



## Product data sheet

## HA VSP4T1600P

### Characteristics

Variable speed drive, SMART Pump, 160 kW, 380 V, 3 phase, normal duty



#### Main

Range of product	SMART-Pump
Product or component type	Variable speed drive
Product specific application	Pump Fan Chiller
Network number of phases	3 phases
[Us] rated supply voltage	380...440 V - 15...10 %
Supply frequency	50...60 Hz
Motor power kW	160 kW for normal duty
Motor power hp	200 hp for normal duty
Maximum transient current	368.4 A during 1 min (normal duty) 460.5 A during 1 s (normal duty) 552.6 A during 0 s (normal duty)
Asynchronous motor control profile	Sensorless vector control (SVC) Voltage/frequency ratio (V/f)
Speed drive output frequency	0...599 Hz
Continuous output current	307 A
EMC filter	Class C3 EMC filter

#### Complementary

Product destination	Asynchronous motors
Function available	Multi-pump control Dry run protection Energy/flow calculator Frost and condensation protection Pump cleaning Fire override mode Energy saving mode
Type of cooling	Fan
Communication port protocol	Modbus
Regulation loop	Adjustable PID regulator with sleep mode
Acceleration and deceleration ramps	Linear adjustable separately from 0.01 to 3600 s
Frequency resolution	Digital input: 0.005/50 Hz Analog input: 0.05/50 Hz
Analogue input number	2
Analogue input type	AI1 voltage: 0...10 V, impedance: 100 kOhm, resolution 0.01 V AI1 current: 0...20 mA, impedance: 500 Ohm, resolution 0.02 mA AI2 voltage: 0...10 V, impedance: 100 kOhm, resolution 0.01 V AI2 current: 0...20 mA, impedance: 500 Ohm, resolution 0.02 mA
Discrete input number	5
Discrete input type	Programmable (DI1...DI5) Programmable as pulse input (DI5)
Analogue output number	2

Analogue output type	AO1 voltage/current: 0...20 mA or 0...10 V AO2 voltage/current: 0...20 mA or 0...10 V
Discrete output number	3
Discrete output type	configurable relay logic 250 V (5 A) for NO relay output circuit configurable relay logic 250 V (3 A) for NC relay output circuit configurable relay logic 24 V DC (3 A) for NO relay output circuit configurable relay logic 24 V DC (3 A) for NC relay output circuit open collector 9...30 V (50 mA) open collector 9...30 V (50 mA) for pulse output
Output frequency	50 kHz for pulse output at DO2
Display type	5 digits 7 segments for 38 parameters
Device application	Speed control
Type of installation	Indoor/outdoor
Control type	Manual using keypad Using control terminal Using serial port
Device mounting	Wall mounted Enclosure Flange
Speed accuracy	+/- 0.1 % of nominal speed
Protection type	Hammer effect Overcurrent Overvoltage Undervoltage Overheating Overload Short-circuit
Width	355 mm
Height	678 mm
Depth	319 mm
<b>Environment</b>	
Relative humidity	0...95 % without condensation
Ambient air temperature for storage	-20...60 °C
Quality labels	CE
Operating altitude	= 1000 m
IP degree of protection	IP20
Ambient air temperature for operation	-10...40 °C
Environmental characteristic	Dust resistant Corrosive gas free Oil and vapour resistant
Vibration resistance	5.9 m/s <sup>2</sup>
<b>Packing Units</b>	
Unit Type of Package 1	PCE
Number of Units in Package 1	1