SZ1-4, 1/2X XT2 XT4	190B3989G2
	Handle Escutcheon ASM, SZ1-4, XT2, XT4, TYPE 12	190B3989G3
	Handle Escutcheon ASM, SZ1-4, 1/2X XT2, XT4 TYPE 12	190B3989G4
	Handle Escutcheon ASM, SZ1-4, XT2, XT4 No Label	190B3989G5
	Handle Escutcheon ASM, SZ1-4, XT2, XT4 TYPE 12 No Label	190B3989G6
	Handle Escutcheon ASM, XT4 Vertical	190B3989G7
	Handle Escutcheon ASM, XT4 Horizontal	190B3989G8
	Handle Escutcheon ASM, XT4 Vertical T12	190B3989G9
	Handle Escutcheon ASM, XT4 Horizontal T12	190B3989G10
Filler kits (includes shelf and grounding bracket)	6"	EK06
	12"	EK12
	18"	EK18
	24"	EK24
	30"	EK30
	36"	EK36
	42"	EK42
	48"	EK48
Rear doors only	Rear cover only 45 x 20	190B1007P9
	Rear hinge door top only	110C1466G9
	Rear hinge door bottom only	110C1466G21
	Rear hinge mounting bracket (2 per section)	110C1464P1

(Table continued on next page.)

Note: Pricing available through empower. If not, please contact factory for pricing.

ReliaGear renewal parts

Renewal parts (continued)

Part	Description	Product number
Wire trough doors (4")	6" high	110C1163G1
	12" high	110C1163G2
	18" high	110C1163G3
	24" high	110C1163G4
	30" high	110C1163G5
	36" high	110C1163G6
	42" high	110C1163G7
	48" high	110C1163G8
	54" high	110C1163G9
	60" high	110C1163G10
	66" high	110C1163G11
	72" high	110C1163G12
Cooling fans	Muffin fan 120V only	MUFFINFANG1
	Tarzan fan only	RMC#020169
	Case fan assembly	110C1556G1
	N3R fan assemblies	Refer to Factory
Blank unit door	15" x 6"	110C1240KKG1
	15" x 12"	110C1240KKG2
	15" x 18"	110C1240KKG3
	15" x 24"	110C1240KKG4
	15" x 30"	110C1240KKG5
	15" x 36"	110C1240KKG6
	15" x 42"	110C1240KKG7
Pilot device bracket	15" x 48"	110C1240KKG8
	6-unit device plate only	110C1039P100
	3-unit device plate only	110C1089P100
Splice kits	Bracket	190B1662P1
	600Amp bus – tin plated	110C1735G1SM
	800Amp bus – tin plated	110C1735G4SM
	1000/1200Amp bus – tin plated	110C1735G7SM
	2000Amp bus – tin plated	110C1735G12SM
Arc flash mitigation	2500Amp bus – tin plated	110C1735G13SM
	AFM mitigation kit	AFMKIT

Motor control centers parts publications list

Model	Description	Number
ReliaGear MCC	Installation guide	1VAL117401-MB
ReliaGear MCC	Renewal parts bulletin	9AKK107991A9878
ReliaGear MCC	Technical application guide	1VAL117401-TG
ReliaGear MCC	AFM retrofit kits instruction	DEI-009

Note: Pricing available through empower. If not, please contact factory for pricing.

ReliaGear and E9000 starter units

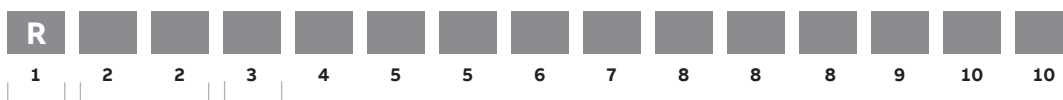
This quick selection guide covers control center starters and feeders, including full and reduced voltage, reversing and non-reversing, two-speed single and dual winding starters, in sizes 1-5. It also covers E9000 sections. For other units, see the Engineered Products Catalog, Section 10.

Motor control starter units

For each of the following steps, find the option–MCC type, starter type, size, disconnect, control power, pilot lights, etc.– that meets the need. Transfer the corresponding product number digit(s) to the product number box(es).

When you have finished, you will have built a complete product number.

Starter product number



1: Motor control center type

E = E9000
R = ReliaGear

2: Starter type and size

Starter type	Size	Product number digits
FVNR ¹	1	A1
	2	A2
	3	A3
	4	A4
	5 ³	A5
FVR ¹	1	B1
	2	B2
	3	B3
	4	B4
2S1W ² variable torque	1	C1
	2	C2
	3	C3
	4	C4
2S2W ² variable torque	1	D1
	2	D2
	3	D3
	4	D4

¹ FVNR and FVR units supplied with Tmax XT circuit breakers.

² 2S1W and 2S2W units supplied with Spectra circuit breakers.

³ The size 5 starter is an exception. It is supplied with the Spectra G frame circuit breaker.

3: Starter disconnect

Use the first table to identify desired disconnect device. (Note that these are for basic applications; see publication DET-291 for E9000 for more information.) Then, from the second table select starter disconnect.

Starter size	Mag only circuit breaker	Thermal mag circuit breaker	Short circuit rating		
			230V	460V	575V ²
1, 2, 3	Spectra - 65k	Spectra - 65k	65	65	25
	Spectra - 100k	Spectra - 100k	100	100	–
4	Spectra - 65k	Spectra - 65k	65	65	25
	Spectra - 100k	Spectra - 100k	100	100	–

² At 575V current limiters may be used.

Disconnect device	Product number digit	Starter size			
		1	2	3	4
FSW-R	F	•	•	•	
FSW-J ³	R	•	•	•	
Spectra – 65 mag only ⁴	U	•	•	•	•
Spectra – 100 mag only	V	•	•	•	•
Spectra – 65 thermal mag ⁴	W	•	•	•	•
Spectra – 100 thermal mag	X	•	•	•	•
Tmax XT2H - 65 TMA/F or Ekip I ⁵	0	•	•	•	
Tmax XT2L - 100 TMA/F or Ekip I ⁵	1	•	•	•	
Tmax XT2N - 65 TMA/F	2	•	•	•	
Tmax XT2S - 100 TMA/F	3	•	•	•	
Tmax XT4H - 65 TMA	4				•
Tmax XT4L - 100 TMA	5				•
Tmax XT4N - 65 TMA	6				•
Tmax XT4S - 100 TMA	7				•

³ J time delay

⁴ 25 kAIC @ 575V

⁵ Ekip I Breakers only offered through Fastrac program for limited HPs, in Size 1 applications

All Fastrac units have the following as standard:

- A. NEMA 12 gasketing
- B. Isolated N.O. overload alarm contact (not wired to TB)
- C. Auxiliary contacts wired to the TB as noted below:
 FVNR and RVNR starters–(1) N.O. (1) N.C.
 FVR and 2S starters–(1) N.O. per contactor

Note: Pricing available through empower.

ReliaGear and E9000 starter units

Starter product number



4: Control power

Standard control power transformer (CPT) ratings are adequate to handle the starter-coil current and three pilot lights. If additional burdens are expected, larger transformers should be specified from among those shown in the first table below. From the second table below, select the control power desired.

Starter type and size	CPT Std. VA	Oversize VA
All size 1	60	150 ¹
All size 2	150/300 ²	-
All size 3	300	-
All size 4	300	-
All size 5	100	-

¹ For Spectra circuit breakers, the standard size 1 CPT is 60VA, with an option for 150VA. For Tmax XT circuit breakers, the standard is 150VA.

