Packaged Drive Solutions for Fan & Pump Applications

- **Multiple Configurations for Flexibility**
  Available in Combination VFD and Bypass congurations with application specific bypass control logic for pumps & cooling tower fans or for ventilation fans.
- **Embedded Fan & Pump Functions**
  Variety of Embedded Fan & Pump Functions
- **Space Saving Design**
  Space Saving, Narrow Form Factor Solution Utilizing Slim Type HVAC Series Drive

Additional pump specific functionality within the drive to provide a robust pre-engineered packaged drive solution for variable torque pump and fan applications.

Configurations

- Combination VFD
  A local input power non-fusible disconnect or circuit breaker is provided with the drive for applications where bypass is not required.
- Bypass for Pumps & Cooling Tower Fans
  3 Contactor bypass with Class 20 motor overload protection and input circuit breaker that provides simple manual bypass control logic.
- Bypass for Ventilation Fans
  3 Contactor bypass with Class 20 motor overload protection and input circuit breaker that provides a comprehensive set of control features including; damper control output, damper end switch input, re mode input, selectable 1 or 2 level priority safety inputs and selectable automatic bypass.

Features

- UL Type 1 & UL Type 12 narrow form factor enclosures
- Built-in DC link reactor and EMC filter for harmonic and electrical noise mitigation
- Embedded Modbus RTU, BACnet and Metasys N2 communication protocols with LonWorks and EtherNet protocols available
- Real Time Clock
- Multi-function LCD Keypad for ease of commissioning
- Additional pump specific functionality including; Pipe Fill Mode, Initial/Final Ramp for submersible pumps, Dry Pump Detection, Slow Flowrate Start/Cycle Limitation, and more

Applications

Offering the most commonly required and specified features for variable torque fan and pump applications in commercial buildings as well as facilities for: health care, education, retail, hotel, and manufacturing; the drive is ideally suited for applications involving:

- Air Handling Units (Supply & Return Fans)
- Exhaust Fans
- Cooling Tower Fans
- Condenser Fans
- Chilled Water Pumps
- Hot Water Pumps
- Pressure Boosting Pumps

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Specifications

S = Provided as Standard
O = Optional

Description	Combination VFD	Bypass for Pumps	Bypass for Fans
Ratings			
Horsepower & Voltage	1-60 HP @ 208/230V 1-200 HP @ 460V 1-200 HP @ 575V	1-60 HP @ 208/230V 1-200 HP @ 460V 1-200 HP @ 575V	1-60 HP @ 208/230V 1-200 HP @ 460V 1-200 HP @ 575V
UL Type 1 Enclosure	S	S	S
UL Type 12 Enclosure	O	O	O
NEMA 12 Ventilated & Fans & Filters	O	O	O
UL Type 3R	Consult Factory	Consult Factory	Consult Factory
Ambient Temperature	-10°C to +40°C	-10°C to +40°C	-10°C to +40°C
Features			
Input Non-Fusible Disconnect	S	N/A	N/A
Input Circuit Breaker	O	S	S
Drive Input Isolation Contactor	N/A	S	S
Drive Output Contactor	N/A	S	S
Bypass Contactor	N/A	S	S
Class 20 Motor Overload Relay	N/A	S	S
DC Link Reactor	S	S	S
EMC Filter	S	S	S
Control Power Transformer w/ Fusing	N/A	S	S
Power On Indication	via Keypad	S	S
Drive Run Indication	via Keypad	via Keypad	via Keypad
Drive Fault Indication	via Keypad	via Keypad	via Keypad
Bypass Run Indication	N/A	S	S
Motor Overload Indication	via Keypad	S	S
Isolated - Normal Selector Switch	N/A	S	S
VFD - Off - Bypass Selector Switch	N/A	S	S
Hand - Off - Auto Selector Switch	N/A	S	S
Remote - Local (for FVD)	S	N/A	N/A
Remote - Local (for Bypass) Selector Switch	N/A	N/A	S
Enable Input	S	S	N/A
2 Level Priority Safety Inputs	N/A	N/A	S
Damper End Switch Input	Same As Enable Input	N/A	S
Fire Mode Input	S	N/A	S
Automatic Bypass Permissive	N/A	N/A	S
Run Command Input	S	S	S
Bypass Local Override Input	N/A	S	N/A
Drive Fault Output	S	S	S
Drive Run Output	S	S	S
Bypass Run Output	N/A	S	S
Damper Control Output	O	N/A	S
Analog Signal Inputs	0-10VDC 4-20mA	0-10VDC 4-20mA	0-10VDC 4-20mA
Analog Signal Outputs	0-10VDC 4-20mA	0-10VDC 4-20mA	0-10VDC 4-20mA
Customer Control I/O Terminal Strip	N/A	S	S
Communication Protocols			
Modbus RTU/Metasys N2/BacNET	S	S	S
LonWorks/Ethernet	O	O	O
Codes & Standards			
UL/Applicable NEMA & NFPA Standards	S	S	S

