ENGINEERING TOMORROW

Fact Sheet

VLT® HVAC Basic Drive

Efficient, basic control of fans and pumps in HVAC applications.

Optimised for basic operation of pumps and fans, the VLT® HVAC Basic Drive is supplied with built-in functions that reduce initial costs and increase productivity.

The drive is the most compact unit in its class. Integrated DC coils reduce harmonics to an absolute minimum, and the Automatic Energy Optimizer saves 15-25% energy from the second you turn the it on.

Product range

3 x 200 – 240 V.....0.25 – 45 kW
3 x 380 – 480 V.....0.37 – 90 kW
3 x 525 – 600 V.....2.2 – 90 kW

Available enclosure ratings

IP20
IP21/UL Type 1 (separate option kit)
IP54

Feature	Benefit
All built-in – low investment	
Flying Start	Reduced mechanical wear on equipment
Most common HVAC protocols for BMS controller connectivity are embedded	Fewer extra gateway solutions needed
Built-in PI controller	No external PI controller required
Smart Logic Controller	Often makes PLC unnecessary
Integrated fan and pump functionality	Saves external control and conversion equipment
Fire Override Mode	Enhanced safety
Save energy – less operation cost	
Automatic Energy Optimizer function	Saves additional 5 – 15% energy
PM motor control in open loop	Increased efficiency especially at part load
Sleep mode	Saves energy and extends lifetime
Unequalled robustness – maximum uptime	
IP 20/IP 21/Type 1/IP 54	Enclosures to fit your needs up to 90 kW
Robust single enclosure	Maintenance-free
Unique cooling concept with no forced air flow over electronics	Problem-free operation in harsh environments
Max ambient temp. up to 50° C	No external cooling
User friendly – save commissioning and operating cost	
Operate both PM and asynchronous motors	Versatile, only one drive type required
Easy connectability	Effective commissioning and operation
Display in engineering units	Alpha numeric display/improved HMI
Start up wizard	Drive set-up fast and easy
Auto restart	Saves time and money
Bypass frequencies	Less noise and vibrations/resonances
Global HVAC support organization	Local service – globally
Built-in DC coils and EMC filters – no harmonic concerns	
Built-in EMC filter	Meets protection class C1, C2 or C3
Integrated DC Choke	Small power cables. Meets EN 61000-3-12
Thermistor input	Prevents motor overheating

PM

motor control and asynchronous motor control as standard increase flexibility and efficiency.

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Easy to configure

- Start up with a configuration wizard
- Easy to program parameters
- Alphanumeric display
- Hand – Off – Auto keys
- Status LCDs
- Easy to install
- Easy to wire up
- 7 languages and numeric programming

Choice made simple

- Enclosures: IP20/Chassis or IP21/Type 1 or IP54
- Harmonic filters
- Minimum 25 m C3 as standard built-in
  Optional: C1/C2 filters
- Voltage: 208/230/460/575

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	200–240 V ±10%
Supply voltage	380–480 V ±10%
Supply voltage	525–600 V ±10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(> 0.98)
Switching on input supply L1, L2, L3	1 time/minute max.
Output data (U, V, W)	
Output voltage	0 – 100% of supply voltage
Switching on output	Unlimited
Ramp times	1–3600 sec.
Open/Closed loop	0–400 Hz
Digital inputs	
Programmable digital inputs	4
Logic	PNP or NPN
Voltage level	0 – 24 VDC
Analog input	
Analog inputs	2
Modes	Voltage or current
Voltage level	0 V to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Analog output (can be used as digital output)	
Programmable analog outputs	2
Current range at analog output	0/4 – 20 mA
Relay outputs	
Programmable relay outputs	2 (240 VAC, 2 A and 400 VAC, 2 A)
Fieldbus communication	
Standard built-in: BACnet mstp FC Protocol	N2 Metasys FLN Apogee Modbus RTU

Dimensions

Power (kW/HP)					Height (mm/inch)		Width (mm/inch)	Depth (mm/inch)
Frame	IP Class	3 x 200–240 V	3 x 380–480 V	3 x 525–600 V		Incl. decoupling plate		
H1	IP20	0.25–1.5 kW/0.3–2 HP	0.37–1.5 kW/0.5–2 HP	–	195/7.7	273/10.7	75/2.9	168/6.6
H2	IP20	2.2 kW/3 HP	2.2–4 kW/3–5.4 HP	–	227/8.9	303/11.9	90/3.5	190/7.5
H3	IP20	3.7 kW/5 HP	5.5–7.5 kW/7.5–10 HP	–	255/10.0	329/13.0	100/3.9	206/8.1
H4	IP20	5.5–7.5 kW/7.5–10 HP	11–15 kW/15–20 HP	–	296/11.7	359/14.1	135/5.3	241/9.5
H5	IP20	11 kW/15 HP	18.5–22 kW/25–30 HP	–	334/13.1	402/15.8	150/5.9	255/10.0
H6	IP20	15–18.5 kW/20–25 HP	30–45 kW/40–60 HP	18.5–30 kW/25–40 HP	518/20.4	595/23.4–635/25.0	239/9.4	242/9.5
H7	IP20	22–30 kW/30–40 HP	55–75 kW/75–100 HP	37–55 kW/50–75 HP	550/21.7	630/24.8–690/27.2	313/12.3	335/13.2
H8	IP20	37–45 kW/50–60 HP	90 kW/125 HP	75–90 kW/100–125 HP	660/26.0	800/31.5	375/14.8	335/13.2
H9	IP20	–	–	2.2–7.5 kW/3–10 HP	372/14.6	374/14.7	130/5.1	205/8.0
H10	IP20	–	–	11–15 kW/15–20 HP	475/18.7	419/16.5	165/6.5	249/9.8
I2	IP54	–	0.75–4 kW/1–5.4 HP	–	332/13.1	–	115/4.5	225/8.8
I3	IP54	–	5.5–7.5 kW/7.5–10 HP	–	368/14.5	–	135/5.3	237/9.3
I4	IP54	–	11–18.5 kW/15–25 HP	–	476/18.7	–	180/7.1	290/11.4
I6	IP54	–	22–37 kW/30–50 HP	–	650/25.6	–	242/9.5	260/10.2
I7	IP54	–	45–55 kW/60–75 HP	–	680/26.8	–	308/12.1	310/12.2
I8	IP54	–	75–90 kW/100–125 HP	–	770/30.3	–	370/14.6	335/13.2

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