² For Spectra circuit breakers, the CPT is 150VA. For Tmax XT circuit breakers, the CPT is 300VA.

Control power (120 Vac) ¹	Product number digit	Starter size			
		1	2	3	4
Std. CPT	1	•	•	•	•
Common/Separate source	5	•	•	•	•

¹ At 380V 50Hz, control volts will be 110Vac; at 575V 60Hz, control volts will be 115Vac.

5: Pilot devices

Select pilot devices desired by starter type.

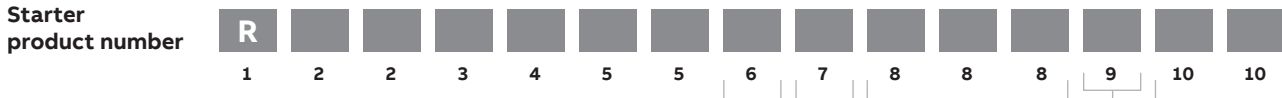
Pilot device	Product number digits
FVNR and RVNR and RVSS starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED LGT STD	OE
RED LGT PUSH-TO-TEST (PTT)	OF
RED/GREEN LGT STD	OS
RED/GREEN LGT PTT	OT
HAND/OFF/AUTO (H/O/A) SW.	AN
H/O/A SW. RED LGT STD	OB
H/O/A SW. RED LGT PTT	OP
H/O/A SW. R/G LGT STD	OC
H/O/A SW. R/G LGT PTT	OQ
H/O/A SW. STOP/START PB RED LGT STD	OD
H/O/A SW. STOP/START PB RED LGT PTT	OR

5: Pilot devices (continued)

Pilot device	Product number digits
FVNR and RVNR and RVSS starter type (continued)	
STOP/START PB	BN
STOP/START PB RED LGT STD	PB
STOP/START PB RED LGT PTT	PP
STOP/START PB R/G LGT STD	PC
STOP/START PB R/G LGT PTT	PQ
OFF/ON SW.	GN
OFF/ON SW. RED LGT STD	UB
OFF/ON SW. RED LGT PTT	UP
OFF/ON SW. R/G LGT STD	UC
OFF/ON SW. R/G LGT PTT	UQ
FVR starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED/GREEN LGT STD	QE
RED/GREEN LGT PTT	QR
RED/AMBER LGT STD	QF
RED/AMBER LGT PTT	QS
R/A/G LGT STD	QG
R/A/G LGT PTT	QT
FWD/REV/STOP PB	CN
FWD/REV/STOP PB R/A LGT STD	QB
FWD/REV/STOP PB R/A LGT PTT	QP
FWD/REV/STOP PB R/G/A LGT STD	QC
FWD/REV/STOP PB R/G/A LGT PTT	QQ
FWD/OFF/REV SW	DN
FWD/OFF/REV SW RED LGT STD	RB
FWD/OFF/REV SW RED LGT PTT	RP
FWD/OFF/REV SW R/G LGT STD	RC
FWD/OFF/REV SW R/G LGT PTT	RQ
2S1W and 2S2W starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED/AMBER LGT STD	SF
RED/AMBER LGT PTT	SS
R/A/G LGT STD	SG
R/A/G LGT PTT	ST
FAST/SLOW/STOP PB	EN
FAST/SLOW/STOP PB R/A LGT STD	SB
FAST/SLOW/STOP PB R/A LGT PTT	SP
FAST/SLOW/STOP PB R/A/G LGT STD	SC
FAST/SLOW/STOP PB R/A/G LGT PTT	SQ
FAST/SLOW/OFF/AUTO (F/S/O/A) SW	NF
F/S/O/A SW R/A LGT STD	TB
F/S/O/A SW R/A LGT PTT	TP
F/S/O/A SW R/A/G LGT STD	TC
F/S/O/A SW R/A/G LGT PTT	TQ

Note: Pricing available through empower.

ReliaGear and E9000 starter units



6: Overload relay

Relay type	Product number digit
Standard	1
Ambient compensated	2
Solid state	3

7: Control disconnect terminal board

If H1 is selected in Step 2, product number digit H must be selected.

Standard high-density	H
-----------------------	---

8: Horsepower

Note that some product number digits consist of a decimal point.

Horsepower	Product number digits	Horsepower	Product number digits
1/4	.25	15	015
1/3	.33	20	020
3/8	.38	25	025
1/2	.50	30	030
3/4	.75	40	040
1	001	50	050
1-1/2	1.5	60	060
2	002	75	075
3	003	100	100
5	005	125	125
7-1/2	7.5	150	150
10	010	200	200

9: System voltage

Voltage	Product number digit
480V 60 Hz	A
208V 60 Hz	B
240V 60 Hz	C
575V 60 Hz	D
380V 50 Hz	E

10: OEM Fastrac units

Fastrac units designed for OEM use are engineered and built with the same components and layout as the standard Fastrac units. Power wiring is provided; however, to allow the maximum flexibility for OEM users, no control wiring is provided.

Product numbers are the same as the standard Fastrac units with the addition of two additional suffix letters, **XX**.

Example

Standard Fastrac unit	EA1U1AB1H010A
OEM Fastrac unit	EA1U1AB1H010A XX

Note: Pricing available through empower.

ReliaGear and E9000 feeder units

Motor control feeder units

For each of the following steps, find the option–MCC type, disconnect type, amp rating, feeder devices–that meets the need. Transfer the corresponding product number digits to the product number boxes for either the standard or OEM extended feeder unit. When you have finished, you will have built a complete product number.

1: Motor control center type

E = E9000
R = ReliaGear

2: Feeder disconnect type

Type	Voltage	Product number digits
Circuit breaker	–	FB
Fusible switch-R	208/240V	FR
Fusible switch-R	480/600V	FS
Fusible switch-J	480/600V	FJ

3: Amp rating

Select amp rating for either circuit breaker trip or Class R fuse.

Amps	Product number digits	Amps	Product number digits
15	015	110	110
20	020	125	125
30	030	150	150
40	040	175	175
50	050	200	200
60	060	225	225
70	070	250	250
100	100	–	–

Door and shelf kit

6" – EK06	30" – EK30
12" – EK12	36" – EK36
18" – EK18	42" – EK42
24" – EK24	48" – EK48

Standard feeder unit product number



4: Feeder device for standard feeder units

Device	Amp rating (max.)	Short circuit rating KA volts			Unit height (inches)	Product number digits
		240	480	600		
Tmax XT2	125	100	–	–	6, 12, 18, 24, 30 or 36	XT2S
		65	–	–		XT2N
		–	100	–		XT2L
		–	65	–		XT2H
Tmax XT4	250	100	–	–	18, 24, 30, 36, 42 or 48	XT4S
		65	–	–		XT4N
		–	100	–		XT4L
		–	65	–		XT4H
FSW	30	100	100	100	6	QM36
	30	100	100	100	12	QMR3
	60	100	100	100	6	QM66
	60	100	100	100	12	QMR6
	100	100	100	25	12	QMR1
FSW	200	100	100	100	24	QMR2
	30	100	100	100	12	QMR3
	60	100	100	100	12	QMR6
	100	100	100	N/A	12	QMR1
FSW	200	100	100 ¹	100 ¹	24	QMR2

¹ Unit height for 480V and 600V is 30".

Note: For the part numbering system, need to insert two "4A" digits between the "4" and "5" digits. This is ONLY for Tmax XT based buckets.

5: System voltage

Voltage	Product number digit
480V 60 Hz	A
208V 60 Hz	B
240V 60 Hz	C
575V 60 Hz	D
380V 50 Hz	E

Note: Pricing available through empower.

