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# VRTS

## SPEED CONTROL FOR AC FANS

VRTS is used for speed modulation of axial and centrifugal fans with external rotor. VRTS regulators have a microprocessor control unit that detects and processes the control signal coming from a remote control and a power capacity partly consisting of controlled diodes: they are the best solution due to their strength, high technology and ease of use.

### The advantages of the VRTS controls

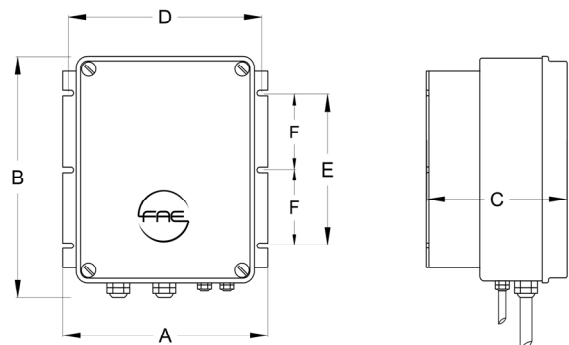
The use of the electronic control VRTS allows an efficient control of the pressure/temperature on chiller, remote condensers, dry cooler resulting in less noise and electricity consumption. VRTS reduces the fan rotation speed up to 1/5 of the rated value allowing you to keep the condensation temperature of the system within the limits provided by the manufacturer of the compressor even with very low outside temperatures. You don't need to carry on switching on-off which would cause oscillations, low performance and possible emergency stops for low pressure. VRTS has been developed together with the technicians of the most prestigious manufacturers of controls for conditioning and refrigerating machines and is especially suitable for air-water coolers which produce chilled water during the winter season (stable adjust at -15°C). Similarly in heat pump operation during the summertime you must limit the evaporation temperature in order to provide the compressor with sufficient cooling and allow the expansion valve operate regularly. Therefore VRTS is equally suitable for air-water heat pumps which produce hot water even during the summertime. VRTS has control input 4.20mA, 0.10V, pwm, and can also be controlled by Modbus RTU serial transmission. Using the Modbus RTU serial transmission you can connect it to a supervising device or to a PC to carry out programming and diagnostic operations. VRTS standard version is provided with an output power terminal. Anyway the load control can be consist of multiple parallel engines generally without the use of shielded cable or particular devices.



Models	Power (A)	Weight (kg)	Sizes (mm)		
			A	B	C
<b>IP55</b>					
VRTS8	8	2,5	230	165	150
VRTS12	12	4	230	265	165
VRTS20	20	4,8	230	265	230
VRTS28	28	7	340	270	235
VRTS40	40	9	340	270	235
VRTS50	50	17	340	440	235
VRTS60	60	18	340	440	235

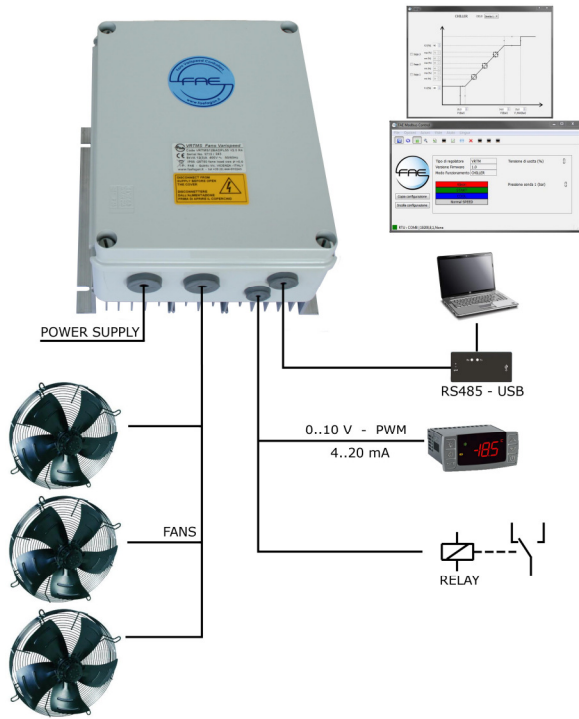


Models	Power (A)	Weight (kg)	Sizes(mm)		
			A	B	C
<b>IP20</b>					
VRTS10	10	2,5	230	165	150
VRTS16	16	4	230	265	165
VRTS20	20	4,8	230	265	230
VRTS28	28	7	340	270	235
VRTS40	40	9	340	270	235



