

Advantage 312 – Variable Speed AC Drive

The Advantage 312 mini-drive provides a 575 volt option for smaller motors while at the same time, simplifying its integration into a single control system architecture.



Features & Benefits

Optimize your pump control

Ideally suited to pump application needs, the Advantage 312 variable frequency drive offers the highest overtorque and is the only drive in its class with a remote graphical keypad. It delivers performance and reliability in a product that is easy to set up and integrate. This decreases cost of ownership and accelerates time to market.

Open Communication

The Advantage 312 drive comes standard with integrated communication ports for Modbus® and CANopen networks, and optional cards for CANopen Daisy Chain, DeviceNet and Profibus DP networks.

Ultra Reliable

The Advantage 312 drive comes with coated cards (IEC 60721-3-3 Classes 3C2 and 3S2) and can withstand temperatures ranging from -10° C to 50° C without derating, even when installed side-by-side. Its integrated EMC (electro-magnetic compatibility) also minimizes power disturbances and electrical interference.

Easy to Set up

Autotuning, multi-loaders and 50 pre-loaded application functions to manage common pump processes make set up and installation a breeze. The intuitive navigation, remote graphical keyboard and Bluetooth capability further enhance your ability to optimize pump control from Day One.



Optimize your pump control

Integrating the best-in-class features from the entire family of Advantage drives into its user interface, the Advantage 312 drive redefines the concept of “ease-to-use”. This starts with an intuitive rotary wheel for navigation and adjustments, as well as large control buttons on the face of the drive, protected by a snap-lock seal. You can also use advanced features such as the same graphical keypad used with the Advantage 61 drive, the new LED display of the Advantage 12 drive or even bluetooth wireless technology and your mobile phone.

Local control on the front panel



The Advantage 61 graphical keypad



The Advantage 12 LED display



Use your mobile phone to configure your Advantage 312 drive

Efficiency with an All-in-one Solution

- Download and transfer configurations
- Drive adjustment and maintenance
- Send and receive configuration files locally or remotely in a matter of seconds

Safety and Confidentiality

- Monitor and adjust your pump from a secure location
- You don't even need to open the enclosure!
- Save changes or reinstall saved configurations whenever you want

Simplicity and Comfort

- Work in comfort using bluetooth wireless communication
- Take advantage of user-friendly SoMove™ Mobile dialogue functions
- You know which menu you are in at all times
- Share configuration files via MMS or email

Features & Benefits

Get to know the Advantage 312 variable speed drive

Robust Legacy

- All the advantages of Advantage 312 drive
- Excellent resistance to harsh environments (50° C)
- Coated cards as standard (IEC 60721-3-3 Classes 3C2 and 3S2)
- Excellent resistance to power supply and motor interference

Horsepower Range

- 0.25 HP to 20 HP

Voltage Range

- Three-phase 525 V to 600 V

Compliance with Specific Requirements

- UL Type 1 kit
- Integrated Class 2 EMC filter for radiated and conducted emissions
- Positive and negative logic
- DIN rail mounting

Standards and Certifications

- EC/EN 61800-5-1
- IEC/EN 61800-3 (Environments 1 and 2, C1 to C3)
- UL, CSA, CE, C-Tick, NOM and GOST



Multiloader stores configurations for multiple drives



Bluetooth compatible

Simple to connect

The Advantage 312 drive integrates seamlessly into your architectures and communicates with all control system products to optimize pump performance. It offers numerous communications options, including Modbus and CANopen as well as option cards for CANopen Daisy Chain, DeviceNet and Profibus DP.

Other standard features of the product, such as auto-tuning, the multiloader, an integrated EMC filter and the ability to mount multiple drives side-by-side without derating, further add to the time and cost savings you'll receive by incorporating the Advantage 312 drive into your control system.

A Common Platform

The SoMove™ software enables you to prepare, test and transfer the files for drive configuration. You can then load those configurations in two ways:

- Direct from PC to drive using a USB/RJ45 cable or bluetooth wireless network
- Without a PC, via an SD memory card using multi-loader



Sample-loader allows you to quickly load the same configurations on several machines

Duplicate the configuration using simple loader and multi-loader; or the Advantage 312's bluetooth interface. The multi-loader stores configurations of several drives on a standard SD memory card and allows you to simply load it directly into your PC or drive. The simple loader maintains the settings of single drive for transfer.

Universal communication tools and networks for your control system architecture via the RJ45 port



Specifications

The Advantage 312 drive is designed to make industrial and commercial pumps more energy efficient, while at the same time simplifying integration into a single control system architecture. With the highest overtorque and the only drive with a remote graphic

keypad in its class, the Advantage 312 drive is ideally suited to pump applications. It also comes standard with integrated communications port for Modbus and CANopen networks, and optional cards for CANopen Daisy Chain, DeviceNet and Profibus DP.