ReliaGear VFD units

Motor control VFD units

For each of the following steps, find the option—MCC type, disconnect type, amp rating, feeder devices—that meets the need. Transfer the corresponding product number digits to the product number boxes for either the standard or OEM extended feeder unit. When you have finished, you will have built a complete product number.

Standard feeder unit product number

R												
1	2	2	3	4	5	5	6	7	8	8	8	9

1: Motor control center type

R = ReliaGear

2: VFD Size

G1 = G1 Frame
G2 = G2 Frame
G3 = G3 Frame

3: Circuit Breaker Frame

0 = XT2H
1 = XT2L
2 = XT2N
3 = XT2S
8 = XT4V

4: Control Power

1 = Standard CPT, 150VA
2 = Oversized CPT, 250VA or 300VA depending on unit

5: Pilot Devices

VP = Drive control panel only
VS = Drive control panel, speed adj. pot and HOA switch
VT = Drive control panel, HOA switch and red/green PL
VU = Drive control panel, HOA switch and red/green PL PTT
VW = Drive control panel, speed adj. pot, HOA switch and red/green PL
VX = Drive control panel, speed adj. pot, HOA switch and red/green PL PTT

6: Duty Rating

L = Light Duty
H = Heavy Duty

7: Line Reactor

0 = Internal VFD reactor only
3 = 3% external reactor
5 = 5% external reactor

8: Horsepower

.75 = 0.75 HP
001 = 1 HP
1.5 = 1.5 HP
002 = 2 HP
003 = 3 HP
005 = 5 HP
7.5 = 7.5 HP
010 = 10 HP
015 = 15 HP
020 = 20 HP
025 = 25 HP
030 = 30 HP

9: System Voltage

A = 480V, 60Hz
B = 208V, 60Hz
C = 240V, 60Hz
D = 575V, 60Hz
E = 380V, 50Hz

Note: Pricing available through empower.

E9000 renewal parts

Renewal parts

Part	Description	Product number
O/L reset assembly	Size 1 standard O/L	9000RSG1
	Size 1 electronic O/L	9000RSG2
	Size 2,5 standard O/L	9000RSG3
	Size 2,5 electronic O/L	9000RSG4
	Size 3,4 standard O/L	9000RSG5
	Size 3,4 electronic O/L	9000RSG6
Door hinges	Door hinges	190B1013P1
Terminal blocks	Power pull apart terminal block 50A	190B1691G1
	Terminal block Din rail assembly 18 points max	190B2070G6
	Terminal block Din rail assembly 18 points max w/ TB	190B0270G12
	Control TB 30A male and female	190B1692G1
Wireway covers	Wireway covers top 12" with hinges	110C1440G1
	Wireway covers top 18" with hinges	110C1440G2
Control power transformers	CPT 150VA, 480/120 Size 1 and 2 w/o fuse block	9T58K0504G37
	CPT 300VA, 480/120 Size 1 and 2 with fuse block	9T58K0504G38
	CPT 100VA, 480/120 Size 1 1/2X, size 5 w/o fuse block	MIC#B100-2989-5
Miscellaneous	Standard shelf	110C1059P1
	Shelf grounding bracket	270A1343G1
	Vertical bus shutter ASM at top	110C1783G1
	Vertical bus stab covers	190B1215P1
	Wireway knock out panel	190B1014P1
	Shelf support - 72" high	110C1010G11
Circuit breaker/starter handles	E and F frame CB vertical handle only	190B1704G1
	E and F frame CB horizontal handle only	190B1704G2
Filler kits (includes shelf and grounding bracket)	6"	EK06
	12"	EK12
	18"	EK18
	24"	EK24
	30"	EK30
	36"	EK36
	42"	EK42
	48"	EK48
Rear doors only	Rear cover only 45 x 20	190B1007P9
	Rear hinge door top only	110C1466G9
	Rear hinge door bottom only	110C1466G21
	Rear hinge mounting bracket (2 per section)	110C1464P1
Wire trough doors (4")	6" high	110C1163G1
	12" high	110C1163G2
	18" high	110C1163G3
	24" high	110C1163G4
	30" high	110C1163G5
	36" high	110C1163G6
	42" high	110C1163G7
	48" high	110C1163G8
	54" high	110C1163G9
	60" high	110C1163G10
	66" high	110C1163G11
	72" high	110C1163G12

Note: Pricing available through empower. If not, please contact factory for pricing.

(Table continued on next page.)

E9000 renewal parts

Renewal parts (continued)

Part	Description	Product number
Cooling fans	Muffin fan 120V only	MUFFINFANG1
	Tarzan fan only	RMC#020169
	Case fan assembly	110C1556G1
	N3R fan assemblies	Refer to Factory
Blank unit door	15" x 6"	110C1240KKG1
	15" x 12"	110C1240KKG2
	15" x 18"	110C1240KKG3
	15" x 24"	110C1240KKG4
	15" x 30"	110C1240KKG5
	15" x 36"	110C1240KKG6
	15" x 42"	110C1240KKG7
Pilot device bracket	6-unit device plate only	110C1039P100
	3-unit device plate only	110C1089P100
	Bracket	190B1662P1
Splice kits	600Amp bus – tin plated	110C1735G1SM
	800Amp bus – tin plated	110C1735G4SM
	1000/1200Amp bus – tin plated	110C1735G7SM
	2000Amp bus – tin plated	110C1735G12SM
	2500Amp bus – tin plated	110C1735G13SM
Optional semiconductor soft start fuses	50Amp	CSC#A50QS50
	60Amp	CSC#A50QS60
	80Amp	CSC#A50QS80
	100Amp	CSC#A50QS100
	200Amp	CSC#A50QS200
	225Amp	CSC#A50QS225
Arc flash mitigation	250Amp	CSC#A50QS250
	AFM mitigation kit	AFMKIT

Motor control centers parts publications list

Model	Description	Number
E9000 MCC	Installation	GEH 40472
E9000 MCC	Renewal parts bulletin	9AKK107991A9963
E9000 MCC	AFM retrofit kits instructions	DEI-009

Note: Pricing available through empower. If not, please contact factory for pricing.

MNS LV MCC SC Fastrac program

This quick selection guide covers control center starters and feeders, including full reversing and non-reversing starters, in sizes 1-5. For other units, see the Engineered Products Catalog.

Each ABB MNS-MCC motor control center bucket unit is painted using ANSI-61 light gray as standard. Unit construction is Class I Type B wiring. Factory assembled, wired and tested units.

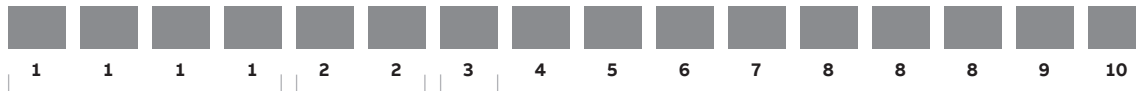
Standard UL labeled NEMA 1 units consisting of starters, feeders, and/or spaces for future units.

Motor control starter units

For each of the following steps, find the option–MCC type, starter type, size, disconnect, control power, pilot lights, etc.– that meets the need. Transfer the corresponding product number digit(s) to the product number box(es).

When you have finished, you will have built a complete product number.

