



RVLF Series Variable Frequency Drives

Switches

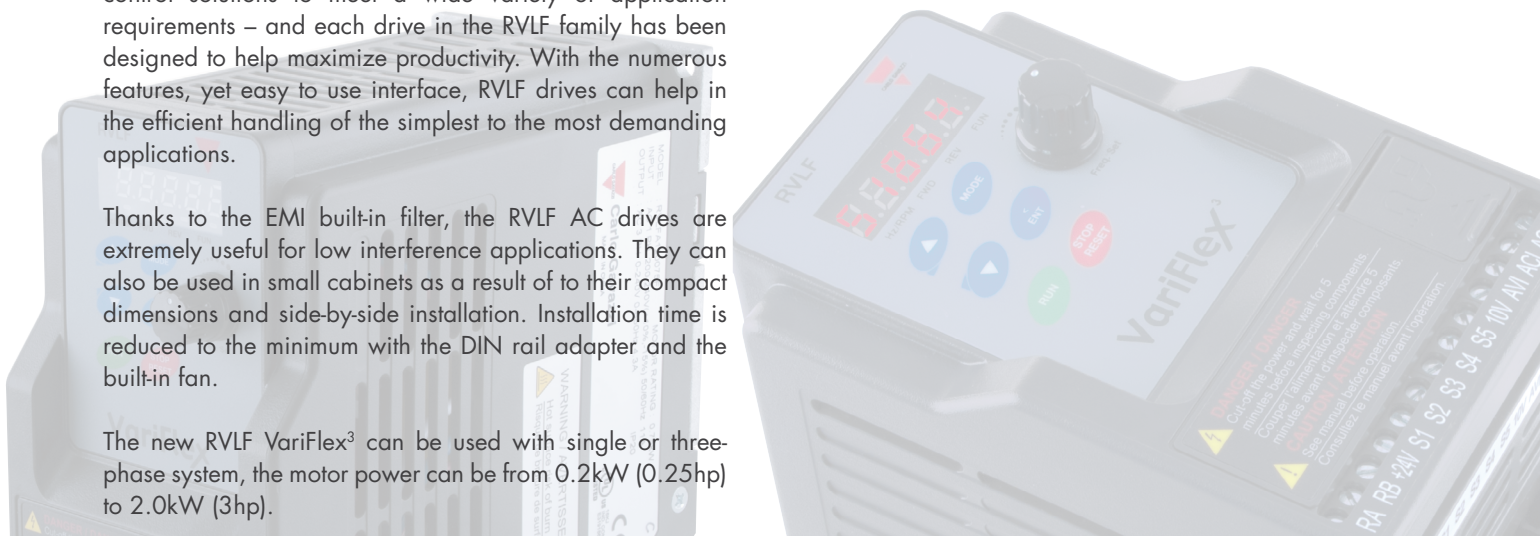
RVL F

AC Variable Frequency Drives

Carlo Gavazzi RVL F drives offer a broad range of motor control solutions to meet a wide variety of application requirements – and each drive in the RVL F family has been designed to help maximize productivity. With the numerous features, yet easy to use interface, RVL F drives can help in the efficient handling of the simplest to the most demanding applications.

Thanks to the EMI built-in filter, the RVL F AC drives are extremely useful for low interference applications. They can also be used in small cabinets as a result of their compact dimensions and side-by-side installation. Installation time is reduced to the minimum with the DIN rail adapter and the built-in fan.

The new RVL F VariFlex³ can be used with single or three-phase system, the motor power can be from 0.2kW (0.25hp) to 2.0kW (3hp).



Variable Frequency Drives VariFlex³

Conformity

All VariFlex³ drives are approved according to the relevant European and North American safety standards. Conforms to EMI radio standard and EMC immunity standard EN 61800-3 for the second environment (Industrial sites).