The standard version presents the following features:

- Three-phase power supply 400Vac 50-60Hz,
- 1 analogical input 4..20mA / pwm (with varying average value) / 0..10V= for control from remote control or potentiometer.
- Auxiliary output +V for control from potentiometer.
- 1 Alarm relay for inside overheating and missing supply phase
- Regulator stop for: missing supply phase or enabled heat probe due to overheating on regulator.  
Automatic restart function
- ModbusRTU Slave transmission
- Operating temperature: -25T50°C with grade IP55;  
-25T60°C with grade IP20
- Storing temperature: -40T80°C,
- Protection grade IP55, IP20,
- Protections: Class II for the control inputs (4kV), class I for the accessible parts;
- Standard norms applied: EN60730-1,  
EN61800-6-3



Functions available with serial connection:

Through the Modbus transmission you can change the minimum and the maximum value of the control signal by associating them to the desired values of output voltage/power.

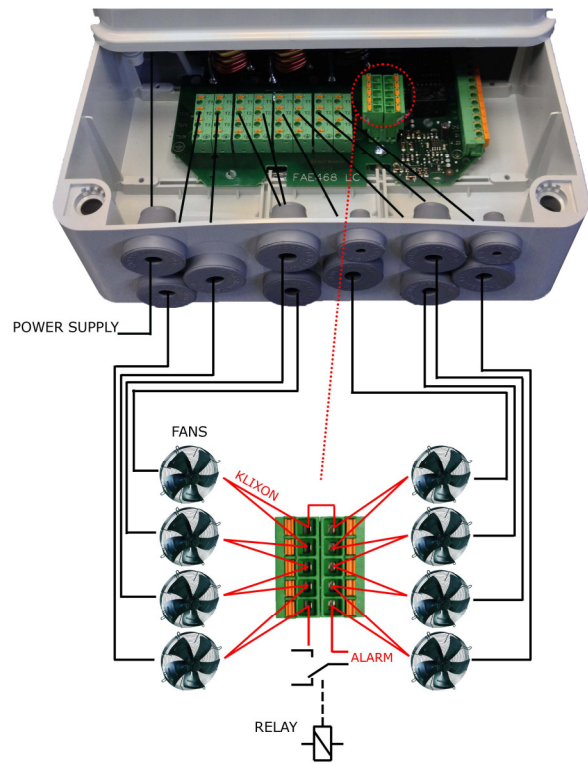
The following functions are available: cos-phi, profile-adj., kick start, suppress. min.-max, limit for the best load adjusting.

For a precise diagnostics you can read an alarm action separately from the others.

VRTS is provided with docking connector for a possible card to be developed upon the customer's request for the expansion of the standard functions (not available for VRTS8-10)

The advantages of the version Custom (+SE):

The VRTS Custom version stems from the need to simplify and minimize wiring costs by eliminating from the electric boards the electromechanical designed to divide the power output on multiple loads. Custom controllers have cable glands and clamps for direct connection to the single fan. Inside there is also an additional terminal to handle the thermal protectors and the alarm relays of the controller as shown in the picture below (ex. VRTS20...+SE)



Models IP55 +SE	Number fans	Power (A)	Weight (kg)	Sizes(mm)		
				A	B	C
VRTS12..+SE	5	12	4	230	265	165
VRTS20..+SE	8	20	4,8	230	340	200
VRTS28..+SE	12	28	10	340	440	235
VRTS40..+SE	12	40	10,5	340	440	235

