

Motor Controllers Variable Frequency AC Drives Type VariFlex² RVDF

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RVDF

- AC variable speed drive for use with AC induction motors
- V/F mode, high starting torque, variable torque application
- Input voltage ranges: 1-ph 110VAC, 1-ph and 3-ph 230VAC, 3-ph 480VAC
- 2 physical frame sizes: Size A and B
- Conforms to EMC standard EN 61800-3 and EN 50178
- Parameters Setting by buttons
- IP 65 models with power switch, reverse/forward switch and potentiometer
- DIN-rail or Panel mounting

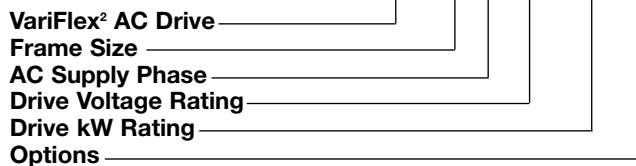
General description

The VariFlex² is a simple and compact AC variable speed drive for use with 3-phase AC induction motors. The drives have small dimensions and can be installed Side by Side for saving and reducing space. The full range of product can supply all the voltage input from the single

phase/110VAC up to the three phase/480VAC. The VariFlex² employs state of the art microprocessor technology which controls all drive functions. All printed circuit boards are manufactured using surface mount technology ensuring high quality and reliability.

Ordering Key

RVDF A 1 10 075 F



Approvals



Type Selection

Frame Size	AC Supply Phase	Drive Voltage Rating	Drive kW Rating	Options
A: Size 1	1: 1-phase	10: 110VAC	020: 0.20kW, 0.25HP	Nil: No option
B: Size 2	3: 3-phase	20: 230VAC	040: 0.40kW, 0.50HP	F: Built-in filter
		40: 480VAC	075: 0.75kW, 1.0HP	ES: IP65 with water and dust proof switch
			150: 1.5kW, 2.0HP	
			220: 2.2kW, 3.0HP	

Selection Guide

Voltage Rating	AC Supply Phase	Motor Rating	Frame Size	
			Size 1	Size 2
100 - 120VAC (+10% -15%)	1-Phase	0.20kW, 0.25HP	RVDF A110020	-
		0.40kW, 0.50HP	RVDF A110040	-
		0.75kW, 1.0HP	RVDF A110075	-
200 - 240VAC (+10% -15%)	1-Phase	0.20kW, 0.25HP	RVDF A120020F(ES)	-
		0.40kW, 0.50HP	RVDF A120040F(ES)	-
		0.75kW, 1.0HP	RVDF A120075F(ES)	-
		1.5kW, 2.0HP		RVDF B120150F(ES)*
		2.2kW, 3.0HP		RVDF B120220F(ES)*
380 - 480VAC (+10% -15%)	3-Phase	0.75kW, 1.0HP		RVDF B340075F(ES)
		1.5kW, 2.0HP		RVDF B340150F(ES)
		2.2kW, 3.0HP		RVDF B340220F(ES)

* = also 3-phase 220V

Input / Output Data

	RV DFA110020	RV DFA110040	RV DFA110075	RV DFA120020F(ES)
Suitable motor power capacity	0.20kW	0.40kW	0.75kW	0.20kW
Horsepower rating	0.25HP	0.50HP	1.0HP	0.25HP
Rated Output Current	1.4A	2.3A	4.2A	1.4A
Rated Capacity	0.53kVA	0.88kVA	1.60kVA	0.53kVA
AC Supply Voltage and Frequency	1-phase, 100 ÷ 120VAC +10% -15% (50/60Hz ±5%)			1-phase, 200 ÷ 240VAC +10% -15% (50/60Hz ±5%)
Output Voltage and Frequency	3-phase, 0 ÷ 240V, 0 ÷ 200Hz			

	RV DFA120040F(ES)	RV DFA120075F(ES)	RV DFB120150F(ES)	RV DFB120220F(ES)
Suitable motor power capacity	0.40kW	0.75kW	1.50kW	2.20kW
Horsepower rating	0.50HP	1.0HP	2.0HP	3.0HP
Rated Output Current	2.3A	4.2A	7.5A	10.5A
Rated Capacity	0.88kVA	1.60kVA	2.90kVA	4.0kVA
AC Supply voltage and frequency	1-phase, 200 ÷ 240VAC +10% -15% (50/60Hz ±5%)		1 / 3-phase, 200 ÷ 240VAC +10% -15% (50/60Hz ±5%)	
Output Voltage and Frequency	3-phase, 0 ÷ 240V, 0 ÷ 200Hz			

