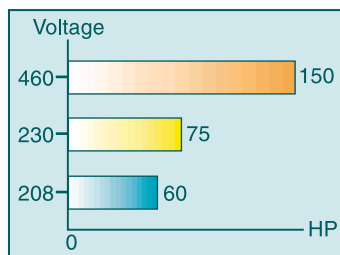


# FPC5010S

## HVAC-VFD Harmonic Control

- Dynamic Bypass Control (Patent Pending)
- Minimizes Harmonic Distortion (20% Typical Reduction)
- Improves Full Load System Efficiency by 4-5%
- HVAC Specific Keypad
- Real Time Clock
- Saflink Programming Software Included
- Preset Modes for Fan, Pump and Cooling Tower Control
- Fault and Data Logging (with Time/Date Stamp)
- Damper Closed Alarm Input and Damper Actuator Output
- Compact NEMA 1 Package
- RS-485 Hardware is Standard
- 4th Generation Soft Switching IGBT's
- Energy-saving Algorhythm
- Continuous Auto-tune Motor Monitor
- Nema 1 Construction



**Smart Bypass is another first in the HVAC business from Saftronics!**



# FPC5010S: Tomorrow's



Saftronics has taken the bypass option to the next level with the introduction of the FPC5010S. This integrated control package incorporates a dedicated micro-controller providing the intelligence to combine bypass functions and HVAC operational requirements into a seamless package.

An integral real time clock in the FPC5010S allows the capability to log faults and alarm data with a time and date stamp. The fault log is a 10 event, first in, first out (FIFO) file giving maintenance personnel the ability to quickly diagnose a problem and the events that leading up to it.

Features of the FPC5010S include a narrow footprint that conserves valuable wall space; a common wiring diagram for the full range of sizes; multiple serial protocol options for operation from your building management system; and Saftronics' popular monitoring and programming package, Saflink. Standard inputs and outputs include: five form C, 10A 230 Volt relay outputs, eight 120 VAC / 24 Vdc / dry contacts digital inputs (of which three are programmable), two analog outputs for speed and current, and three analog inputs for manual speed pot, remote speed reference and feedback for the integral PID software.

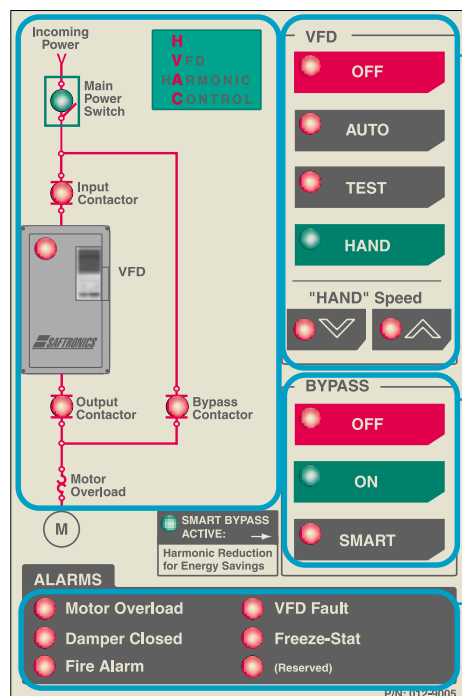
## HVAC KEYPAD

- User-friendly.
- System status LEDs
- Tactile key operation.

Saftronics' HVAC keypad is specifically designed for the application, not an existing general-purpose keypad with an HVAC overlay. Drive power is not required to operate the keypad. It is powered and operable whether in by pass or VFD mode.

With the FCP5010S, Saftronics has designed an intuitive, user-friendly keypad that displays total system status and simplifies operator inputs. No programming manual is required since it clearly displays system operation via a one-line power diagram. An integral LED alarm panel annunciates HVAC specific alarm conditions. Plain language fault labels are used to eliminate the need for consulting a manual to interpret fault codes.