Starter product number



1: Motor control center type

MCC type	Product number digits
MNS-MCC ANSI LV	2TDM
MNS-MCC (arc resistant) ANSI LV	2TDR

2: Starter type and size

Starter type	Size	Product number digits
FVNR	1	A1
	2	A2
	3	A3
	4	A4
	5	A5
FVR	1	B1
	2	B2
	3	B3
	4	B4
FVC	1	C1
	2	C2
	3	C3
	4	C4
	5	C5

3: Starter disconnect

Use the first table to identify desired disconnect device. (Note that these are for basic applications) Then, from the second table select starter disconnect.

Starter type	Mag only circuit breaker	Thermal mag circuit breaker	Short circuit rating		
			240V	480V	600V
FVNR FVR	Tmax 65k	–	100	65	25
	Tmax 100k	–	100	100	65
FVC	–	Tmax 65k	100	65	25
	–	Tmax 100k	100	100	65

Disconnect device	Product number digit	Starter size				
		1	2	3	4	5
Tmax 65k Mag only ¹	U					
Tmax 100k Mag only ²	V					
Tmax 65k Thermal mag ¹	W					
Tmax 100k Thermal mag ²	X					
Fusible switch ³	F					

¹ 25 kAIC @ 600V
² 65 kAIC @ 600V
³ J time delay

- All Fastrac units have the following as standard:**
- A. NEMA 1 for MNS-MCC arc resistant
 - B. NEMA 1A gasketing for MNS-MCC conventional
 - C. Isolated N.O. overload alarm contact (not wired to TB)
 - D. Auxiliary contacts wired to the TB as noted below:
 FVNR and FVC starters–(1) N.O. (1) N.C.
 FVR starters–(1) N.O. per contactor

Note: Pricing available through empower.

MNS LV MCC SC Fastrac program

Starter product number



4: Control power

Standard control power transformer (CPT) ratings are adequate to handle the starter-coil current and three pilot lights. If additional burdens are expected, larger transformers should be specified from among those shown in the first table below. From the second table below, select the control power desired.

Starter type and size	CPT Std. VA	Oversize VA
All size 1	50	100
All size 2	50	100
All size 3	50	150
All size 4	100	250
All size 5	150	350

Control power (120 Vac)	Product number digit	Starter size				
		1	2	3	4	5
Std. CPT	1					
Oversize	2					
Common/Separate source	4					

5: Pilot devices

Select pilot devices desired by starter type. See pilot devices table below and note that all are LED lamps.

Starter type	Pilot device	Product number digit
FVNR	NONE	N
	RED Light	A
	RED PUSH-TO-TEST (PTT)	B
	RED/GREEN Light	C
	RED/GREEN PTT	D
	RED/GREEN/YELLOW Light	E
	RED/GREEN/YELLOW PTT	F
	HAND/OFF/AUTO (H/O/A) SW	G
	H/O/A RED Light	H
	H/O/A RED PTT	J
	H/O/A RED/GREEN Light	K
	H/O/A RED/GREEN PTT	L
	H/O/A RED/GREEN/YELLOW Light	M
	H/O/A RED/GREEN/YELLOW PTT	P
	H/O/A START/STOP PB RED Light	Q
	H/O/A START/STOP PB RED PTT	R
	START/STOP PB	S
	START/STOP PB RED Light	T
	START/STOP PB RED PTT	U

Starter type	Pilot device	Product number digit
FVNR (continued)	START/STOP PB RED/GREEN Light	V
	START/STOP PB RED/GREEN PTT	W
	START/STOP PB R/G/Y Light	X
	START/STOP PB R/G/Y PTT	Y
FVR	NONE	N
	RED/GREEN Light	A
	RED/GREEN PTT	B
	RED/GREEN/YELLOW Light	C
	RED/GREEN/YELLOW PTT	D
	FWD/REV/STOP PB	E
	FWD/REV/STOP PB R/G Light	F
	FWD/REV/STOP PB R/G PTT	G
	FWD/REV/STOP PB R/G/Y Light	H
	FWD/REV/STOP PB R/G/Y PTT	J
	FWD/OFF/REV SW	K
	FWD/OFF/REV R/G Light	L
FWD/OFF/REV R/G PTT	M	
FWD/OFF/REV R/G/Y Light	P	
FWD/OFF/REV R/G/Y PTT	Q	
FVC	NONE	N
	RED Light	A
	RED PUSH-TO-TEST (PTT)	B
	RED/GREEN Light	C
	RED/GREEN PTT	D
	OFF/ON SW	E
	OFF/ON RED Light	F
	OFF/ON RED PTT	G
	OFF/ON RED/GREEN Light	H
	OFF/ON RED/GREEN PTT	J

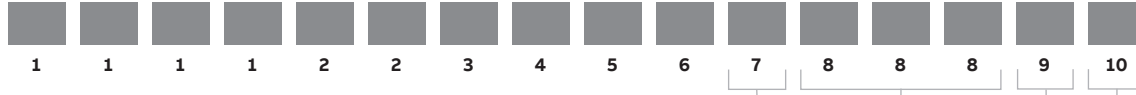
6: Overload relay

Relay type	Product number digit
Electronic OL	1
UMC100.3	3
UMC100.3 w/ground fault relay	4
UMC100.3 w/voltage module	5
UMC100.3 w/GFR/VM	6

Note: Pricing available through empower.

MNS LV MCC SC Fastrac program

Starter product number



7: Communication

Communication type	Product number digit
None	N
MODBUS RTU	M
MODBUS TCP/IP	T
PROFIBUS DP	P
PROFINET	R
ETHERNET IP	E
DEVICENET	D

8: Horsepower

Note that some product number digits consist of a decimal point.

Horsepower	Product number digits	Horsepower	Product number digits
1/4	.25	20	020
1/2	.50	25	025
3/4	.75	30	030
1	001	40	040
1-1/2	1.5	50	050
2	002	60	060
3	003	75	075
5	005	100	100
7-1/2	7.5	125	125
10	010	150	150
15	015	200	200

9: System voltage and indication

Select system voltage and if a presence of voltage indicator is required.

Voltage	Product number digit
240V	A
380V	B
480V	C
600V	D
240V w/voltage indicator	J
380V w/voltage indicator	K
480V w/voltage indicator	L
600V w/voltage indicator	M

10: SafeT Connect and test position

Select Power SafeT Connect or conventional connection and if the test position is required. **If arc resistant is selected in Step 1, product number digits 1 or 2 must be selected.**

	Product number digit
SafeT Connect ¹	1
SafeT Connect w/test position	2
Conventional connection	4
Conventional w/test position	5

¹ SafeT Connect -> with power cable connection unit

Note: Pricing available through empower.

MNS LV MCC SC Fastrac program

Motor control feeder units

For each of the following steps, find the option—MCC type, disconnect type, amp rating, feeder devices—that meets the need. Transfer the corresponding product number digits to the product number boxes for the standard feeder unit. When you have finished, you will have built a complete product number.

Standard feeder unit product number



1: Motor control center type

MCC type	Product number digits
MNS-MCC ANSI LV	2TDM
MNS-MCC (arc resistant) ANSI LV	2TDR

2: Feeder disconnect type

Type	Product number digits
Circuit breaker	CB
Fusible switch ¹	FS

¹ J time delay

3: Amp rating

Select amp rating for either circuit breaker trip or Class J fuse.

