

SMC™ Flex to SMC™-50 with internal bypass

Why Upgrade or Migrate

With the addition of integral bypass to SMC-50 soft starters, users of certain SMC-Flex products can now access the expanded control and application capabilities of the SMC-50, while using the SMC Flex power structure, including integral bypass.

SMC-50 Features and Benefits

Designed for customer flexibility – advanced monitoring and protection, superior communications capabilities and Energy Saver mode help increase efficiency and reduce downtime

- Application scalability
- Normal and Heavy-duty ratings
- Expandable I/O and sensor capability
- Network integration capabilities
- Switch, LCD or PC software setup
- External bypass optional
- 17 Start/Stop modes and three slow-speed modes

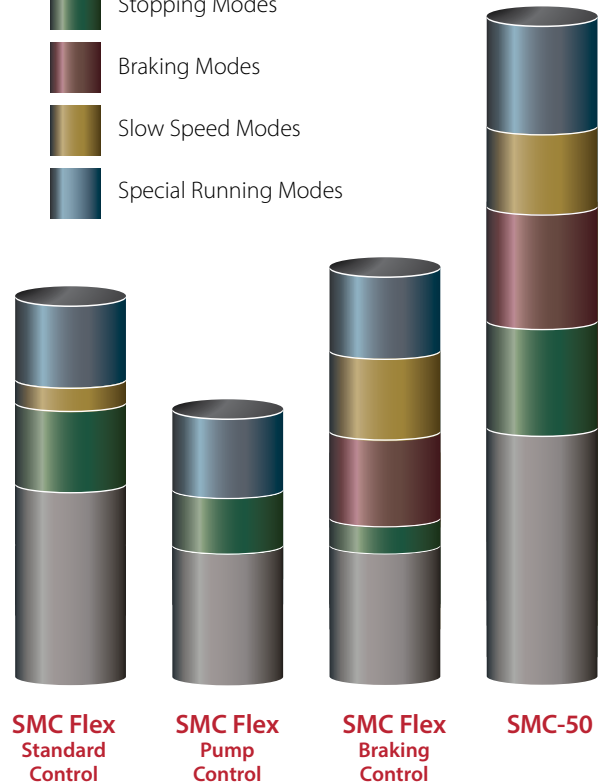
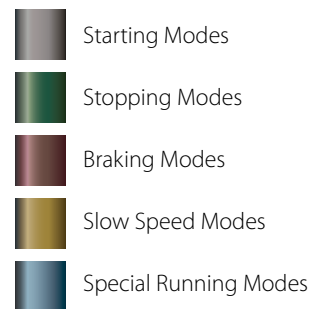


SMC Flex



SMC-50 Internal Bypass Power Structure

Performance and Operating Modes



SMC Flex

- Built-in LCD, Multi-lingual Display
- Advanced Performance and Diagnostics
- Network Capabilities
- Modularity



SMC-50

- Setup Wizards
- Auto Connection and Fan Control
- Motor Auto Tuning
- Removable Terminal Blocks
- Multiple Programming Methods
- Network Capabilities

Features	SMC Flex (Standard)	SMC Flex (Pump Control)	SMC Flex (SMB™)	SMC-50 with Internal Bypass
Soft Start	●	●	●	●
Kickstart	●	●	●	●
Current Limit	●	●	●	●
Dual Ramp Start	●	●	●	●
Full Voltage Start	●	●	●	●
Soft Stop	●	—	●	●
Preset Slow Speed	●	—	●	●
Linear Acceleration/Deceleration	* ¹	—	—	●
Pump Control (Start and Stop)	—	●	—	●
SMB Smart Motor Braking	—	—	●	●
Accu-Stop	—	—	●	●
Slow Speed with braking	—	—	●	●
Torque Control	—	—	—	●
Dual Slow Speed Commands	—	—	—	●
Energy Saver Mode ³	—	—	—	—
Phase Rebalance ³	—	—	—	—

Integrated Bypass Contactor	●	●	●	●
Integrated Motor Overload Protection	●	●	●	●
Inside-the-Delta Functionality	●	●	●	●
Diagnostic Faults and Alarms	●	●	●	●
DPI Communication	●	●	●	●
Metering	●	●	●	●
Real Time Clock	—	—	—	●
Individual Bit Enable of Faults and Alarms	—	—	—	●
Automatic Tuning of Motor Parameters	—	—	—	●
DeviceLogix (Firmware rev. 4.XXX and higher)	—	—	—	●
Motor Winding Heater Function	* ²	* ²	* ²	●
On Board Parameter configuration/programming tools	●	●	●	0
PTC (Thermistor) input	●	●	●	0
Human Interface Module(HIM)	0	0	0	0
Software: Connected Components Workbench	0	0	0	0
Parameter Configuration Module	—	—	—	0
Network Communications ⁴	0	0	0	0
Digital I/O Expansion Module	—	—	—	0
Analog I/O Expansion Module	—	—	—	0
Ground Fault/CT/PTC Module	—	—	—	0
Resistive Load Control ³	—	—	—	—
Single-Phase Operation ⁵	—	—	—	—

- = Standard
- 0 = Optional

¹An External Tach input (0...5 V DC) is required to perform this mode

²Option using a Bulletin 1410 motor winding heater

³These special operating modes are found in SMC-50 Solid-State Only ⁴Using 20-COMM-x family of option modules

⁵SMC-50 and SMC Flex are 3-phase devices

Dimension off panel (Depth Z)

