

Product data sheet



HAVSP4T0220P

Characteristics

Variable speed drive, SMART Pump, 22 kW, 380-480V, 3 phase, normal duty

|                                                                                     |                                    |                                                                                                     |
|-------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------|
|  | Main                               |                                                                                                     |
|                                                                                     | Range of product                   | SMART-Pump                                                                                          |
|                                                                                     | Product or component type          | Variable speed drive                                                                                |
|                                                                                     | Product specific application       | Pump<br>Fan<br>Chiller                                                                              |
|                                                                                     | Network number of phases           | 3 phases                                                                                            |
|                                                                                     | [Us] rated supply voltage          | 380...480 V - 15...10 %                                                                             |
|                                                                                     | Supply frequency                   | 50...60 Hz                                                                                          |
|                                                                                     | Motor power kW                     | 22 kW for normal duty                                                                               |
|                                                                                     | Motor power hp                     | 30 hp for normal duty                                                                               |
|                                                                                     | Maximum transient current          | 54 A during 1 min (normal duty)<br>67.5 A during 1 s (normal duty)<br>81 A during 0 s (normal duty) |
|                                                                                     | Asynchronous motor control profile | Sensorless vector control (SVC)<br>Voltage/frequency ratio (V/f)                                    |
|                                                                                     | Speed drive output frequency       | 0...599 Hz                                                                                          |
|                                                                                     | Continuous output current          | 45 A                                                                                                |
|                                                                                     | EMC filter                         | Class C3 EMC filter                                                                                 |

Complementary

|                                     |                                                                                                                                                                                                                                                                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product destination                 | Asynchronous motors                                                                                                                                                                                                                                                |
| Function available                  | Multi-pump control<br>Dry run protection<br>Energy/flow calculator<br>Frost and condensation protection<br>Pump cleaning<br>Fire override mode<br>Energy saving mode                                                                                               |
| Type of cooling                     | Fan                                                                                                                                                                                                                                                                |
| Communication port protocol         | Modbus                                                                                                                                                                                                                                                             |
| Regulation loop                     | Adjustible 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<br>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<br>AI1 current: 0...20 mA, impedance: 500 Ohm, resolution 0.02 mA<br>AI2 voltage: 0...10 V, impedance: 100 kOhm, resolution 0.01 V<br>AI2 current: 0...20 mA, impedance: 500 Ohm, resolution 0.02 mA |
| Discrete input number               | 5                                                                                                                                                                                                                                                                  |
| Discrete input type                 | Programmable (DI1...DI5)<br>Programmable as pulse input (DI5)                                                                                                                                                                                                      |
| Analogue output number              | 2                                                                                                                                                                                                                                                                  |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Himel nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                        |                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analogue output type   | AO1 voltage/current: 0...20 mA or 0...10 V<br>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<br>configurable relay logic 250 V (3 A) for NC relay output circuit<br>configurable relay logic 24 V DC (3 A) for NO relay output circuit<br>configurable relay logic 24 V DC (3 A) for NC relay output circuit<br>open collector 9...30 V (50 mA)<br>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                                                                                                                                                                                                                                                                                                                                                           |
| Device composition     | Built-in breaking unit                                                                                                                                                                                                                                                                                                                                                  |
| Type of installation   | Indoor/outdoor                                                                                                                                                                                                                                                                                                                                                          |
| Control type           | Manual using keypad<br>Using control terminal<br>Using serial port                                                                                                                                                                                                                                                                                                      |
| Device mounting        | Wall mounted<br>Enclosure<br>Flange                                                                                                                                                                                                                                                                                                                                     |
| Speed accuracy         | +/- 0.1 % of nominal speed                                                                                                                                                                                                                                                                                                                                              |
| Protection type        | Hammer effect<br>Overcurrent<br>Overvoltage<br>Undervoltage<br>Overheating<br>Overload<br>Short-circuit                                                                                                                                                                                                                                                                 |
| Width                  | 205 mm                                                                                                                                                                                                                                                                                                                                                                  |
| Height                 | 322 mm                                                                                                                                                                                                                                                                                                                                                                  |
| Depth                  | 215 mm                                                                                                                                                                                                                                                                                                                                                                  |

Environment

|                                       |                                                                  |
|---------------------------------------|------------------------------------------------------------------|
| 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<br>Corrosive gas free<br>Oil and vapour resistant |
| Vibration resistance                  | 5.9 m/s²                                                         |

Packing Units

|                              |        |
|------------------------------|--------|
| Unit Type of Package 1       | PCE    |
| Number of Units in Package 1 | 1      |
| Package 1 Height             | 322 mm |
| Package 1 Width              | 205 mm |
| Package 1 Length             | 215 mm |
| Package 1 Weight             | 7.5 kg |