Amps	Product number digits	Amps	Product number digits
15	015	90	090
20	020	100	100
25	025	125	125
30	030	150	150
35	035	175	175
40	040	200	200
50	050	225	225
60	060	250	250
70	070	300	300
80	080	400	400

4: Feeder device

Device	Amp rating (max.)	Short circuit rating KA volts			Unit height	Product number digits
		240	480	600		
XT2 LSIG	125	100	65	25	6E ²	T2VA
	125	100	65	25	12E	T2VB
XT4 LSIG	100	100	100	65	12E	T4VA
	225	100	100	65	18E	T4VB
	250	100	100	65	24E	T4VC
T5 LSIG	400	100	100	65	24E	T5LA
FSW	30	100	100	100	12E	FSWA
	60	100	100	100	12E	FSWB
	100	100	100	100	24E	FSWC
	200	100	100	100	24E	FSWD
	300	100	100	100	30E	FSWE

² SafeT Connect not available

5: SafeT Connect

Select Power SafeT Connect or conventional connection. **If arc resistant is selected in Step 1, product number digit 1 must be selected.**

	Product number digit
SafeT Connect ³	1
Conventional connection	4

³ SafeT Connect -> with power cable connection unit

6: System voltage and indication

Select system voltage and if a presence of voltage indicator is required.

Voltage	Product number digit
240V	A
380V	B
480V	C
600V	D
240V w/voltage indicator	J
380V w/voltage indicator	K
480V w/voltage indicator	L
600V w/voltage indicator	M

Note: Pricing available through empower.

MNS renewal parts

Renewal parts

Part	Description	Product number
Rotary handle	Rotary handle 45mm for size 6E	1SCA022399R7640
	Rotary handle 65mm for size 12E and higher	1SCA022399R7720
	Stainless steel Hasp for rotary handle	1SCA022841R5480
Pull handle	Drawer handle angular >=4E grey	1TSA030009P0061
	Name plate support for handle	HANL200056P0001
	Handle for 8E2 bucket grey	HANL200008P0010
O/L electronic	DB19EF single mounting kit	1SAX101910R1001
	DB45EF single mounting kit	1SAX201910R0001
	EF19-2.7 EOL 0.8-2.7A	1SAX121001R1103
	EF19-6.3 EOL 1.9-6.3A	1SAX121001R1104
	EF19-18.9 EOL 5.7-18.9A	1SAX121001R1105
	EF45-45 EOL 15-45A	1SAX221001R1102
	EF96-100 EOL 37-100A	1SAX341001R1101
	EF146-150 EOL 54-150A	1SAX351001R1101
	EF370-380 EOL 115-380A	1SAX611001R1101
	Mechanical reset TF-EF 400mm Bowden	1TNA500032R0001
	Mechanical reset TF-EF 600mm Bowden	1TNA500032R0002
	Reset mechanism	2TDA080021P0001
	Reset button	2TDA080104R0001
	UMC100	UMC100.3 UC, 110-240 V AC/DC
UMC100.3 DC, 24 V DC		1SAJ530000R0100
UMC100-PAN, operating panel		1SAJ590000R0103
UMCPAN-CAB.070, 0.7 m ext. cable with door mounting set		1SAJ510003R0002
UMCPAN-CAB.150, 1.5 m ext. cable with door mounting set		1SAJ510004R0002
UMC100.3 remote HMI adapter M12		1TNA603016R0001
UMC100.3 remote HMI KIT		1TGB100149R0002
3-PH current transformer CT4L185R/4		1SAJ929500R0185
3-PH current transformer CT4L310R/4		1SAJ929500R0310
3-PH current transformer CT4L500R/4		1SAJ929501R0500
W/D terminal blocks	Terminal block markings	2TDA080033P0001
	Control terminal block socket part B4E 12-pole	GILN100115R2302
	Control terminal block plug part S4E 12-pole	GILN100116R2302
W/D cable connection unit	Barrier of boots CCU300	2TDA030088P0001
	Boot CCU300	2TDA030084P0001
	Contact holder housing 3P outgoing	1TSA233000P0015
	Contact holder housing 3P outgoing 101	1TSA030017P0006
Miscellaneous	Rubber grommet profile	2TDA080113P0001
	Contact holder housing 4P incoming	1TSA030018P0032
	Touch protection contact holder 4P	1TSA030018P0034
	Door mechanical interlock	1TSA275000R0001
	Wheels for module bottom plate and cover	1TSA275002R0004
	Shaft bkr. XT2 6E	2TDA080116P0004
	Shaft bkr. XT2 and XT4	2TDA080116P0001
	Shaft bkr. T5	2TDA080119P0001
	Shaft bkr. T5 FDR	2TDA080119P0003
	Voltage indicator non flashing light	2TDA060007R0002
Nameplate holder	1TSA229431-67	
120deg hinge	1TSA271000P0091	
Unmarked plate	SK615640-1	
30mm adaptor for 22mm chrome	1SFA616920R8030	

(Table continued on next page.)

Note: Pricing available through empower. If not, please contact factory for pricing.

MNS renewal parts

Renewal parts (continued)

Part	Description	Product number
Plug-in contacts	Plug-in contact assembly 10AWG 6mm ²	2TDA080004R0001
	Plug-in contact assembly 8AWG 10mm ²	2TDA080004R0002
	Contact type 101-Ag 6-10-16mm ² w/o cable	1TGB100101A1116
	Contact type 101-Ag 35mm ² w/o cable	1TGB100101A0035
	Contact type 101-Ag 50mm ² w/o cable	1TGB100101A0050
	Contact type 101-Ag 70mm ² w/o cable	1TGB100101A0070
	Contact type 101-Sn 6-10-16mm ² w/o cable	1TGB100101S1116
	Contact type 101-Sn 35mm ² w/o cable	1TGB100101S0035
	Contact type 101-Sn 50mm ² w/o cable	1TGB100101S0050
	Contact type 101-Sn 70mm ² w/o cable	1TGB100101S0070
Communication	PDP32.0, Profibus DP communication interface	1SAJ242000R0001
	MRP31.0, Modbus RTU communication interface	1SAJ251000R0001
	EIU32.0, EtherNet/IP communication interface	1SAJ262000R0100
	DNP31.0, DeviceNet communication interface	1SAJ231000R0001
	MTQ22-FBP.0, Ethernet Modbus TCP interface	1SAJ260000R0100
	PNQ22-FBP.0, Ethernet Profinet IO interface	1SAJ261000R0100
	CDP18.150, cable for use inside drawer, length 1.5 m	1SAJ929180R0015
	CDP23.300, cable Ethernet interface - UMC100.3, length 3 m	1SAJ929230R0030
	CDP24.150, cable from SMK3.0 to drawer's outside, length 1.5 m	1SAJ929240R0015
	SMK3.0, adapter for separate mounting of a communication interface	1SAJ929600R0001
Control power transformers	CPT 50VA, 480/120 with fuse block	2TDA060051P4050
	CPT 100VA, 480/120 with fuse block	2TDA060051P4100
	CPT 150VA, 480/120 with fuse block	2TDA060051P4150
	CPT 250VA, 480/120 with fuse block	2TDA060051P4250
	CPT 350VA, 480/120 with fuse block	2TDA060051P4350
	CPT 50VA, 600/120 with fuse block	2TDA060051P6050
	CPT 100VA, 600/120 with fuse block	2TDA060051P6100
	CPT 200VA, 600/120 with fuse block	2TDA060051P6200
	CPT 250VA, 600/120 with fuse block	2TDA060051P6250
	CPT 300VA, 600/120 with fuse block	2TDA060051P6300
Contactors	Contactator size 1 AF26-30-00-13 100-250VAC/DC	1SBL237001R1300
	Contactator size 2 AF40-30-00-13 100-250VAC/DC	1SBL347001R1300
	Contactator size 3 AF80-30-00-13 100-250VAC/DC	1SBL397001R1300
	Contactator size 4 AF140-30-00-13 100-250VAC/DC	1SFL447001R1300
	Contactator size 5 AF265-30-00-13 100-250VAC/DC	1SFL547002R1300

Note: Pricing available through empower. If not, please contact factory for pricing.