	RV DFB340075F(ES)	RV DFB340150F(ES)	RV DFB340220F(ES)
Suitable motor power capacity	0.75kW	1.50kW	2.20kW
Horsepower rating	1.0HP	2.0HP	3.0HP
Rated Output Current	2.3A	3.8A	5.2A
Rated Capacity	1.70kVA	2.90kVA	4.0kVA
AC Supply Voltage and Frequency	3-phase, 380 ÷ 480VAC +10% -15% (50/60Hz ±5%)		
Output Voltage and Frequency	3-phase, 0 ÷ 480V, 0 ÷ 200Hz		

General Data

	RV DFA110020	RV DFA110040	RV DFA110075	RV DFA120020F(ES)
Weight kg/lb (IP20 version)	0.76kg/1.68lb	0.77kg/1.70lb	0.84kg/1.85lb	0.86kg/1.90lb
Weight kg/lb (IP65 version)	-	-	-	3.4kg/7.50lb
DIN rail mounting	only for IP20 version			
Integrated cooling fan	yes			
Frequency setting resolution	Digital: 0.1Hz (0 ÷ 99.9Hz) / 1Hz (100 ÷ 200Hz) Analogue: 1Hz / 60Hz			
Switching frequency	4~16kHz			
Preset speed	2			
Accel. / Decel. Time	up to 999.9			
Display	3 digit / 7 segments			
Keypad / LED	5 function keys / 1 status LED			
Frequency setting mode	Set directly with UP/DOWN keys or setting through external analogue signal			
Max. Momentary Power Loss Time	2.0s			

	RV DFA120040F(ES)	RV DFA120075F(ES)	RV DFB120150F(ES)	RV DFB120220F(ES)
Weight kg/lb (IP20 version)	0.87kg/1.92lb	0.91kg/2.00lb	2.1kg/4.63lb	2.2kg/4.85lb
Weight kg/lb (IP65 version)	3.4kg/7.50lb	3.4kg/7.50lb	6.1kg/13.45lb	6.2kg/13.67lb
DIN rail mounting	only for IP20 version			
Integrated cooling fan	yes			
Frequency setting resolution	Digital: 0.1Hz (0 ÷ 99.9Hz) / 1Hz (100 ÷ 200Hz) Analogue: 1Hz / 60Hz			
Switching frequency	4~16kHz			
Preset speed	2			
Accel. / Decel. Time	up to 999.9			
Display	3 digit / 7 segments			
Keypad / LED	5 function keys / 1 status LED			
Frequency setting mode	Set directly with UP/DOWN keys or setting through external analogue signal			
Max. Momentary Power Loss Time	2.0s			

	RV DFB340075F(ES)	RV DFB340150(F)	RV DFB340220(F)
Weight kg/lb (IP20 version)	1.6kg/3.53lb	1.62kg/3.57	1.68kg/3.70lb
Weight kg/lb (IP65 version)	5.8kg/12.79lb	6.0kg/13.23lb	6.1kg/13.45
DIN rail mounting	only for IP20 version		
Integrated cooling fan	yes		
Frequency setting resolution	Digital: 0.1Hz (0 ÷ 99.9Hz) / 1Hz (100 ÷ 200Hz) Analogue: 1Hz / 60Hz		
Switching frequency	4~16kHz		
Preset speed	2		
Accel. / Decel. Time	up to 999.9		
Display	3 digit / 7 segments		
Keypad / LED	5 function keys / 1 status LED		
Frequency setting mode	Set directly with UP/DOWN keys or setting through external analogue signal		
Max. Momentary Power Loss Time	2.0s		

Environmental Data

Operating temperature	-10°C to +40°C/14°F to 104°F
Operating temperature without shield sticker	-10°C to +50°C/14°F to 122°F
Max. Relative Humidity	95% (non-condensing)
Protection Degree	IP20 / IP65
Vibration	1G - 9.8m/s ²