Figure I

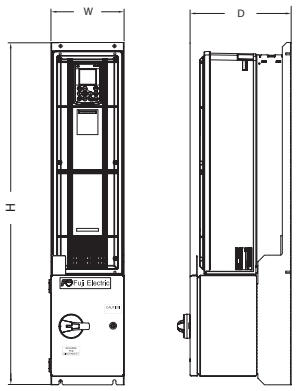


Figure II

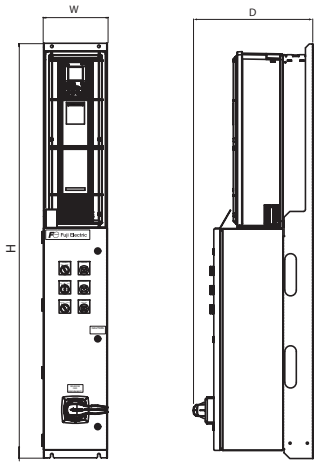
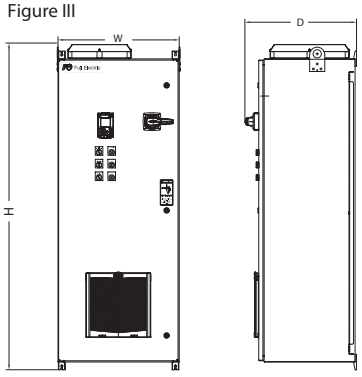


Figure III



Dimensions

Bypass - UL Type 1 & 12

Frame	Figure	HP Ratings			Dimensions (in.)		
		208/230V	460V	575V	Height	Width	Depth
1B	II	1-5 HP	1-10 HP	1-10 HP	48.00	6.19	15.69
2B	II	7.5-10 HP	15-30 HP	15-30 HP	54.00	8.31	15.69
3B	II	15-20 HP	40-50 HP	40-50 HP	67.00	11.50	16.76
4B	III	25-30 HP	60-75 HP	60 HP	64.31	24.00	22.10
5B*	III	40-50 HP	100-125 HP	75-100 HP	96.10	36.00	25.06
6B*	III	60 HP	150-200 HP	125-200 HP	96.10	48.00	25.06

* Please contact factory

Combination VFD - UL Type 1 / NEMA 12 Ventilated

Frame	Figure	HP Ratings			Dimensions (in.)		
		208/230V	460V	575V	Height	Width	Depth
1C	I	1-5 HP	1-10 HP	1-10 HP	30.75	6.19	14.25
2C	I	7.5-15 HP	15-30 HP	15-30 HP	36.56	8.31	14.13*
3C	I	20-25 HP	40-50 HP	40-50 HP	38.94	8.31	14.13*
4B	III	30 HP	60-75 HP	60 HP	64.31	24.00	22.10
5B*	III	40-50 HP	100-125 HP	75-100 HP	96.10	36.00	25.06
6B*	III	60 HP	150-200 HP	125-200 HP	96.10	48.00	25.06

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