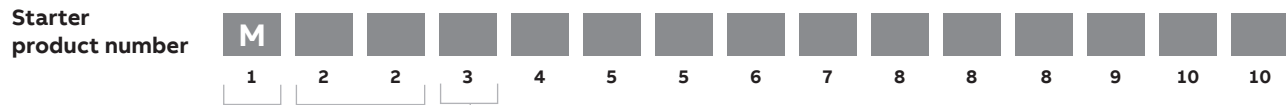
8000 line LV MCC replacement starter program

This quick selection guide covers control center starters and feeders, including full and reduced voltage, reversing and non-reversing, two-speed single and dual winding starters, in sizes 1-5. For other units, see the Engineered Products Catalog, Section 10.

Motor control starter units

For each of the following steps, find the option–MCC type, starter type, size, disconnect, control power, pilot lights, etc.– that meets the need. Transfer the corresponding product number digit(s) to the product number box(es).

When you have finished, you will have built a complete product number.



1: Motor control center type

M = CR8000

2: Starter type and size

Starter type	Size	Product number digits
FVNR	1	A1
	2	A2
	3	A3
	4	A4
FVR	1	B1
	2	B2
	3	B3
	4	B4
2S1W	1	C1
	2	C2
	3	C3
	4	C4
2S2W	1	D1
	2	D2
	3	D3
	4	D4

3: Starter disconnect

Disconnect device	Product number digit	Starter size			
		1	2	3	4
FSW-R	F	•	•	•	
FSW-J ¹	R	•	•	•	
Tmax XT2H - 65 TMA/F or Ekip I ²	0	•	•	•	
Tmax XT2L - 100 TMA/F or Ekip I ²	1	•	•	•	
Tmax XT2N - 65 TMA/F	2	•	•	•	
Tmax XT2S - 100 TMA/F	3	•	•	•	
Tmax XT4H - 65 TMA	4				•
Tmax XT4L - 100 TMA	5				•
Tmax XT4N - 65 TMA	6				•
Tmax XT4S - 100 TMA	7				•

¹J time delay

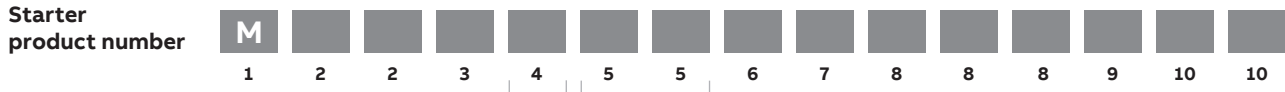
²Ekip I Breakers only offered through Fastrac program for limited HPs, in Size 1 applications

All Fastrac units have the following as standard:

- A. Type 1 with Gasketing
- B. Isolated N.O. overload alarm contact (not wired to TB)
- C. Auxiliary contacts wired to the TB as noted below:
 - FVNR and RVNR starters–(1) N.O. (1) N.C.
 - FVR and 2S starters–(1) N.O. per contactor

Note: Pricing available through empower.

8000 line LV MCC replacement starter program



4: Control power

Standard control power transformer (CPT) ratings are adequate to handle the starter-coil current and three pilot lights. If additional burdens are expected, larger transformers should be specified from among those shown in the first table below. From the second table below, select the control power desired.

Starter type and size	CPT Min. VA	Oversize VA
All size 1	60	150
All size 2	150	-
All size 3	300	-
All size 4	300	-

Note: For 380V units, all CPTs rated at 250VA.

Control power (120 Vac) ¹	Product number digit	Starter size			
		1	2	3	4
Std. CPT	1	•	•	•	•
Common/Separate source	5	•	•	•	•

¹At 380V 50Hz, control volts will be 110Vac; at 575V 60Hz, control volts will be 115Vac.

5: Pilot devices

Select pilot devices desired by starter type.

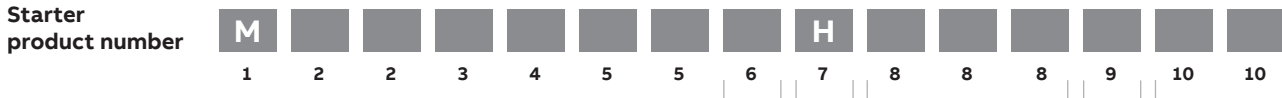
Pilot device	Product number digits
FVNR starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED LGT STD	OE
RED LGT PUSH-TO-TEST (PTT)	OF
RED/GREEN LGT STD	OS
RED/GREEN LGT PTT	OT
HAND/OFF/AUTO (H/O/A) SW.	AN
H/O/A SW. RED LGT STD	OB
H/O/A SW. RED LGT PTT	OP
H/O/A SW. R/G LGT STD	OC
H/O/A SW. R/G LGT PTT	OQ
H/O/A SW. STOP/START PB RED LGT STD	OD
H/O/A SW. STOP/START PB RED LGT PTT	OR
STOP/START PB	BN
STOP/START PB RED LGT STD	PB
STOP/START PB RED LGT PTT	PP
STOP/START PB R/G LGT STD	PC
STOP/START PB R/G LGT PTT	PQ

5: Pilot devices (continued)

Pilot device	Product number digits
FVNR starter type (continued)	
OFF/ON SW.	GN
OFF/ON SW. RED LGT STD	UB
OFF/ON SW. RED LGT PTT	UP
OFF/ON SW. R/G LGT STD	UC
OFF/ON SW. R/G LGT PTT	UQ
FVR starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED/GREEN LGT STD	QE
RED/GREEN LGT PTT	QR
RED/AMBER LGT STD	QF
RED/AMBER LGT PTT	QS
R/A/G LGT STD	QG
R/A/G LGT PTT	QT
FWD/REV/STOP PB	CN
FWD/REV/STOP PB R/A LGT STD	QB
FWD/REV/STOP PB R/A LGT PTT	QP
FWD/REV/STOP PB R/G/A LGT STD	QC
FWD/REV/STOP PB R/G/A LGT PTT	QQ
FWD/OFF/REV SW	DN
FWD/OFF/REV SW RED LGT STD	RB
FWD/OFF/REV SW RED LGT PTT	RP
FWD/OFF/REV SW R/G LGT STD	RC
FWD/OFF/REV SW R/G LGT PTT	RQ
2S1W and 2S2W starter type	
NONE - Blank Pilot Device Bracket Provided	NN
RED/AMBER LGT STD	SF
RED/AMBER LGT PTT	SS
R/A/G LGT STD	SG
R/A/G LGT PTT	ST
FAST/SLOW/STOP PB	EN
FAST/SLOW/STOP PB R/A LGT STD	SB
FAST/SLOW/STOP PB R/A LGT PTT	SP
FAST/SLOW/STOP PB R/A/G LGT STD	SC
FAST/SLOW/STOP PB R/A/G LGT PTT	SQ
FAST/SLOW/OFF/AUTO (F/S/O/A) SW	FN
F/S/O/A SW R/A LGT STD	TL
F/S/O/A SW R/A LGT PTT	TP
F/S/O/A SW R/A/G LGT STD	TC
F/S/O/A SW R/A/G LGT PTT	TQ

Note: Pricing available through empower.

8000 line LV MCC replacement starter program



6: Overload relay

Relay type	Product number digit
Standard	1
Ambient compensated	2
Solid state	3

7: Control disconnect terminal board

Standard high-density	H
-----------------------	---

8: Horsepower

Note that some product number digits consist of a decimal point.