Braking Features

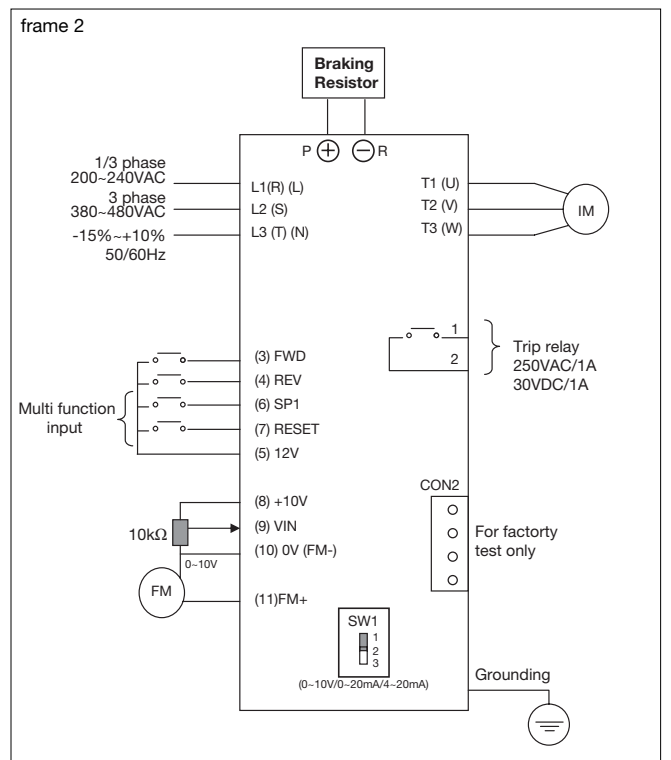
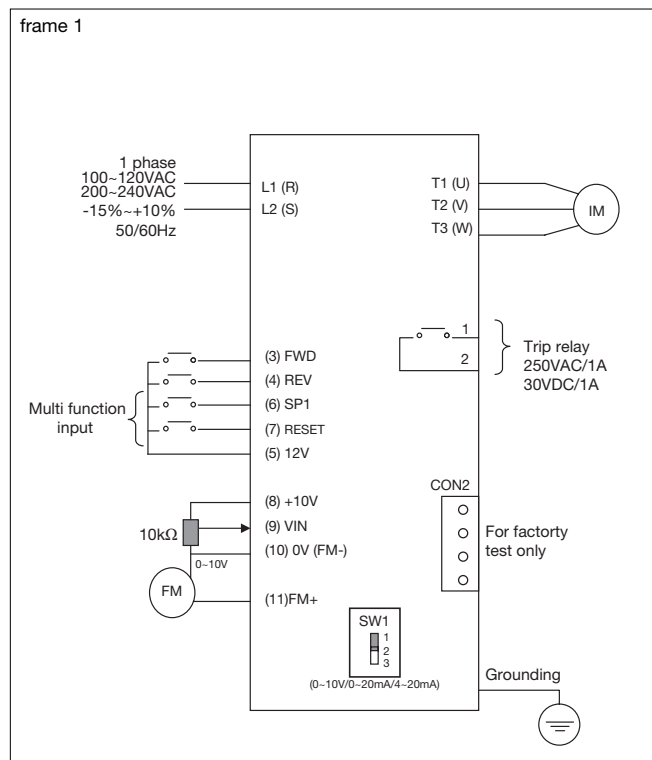
Braking torque	
RVDF series	about 20%
RVDFB series	20%~100%, Braking transistor built-in

Protection Functions

Over current	Inverter rated current 150%/1min
Over voltage	110-230V class: DC voltage > 410V; 460V class: DC voltage > 800V
Under voltage	110-230V class: DC voltage < 200V; 460V class: DC voltage < 400V
Istantaneous power loss restart	Set to Enable or Disable
Stall prevention	ACC/DEC/Operation stall prevention
Output terminal short circuit	Electronic circuit protection
Other function	Grounding error, Fault reset limit, Directly start at power-on