Main features

- AC variable speed drive for use with AC induction motors
- V/F control + Auto-torque compensation function
- Input voltage ranges: 1-ph 200~240V, 3-ph 380~480V
- 2 frame sizes
- Conforms to EMC standard EN 61800-3
- Parameter settings by keypad
- IP 20 models with power switch
- DIN-rail or panel mounting
- Built-in EMI filter
- Frequency 0.01~650.00Hz
- Communication interface modules for Profibus/DeviceNet/Ethernet (TCP/IP)/CANopen

Space Reduction

The RVL F models can be installed side by side (if the ambient temperature inside the cabinet is between -10 to +50°C / -14° to +122°F).



Conveyors

Conveyors are typical applications where frequency devices offer a number of advantages. In the production there are many elements, often including tapes conveyors that must be efficiently connected between them to allow high production flows. RVLf ensures gradual starting and stopping of the tape conveyor and in this way reduces the mechanical stress on the tape and maintenance costs.

- Easy to install and configure
- Reduced installation time
- Less disturbance with built-in EMI filter
- Soft start without vibrations
- Higher torque at low speeds
- Full protective functions
- PID functionality with sleep function can help in further energy savings during low speed operation



Pump control

Frequency drives are used to regulate and circulate water as part of simple and more complex water treatment systems. An important component in a water treatment plant is the pump to move and regulate the flow of water.

- More efficient regulation of water
- No water hammering
- Higher starting torque
- PID functionality for closed loop control
- Easy to install and configure
- Wide output frequency range: up to 650Hz
- Flexible configuration with programmable relay output
- PID sleep/wake function can stop/start the pump depending on the feedback signal which results in more energy savings.



Air handling unit

Air handling units (AHU) are used to regulate and circulate air as part of an HVAC system in small as well as larger buildings. A major component in an air handling unit is the blower or fan that is required to move the air and regulate the air flow.

- Better regulation of air-flow
- Quieter operation of AHU fan
- Torque compensation function allows better control at low speed
- Less disturbance with built-in EMI filter
- PID functionality
- Easy to install and configure
- Reduced installation time
- Wide output frequency range: up to 650Hz
- PID functionality can be used for closed loop control
- Flexible configuration with programmable relay output



RVLF

AC Variable Frequency Drives

Features and benefits

PID function

- With PID sleep/wake function more energy saving is possible
- Closed-loop control of load/process

32 Bit microprocessor

- Faster response time
- Better speed accuracy
- Higher torque at low speed

Multi function inputs/outputs

- Flexible installation
- Output relay programmable NO or NC
- I/O signal status monitor on display

Auto-Sequencer

- Can replace a small PLC
- Control of different loads
- Individual acceleration/deceleration