Horsepower	Product number digits	Horsepower	Product number digits
1/4	.25	15	015
1/3	.33	20	020
3/8	.38	25	025
1/2	.50	30	030
3/4	.75	40	040
1	001	50	050
1-1/2	1.5	60	060
2	002	75	075
3	003	100	100
5	005	-	-
7-1/2	7.5	-	-
10	010	-	-

Note: 1/4, 1/3 and 3/8 HP ratings not available for Tmax XT based starter units.

9: System voltage

Voltage	Product number digit
480V 60 Hz	A
208V 60 Hz	B
240V 60 Hz	C
380V 50 Hz	E

10: OEM Fastrac units

Fastrac units designed for OEM use are engineered and built with the same components and layout as the standard Fastrac units. Power wiring is provided; however, to allow the maximum flexibility for OEM users, no control wiring is provided.

Product numbers are the same as the standard Fastrac units with the addition of two additional suffix letters, **XX**.

Example

Standard Fastrac unit	MA1U1AB1H010A
OEM Fastrac unit	MA1U1AB1H010A XX

Note: Pricing available through empower.

8000 line LV MCC replacement feeder program

Motor control feeder units

For each of the following steps, find the option—MCC type, disconnect type, amp rating, feeder devices—that meets the need. Transfer the corresponding product number digits to

the product number boxes for the standard feeder unit. When you have finished, you will have built a complete product number.

Standard feeder unit product number



1: Motor control center type

M = CR8000

2: Feeder disconnect type

Type	Voltage	Product number digits
Circuit breaker	–	FB
Fusible switch-R	208/240V	FR
Fusible switch-R	480/600V	FS
Fusible switch-J	480/600V	FJ

3: Amp rating

Select amp rating for either circuit breaker trip or Class R fuse.

Amps	Product number digits	Amps	Product number digits
15	015	90	090
20	020	100	100
25	025	110	110
30	030	125	125
35	035	150	150
40	040	175	175
50	050	200	200
60	060	225	225
70	070	250	250
80	080	–	–

4: Feeder device for standard feeder units

Device	Amp rating (max.)	Short circuit rating KA volts			Unit height (inches)	Product number digits
		240	480	600		
Tmax XT2	125	100	–	–	6, 12, 18, 24, 30 or 36	XT2S
		65	–	–		XT2N
		–	100	–		XT2L
		–	65	–		XT2H
Tmax XT4	250	100	–	–	18, 24, 30, 36, 42 or 48	XT4S
		65	–	–		XT4N
		–	100	–		XT4L
		–	65	–		XT4H
FSW	30	100	100	100	6	QM36
		100	100	100	12	QMR3
		100	100	100	6	QM66
		100	100	100	12	QMR6
		100	100	25	12	QMR1
		100	100	100	24	QMR2

Note: For the part numbering system, need to insert two “4A” digits between the “4” and “5” digits. This is ONLY for Tmax XT based buckets.

4A: Unit height

Inches	Product number digits
6	06
12	12
18	18
24	24
30	30
36	36
42	42
48	48

5: System voltage

Voltage	Product number digit
480V 60 Hz	A
208V 60 Hz	B
240V 60 Hz	C
575V 60 Hz	D
380V 50 Hz	E

Note: Option D, 575V 60Hz is not available for Tmax XT breaker based units.

Note: Pricing available through empower.

7700/8000 line LV MCC renewal parts

Renewal parts

Part	Description	MCC type			Product number
		7700	8000	Spectra	
Vertical bus parts	Shelf-standard	•	•	•	68J210383BBXXXXXX
	Shelf support	•	•	•	117B5044P2
	Bus shutter assembly	•	•	•	204B4153BVG1
	Door latch	•	•	•	169C6386DMG2
Cooling fans	Muffin fan	•	•	•	272A5509SDP1
	Tarzan fan	•	•	•	RMC#020169
Wireway covers	6" X 20"	•	•	•	204B4127G19
	12" X 20"	•	•	•	204B4127G20
	18" X 20"	•	•	•	204B4127G21
O/L reset assy	Size 1 all		•	•	204B4142BDG1
	Size 1 all	•			116C8961G1
	Size 2 all	•			116C8961G2
	Size 2 FVNR		•	•	204B4142BDG2
	Size 2 FVR - 2 speed		•	•	204B4142BDG3
	Size 3 and 4 all	•			116C8961G3 ¹
	Size 3 and 4 FVNR-FVR-2 speed		•	•	204B4142BDG4 ¹
	Size 3 and 4 RVNR		•	•	204B4142BDG5 ¹
	Size 5 all	•			116C8961G5
Control power transformer	60VA (with fuse block)	•	•	•	302A3600YDP201
	150VA (with fuse block)	•	•	•	302A3600YDP204
	300VA (with fuse block)	•	•	•	302A3600YDP207
	300VA (no fuse block)	•	•	•	302A3600YDP7
	Standard TB	Male - 3 point	•	•	
Power TB	Female - 3 point	•	•		204B4153APG1
	Male - 3 point	•	•		75B132504G701
	Female - size 1 and 2 - 3 point (w/lugs)	•	•		204B4153APG2
	Size 3 - 3 point	•	•		204B4050WDG5
	Size 4 - 3 point	•	•		204B4050WDG1
High density TB	6 Point-control		•	•	CR151KPP56F
Filler kit - 7700 line	6" high	•			273A7764G6 ²
	12" high	•			273A7764G12 ²
	18" high	•			273A7764G18 ²
	24" high	•			273A7764G24 ²
	30" high	•			273A7764G30 ²
	36" high	•			273A7764G36 ²
	42" high	•			273A7764G42 ²
	48" high	•			273A7764G48 ²
Filler kit - 8000 line	6" high		•		204B4145AMG1 ²
	12" high		•		204B4145AMG2 ²
	18" high		•		204B4145AMG3 ²
	24" high		•		204B4145AMG4 ²
	30" high		•		204B4145AMG5 ²
	36" high		•		204B4145AMG6 ²
	42" high		•		204B4145AMG7 ²
	48" high		•		204B4145AMG8 ²

¹ O/L types. Refer to factory

² Includes blank door, shelf, shelf support and hinged filler strip.

(Table continued on next page.)

Note: Contact factory for pricing.

7700/8000 line LV MCC renewal parts

Renewal parts (continued)