Frame Size	SMC Flex	SMC 50 W/ Bypass	Difference
Current	Depth in (mm)	Depth in (mm)	in (mm)
108...135A	8.360 (21.23)	8.629 (21.92)	0.269 (.68)
201...251A	9.992 (25.38)	10.992 (27.92)	1.000 (2.54)
317...480A	10.890 (27.66)	12.277 (31.18)	1.387 (3.52)

Note : SMC Flex and SMC-50 have the same Panel Dimensions (Height X and Width Y)

Frame Size	SMC Flex Catalog Number Range	SMC-50 with Internal Bypass Catalog Number
2	150-F5... to 150-F85...	Future Release
3, 4, 5	150-F108... to 150-F480...	See Table X or Table Y
6	150-F625... to 150-F780...	Future Release
7	150-F970... to 150-F1250...	Future Release

100...240VAC Control Power Supply Voltage

Frame Size	SMC Flex (Old Catalog Number)	SMC-50 with Internal Bypass (New Catalog Number)
3	150-F108NBD...	150-S108NBD
	150-F108NCD...	150-S108NUD
	150-F108NZD...	150-S108NUD
	150-F135NBD...	150-S135NBD
	150-F135NCD...	150-S135NUD
	150-F135NZD...	150-S135NUD
4	150-F201NBD...	150-S201NBD
	150-F201NCD...	150-S201NUD
	150-F201NZD...	150-S201NUD
	150-F251NBD...	150-S251NBD
	150-F251NCD...	150-S251NUD
	150-F251NZD...	150-S251NUD
5	150-F317NBD...	150-S317NBD
	150-F317NCD...	150-S317NUD
	150-F317NZD...	150-S317NUD
	150-F361NBD...	150-S361NBD
	150-F361NCD...	150-S361NUD
	150-F361NZD...	150-S361NUD
	150-F480NBD...	150-S480NBD
	150-F480NCD...	150-S480NUD
150-F480NZD...	150-S480NUD	

24VDC Control Power Supply Voltage

Frame Size	SMC Flex (Old Catalog Number)	SMC-50 with Internal Bypass (New Catalog Number)
3	150-F108NBR...	150-S108NBR
	150-F108NCR...	150-S108NUR
	150-F108NZR...	150-S108NUR
	150-F135NBR...	150-S135NBR
	150-F135NCR...	150-S135NUR
	150-F135NZR...	150-S135NUR
4	150-F201NBR...	150-S201NBR
	150-F201NCR...	150-S201NUR
	150-F201NZR...	150-S201NUR
	150-F251NBR...	150-S251NBR
	150-F251NCR...	150-S251NUR
	150-F251NZR...	150-S251NUR
5	150-F317NBR...	150-S317NBR
	150-F317NCR...	150-S317NUR
	150-F317NZR...	150-S317NUR
	150-F361NBR...	150-S361NBR
	150-F361NCR...	150-S361NUR
	150-F361NZR...	150-S361NUR
	150-F480NBR...	150-S480NBR
	150-F480NCR...	150-S480NUR
150-F480NZR...	150-S480NUR	

Upgrade Kits

These kits allow you to upgrade from SMC Flex controllers to SMC-50 controllers with internal bypass. Kits contain SMC-50 control module, programming device, optional I/O card (if needed) and plastic mounting/transition cover (if needed).

- Important: Carefully check current range, line voltage and control input voltage when selecting an upgrade kit. Not all control voltages or current ranges can be upgraded.

Description	Kit Contents ⁽¹⁾	Rated Current [A]	Line Voltage [V AC]	Control Voltage ⁽²⁾	Cat. No.
Frame 3 SMC Flex to SMC-50 controllers with bypass upgrade kit	<ul style="list-style-type: none"> • 150-SCMD control module • 150-SM4 digital I/O module • 20-HIM-A6 LCD HIM 	108	200...690	100...240V AC	150-S108UPGD
		135			150-S135UPGD
	<ul style="list-style-type: none"> • 150-SCMR control module • 20-HIM-A6 LCD HIM 	108	200...690	24V DC ⁽³⁾	150-S108UPGR ⁽⁴⁾
		135			150-S135UPGR ⁽⁴⁾
Frame 4 SMC Flex to SMC-50 controllers with bypass upgrade kit	<ul style="list-style-type: none"> • 150-SCMD control module • 150-SM4 digital I/O module • 20-HIM-A6 LCD HIM • Plastic mounting/transition cover 	201	200...480	100...240V AC	150-S201UPGBD
					150-S201UPGCD
					150-S201UPGUD
		251			150-S251UPGBD
					150-S251UPGCD
					150-S251UPGUD
	<ul style="list-style-type: none"> • 150-SCMR control module • 20-HIM-A6 LCD HIM • Plastic mounting/transition cover 	201	200...480	24V DC ⁽³⁾	150-S201UPGBR ⁽⁴⁾
					150-S201UPGCR ⁽⁴⁾
					150-S201UPGUR ⁽⁴⁾
		251			150-S251UPGBR ⁽⁴⁾
					150-S251UPGCR ⁽⁴⁾
					150-S251UPGUR ⁽⁴⁾

(1) Kit contains one of each catalog number listed.

(2) The SMC-50 control module provides two (2) 24V DC control inputs. If you need additional inputs, you must use 100...240V AC inputs (requires 150-SM4 option module).

(3) 24V DC control voltage ONLY. Not compatible with 24V AC control voltage.

(4) Consult your local Rockwell Automation sales office or Allen-Bradley distributor for availability.

Allen-Bradley, Rockwell Automation, SMB and SMC are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846