Programmable NO or NC relay contact

DC power supply: PNP: +24VDC

Programmable digital inputs

0-10VDC supply

0-10VDC programmable analog output

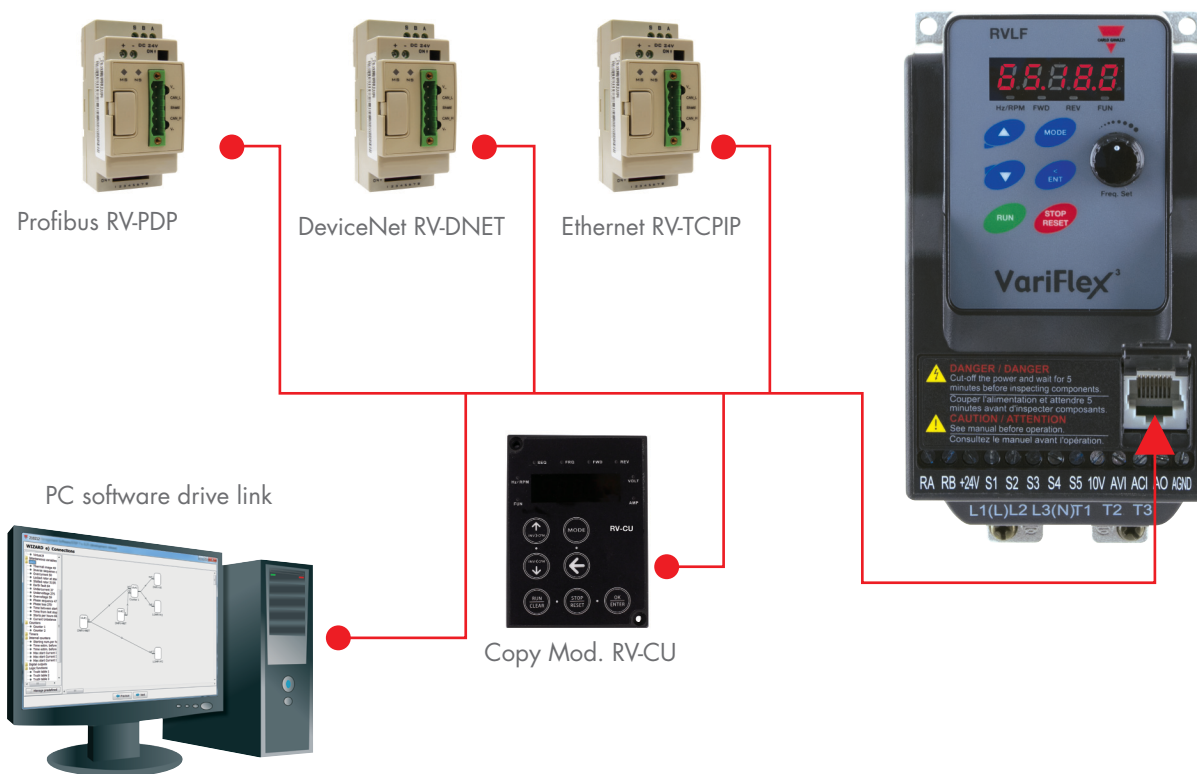
Frequency reference
 AVI: external 0-10V
 ACI: 0-20mA or 4-20mA
 PID feed back

Programming software

Parameter Name	Default	Set Value
00-XX : The Basic Parameters Group		
00-01 Motor rotation	0	0
00-02 Main Run Source Selection	0	0
00-03 Alternative Run Source Selection	0	0
00-04 Operation Mode For External Terminals	0	0
00-05 Main Frequency Source Selection	0	0
00-06 Alternative Frequency Source Selection	4	4
00-07 Main and Alternative Frequency Command modes	0	0
00-08 Communication Frequency Command(Hz)	0.00	0.00
00-09 Frequency command Save mode(Communication mode)	0	0
00-10 Initial Frequency Selection(keypad mode)	0	0
00-11 Initial Frequency Keypad mode(Hz)	50.00	50.00
00-12 Frequency Upper Limit(Hz)	50.00	50.00
00-13 Frequency Lower Limit(Hz)	0.00	0.00
00-14 Acceleration Time 1(Sec)	10.0	10.0
00-15 Deceleration Time 1(Sec)	10.0	10.0
00-16 Acceleration Time 2(Sec)	10.0	10.0
00-17 Deceleration Time 2(Sec)	10.0	10.0
00-18 Jog Frequency(Hz)	2.00	2.00
00-19 Jog Acceleration Time(Sec)	0.5	0.5
00-20 Jog Deceleration Time(Sec)	0.5	0.5
01-XX : V/F Pattern selection Setup		
01-00 Volts/Hz Patterns(V/F)	1	1
01-01 V/F max voltage(Vac)	220.0	220.0
01-02 Maximum Frequency(Hz)	50.00	50.00
01-03 Maximum Frequency Voltage Ratio(%)	100.0	100.0
01-04 Mid Frequency 2(Hz)	25.00	25.00
01-05 Mid Frequency Voltage Ratio 2(%)	50.0	50.0
01-06 Mid Frequency 1(Hz)	10.00	10.00
01-07 Mid Frequency Voltage Ratio 1(%)	20.0	20.0

Thanks to the programming software, the operator can set the parameters of the device without the keypad and the control panel on the device.