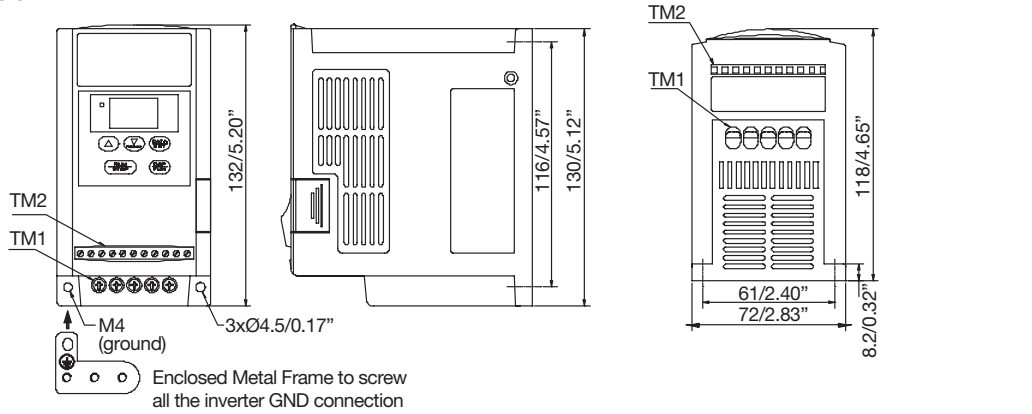
Connection Diagrams

Output relay: connection point rated capacity 250VAC/1A, 30VDC/1A

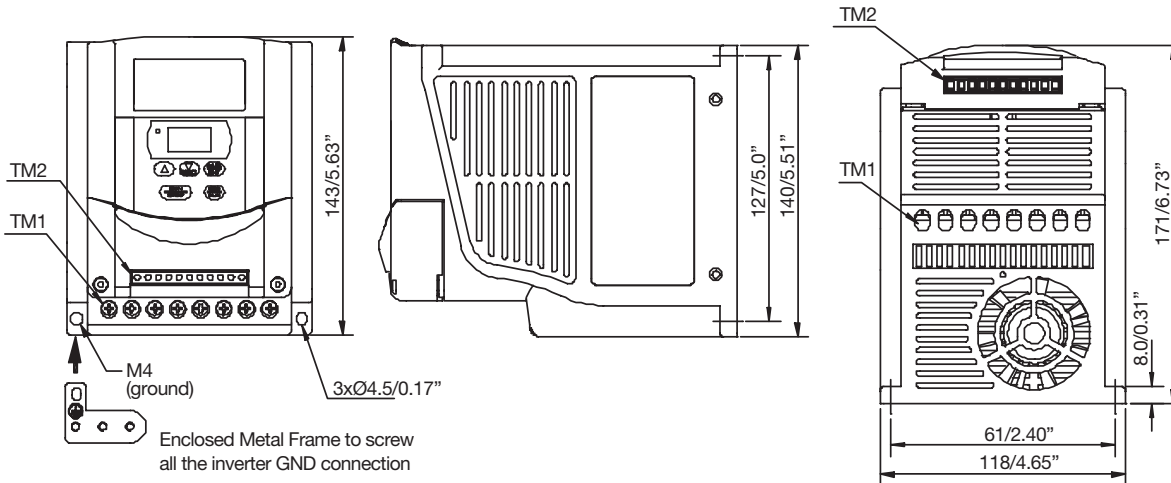


Dimensions (mm/inches)

