

# FanMaster™ Energy Saving Package

Saving Energy Can be Easy

## Constant Volume Air Handling Upgrade Package

Providing you with an easy upgrade to your Heating, Ventilation and Air Conditioning (HVAC) equipment, the Allen-Bradley FanMaster™ energy saving package converts a constant volume air handler to variable air flow without changes to your existing mechanical and controls systems.

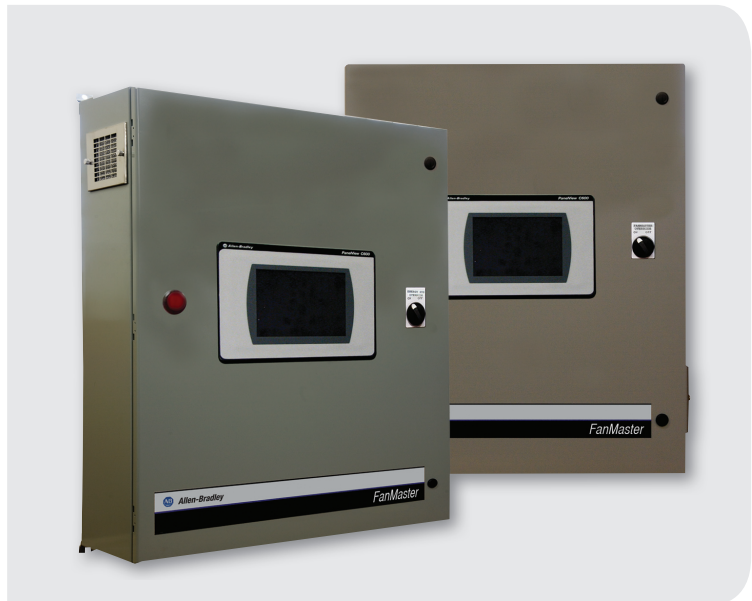
- Convert a constant-volume HVAC air handler to variable air flow with the FanMaster package and a PowerFlex® 400 AC drive
  - Temperature variations similar to temperatures present in your current air handling system
- Distribute heating and cooling BTUs in the same proportion as the original system design, using less fan energy
- Demand ventilation control of Carbon Dioxide
  - Minimizes outside air while providing good air quality
  - Lower heating and cooling energy consumption
- Calculate potential savings for your specific application, not just industry averages
- Run fans at optimal speed using the patent pending algorithms

## True Energy Savings Potential

The FanMaster package offers a variety of solutions to fit your needs:

- Web-based Calculator
  - Download this calculator to see potential energy savings using data for your specific geographical region  
[www.rockwellautomation.com/go/fancalc](http://www.rockwellautomation.com/go/fancalc)
- FanMaster Energy Saving Package
  - See your potential energy savings without having to rewire your building automation system

Contact your local distributor or Rockwell Automation sales person to start saving today ([www.rockwellautomation.com](http://www.rockwellautomation.com)).



## Energy Savings

Constant volume HVAC applications are an ideal spot for potential energy savings using variable frequency drives (VFDs). Moving air in HVAC applications typically involves a motor running at full speed. With the motors as the driving force behind HVAC applications, improving your motor control performance and efficiency will mean better production efficiency. With variable frequency drives you can see a measurable impact on energy use and operational efficiency. The FanMaster energy saving package is designed to deliver more energy savings at a fraction of the cost when compared to a traditional hardware retrofit solution.

Help reduce your overall energy savings by using a product that will not interfere with your existing HVAC system. The FanMaster energy saving package is that product, developed by a company founded on controlling motors. Saving energy can be easy.

LISTEN.  
THINK.  
SOLVE.™

## Product Selection

### FanMaster™ Energy Saving Package for Supply and Return Fans (PowerFlex 400 AC Drive not included)

120V AC Input			
Description	Includes	Enclosure	Cat. No.
FanMaster Energy Saving Package	(1) Carbon Dioxide Transmitter, (1) Damper Blade Position Indicator, (2) Duct Insertion Temperature Transmitters, (1) Controller and (1) Touchscreen Operator Interface. This unit controls the PowerFlex 400 AC Drive.	NEMA/UL Type 1	23-FanM-AA1AHUH
		NEMA/UL Type 4	23-FanM-AE1AHUH

### PowerFlex® 400 AC Drive

Providing users with easy installation in mechanical fan systems, the Allen-Bradley PowerFlex 400 AC drive offers a wide range of built-in features and options.

- Designed to meet end-user demands for flexibility, space savings and ease-of-use
- Cost-effective solution for speed control in variable torque fan applications
- Available in power ratings of 2.2-250 kW (3.0-350 Hp) @ 380 – 480V AC and 2.2-37 kW (3.0-50 Hp) @ 200 – 240V AC
- Available in IP 20 (3-20 Hp), IP 30/NEMA 1 (25-350 Hp) and a wide configuration of packaged drives (see below)

### Catalog Number Explanation

**23C – D 038 A 1 0 3 N N B A N N -LR**

*a b c d e f g h i j k l m n*

Drive	
Code	Type
23C	PowerFlex 400

Voltage Rating		
Code	Voltage	Ph.
X	208V ac	3
D	480V ac	3

Rating			
208V, 60Hz Input			
Code	Amps *	kW (Hp)	Frame
012	12	2.2 (3.0)	C
017	16.8	3.7 (5.0)	C
024	24	5.5 (7.5)	C
033	30.8	7.5 (10)	C
049	46.2	11 (15)	D
065	64	15 (20)	D
075	75	18.5 (25)	D
090	88	22 (30)	D
120	114	30 (40)	E
145	143	37 (50)	E

\* Configured drive amp ratings may differ from stand-alone drive ratings. Configured drives sized per NEC motor amps.

Rating			
460V, 60Hz Input			
Code	Amps *	kW (Hp)	Frame
6P0	4.8	2.2 (3.0)	C
010	7.6	4.0 (5.0)	C
012	11	5.5 (7.5)	C
017	14	7.5 (10)	C
022	21	11 (15)	C
030	27	15 (20)	C
038	34	18.5 (25)	D
045	40	22 (30)	D
060	52	30 (40)	D
072	65	37 (50)	E
088	77	45 (60)	E
105	96	55 (75)	E
142	124	75 (100)	E
170	156	90 (125)	F
208	180	110 (150)	F
260	240	132 (200)	G
310	302	160 (250)	G
370	361	200 (300)	H
460	414	250 (350)	H

\* Configured amp ratings may differ from stand-alone drive ratings. Configured drives sized per NEC motor amps.

Enclosure	
Code	Enclosure
A	NEMA/UL Type 1
H	NEMA/UL Type 12 with Fan and Filter
X	NEMA/UL Type 3R ‡
E	NEMA/UL Type 4 ‡

‡ Designed for maximum ambient temperature of 40° C with no direct sunlight exposure.

HIM	
Code	Interface Module
1	Fixed Keypad

Emission Class	
Code	Rating
0	Not Filtered

Version	
Code	Version
3	RS485
B	BACnet Adapter
C	ControlNet Adapter
D	DeviceNet Adapter
E	EtherNet/IP Adapter
L	LonWorks Adapter
P	PROFIBUS DP Adapter

Rating	
Code	Rating
N	Reserved

Rating	
Code	Rating
N	Reserved

Package	
Code	Description
A	Main Input Disconnect
B	3 Contactor Full Feature Bypass with Disconnect
C	3 Contactor Basic Bypass with Disconnect †
M	Main Input Circuit Breaker †
N	3 Contactor Full Feature Bypass with Circuit Breaker †

† Available only with NEMA/UL Type 1 enclosure (Position d = A).

‡ Available with all ratings in NEMA/UL Type 12, 3R, or 4 enclosures (Position d = H, X, or E) and 160-250 kW (250-350 Hp) ratings in NEMA/UL Type 1 enclosures (Position d = A).

Control	
Code	Description
A	Single Motor

Rating	
Code	Rating
N	Reserved

Rating	
Code	Rating
N	Reserved

Options	
Code	Description
-LR	3% Input Line Reactor §
-E5	Space Heater - Local Power ✓
-AB	Auto Bypass
-DC	Damper Control
-PE	PE Input

§ 3% Input Line Reactor not available for all package styles. Consult product selection tables for additional detail.

✓ Available with NEMA/UL Type 3R and 4 enclosures only.

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[www.rockwellautomation.com](http://www.rockwellautomation.com)

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