



Honeywell Variable Frequency Drive

Product Information Note

Honeywell’s energy efficient variable frequency motor drives meet automation requirements across a variety of industrial segments and process applications, ranging from small pumps to large compressors.

Honeywell Variable Frequency Drives (VFDs) are designed with application support in mind. There are three models of differing sizes and frequency ranges – from 0.4 to 500kw – making the solution suitable for a variety of applications.

- **MVS100** is a versatile, fit-for-purpose drive that improves the performance of mechanical devices and equipment. It offers a powerful PID function, a high degree of IP/ NEMA protection, and a range of user-defined function blocks.
- **MVIS7** facilitates precision control for specific applications. It combines closed-loop PID and multi-variable, sensorless vector control with advanced control algorithms.
- **MVH100** delivers energy savings and optimized control and operations for fan and pump equipment across various industrial applications. It provides specific function blocks for applications such as HVAC (damper control), chemicals and marine.



Honeywell VFD offers a wide range of LV drives with the following key features

- Seamless Integration
- Easy & Rapid Configuration
- Customization for your application
- Efficient Operations
- Designed for safety and Compliance

In addition, the space-efficient, compact design of Honeywell drives enables plenty of room for other equipment; and its compatibility with industry-standard BACnet, EtherCAT, Ethernet/IP and Modbus protocols ensures quick and easy integration with virtually any type of controller

MVS100 Standard Drive	MVH100 Fan and Pump Drive	MVIS7 High Performance Drive
<ul style="list-style-type: none"> • 1Ø 200V: 0.4kW~2.2kW • 3Ø 200V: 0.4kW~15kW • 3Ø 400V: 0.4kW~75kW • IP66 NEMA4X 3Ø 200V: 0.4kW~15kW • IP66 NEMA4X 3Ø 400V: 0.4~22kW 	<ul style="list-style-type: none"> • 3Ø 200V: 0.75kW~18.5kW • 3Ø 400V: 0.75kW~500kW 	<ul style="list-style-type: none"> • 3Ø 200V: 0.75kW~75kW • 3Ø 400V: 0.75kW~375kW

KEY FEATURES

SEAMLESS INTEGRATION with Control Systems

- **Integration of HON VFD with Experion DCS & ControlEdge** features plug-and-play integration with Honeywell’s Experion DCS system and ControlEdge platform. Therefore hours of manual mapping and integration work can be accomplished in minutes, with reduced chance of error. TCO benefits –

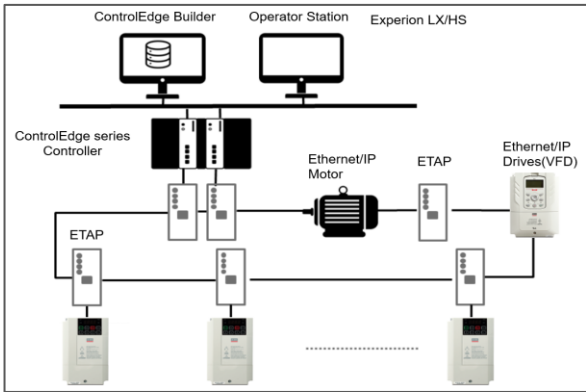


Figure 1. ControlEdge Equipment Template with HON VFD

When combined with Experion, it provides radically simplified SCADA configuration and superior operator and pipeline controller experience through the template-based Equipment concept. Experion can be configured and operated by ‘equipment’ like a specific field or a pumping station. When you match an Experion Equipment template with a Honeywell VFD, the cost of configuring the full solution is simplified even further.

Experion and Honeywell VFD have been designed to solve remote automation requirements in the various applications and industries.

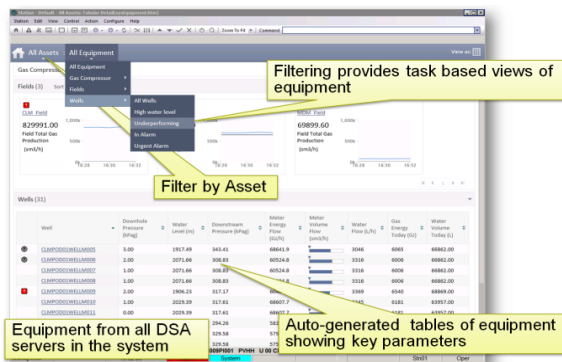


Figure 2. Experion Equipment Display

- **Interoperability with versatile communication interfaces** Through use of open protocols, Honeywell VFD is designed to work with any SCADA system.