HP	kW	Amps	Drive Reference	Dimensions (in.)		
				W	H	D
Supply Voltage: Three-phase 525...600 V						
1	0.75	1.7	ATV312H075S6M	4.21	5.63	5.98
2	1.5	2.7	ATV312HU15S6M	4.21	5.63	5.98
4	2.2	3.9	ATV312HU22S6M	5.59	7.24	5.98
5	4	6.1	ATV312HU40S6M	5.59	7.24	5.98
7.5	5.5	9	ATV312HU55S6M	7.09	9.13	6.77
10	7.5	11	ATV312HU75S6M	7.09	9.13	6.77
15	11	17	ATV312HD11S6M	9.64	12.99	7.56
20	15	22	ATV312HD15S6M	9.64	12.99	7.56

Electrical Specifications	
Input voltage	525 V -15% to 600 V +10%
Input frequency	50 Hz -5% to 60 Hz +5%
Output frequency	0.5 to 500 Hz
Torque/overtorque	170...200% of nominal motor torque
Current (transient)	150% for 60 seconds
Switching Frequency	Selectable from 2 kHz to 16 kHz (ranges vary depending on drive)
Functions	50
Preset speeds	16
Analogue inputs	3
Analogue outputs	1
Logic inputs	6
Relay outputs	2
Motor control profiles (asynchronous motors)	Voltage/frequency
	Sensorless flux vector control
	Quadratic ratio for pumps and fans
	Energy saving
Speed range	50:1
Codes and standards	UL, CSA, CE, NOM, GOST and C-Tick

Environmental Specifications	
Operating temperature	+14° to +122° F (-10° to +50° C) without derating, up to 140° F (60° C) with derating
Storage temperature	-13° to +158° F (-25° to +70° C)
Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-3
Altitude	3300 ft. (1000 m) without derating 3300-9850 ft. (1000-3000 m) derate output current by 1% for each additional 330 ft. (100 m). Limited to 6560 ft. (2000 m) on a single phase or a corner grounded distribution system.
Enclosure rating	IP20 rating with optional conduit kits for UL Type 1
Vibration resistance	Conforming to IEC 60068-2-6: 1.5 mm peak to peak from 3 Hz to 13 Hz, 1 gn from 13 to 150 Hz
Shock resistance	15 gn for 11 ms conforming to IEC 60068-2-27

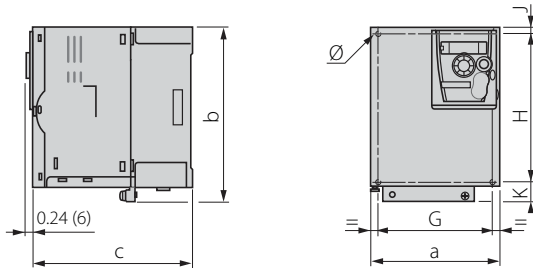
Communication Options	
Protocol	Reference
Profibus	VW3A31207W
CANopen Daisy Chain	VW3A31208W
DeviceNet	VW3A31209W

Dimensions

DIMENSIONS:

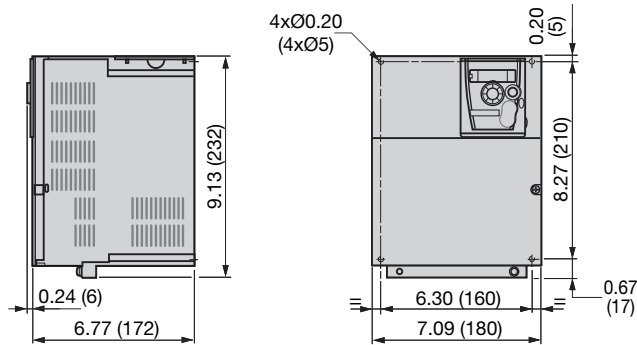
Dimensions are in inches (millimeters). Metric data is presented in ().

ATV312HO75S6M, ATV312HU15S6M, ATV312HU22S6M, ATV312HU40S6M

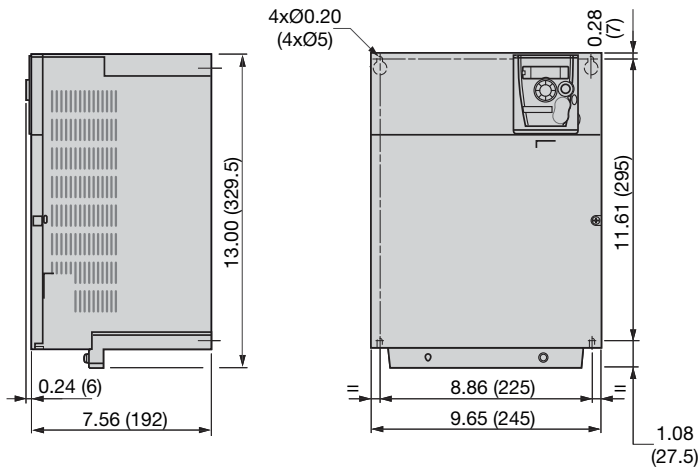


Advantage 312	a	b	c	G	H	J	K	Ø
H075S6M, HU15S6M	4.21 (107)	5.63 (143)	5.98 (152)	3.66 (93)	4.78 (121.5)	0.20 (5.0)	0.65 (16.5)	2xØ0.20 (2xØ5)
HU22S6M, HU40S6M	5.59 (142)	7.24 (184)	5.98 (152)	4.96 (126)	6.18 (157)	0.26 (6.5)	0.81 (20.5)	4xØ0.20 (4xØ5)

ATV312HU55S6M, ATV312HU75S6M



ATV312HD11S6M, ATV312HD15S6M



NOTES

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In order to provide the most efficient pump solution to our customers, Taco is now working with Schneider Electric.

This collaboration brings together Taco's pump technology with Schneider Electric Variable Frequency Drives and the drive packaging of Square D enclosures to offer the best overall pumping solution for our customers.



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Taco Inc., 1160 Cranston Street, Cranston, RI 02920 / (401) 942-8000 / Fax (401) 942-2360
Taco (Canada) Ltd., 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8 / (905) 564-9422 / Fax (905) 564-9436
www.taco-hvac.com