## **Migration Solutions**



## SMC<sup>™</sup> Flex to SMC<sup>™</sup>-50 with internal bypass

## Why Upgrade or Migrate

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

## **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**

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

# BETTER

## SMC-50

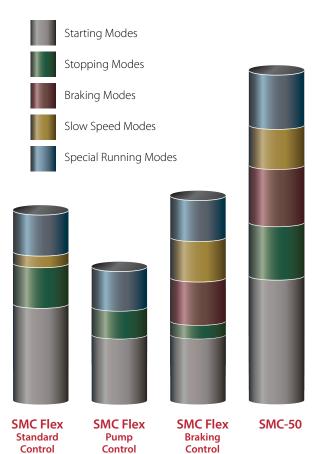
- Setup Wizards
- Auto Connection and Fan Control
- Motor Auto Tuning
- Removable Terminal Blocks
- Multiple Programming Methods
- Network Capabilities





SMC-50 Internal Bypass Power Structure

# Performance and Operating Modes



Features	SMC Flex (Standard)	SMC Flex (Pump Control)	SMC Flex (SMB <sup>™</sup> )	SMC-50 with Internal Bypass
Soft Start	•	•	•	•
Kickstart	٠	•	٠	•
Current Limit	•	•	•	•
Dual Ramp Start	٠	•	•	•
Full Voltage Start	•	•	•	•
Soft Stop	•	—	•	•
Preset Slow Speed	•	—	•	•
Linear Acceleration/Deceleration	*1	—	_	•
Pump Control (Start and Stop)	_	•	—	•
SMB Smart Motor Braking	_	—	٠	•
Accu-Stop	_	_	٠	•
Slow Speed with braking	_	_	•	•
Torque Control	_	—	—	•
Dual Slow Speed Commands	_		_	•
Energy Saver Mode <sup>3</sup>	_	—	—	-
Phase Rebalance <sup>3</sup>	_		_	_
		1 1		
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	_	_ 1	_	•
Automatic Tuning of Motor Parameters	_	_	_	•
DeviceLogix (Firmware rev. 4.XXX and higher)	_	_ 1	_	•
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		<u> </u>		0
Network Communications <sup>4</sup>	0	0	0	0
Digital I/O Expansion Module	_		_	0
Analog I/O Expansion Module		_ 1		0
Ground Fault/CT/PTC Module	_	_ 1	_	0
Resistive Load Control <sup>3</sup>		_	_	_
Single-Phase Operation <sup>5</sup>	_		_	_
		required to perform this	-	

• = Standard 0 = Optional  $^1$  An External Tach input (0 . . . 5 V DC) is required to perform this mode

<sup>2</sup> Option using a Bulletin 1410 motor winding heater

<sup>3</sup> These special operating modes are found in SMC-50 Solid-State Only <sup>4</sup> Using 20-COMM-x family of option modules <sup>5</sup> SMC-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)
108135A	8.360 (21.23)	8.629 (21.92)	0.269 (.68)
201251A	9.992 (25.38)	10.992 (27.92)	1.000 (2.54)
317480A	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 (Old Catalog Number)	SMC-50 with Internal Bypass (New Catalog Number)		
	150-F108NBD	150-S108NBD		
	150-F108NCD	150-S108NUD		
3	150-F108NZD	150-S108NUD		
J	150-F135NBD	150-S135NBD		
	150-F135NCD	150-S135NUD		
	150-F135NZD	150-S135NUD		
	150-F201NBD	150-S201NBD		
	150-F201NCD	150-S201NUD		
4	150-F201NZD	150-S201NUD		
4	150-F251NBD	150-S251NBD		
	150-F251NCD	150-S251NUD		
	150-F251NZD	150-S251NUD		
	150-F317NBD	150-S317NBD		
	150-F317NCD	150-S317NUD		
5	150-F317NZD	150-S317NUD		
	150-F361NBD	150-S361NBD		
	150-F361NCD	150-S361NUD		
	150-F361NZD			
	150-F480NBD	150-S480NBD		
	150-F480NCD	150-S480NUD		
	150-F480NZD	150-S480NUD		

## 100...240VAC Control Power Supply Voltage

## 24VDC Control Power Supply Voltage

Frame Size	SMC Flex (Old Catalog Number)	SMC-50 with Internal Bypass (New Catalog Number)	
	150-F108NBR	150-S108NBR	
	150-F108NCR	150-S108NUR	
3	150-F108NZR	150-S108NUR	
5	150-F135NBR	150-S135NBR	
	150-F135NCR	150-S135NUR	
	150-F135NZR	150-S135NUR	
	150-F201NBR	150-S201NBR	
	150-F201NCR	150-S201NUR	
4	150-F201NZR	150-S201NUR	
	150-F251NBR	150-S251NBR	
	150-F251NCR	150-S251NUR	
	150-F251NZR	150-S251NUR	
	150-F317NBR	150-S317NBR	
	150-F317NCR	150-S317NUR	
5	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	

Frame Size	SMC Flex Catalog Number Range	SMC-50 with Internal Bypass Catalog Number		
2	150-F5 to 150-F85	No future Release Planned		
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		

## **Upgrade Kits**

These kits allow you to upgrade from Series B 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 <sup>(1)</sup>	Rated Current [A]	Line Voltage [V AC]	Control Voltage <sup>(2)</sup>	Cat. No.
Frame 3 Series B SMC Flex to SMC-50	<ul> <li>150-SCMD control module</li> <li>150-SM4 digital I/O module</li> <li>20-HIM-A6 LCD HIM</li> </ul>	108	200690	100240V AC	150-S108UPGD
		135			150-S135UPGD
controllers with bypass upgrade kit	<ul> <li>150-SCMR control module</li> <li>20-HIM-A6 LCD HIM</li> </ul>	108	200690	24V DC <sup>(3)</sup>	150-S108UPGR <sup>(4)</sup>
		135	200090		150-S135UPGR <sup>(4)</sup>
Frame 4 Series B SMC Flex to SMC-50 controllers with bypass upgrade kit	<ul> <li>150-SCMD control module</li> <li>150-SM4 digital I/O module</li> <li>20-HIM-A6 LCD HIM</li> <li>Plastic mounting/transition cover</li> </ul>	201	200480	100240V AC	150-S201UPGBD
			200575		150-S201UPGCD
			200690		150-S201UPGUD
		251	200480		150-S251UPGBD
			200575		150-S251UPGCD
			200690		150-S251UPGUD
	<ul> <li>150-SCMR control module</li> <li>20-HIM-A6 LCD HIM</li> <li>Plastic mounting/transition cover</li> </ul>	201	200480	24V DC <sup>(3)</sup>	150-S201UPGBR <sup>(4)</sup>
			200575		150-S201UPGCR <sup>(4)</sup>
			200690		150-S201UPGUR <sup>(4)</sup>
		251	200480		150-S251UPGBR <sup>(4)</sup>
			200575		150-S251UPGCR <sup>(4)</sup>
			200690		150-S251UPGUR <sup>(4)</sup>

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

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). (2)

(3) (4)

24V DC control voltage ONLY. Not compatible with 24V AC control voltage. Consult your local Rockwell Automation sales office or Allen-Bradley distributor for availability.

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