The solution is scalable too, offering easy connection to I/O modules and communications interfaces.

- Modbus RTU
- Modbus TCP/IP
- Ethernet IP
- Profibus-DP
- CANOpen
- ProfiNet
- EtherCAT
- BACNet



Figure 3. Honeywell VFD's – Smart Copier & I/O modules

- **Onboard IOs, expansion and Peer-to-Peer Function** Peer to Peer functions of Honeywell VFD shares Input and output on IOMs between Master and Slave drive (RS485 wiring is required).

Furthermore, end users can benefit from optional Honeywell TotalCare remote and on-site support services to facilitate the installation, startup, and future expansion of their drive solution.

EASY AND RAPID CONFIGURATION

- **Template based offline configurations**
 - Template based multi-copier that can multiply configurations.
 - Enables faster startup time.
 - Includes a powerful drives engineering tool at no extra cost.
 - Minimize configuration time and providing peace-of-mind.

Graphical Keypad, parameters can be configured via RS485 connection, displaying multi-lingual texts. English, Italian, Spanish, Russian, Turkish.

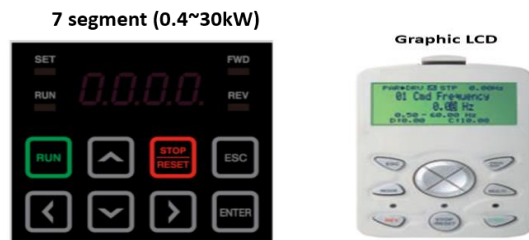


Figure 4. LED & LCD Display

- **VFD Builder 9 Configurator Tool**

Developed with ease of use in mind, Honeywell VFD the software configuration tool enables users to easily manage drives using their laptop or PC. The tool capabilities include:



Figure 5. VFD Builder 9 Tool

- the parameterization of drives (MVS100, MVIS7, MVH100)
- an oscilloscope function that monitors data graphically, in real-time
- a drive testing capability featuring intuitive configuration and parameterization
- the capability to backup parameters and copy data. With enriched function blocks and easy to use tool, it significantly reduces the time and complexity required to configure Honeywell VFDs.

- **Sequence and macros**

Honeywell VFD is so comfortable to setup a simple sequence for control, similar to PLC logic and this sequence can be configured by VFD builder9 tool.

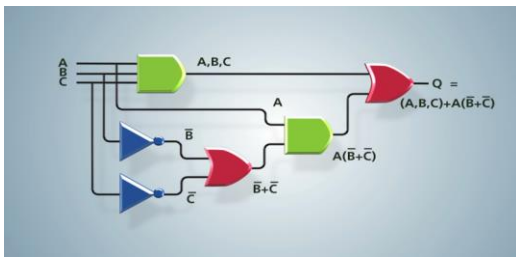


Figure 6. MVS100 – User Sequence – Built-in PLC Function

CUSTOMIZATION FOR YOUR APPLICATION

Honeywell VFD offers versatile and tailor-made algorithms for your applications. With these built-in algorithms, it can help you with ease in commissioning and support in smooth start up.

- **Suitability for Applications**

Honeywell VFD’s versatile features suitable for various applications –

<i>Variable Torque</i>	<i>Constant Torque</i>
Fan	Hoist
Pump	Agitator
Blower	Stirrer
Centrifugal Compressor	Extruder
AHU	Conveyor
Centrifuge	Wire Drawing
Etc.	Stenter, Etc.

- **Built-in Algorithm**

Features a built-in algorithm that can power the applications and ease in operations –

- Draw
- Traverse
- Compressor
- Supply Fan
- Exhaust Fan
- Cooling Tower
- Circulation Pump
- Vacuum Pump
- Constant Torque

EFFICIENT OPERATIONS

Energy-efficient operation is another drive hallmark.

