VEDA-in RD05 Basic frequency converter

Versatile and compact drive for general automation



The RD05 series is a universal frequency converter for controlling pumps and fans and for general automation applications. The drive is designed for operation in 1×220 V and 3×380 V supply mains and power from 0.75 to 22 kW. The drive has a built-in RS-485 network interface.

Having “booklet” design, this drive series allows for wall-to-wall mounting without compromising performance. Separation of the cooling system prevents air flow through the electronic components, which increases the service life of the frequency converter. The efficient cooling system allows operation at ambient temperatures up to +50 °C.

The RD05 frequency converters can handle motor cable lengths up to 150 m without reducing nominal performance.

The RD05 Basic Drive reduces user costs and commissioning time due to built-in elements such as EMC filter, brake interrupter unit, and user-friendly operator panel with potentiometer.

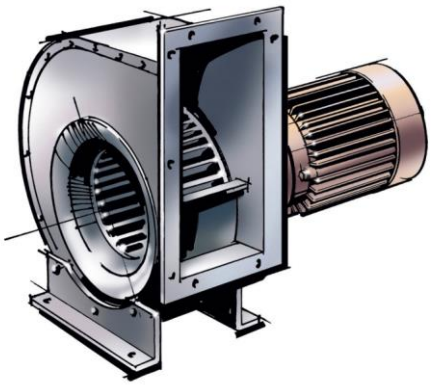
Power range

1×220 V ..... 0.75–2.2 kW
3×380 V ..... 0.75–22 kW

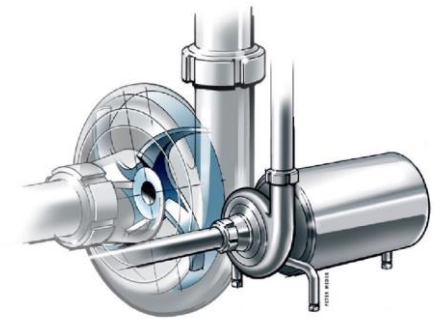
Enclosure rating

IP20

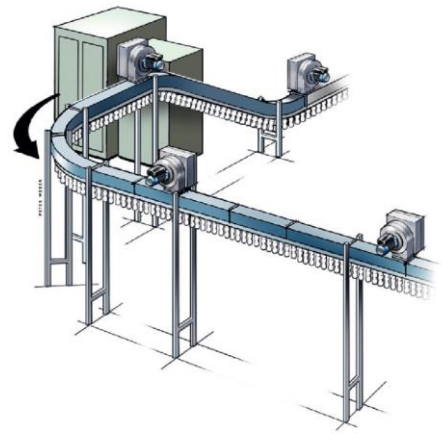
Special features	Advantages
Reliability	**Extended operational life**
Maximum ambient temperature 50 °C without reducing nominal parameters	Reliable operation at elevated temperatures
Protective coating of printed circuit boards	For operation in aggressive environments and longer service life
Smart cooling system without air entering electronic components	Increased component service life
User comfort	**Reduced commissioning and maintenance costs**
Built-in EMC filter	No additional filter required
Built-in operator panel with potentiometer	Efficiency on additional operator console and ease of use
Additional features	**Energy and cost efficiency**
Synchronous motor operation	One device for all motor types
Permitted unshielded cable length up to 150 m	No additional devices are required for EMC compliance
Built-in brake interrupter unit	Saves space in control cabinet; buying an external interrupter is not required



Fans



Pumps



Conveyors

Technical specifications

Supply voltage (R, S, T/L, N)	
Voltage range	S2: 1 × 220 V T4: 3 × 380 V
Mains frequency	50/60 Hz ±5%
Permitted tolerance	Voltage unbalance factor: <3%; distortion level complies with IEC61800-2 requirements
Starting current	Less than nominal current value
Power factor (cos φ)	≥0.94 (with a DC link choke)
Converter efficiency	≥96%
Output characteristics (U, V, W)	
Output voltage	0–100% of input voltage (under normal conditions error is less than 5%)
Output frequency	0–200 Hz (vector mode); 0–299 Hz (U/f mode)
Output frequency control accuracy	±0.5% of the maximum frequency value
Current overload capacity from nominal value	For FC 3×380 V: 150% – 1 min, 180% – 5 s, 200% – 0.5 s For FC 1×220 V: 150% – 20 s, 180% – 5 s
Key regulatory indicators	
Motor type	Asynchronous motor, permanent magnet synchronous motor (PMSM)
Motor control mode	U/f open-loop vector control without position sensor
Carrier frequency	1–16 kHz
Key features	
Automatic voltage control	Automatic maintenance of constant output voltage during mains voltage fluctuation
Automatic power-saving function	Automatic current limitation during operation to prevent current overload accidents
Inputs	1 analog voltage and current input, 4 digital inputs
Outputs	1 analog current and voltage output, 1 digital output, 1 relay
Operator panel	Built-in digital single-line display, digital two-line display (ability to copy parameters)
Environment, type of drive	
Case	IP20 (forced air-cooling)
Operating temperature	-10...+50 °C
Installation	Wall-mounted, cabinet-mounted

Ordering codes for RD05 Basic Drive

Order code	Voltage, V	Output power, kW	Nominal output current, A	HxWxD, mm
11A00AAA001	Input 1×220, output 3×220	0.75	4	177×65×148
11A00AAA002		1.5	7	202×75×163
11A00AAA003		2.2	10	
11A00AAA004	Input 3×380, output 3×380	0.75	3	177×65×148
11A00AAA005		1.5	4	
11A00AAA006		2.2	5	
11A00AAA007		4	9.5	202×75×163
11A00AAA008		5.5	13	
11A00AAA009		7.5	16	320×130×161
11A00AAA010		11	25	
11A00AAA011		15	32	342.5×170×183
11A00AAA012		18.5	38	
11A00AAA013		22	45	

Note.
1-phase FC: 150% – 20 s, 180% – 0.5 s. 3-phase FC: 150% – 60 s, 180% – 5 s, 200% – 0.5 s
Digital operator panel with built-in potentiometer

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

VEDA-IN DRIVES d.o.o.
info@vedaindrives.com \ www.vedaindrives.com