Indicators show system status at a glance



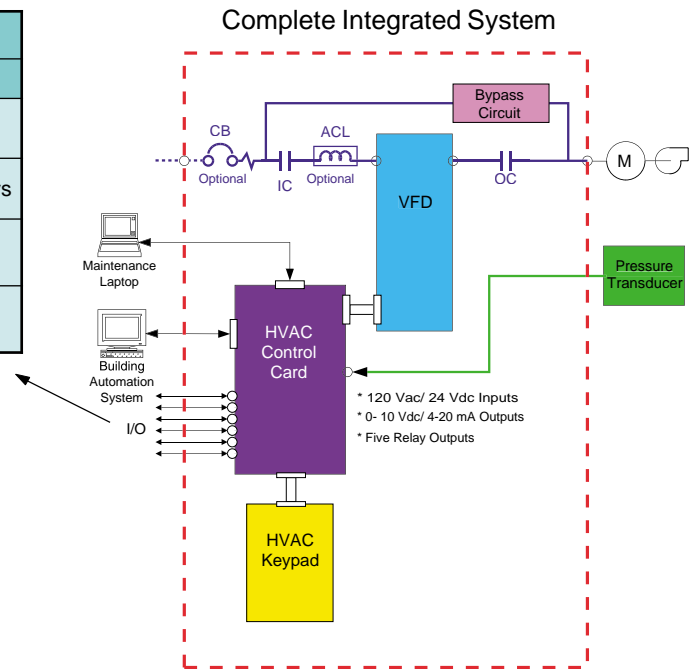
VFD H-O-A and test modes

Bypass operation control

HVAC specific fault codes

# Standard in HVAC

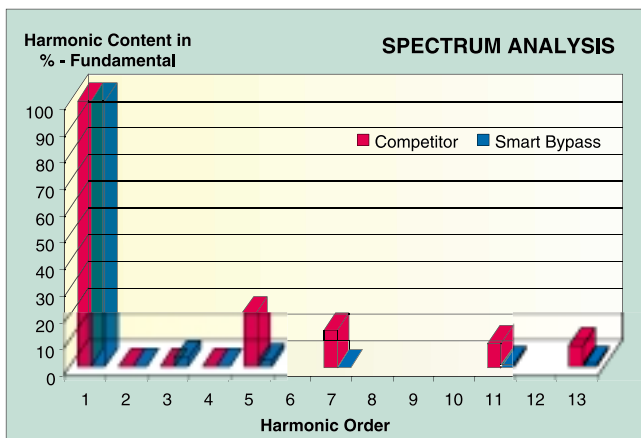
INPUT / OUTPUT SPECIFICATIONS		
Qty.	Description	Benefit
8	120 Vac / 24 Vdc / Dry Contact Inputs	Noise immunity
5	10 A, Form C, Relay Outputs	No need for additional relays
3	Analog Inputs (0-10 Vdc, 4-20 mA)	Internal PID control
2	Analog Output (0-10 Vdc, 4-20 mA)	No need for added option cards for remote indication.



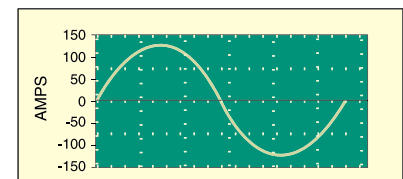
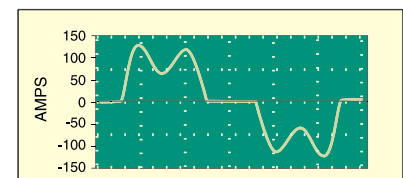
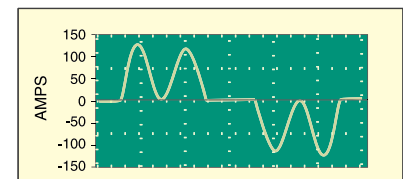
- The FPC5010S is a complete integrated HVAC control system.
- Built to order the way you specify it!

## SMART BYPASS

The FPC5010S electronic bypass offers unique (patent pending) operational features that address two of the most significant application issues with variable frequency drives, harmonic distortion and system efficiency. By electronically monitoring the demand of the system, countermeasures can be automatically engaged to increase system efficiency and improve total harmonic distortion (THD) where needed most, at full speed. The FPC5010S offers system efficiency improvements as much as 4-5% of rated power. In addition, THD will be reduced by as much as 20% at any point of common coupling, even at the drive input terminals. The FPC5010S offers continuous operational savings with less disturbance to the power system than conventional bypass systems.