- The solution offers energy savings performance of 30- 40% compared with direct online starters; noise-filtering harmonics of 18-37% THD;
- DC reactor that improves power supply input and reduces harmonics.
- It also features low speed torque control for a soft start.

DESIGNED FOR SAFETY AND COMPLIANCE

Finally, the solution offers the highest levels of safety and compliance. Safety-wise, it supports IEC 61508 SIL2 and IEC EN60240-1 standards encompassing engineering and machinery. It also meets Category C2/ C3, Class A EMC compliance for noise.

- **IP66 / NEMA 4X & Conformal Coating**

With IP66, NEMA 4X and 3C2 compliance, Honeywell VFD offers the waterproofing, corrosion protection and conformal coating required for application in harsh environments.



Figure 7. MVS100 - IP66/NEMA4X

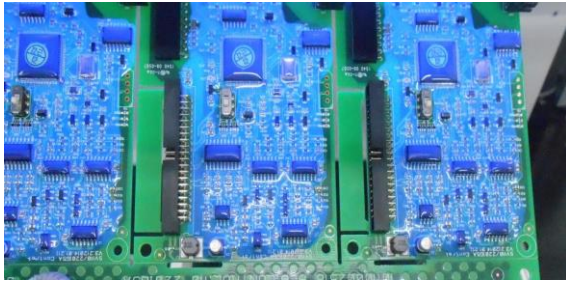


Figure 8. Conformal Coating Class 3C2

- **Safe Torque Off (STO)**

With Built-in safe torque-off (STO), it gives user to take an advanced safe control system. When a safety relay is used for STO, Honeywell VFD offers user to protect the system from unexpected operation.

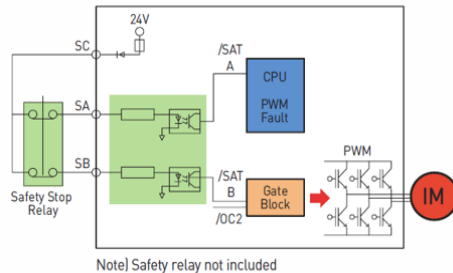


Figure 9. STO Configuration Diagram

- **Dual Rating Operation**

Designed to be used for both heavy and normal duty applications. Overload capacity -

- Heavy duty operation: 150% of rated current, 60 seconds
- Normal duty operation: 120% of rated current, 60 seconds

- **Protective Function**

Honeywell VFD, can detect any irregular conditions, and protect motors & itself from overload, over-heat, emergency, over current, over temperature, low voltage, external input, and etc.

- **Diagnosis**

VFD can take some diagnostic data of the health such as life monitoring of capacitor and fan. VFD Builder tool provides a high-definition analysis of the health scenario.

END USER BENEFITS

- Higher system performance, better process control
- Faster startup, easier commissioning
- Better accuracy and improved decision workflows
- Standardized technology, lower lifecycle costs
- Easy and efficient asset lifecycle maintenance
- Seamless integration with various control system
- Packaged Experion/ControlEdge solution for improved performance and support assurance
- Energy savings for Fan, Pumps, Compressors
- Backed by Honeywell's Total care service program for ultimate lifecycle benefits.

SERVICE AND SUPPORT

From installation and start up to system maturity and future expansion, Honeywell TotalCare remote and on-site support services ensure you get maximum return from your automation system investment. The TotalCare Service program features specially designed service package options in addition to Honeywell's standard support commitment under the Scalable Control Solutions portfolio. Available on an annual subscription basis, TotalCare Lite and Enhanced service packages encompass system updates, upgrades, corrective and preventive maintenance, support requests and more. Factory-trained remote service engineers provide technical support and rapid responses to queries regarding procedures, documentation, operation, service, training, and system enhancements. In addition, TotalCare remote services include a review of operational procedures, software analysis and diagnostic evaluations when required.

For More Information

Learn more about Variable Frequency Drives at our website process.honeywell.com or contact your Honeywell account manager.

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