Communication Interface



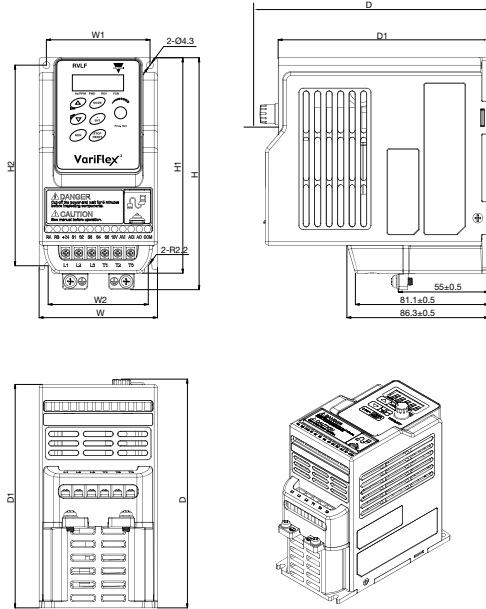
Profibus - Devicenet - Ethernet - Can-open, gateways are available for an easier integration into existing networks.

RVL F

AC Variable Frequency Drives

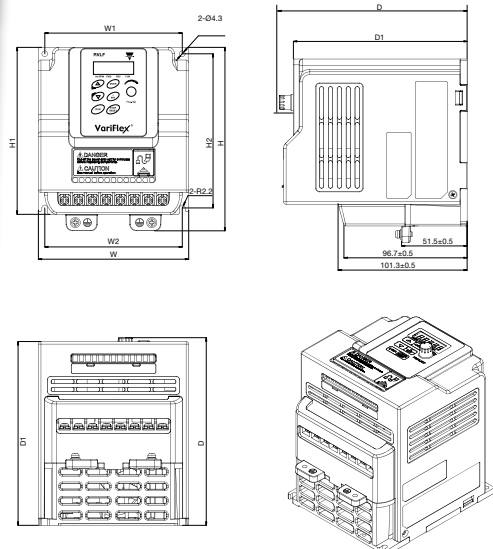


Dimensions



Size "A":

W: 72 (2.83); H: 141 (5.55); D: 139.2 (5.48) *mm / Inches



Size "B":

W: 118 (4.65); H: 144 (5.67); D: 147.3 (5.80) *mm / Inches

Main specifications

220V Class: Single phase

Model RVLF	RVLFA120020F	RVLFA120040F	RVLFA120075F	RVLFB120150F	RVLFB120220F
Horse power rating	0.25HP	0.5HP	1HP	2HP	3HP
Nominal motor power	0.2KW	0.4KW	0.75KW	1.5KW	2.2KW
Rated output current	1.8A	2.6A	4.3A	7.5A	10.5A
Rated capacity	0.68kVA	1.00kVA	1.65kVA	2.90kVA	4.00kVA
Input voltage range	Single phase: 200~240VAC (+10%-15%), 50/60HZ				
Output voltage range	Three phase: 0~240VAC				
Input current	4.9A	7.2A	11A	15.5A	21A
Allowable momentary power loss (s)	1.0	1.0	1.0	2.0	2.0
Protection class	IP20				

400V Class: Three phase

Model RVLF	RVLFB3400750F	RVLFB340150F	RVLFB340220F
Horse power rating	1HP	2HP	3HP
Nominal motor power	0.75KW	1.5KW	2.2KW
Rated output current	4.3A	7.5A	10.5A
Rated capacity	1.65kVA	2.90kVA	4.00kVA
Input voltage range	Three phase: 380~480VAC (+10%-15%), 50/60HZ		
Output voltage range	Three phase: 0~480VAC		
Input current	6.4A	9.4A	12.2A
Allowable momentary power loss (s)	1.0	2.0	2.0
Protection class	IP20		

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