## Typical Current Waveforms Distortion at 60Hz



# Compact Footprint Saves WallSpace!

## 208 Volt - Ratings / Dimensions

208 V HP	Normal Duty (Smart Bypass) <sup>(1)</sup>			Heavy Duty (with or without Smart Bypass) <sup>(2)</sup>		
	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)
0.5	SC8P50	1	39 x 10.3 x 11.2	SX8P50	1	39 x 10.3 x 11.2
1	SC8001			SX8001		
2	SC8002			SX8002		
3	SC8003			SX8003		
5	SC8005			SX8005		
7.5	SC87P5			SX87P5		
10	SC8010	2	54 x 11.6 x 14.8	SX8010	2	54 x 11.6 x 14.8
15	SC8015			SX8015		
20	SC8020	3	72 x 18.3 x 12.2	SX8020	3	72 x 18.3 x 12.2
25	SC8025			SX8025		
30	SC8030			SX8030		
40	SC8040	4	77.5 x 30.8 x 17.1	SX8040	4	77.5 x 30.8 x 17.1
50	SC8050			SX8050		
60	SC8060			SX8060		

## 230 Volt - Ratings / Dimensions

230 V HP	Normal Duty (Smart Bypass) <sup>(1)</sup>			Heavy Duty (with or without Smart Bypass) <sup>(2)</sup>		
	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)
0.5	SC2P50	1	39 x 10.3 x 11.2	SX2P50	1	39 x 10.3 x 11.2
1	SC2001			SX2001		
2	SC2002			SX2002		
3	SC2003			SX2003		
5	SC2005			SX2005		
7.5	SC27P5			SX27P7		
10	SC2010	2	54 x 11.6 x 14.8	SX2010	2	54 x 11.6 x 14.8
15	SC2015			SX2015		
20	SC2020	3	72 x 18.3 x 12.2	SX2020	3	72 x 18.3 x 12.2
25	SC2025			SX2025		
30	SC2030			SX2030		
40	SC2040	4	77.5 x 30.8 x 17.1	SX2040	4	77.5 x 30.8 x 17.1
50	SC2050			SX2050		
60	SC2060			SX2060		
75	SC2075			SX2075		

## 460 Volt - Ratings / Dimensions

460 V HP	Normal Duty (Smart Bypass) <sup>(1)</sup>			Heavy Duty (with or without Smart Bypass) <sup>(2)</sup>		
	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)	Model Number	Box Size	Dimensions H" x W" x D" (In Inches)
0.5	SC4P50	1	39 x 10.3 x 11.2	SX4P50	1	39 x 10.3 x 11.2
1	SC4001			SX4001		
2	SC4002			SX4002		
3	SC4003			SX4003		
5	SC4005			SX4005		
7.5	SC47P5			SX47P5		
10	SC4010	2	54 x 11.6 x 14.8	SX4010	2	54 x 11.6 x 14.8
15	SC4015			SX4015		
20	SC4020	3	72 x 18.3 x 12.2	SX4020	3	72 x 18.3 x 12.2
25	SC4025			SX4025		
30	SC4030			SX4030		
40	SC4040	4	77.5 x 30.8 x 17.1	SX4040	4	77.5 x 30.8 x 17.1
50	SC4050			SX4050		
60	SC4060			SX4060		
75	SC4075			SX4075		
100	SC4100			SX4100		
125	SC4125			SX4125		
150	SC4150			SX4150		

- (1) Normal Duty = 120% OL / 30 seconds  
 (2) Heavy Duty = 120% OL / 60 seconds

## Options

Options	
Disconnects	Input Circuit Breaker, fused and non-fused all door interlocked
Serial Communications	Modbus RS-485 Metasys N2 Compatible Lon Works (Pending) Siemens FLN (Pending)
Protection	Input/Output Line Reactors Input EMI/RFI Filters Isolation Transformers
Miscellaneous	Dual Motor Overloads