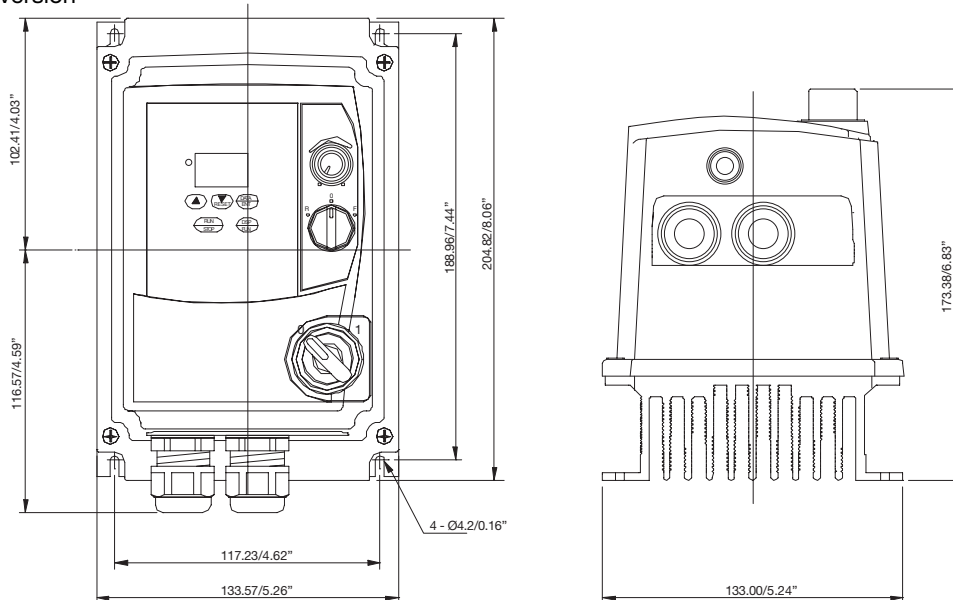
RVDF A IP20 version



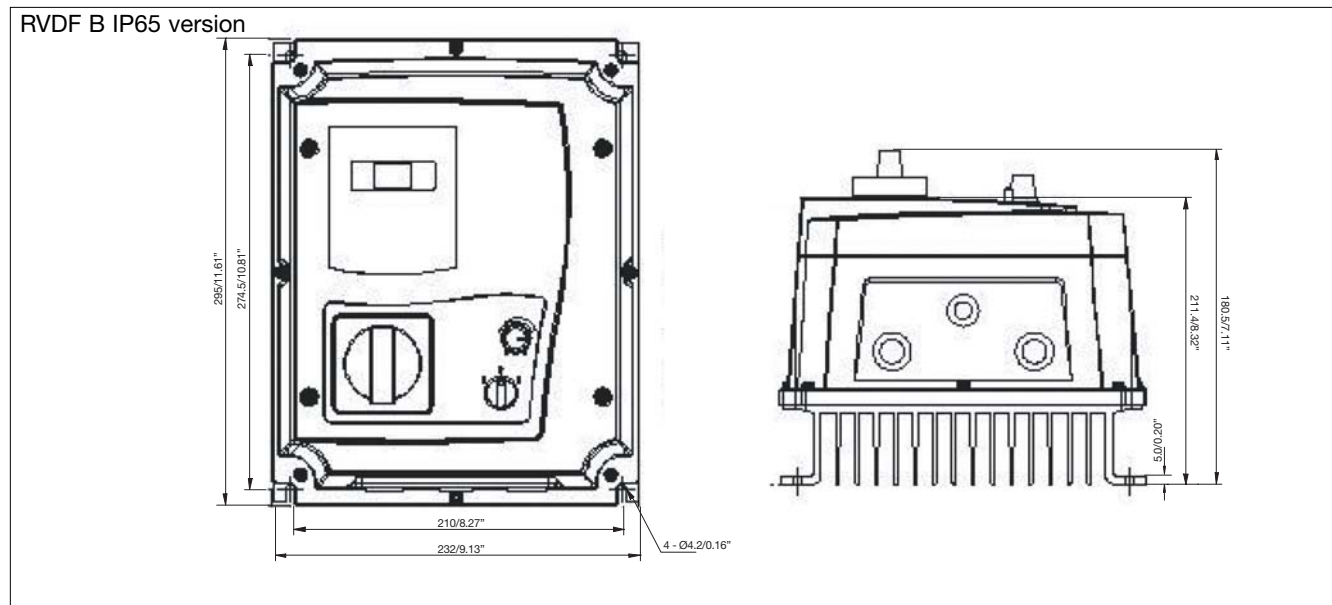
RVDF B IP20 version



RVDF A IP65 version



Dimensions (mm/inches)



Additional EMC Filters

These additional external filters are designed to operate together with the drive's own integral EMC filter in areas of sensitive equipment.

CFFB42A10R	CFFB42A20R only for 1-phase configuration	CFFB43A10R106
RVEFA110020	RVEFB120150F	RVEFB340075F
RVEFA110040	RVEFB120220F	RVEFB340150F
RVEFA110075		RVEFB340220F
RVEFA120020F		
RVEFA120040F		
RVEFA120075F		

Additional Braking Resistor

RVDF Drive	Braking resistor specification		ED(%)
	W	Ω	
RVDFB120150	150	100	10
RVDFB120220	200	70	9
RVDFB340075	60	750	8
RVDFB340150	150	400	10
RVDFB340220	200	250	8