Part	Description	MCC type			Product number
		7700	8000	Spectra	
Blank Spectra door	6" high			•	68J210397DAXX06XXB
	12" high			•	68J210397DAXX12XXB
	18" high			•	68J210397DAXX18XXB
	24" high			•	68J210397DAXX24XXB
	30" high			•	68J210397DAXX30XXB
	36" high			•	68J210397DAXX36XXB
	42" high			•	68J210397DAXX42XXB
Spectra fill strip	6" high			•	272A5650BVP9
	12" high			•	272A5650BVP10
	18" high			•	272A5650BVP11
	24" high			•	272A5650BVP12
	30" high			•	272A5650BVP13
	36" high			•	272A5650BVP14
	42" high			•	272A5650BVP15
Door hinges	Left	•	•		117B5027P2
	Right	•	•		117B5027P3
	Spectra hinge			•	204B4145FZP1
	Spectra hinge pin			•	273A7728TLP1
Rear doors	20" wide	•	•	•	68J210375DB2090XXB
	24" wide	•	•	•	68J210375DB2490XXB
Rear covers	20" wide	•	•	•	68J120323LE0102AAB ¹
	24" wide	•	•	•	68J120323XA0102AAB ¹
Wire trough doors	6" high	•	•		68J210375CB2006XXB ²
	12" high	•	•		68J210375CB2012XXB ²
	24" high	•	•		68J210375CB2024XXB ²
	30" high	•	•		68J210375CB2030XXB ²
	36" high	•	•		68J210375CB2036XXB ²
	42" high	•	•		68J210375CB2042XXB ²
	48" high	•	•		68J210375CB2048XXB ²
	54" high	•	•		68J210375CB2054XXB ²
	60" high	•	•		68J210375CB2060XXB ²
	66" high	•	•		68J210375CB2066XXB ²
	72" high	•	•		68J210375CB2072XXB ²
	18" high		•		68J210375CB2018XXB ²
	6" high			•	68J210397AC2006XXB ²
	12" high			•	68J210397AC2012XXB ²
	18" high			•	68J210397AC2018XXB ²
	24" high			•	68J210397AC2024XXB ²
	30" high			•	68J210397AC2030XXB ²
	36" high			•	68J210397AC2036XXB ²
	42" high			•	68J210397AC2042XXB ²
	48" high			•	68J210397AC2048XXB ²
54" high			•	68J210397AC2054XXB ²	
60" high			•	68J210397AC2060XXB ²	
66" high			•	68J210397AC2066XXB ²	
72" high			•	68J210397AC2072XXB ²	

¹ Flat covers for 13" MCC

² Product numbers shown are for 7700 and 8000 line – 20" wide sections. If wider than 20" substitute section width into product number eg/24"W x 6"H use #68J210375CB2406XXB.

Note: Contact factory for pricing.

(Table continued on next page.)

7700/8000 line LV MCC renewal parts

Renewal parts (continued)

Part	Description	MCC type			Product number
		7700	8000	Spectra	
Semiconductor fuses for drives	40 Amp		Other		CSC#A50P40
	60 Amp		Other		CSC#A50P60
	100 Amp		Other		CSC#A50P100
	175 Amp		Other		CSC#A50P175
	200 Amp		Other		CSC#A50P200
	300 Amp		Other		CSC#A50P300
Semiconductor fuses for soft starters	1000 Amp		Other		CSC#A50P1000
	1200 Amp		Other		CSC#A50P1200
	1600 Amp		Other		CSC#A50P1600
	60 Amp		Other		CSC#A50QS60
	100 Amp		Other		CSC#A50QS100
	150 Amp		Other		CSC#A50QS150
	175 Amp		Other		CSC#A50QS175
	225 Amp		Other		CSC#A50QS225
	250 Amp		Other		CSC#A50QS250
	300 Amp		Other		CSC#A50QS300
	350 Amp		Other		CSC#A50QS350
	600 Amp		Other		CSC#A50QS600
Signal conditioners	Single		Other		ACT#4380-2000
	Double		Other		ACT#4390
Relays	General		Other		Refer to factory
	CR7		Other		Refer to factory
	ITI		Other		Refer to Factory
	MCRA		Other		Refer to factory

Motor control centers parts publications list

Model	Description	Number
7700 line	Installation	GEH 2614
	Renewal parts	GEH 4629
8800 line	Installation	GEH 4961
	Renewal parts	GEH 4630

Note: Contact factory for pricing.

7700/8000 line LV MCC renewal parts

Buckets and associated parts – individual parts

Bucket type	Individual part type	NEMA size	Height (in.)	MCC type	Product number
Fused switch	Disconnect	1	12"	Other	204B4054G10
		2	12"	Other	204B4054G26
	N/A	3	30"	Other	204B4054G62
		4	42"	Other	204B4056G15
	Stab harness	1	12"	Other	8000L8G2
		2	12"	Other	8000L8G8
Spectra circuit breaker	Stab harness	4	30"	Spectra	8000L4G47
		3	24"	Spectra	8000L4G48
		N/A	N/A	Spectra	8000L8G21
	Starter	1	12"	Spectra	CR306C002ACET
		N/A	N/A	Spectra	CR306D002LVH
		3	24"	Spectra	CR306E002LVH
		4	30"	Spectra	CR306F002LVH
	CPT fuse primary	1	12"	Spectra	CSC#ATMR1/2
		2	12"	Spectra	CSC#ATMR1
		4	30"	Spectra	CSC#ATMR2
	CPT fuse secondary	2	12"	Spectra	CSC#TR1-6/10R
		4	30"	Spectra	CSC#TR3-2/10R
	Disconnect	1	12"	Spectra	CSC#TR6/10R
		1	12"	Spectra	SELA36AI0007
		2	12"	Spectra	SELA36AI0030
		3	24"	Spectra	SELA36AI0100
	Rating plug	4	30"	Spectra	SFLA36AI0250
		3	24"	Spectra	SRPE100A70
		2	12"	Spectra	SRPE30A25
		1	12"	Spectra	SRPE7A3
		4	30"	Spectra	SRPF250A150

Note: Contact factory for pricing.

7700/8000 line LV MCC renewal parts

Buckets and associated parts – complete bucket

Bucket type	NEMA size	Horsepower	Height (in.)	MCC type	Product number
Fused switch	1	1/4	12"	Other	MA1F1AB2J.25A
		1/3	12"	Other	MA1F1AB2J.33A
		3/8	12"	Other	MA1F1AB2J.38A
		1/2	12"	Other	MA1F1AB2J.50A
		3/4	12"	Other	MA1F1AB2J.75A
		1	12"	Other	MA1F1AB2J001A
		2	12"	Other	MA1F1AB2J002A
		3	12"	Other	MA1F1AB2J003A
		5	12"	Other	MA1F1AB2J005A
		10	12"	Other	MA1F1AB2J010A
		1-1/2	12"	Other	MA1F1AB2J1.5A
		7-1/2	12"	Other	MA1F1AB2J7.5A
		2	15	12"	Other
	20		12"	Other	MA2F1AB2J020A
	25		12"	Other	MA2F1AB2J025A
	3	30	30"	Other	MA3F1AB2J030A
		40	30"	Other	MA3F1AB2J040A
		50	30"	Other	MA3F1AB2J050A
	4	60	42"	Other	MA4F1AB2J060A
		75	42"	Other	MA4F1AB2J075A
100		42"	Other	MA4F1AB2J100A	
Spectra circuit breaker	1	1/4	12"	Spectra	MA1U1AB2J.25A
		1/3	12"	Spectra	MA1U1AB2J.33A
		3/8	12"	Spectra	MA1U1AB2J.38A
		1/2	12"	Spectra	MA1U1AB2J.50A
		3/4	12"	Spectra	MA1U1AB2J.75A
		1	12"	Spectra	MA1U1AB2J001A
		2	12"	Spectra	MA1U1AB2J002A
		3	12"	Spectra	MA1U1AB2J003A
		5	12"	Spectra	MA1U1AB2J005A
		10	12"	Spectra	MA1U1AB2J010A
		1-1/2	12"	Spectra	MA1U1AB2J1.5A
		7-1/2	12"	Spectra	MA1U1AB2J7.5A
		2	15	12"	Spectra
	20		12"	Spectra	MA2U1AB2J020A
	25		12"	Spectra	MA2U1AB2J025A
	3	30	24"	Spectra	MA3U1AB2J030A
		40	24"	Spectra	MA3U1AB2J040A
		50	24"	Spectra	MA3U1AB2J050A
	4	60	30"	Spectra	MA4U1AB2J060A
		75	30"	Spectra	MA4U1AB2J075A
100		30"	Spectra	MA4U1AB2J100A	

Note: Contact factory for pricing.