BEYOND PREVENTIVE MAINTENANCE

PREDICTIVE ANALYTICS WITH SYLK™ ACTUATORS

Honeywell

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Wiring and commissioning smart actuators has never been more trustworthy. The Honeywell Diamond Sylk™ actuator is designed for fail-safe installation, sending instant feedback and fault diagnostics for the controller, which affords a level of analytics that will allow predictive response and preventive replacement of actuators, reducing or eliminating failures and service calls, and reducing hardware costs.

The full line of Sylk™ communicating actuators from Honeywell covers all sizes from 27 lbs/inch up to 175 lbs/inch. Sylk™ sends feedback and fault diagnostics directly to the controller, saving time and money on zone, variable air volume, and air handling unit applications while providing preventive and predictive maintenance alerts to facility managers, enabling them to minimize costly system failures. With 2-wire polarity-insensitive connections to the bus, wiring mistakes are a thing of the past, and Honeywell contractors can use controllers with fewer input and output points, further reducing cost. Unlike other communicating actuators, Sylk(TM) offers fail-safe operation when the BMS network goes down, since it's only dependent on local controller programming; the actuator will continue to operate independent of the network, which is highly important in outdoor air applications to achieve fail-safe operation.

The Niagara N4 platform from Honeywell provides analytics using data from Sylk™ actuators that provide replacement alerts (with the percentage estimated actuator life-remaining) as actuators near the end of their life. The analytics are displayed in an easy-to-read Sylk™ actuator health dashboard which presents the life-cycle status of all Sylk™ actuators in the system, saving time and cost.

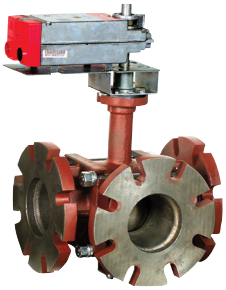
SYLK™ ACTUATOR TYPES AND APPLICATIONS

PART NUMBER	DESCRIPTION
MS3103J1021/U	Diamond Sylk 27 lb/in
MS3103J1221/U	Diamond Sylk 27 lb/in, 2 aux switches
MS3105J3030/U	Sylk Zelix 44 lb/in
MS3105J3130/U	Sylk Zelix 44 lb/in, i aux switch
MS3110J1008/U	Sylk Actuator 88 lb/in
MS3120J1007/U	Sylk Actuator 175 lb/in

COMPATIBLE VALVE PRODUCTS

VBN Series Threaded Control Ball Valves

VRN Series Threaded Pressure Independent Control Valves



VBF Series Flanged Control Ball Valves

VGF Series Flanged Globe Valves

V5011 / V5013 Series Threaded Globe Valves

Q5024 Series Globe Valve Linkage

Q5020 Series Globe Valve Linkage

VARIABLE AIR VOLUME APPLICATIONS USING SPYDER AND SYLK™ ACTUATORS

> Even experienced installers can experience an actuator wiring mistake. Considering that many VAV systems are wired above the ceiling with poor lighting it is not surprising that 5-10% of actuators are miswired.

These issues are not found until the programmer is on-site and discovers some boxes aren't responding properly. Either the actuator doesn't work, or the feedback signal doesn't read. This requires the installer to come back to those VAV boxes and troubleshoot. As the installer works, the programmer waits, resulting in expensive delays.

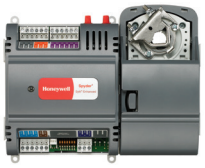
The Diamond Sylk™ actuator changes all this. Its two polarity-insensitive communicating wires replace the output point required to control the actuator and the input point required for true position feedback. This lowers the total number of input and output points required by the Spyder, resulting in fail-safe installation and lower hardware cost.

The actuator data is fed to a Jace controller for analytic processing, alerts, and dashboard presentation of:

- **Actuator Position**
- **Actuator Cycle Count**

SYLK™ VAV SPYDER CONTROLLERS

Spyder PVB & PVL



Spyder Model 5 VAV

THE NEXT GENERATION VAV APPLICATIONS USING CIPER 30 AND SYLK™ ACTUATORS

All of the same wiring & analytics advantages of a Spyder controller apply when using a CIPer 30 controller, with one important addition. The CIPer 30 is embedded with Niagara N4, so the analytics and alerts are performed inside each CIPer 30, with the data being fed to the WEBs Supervisor for exposure on the Actuator Health Dashboard, requiring no JACE unit.

SYLK™ VAV CIPER CONTROLLER

CIPer 30 VAV

AIR HANDLER APPLICATIONS WITH SYLK™ ACTUATORS

All of the same wiring fail-safes and analytics for VAV Applications also apply to Spyder or CIPer 30 controllers when used in air handling unit applications, but with even greater cost impacts.

Typically, an AHU requires many IO points for actuators such as preheat, reheat and chilled water valves, and economizer dampers. If position feedback signals are required for these actuators, this could result in the need for as many as 5 Analog Output (AO) points and 5 Analog Input (AI or UI) points. Usually, this volume of points results in the need for an expansion IO module which adds to the hardware cost. But the use of Sylk™ actuators can eliminate the need for an expansion IO module, reducing hardware cost.

The AHU Sylk™ actuators will also provide the benefits of wiring mistake reduction or elimination (and associated troubleshooting labor costs). These are huge benefits to facility managers concerned about preventive maintenance and elimination of costly failures.

CONTRACTOR BENEFITS

When used with compatible Honeywell controllers, Honeywell Sylk™ actuators provide significant, measurable benefits to Honeywell WEBs contractors.

- Lower installation costs due to less wiring required and significant reduction in wiring mistakes, along with the associated labor costs required to identify and fix them.
- Lower installation costs due to the potential for elimination of expansion IO modules, as there may be no need for AO & AI/UI points to control and receive feedback from actuators.
- A competitive advantage using the Honeywell WEBs solution by providing easy-to-implement Sylk™ actuator analytics, resulting in more project wins.
- Reliable continuous communication between Honeywell controllers and Sylk™ actuators compared to BACnet or Modbus network actuators, which rely on the BACnet or Modus network to maintain control, resulting in reliable and robust system performance with no call-backs due to network issues.

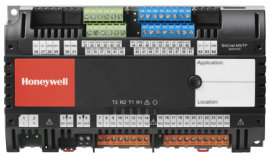
END USER BENEFITS

- Lower project initial costs due to less wiring and fewer expansion IO modules, resulting in enhanced functionality while meeting project budgets.
- Elimination of building down-time and frustrated tenants due to improperly functioning systems. This results in happy tenants and facility managers due to improved operations through preventive and predictive maintenance made possible by Honeywell Sylk actuators.

SYLK AHU SPYDER AND CIPER 30 CONTROLLERS

Spyder PUB, PUL

Spyder Model 5 Unitary



CIPer 30 Unitary

Honeywell Building Technologies
715 Peachtree St NE
Atlanta, Georgia 30308
honeywell.com

01-00193 09/2020

THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell