

THE SMART CHOICE FOR PERFORMANCE AND VALUE

FIELD DEVICES



Honeywell

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ABOUT HONEYWELL



Honeywell is an integrated operating company serving a broad range of industries and geographies around the world. Our portfolio of solutions is uniquely positioned to blend physical products with software to serve customers worldwide with aerospace products and services, energy efficient products and solutions for businesses, specialty chemicals, electronic and advanced materials, process technology for refining and petrochemicals, and productivity, sensing, safety, and security technologies for buildings and industries. Our products and solutions enable a safer, more comfortable, and more productive world, enhancing the quality of life of people around the globe. The Honeywell brand dates back to 1906, and the Company was incorporated in Delaware in 1985.

WHAT WE DO?

We have been innovating for more than 100 Years - and now we're creating what's next.



AEROSPACE TECHNOLOGIES

Our products and services are used on virtually every commercial, defense, and space aircraft. We build aircraft engines, cockpit and cabin electronics, wireless connectivity systems and mechanical components. Our hardware and software solutions create more fuel-efficient aircraft, more direct and on-time flights and safer skies.



BUILDING AUTOMATION

Commercial building owners and operators depend on our operational technology hardware, software, and analytics to help create safer and more efficient and productive facilities. Our solutions and services are used in more than 10 million buildings worldwide.



ENERGY & SUSTAINABILITY SOLUTIONS

We can help solve tough sustainability and energy transition challenges across our end markets while seizing new opportunities to deliver outstanding value to our clients and shareholders.



INDUSTRIAL AUTOMATION

We provide solutions to support our customers to help deliver results with enhanced productivity and safety standards. Our innovation powers process solutions, asset performance management, cybersecurity, and warehouse and retail automation.

DETECTOR COUPLE ACTUATOR/DAMPER ACTUATOR



Spring Return,
Low Torque



Spring Return,
Low Torque



Spring Return,
High Torque



Non-Spring Return,
Low Torque



Non-Spring Return,
High Torque

PRECISE, RELIABLE PERFORMANCE. LASTING VALUE. EASE OF INSTALLATION.

Everything you look for indirectcoupled actuators hinges on quality. And quality engineering is what makes Honeywell's complete line of actuators the top performers in the industry. Our global engineering team designs and tests our direct-coupled actuators to exceed rigorous global standards — and to meet Honeywell's own demanding life testing.

But we don't stop there. Thanks to our continuous improvement process, Honeywell actuators are now easier than ever to install. You'll also benefit from consistent wiring regardless of signal type, common accessories and a simplified selection process.

Honeywell's complete line of building control products, including valves and actuators, are already proven in more than three million buildings worldwide. So when you need spring or non spring return actuators for y our damper and valve applications, specify Honeywell. We make precision easy.

IMPROVE INSTALLATION TIME

- Self-centering shaft adapter provides mounting flexibility and greater clamping force.
- Common wiring among families for every signal saves installation time.

DECREASE MATERIAL COST

- Detachable access cover allows direct wiring without a junction box.

REDUCE INVENTORY

- Signal mode switch adapts models to twoposition, floating (tri-state) or modulating (proportional) applications. Increase Control and Accuracy
- More than 200 reposition steps for modulating models provide precise control.

INCREASED FLEXIBILITY

- Select models are available with or without three foot actuator whips cable.

MODELS		RATING N	POWER SUPPLY	TYPE
Non-Spring Return	CN4605A1001	5	220V	On/Off
	CN7505A2001	5	24VAC/DC	Modulating
	CN4610A1001	10	220V	On/Off
	CN6110A1003	10	24VAC/DC	Modulating
	CN4620A1001	20	220V	On/Off
	CN7510A2001	20	24VAC/DC	Modulating
	CN4634A1001	34	220V	On/Off
	CN7234A2008	34	24VAC/DC	Modulating
Spring Return	CS4105A1002	5	220V	On/Off
	CS7505A2008	5	24VAC/DC	Modulating
	CS4110A1002	10	220V	On/Off
	CS7510A2008	10	24VAC/DC	Modulating
	CS4120A1001	20	220V	On/Off
	CS7520A2007	20	24VAC/DC	Modulating

DETECTOR COUPLE ACTUATOR/DAMPER ACTUATOR

NEW SPRING RETURN 3 NM DIAMOND

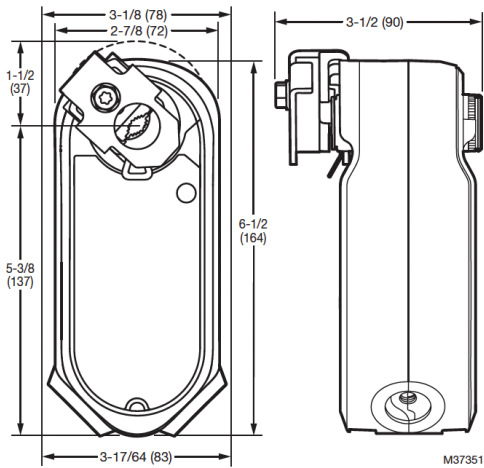
MS7103 and MS7503 Spring Return Direct Coupled Actuators (DCA) are used within heating, ventilating and air-conditioning (HVAC) systems. They can drive a variety of quarter-turn, final control elements requiring spring return fail-safe operation.



SPECIFICATIONS	
Actuator Type	Damper; Valve
Rotational Stroke	95 ±3 degrees
Fail Safe Mode	Spring Return
Torque	27 lb-in. (3 Nm)
Spring Return Torque	27 lb-in (3 Nm)
Spring Return Direction	By orientation
External Auxiliary Switches Available	No
Cable SPeificate	300 V, 750 C, Plenum Rated 3 ft (0.914 m) length from end of access cover, 18 AWG
Ingress Protection Rating	P54
Environmental Rating	NEMA2
Frequency	50 Hz; 60 Hz
Mounting	Direct Coupled
Maximum Noise Rating, Driving Return (dBA @ 1m)	40
Maximum Noise Rating, Spring Return (dBA @ 1m)	65
Rotation to Open	By switch
Rotational Stroke Adjustment	Mechanically limited 5 degree increments
Compatible Damper Shafts	3/8 to 5/8 in. round or 1/4 to 1/2 in. square (9 to 16 mm round or 6 to 13 mm square)
Shaft Adapter Type	Self-centering clamping
Materials	Plenum rated plastic housing
Operating Humidity Range (% RH)	5 to 95% RH, non-condensing
Ambient Operating Temperature.	-40 F to +150F (-40 C to +65 C)
Shipping and Storage Temperature	-40 F to +150F (-40 C to +65 C)
Weight	1.7 lb (0.78 kg)
Includes	Mounting bracket, self-centering shaft adapter
APPROVALS	
CE.	EMC 2004/108/EC; Certification Low Voltage Directive 2006/95/EC; IEC 60730-1 and Part 2-14
C-Tick	N314
Underwriters Laboratories, Inc	UL 60730; UL 1097 for Double Insulation

- FEATURES
- Brushless DC submotor with electronic stall protection
 - Self-centering shaft adaptor (shaft coupling) for wide range of shaft sizes
 - MS7103 models for use with 2-10 Vdc control
 - MS7503 universal models for use with floating, 0(2)-10 Vdc or 10-(2)0 Vdc control
 - Models available with two internal end switches
 - Durable plastic housing with built-in mechanical end limits
 - Spring return direction field selectable
 - Shaft position indicator and scale
 - UL (cUL) listed and CE compliant
 - Plenum rated actuator and control/power cable

DIMENSIONS DIAGRAM



FIRE & SMOKE DAMPER ACTUATOR

Honeywell's complete line of two position, fast-acting spring-return actuators meets all of your needs for fire and smoke control applications. All models are designed to meet the UL-555 and UL-555S high temperature requirements for fire dampers and combined fire and smoke dampers.

Safety First

As a life safety system component Honeywell is dedicated to meeting the UL-555 and UL-555S requirements.

The elevated temperature test can be performed at the temperature ratings of 250°F or 350°F. Honeywell only offers models at 350°F to meet UL-555 and UL-555S for fire and combined fire and smoke applications to support the highest level of safety for building occupants.



Largest Torque Range in the Industry

Honeywell's fire and smoke actuators are available in 30, 80 and 175 lb-in with the 175 lb-in being the highest torque commercial fire and smoke actuator available on the market today.

Features

- Integral spring return that ensures the proper level of torque
- Patented design that eliminated limit switches, reducing power consumption
- Reliable service in smoke control systems requiring Underwriter's Laboratories Inc. UL-555 and UL-555S
- Robust die-cast aluminum housing ensures the proper level of torque
- Full life of two-position spring return fire and smoke actuators rated up to 350°F for all critical applications
- Fast acting with a maximum spring return timing of 15 seconds
- No audible noise during holding
- Reversible ("flippable") design enables one model to be used for both clockwise and counterclockwise spring return applications

FIRE AND SMOKE SPRING RETURN ACTUATORS

	TORQUE	MODEL NUMBER	VOLTAGE	SPST AUX SWITCH	LEGACY HONEYWELL	BELIMO CROSS	SIEMENS CROSS
	30 lb-in (3.4 Nm)	MS4104F1010	120 Vac	0	ML4115A1009 ML4115A1017 ML4115B1008 ML4115B1016 ML4115H1002 ML4115J1009 ML4202F1000 ML4302F1008	FSLF120 US	None
		MS4104F1210	120 Vac	2 Internal	None	FSLF120-S US	None
		MS4604F1010	230 Vac	0	ML4115C1007 ML4115C1015 ML4115D1006 ML4115D1014 ML4702F1009 ML4802F1007	FSLF230 US	None
		MS4604F1210	230 Vac	2 Internal	None	FSLF230-S US	None
		MS8104F1010	24 Vac	0	ML8115A1005 ML8115A1013 ML8115B1004 ML8115B1012 ML8115H1008 ML8115J1005 ML8202F1006 ML8302F1004	FSLF24 US	None
		MS8104F210	24 Vac	2 Internal	None	FSLF24-S US	None
	80 lb-in (9 Nm)	MS4109F1010	120 Vac	0	MS4309F1005	FSNF120 US	GND221.1U
		MS4109F1210	120 Vac	2 Internal	None	FSNF120-S US	GND226.1U
		MS4609F1010	230 Vac	0	MS4709F1014 MS4809F1012	FSNF230 US	GND321.1U
		MS4609F1210	230 Vac	2 Internal	None	FSNF230-S US	GND326.1U
		MS8109F1010	24 Vac	0	MS8209F1003 MS8309F1001	FSNF24 US	GND121.1U
		MS8109F1210	24 Vac	2 Internal	None	FSNF24-S US	GND126.1U
	175 lb-in (20 Nm)	MS4120F1006	Vac	0	None	FSAF120 US	GGD221.1U
		MS4120F1204		2 Internal		FSAF120-S US	None
		MS4620F1005	230 Vac	0		FSAF230 US	GGD321.1U
		MS4620F1203		2 Internal		FSAF230-S US	None
		MS8120F1002	24 Vac	0		FSAF24 US	GGD121.1U
		MS8120F1200		2 Internal		FSAF24-S US	None

Note: Honeywell's spring return fire and smoke actuators are designed to pass UL-555 and UL-555S 350°F requirements. They are not designed for HVAC applications. UL-555 and UL-555S requires that all new construction fire and smoke damper jobs have the actuator assembled and tested at the damper manufacturer. A like for like retrofit replacement or technically equal UL-555 and UL-555S approved device is recommended.

PRESSURE INDEPENDENT CONTROL VALVES AND ACTUATORS

It's only natural to always be on the lookout for new ways to achieve stable room temperature, superior comfort, less maintenance, and easier installations – along with improved energy efficiency and costs for your business. The new Honeywell VPI Pressure Independent Control Valves and Actuators integrate the flow, pressure, and temperature control functions in one single valve – all while ensuring that each valve-controlled, thermal unit is always supplied with its required flow.

The Pressure Independent Control Valves and Actuators come with an innovative, selfadjustment feature that allows continuous self-balancing in all valve positions. Honeywell VPI series combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve and makes it simple to have full control of the water flow in your building.

Selecting, installing, and commissioning Honeywell VPI Pressure Independent Control Valves and Actuators means a quick and cost-effective process. The valves feature an integrated flow regulator with a rolling diaphragm that delivers flow balancing and control functions in one package. And there are no CV calculations required – just pick the valve that matches your flow requirements and we take care of the rest.

3 IN 1

The Honeywell VPI series combines three functions into one valve body



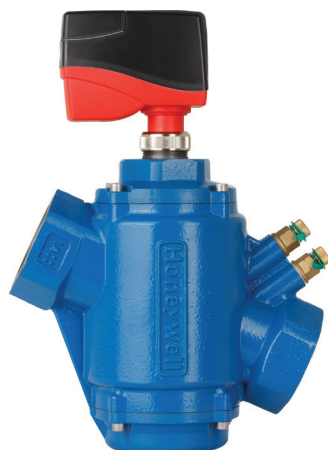
CONTROL VALVE
Temperature control



DIFFERENTIAL PRESSURE CONTROLLER
Protects against pressure fluctuations



MAX. FLOW LIMITATION
Avoids chilled/ hot water wastage



BENEFITS



COST AND ENERGY-EFFICIENT

- Enhances energy savings thanks to optimal control, lower flow, and pump pressure
- Speeds up response times and increases system stability
- Internal parts can be accessed without removing the valve housing from the piping lines
- Maintains system balance perfectly, under all conditions, increasing energy efficiency



ACCURATE FLOW CONTROL

- Ensures the correct water flow for each unit automatically
- Regulates flow with precision and empowers optimum sizing of chillers, boilers, and pumps
- Automatic balancing eliminates overflows, regardless of fluctuating pressure conditions in the system



EASY TO INSTALL AND USE

- Simple, field-adjustable settings that accommodate any design flow in the flow range
- 'Sealed' setting means the actuator covers the setting and protects against tampering
- Two-way, modulating solution that accepts either digital or analog input signals






FLEXIBLE PERFORMANCE



- Compact, one-unit solution that includes the modulating control valve, the dynamic flow limiter, and the differential pressure control valve
- Full range of sizes from 15 mm (1/2") to 250 mm (10")
- High flows with minimal required differential pressure
- Available electrical actuators with selectable control modes, 'Linear' or 'Equal' percentage
- No balancing is required when further stages are added to the system, or if the dimensioned capacity is changed.

The Honeywell pressure independent control valve (PICV) is used in heating and cooling systems for air handling units, fan coil units, chilled ceilings, zone control or other terminal unit. **Applications** – helping you fully and precisely control the water flow in your building.

Parameter	Specification
Valve Type	Pressure Independent Control Valve
Body Style	Globe / Linear
Size Range	DN15 - DN250 (1/2" - 10")
PN Pressure Rating	DN15 - DN50: PN25 DN50 - DN250: PN40
Static Pressure:	DN15 - DN50: 2500 kPa / 360 psi DN50 - DN250: 4000 kPa / 580 psi
Ambient Temperature	DN15 - DN50: +1°C to +50°C / +34°F to +122°F DN50 - DN250: -10°C to +50°C / +14°F to +122°F
Medium Temperature	-20°C to +120°C / -4°F to +248°F
Maximum Close-Off Pressure	800 kPa / 116 psi
Maximum operational ΔP	DN15 - DN32: 800 kPaD / 116 psid DN40 - DN50: 600 kPaD / 87 psid DN50 - DN250: 800 kPaD / 116 psid
Flow Characteristic	Linear, can be converted to equal percentage in the actuator
Shut-off leakage	ANSI / FCI 70-2 206 / IEC 60534-4 - Class IV/ 0.01% leakage of full open valve capacity

FCU CONTROL VALVES

MODEL	APPLICATION
VC 4013 SERIES & VN8 SERIES Balanced Hydronic Valves 2-way and 3-way 	<p>VN8 series electric control valves can be used at home and in commercial buildings to control the flow of hot or cold liquid. Each set includes electric actuator and valve body.</p> <p>The VN8 series offer a wide range of options in voltages and thread standards according to the usage of different regions and provides two-way and three-way valve bodies to meet most of the requirements in buildings control. The VC series balanced hydronic valves allow greater control of hot and/or cold water flow.</p> <p>The VC series balanced hydronic valves are designed for both domestic boiler heating and domestic cooling applications.</p>
VC4043 & VS8 SERIES Spring Return Valves 	<p>The VC4043 & VS8 series Spring Return Valves are used in Heating and air conditioning systems to control the flow of the heat transfer fluid. The fluid is typically hot or cold water, however treated water (Max.50% Glycol Solutions) applications are also permissible.</p> <p>Spring return valve is one type of control valve that can do precise control refer to customer's demands. Different to normal actuator, spring return actuator has the special function that if the power is off, the valve will return to original position by spring. This is a safe and energy saving function to customers.</p> <p>In addition, this valve is capable of handling greater differential pressures without water-hammer.</p>
VC7900 SERIES Modulating Control Valves 	<p>The VC7900 Series Modulating Control Valves provide optimum control of hot and/or chilled water ow in various heating and cooling applications.</p> <p>The VC hydronic valve consists of a valve body and replaceable characterized cartridge assembly. When used with a Honeywell VC7900 actuator, the valve provides proportional flow in either diverting or mixing applications. They are designed to provide sinusoidal valve actuator travel, and therefore operate silently and resist water hammer. The VC7900 series valve actuator is used with any 0-10 Vdc controller.</p>

MODEL	FEATURES	APPLICATION
V2CF SERIES 2-Way,Wafer ,Constant Flow Balancing Valve 	<p>In this balanced valve design, the constant ow cartridge moves up and down with system pressure uctuating to keep the ow constant.</p> <ul style="list-style-type: none"> • No power need in the constant ow modulating. • Every loop automatically limited to design flow • Robusting design save the installation space. • Simplified pipe design and calculation • Quick and easy setup • No balancing debug work required • Stainless steel valve stem resists corrosion & long service life 	<p>Honeywell "ConF V5" series constant flowrate balancing valves are new type of balancing valve for flow control in HVAC hydronic system, It can keep the flow constant in working differential pressure range when system pressure fluctuates.</p> <p>"ConF V5" series constant flowrate balancing valve can also be used in other applications when it has the same function demand.</p> <p>"ConF V5" series constant flowrate balancing valve is a self-balanced flow control valve, used in 2-way controls, of Size from DN50-DN500. It consists of a ductile iron valve body and some constant flow cartridges in the valve body.</p>
"CONF V5" (V5CF) SERIES 2-Way,Wafer ,Constant Flow Balancing Valve 		






LINEAR ACTUATOR

MODEL	FEATURES	APPLICATION
ML6420A, B Electric Linear Valve Actuators 	<ul style="list-style-type: none"> • Quick and easy installation • No separate linkage required • No adjustments • Low power consumption • Force-limiting end switches • Manual operator • Models for low and line voltage • Synchronous motor • Corrosion-resistant design • Maintenance-free • Actuator-valve combinations approved according to DIN 14597 available 	<p>The ML6420A / ML6425A,B actuators enable floating control, and are suitable for use in conjunction with ON/OFF or floating single-pole, double-throw (SPDT) control outputs. They can operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.</p>
ML6425A, B Electric Linear Valve Actuators 	<ul style="list-style-type: none"> • Quick and easy installation • No separate linkage required • No adjustments • Low power consumption • Force-limiting end switches • Spring-return models • Manual operator • Models for low and line voltage • Synchronous motor • Corrosion-resistant design • Maintenance-free • Actuator-valve combinations approved according to DIN 14597 available 	<p>The ML6420A / ML6425A,B actuators enable floating control, and are suitable for use in conjunction with ON/OFF or floating single-pole, double-throw (SPDT) control outputs. They can operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.</p>
ML7420A8088-E Electric Linear Valve Actuator 	<ul style="list-style-type: none"> • Easy and quick installation • No separate linkage and adjustments required • Low power consumption and maintenance-free • Self-adaption function • Force-limiting end stops • Manual operation knob • 0(2)~10 Vdc input and 2~10 Vdc position feedback signal • Direct/ Reverse action adjustable • Stroke position on signal failure selectable • Corrosion-resistant design 	<p>The ML7420A actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.</p>


LINEAR ACTUATOR

MODEL	FEATURES	APPLICATION
ML7421A/ML7421B Electric Linear Valve Actuator 	<ul style="list-style-type: none"> • Easy and quick installation required • No separate linkage and adjustments • Low power consumption • Force-limiting end stops • Manual operation knob • 0(2)~10 Vdc or 0(4)~20mA input signal selectable • Position feedback signal • Direct/ Reverse action adjustable • Stroke position on signal failure selectable • Corrosion-resistant design • Maintenance-free 	<p>The ML7421A / ML7421B actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications.</p>
ML7425A8018-E Electric Linear Valve Actuator 	<ul style="list-style-type: none"> • Easy and quick installation • No separate linkage and adjustments required • Low power consumption and maintenance-free • Self-adaption function • Force-limiting end stops • Manual operation knob • 0(2)~10 Vdc input and 2~10 Vdc position feedback signal • Direct/ Reverse action adjustable • Stroke position on signal failure selectable • Corrosion-resistant design 	<p>The ML7425A actuators are designed for modulating control with controllers providing an analog output of 2...10 Vdc. They operate Honeywell's standard valves in heating, ventilation, and air conditioning (HVAC) applications. The spring-return function provide a safety position at power failure.</p>
ML8824 SERIES Electric Linear Valve Actuator 	<ul style="list-style-type: none"> • Self-adaption mode • Low power consumption • Quick and easy installation • Manual operation with override functions • DIP switch for configuring multiple parameters and functions (e.g. run time, run direction, input signal and feedback signal, etc.) 	<p>ML8824 series Linear electric actuators are used to operate electric linear valves in heating, ventilation and air conditioning systems.</p> <p>ML8824 series linear electric actuators have two versions: standard version (SKU starts with ML8824A) and NFC version (SKU starts with ML8824B). Except for the NFC function, the products of the two versions have the same parameters of the products with the same thrust force and stroke.</p> <p>The NFC version actuator cooperates with the mobile phone APP (Android system) to set and read the dead zone, sensitivity, and maximum opening of the actuator on the APP.</p>


GLOBE VALVES

MODEL	FEATURES	APPLICATION
V5011P Two-Way Threaded Globe Valve 	<ul style="list-style-type: none"> • Bronze body with BSPT-threaded end connections. • Low seat leakage rate (0.05 percent of Kvs). • Spring-loaded, self-adjusting packing. • Accurate positioning to ensure state of the art temperature control. • Sizes rang from 1 in. to 2 in. • Valve designs provide equal percentage flow characteristic for water and linear flow characteristic for steam. • Stainless steel stem and metal-to metal seats. 	<ul style="list-style-type: none"> • Single seated control or shutoff valve for: <ul style="list-style-type: none"> - hot water - saturated steam - chilled water - superheated steam • Domestic Hot Water in Heating, Ventilating, Air Conditioning Systems Open Circuits • To be operated by electric linear actuators as <ul style="list-style-type: none"> - ML 6420 / 25 - ML 7420 / 25 - ML 6421 - ML 7421
V5013P Three-Way Threaded Globe Valve 	<ul style="list-style-type: none"> • Bronze body with BSPT-threaded connections. • Stainless steel stem and brass plug. • Low seat leakage rate (≤ 0.05 percent of Kvs). • Spring-loaded, self-adjusting packing. • Accurate positioning to ensure state of the art temperature control. • Sizes range from 1-1/4 in. to 2 in. 	<ul style="list-style-type: none"> • Three port mixing control valves for: <ul style="list-style-type: none"> - hot water - chilled water - Domestic Hot Water • in Heating, Ventilating, Air Conditioning Systems, Open Circuits • To be operated by electric linear actuators as <ul style="list-style-type: none"> - ML 6420 / 25 - ML 7420 / 25 - ML 6421 - ML 7421
V5GV3W SERIES 3-Way Flange Linear Globe Valves 	<ul style="list-style-type: none"> • Ductile iron body with standard flanged connection • Hard valve seat sealing for long service life • Accurate positioning for valve stem to ensure temperature control • Direct installation with Honeywell actuators eliminate the need for stem connection 	Honeywell linear control valves can be connected with Honeywell linear valve actuators ML8824A for air-conditioning systems.
V5GV2W SERIES 2-Way Flange Linear Globe Valves 	<ul style="list-style-type: none"> • Pressure balancing plug DN32~DN150 • Low leakage • Hard seat seal ensures long life operation • Accurate positioning stem ensures temperature control • Easy assemble with ML7420, ML7421 & ML8824 series actuators 	V5GV2W series globe valves work with ML74 or ML8824 series motorized linear actuators to control water flow. V5GV2W can be used in a wide range of applications, such as air handling systems.
V5GV2S SERIES 2-Way Flange Linear Globe Valves 	<ul style="list-style-type: none"> • Pressure balancing plug DN32~DN150 • Low leakage • Metal sealing of valve seat for long life running • Accurate positioning stem ensures temperature control • Easy mounting of being directly coupled with ML8824 actuator 	V5GV2S series flange linear valves can work with ML8824 series linear actuators to control the steam or water flow of central air conditioning system and district heating system.

BUTTERFLY VALVES AND ACTUATORS

MODEL	FEATURES	APPLICATION
V9BF/NOM-H SERIES Motorized Butterfly Valve and Actuators 	<ul style="list-style-type: none"> • Simple structure for easy operation and installation • Soft valve seat for high performance • sealing, high reliability and long service life • Two-position control or analog control • Manual operations available • Position self-locking function and 3D position indicator • Heaters to prevent condensation • IP67 protection rating • On-site on/off/stop control available 	Honeywell V9BF series butterfly valves and NOM-H electric actuators, with modulating control or two-position control, can be applied to water supply and HVAC systems of commercial buildings, public buildings and city pipework. The modulating actuators work with a variety of control signals, i.e. 4–20 mA, 0–10 V or 2–10 V (on-site set-up available).

BALL VALVES

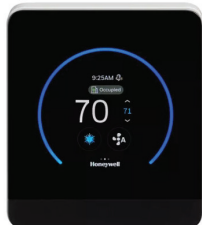
MODEL	FEATURES	APPLICATION
VBA16F P SERIES Two-Way Flanged Control Ball Valve 	<ul style="list-style-type: none"> • Equal percentage flow characteristic • Low leakage rate • Low driving torque • Threaded connection (DN20 to DN80) • Flange connection (DN65 to DN150) • Stainless-steel ball and stem • Casting iron valve body (Flange Connection) • Brass valve body (Threaded connection) Fast installation with MVN actuators (ON/OFF & Modulating) 	<p>The VBA16F series two-way flanged control ball valves are used for modulating or on/off control in heating, ventilating and air conditioning water systems.</p> <p>The VBA16P series two-way threaded control ball valves are used for modulating control or on/off control in heating, ventilating and air conditioning water systems.</p>

THERMOSTAT

MODEL

TC300 SERIES

Commercial Thermostat



FEATURES

- Color, capacitive-touch screen display for exceptional user experience.
- Multiple, configurable, levels of Embedded system monitoring screen for equipment and I/O status
- Auto dim display or always on dim mode.
- A LED ring indicator to show the operational status.
- Real-Time Clock time keeping accuracy with 72 hour retention during power loss.

APPLICATION

TC300 Thermostat is an advanced, highly configurable device providing building automation connectivity well-suited for commercial building applications. The product has flexible I/O that will satisfy the needs of most 2-pipe or 4-pipe fan coil applications including floating, modulating, and 6-way valves plus multi-speed and variable speed fan and various external sensors with a minimum SKU complexity. Other key supported functions include dehumidification w/reheat using an embedded humidity sensor, auxiliary heat functions, and more rapid transitional 2-pipe system seasonal changeover.

TFM SERIES DIGITAL THERMOSTAT

Fan Coil Unit Control



- Memorized time off
- Random startup
- Elegant dual tone display Higher voltage tolerance range -230Vac with 10% tolerance
- Higher ampere rating for dry contact relay-5A
- Remote temperature sensor optional
- Energy saving mode optional
- LCD display with simple user interface
- Room temperature or setpoint temperature display select-able
- Manual or automatic fan speed selectable
- Temperature units in either °C or °F
- User setting can be stored when power loss
- Freeze protection function available
- Keypad lock options
- Heating and cooling setpoint limitation

The TFM series digital thermostat is designed for 3-speed fan and modulating valve control in a fan coil system, including:

- 2-pipe cooling only/heating only/manual changeover
- Ventilation mode
- Manual or automatic 3-speed fan control
- Modulating water valve control

Besides the basic controls, TFM series provide Random Start-up Function to maintain power grid stability.

In addition, Honeywell Memorized Time Off Function can automatically turn off the thermostat to save energy.

WTS SERIES

Touch Button Thermostats for FCU Applications




- Extra large LCD and Colour icon display
- Temperature display selection (room temp. or set temp.)
- Manual or automatic fan speed selection
- Anti-freeze protection
- Operating buttons lock/unlock
- Colour negative display screen
- Modbus compatibility

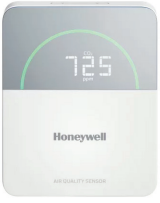



The WTS Series Touch Button thermostat is a temperature control device with an extra-large LCD display, capacitive touch interface with color icons and manual or automatic fan speed selection.

Chose from a variety of options including white or black color shell, humidity display, Modbus communications and ECM fan support*.


BTU/FLOWMETER/WATER METER

MODEL	APPLICATION
<div>BTU/FLOWMETER/WATER METER</div> <div>For energy & flow measurement</div> <div></div>	<p>Multical® 602/403/603/62 are all-purpose energy calculator for heat and cooling together with almost any kind of pulsed flow sensor and with 2 or 4 wired temperature sensor pairs. Used together with Kamstrup ultrasonic flow sensor ULTRAFLOW®, even more advanced functions are available. On account of its pinpoint accuracy, the meter registers precise consumption throughout the whole lifetime of the meter. The meter is maintenance-free and has a long lifetime which guarantees minimum yearly operating costs. MULTICAL® 602 is used for heat, cooling and combined heat/cooling measurement in all water-based systems with temperature from 2°C to 180 °C for heat, and 2 °C to 50 °C for cooling.</p>




SENSOR

MODEL	FEATURES	APPLICATION
TR50 IAQ SENSOR Indoor Air Quality Sensor 	<ul style="list-style-type: none"> Multi Sensor (5in1 or 3in1) Easy integration with third party controllers or Honeywell controllers. Accurate and resilient sensors that come pre-calibrated from the factory and do not need to be recalibrated in the field. LED ring light changes colors from green to yellow to red based on the parameter levels detected. Flexible building automation system integration via BACnet MS/TP, Modbus, Syk Bus protocols 	<p>Continuous indoor air quality (IAQ) data is the key to an effective HVAC strategy, regardless of whether you use a connected building management system. The TR50 Indoor Air Quality Sensor can work independently or send data to the Honeywell Remote Building Manager as part of an IAQ dashboard that provides historical data and trends across a building portfolio.</p>
HST,HSH SENSORS Temperature/Humidity Sensor 	<ul style="list-style-type: none"> Room type: Temp, T&RH Duct type: Temp, T&RH Outdoor type: Temp, T&RH Temp: NTC 10K, NTC 20K, Pt1000, 0-10V, 4-20mA RH: 2%, 3%, 5% RH output: 0-10V, 4-20mA High performance 	<p>Temperature & relative humidity sensors have a variety of control signal outputs and can be compatible with a variety of HVAC automatic control systems</p>
HSP, HSDP, DPSN SENSORS Pressure Sensor 	<ul style="list-style-type: none"> High precision and performance sensing element. Wide temperature range compensation and sensitive pressure response. Compact design. Contact medium parts are made of SS316.* Better thermal performance. 	<p>HSP pressure transmitter are applied to Central AC water system and other liquid or gas pressure measuring that temperature, pressure and joint material properties match.</p> <p>HSDP series Air Differential Pressure Transmitters are mainly used to measure air differential pressure or gauge pressure of HVAC, VAV and fan control, pressure difference control of clean room, etc.</p> <p>DPSN Series Air Differential Pressure Switch can be used to monitor the status of filters, fans, and air flow in air ducts.</p>
HSCD, HSCM SENSORS CO2/CO Sensor 	<ul style="list-style-type: none"> Use high-precision sensors. Optional display function, LCD digital display shows clearly. CO2 sensing component module can be replaced on site. Integrated RS485 matching resistor to facilitate on-site commissioning (Modbus models only). RS485 isolation design can isolate high voltage and enhance immunity to ground loops and common-mode signal interference (Modbus models only). 	<p>HSCD series carbon dioxide (CO2) sensors include two types: indoor installation and duct installation. They are mainly used for detecting carbon dioxide concentration in air of indoor and duct.</p> <p>HSCM series carbon monoxide (CO) sensors are used to detect carbon monoxide concentration in indoor air where CO is generated in parking lots and other places. The sensors can output analog signals and switching signals, and can also transmit detection data through the Modbus RTU protocol for ventilation control.</p>


SENSOR

MODEL	APPLICATION
<div>WFS-1001-H WATER FLOW SWITCH</div> <div></div>	<p>The paddle type SPDT WFS series are designed to provide excellent performance where accuracy, reliability, and rugged construction are required used in liquid flow lines carrying water or any fluid neither harmful to brass and phosphor bronze nor classified as a hazardous fluids.</p> <p>They can be wired to close one circuit and open a second circuit when liquid flow either exceeds or drops below the adjusted flow rate. The WFS series are recommended for liquid pressure and temperature as mentioned below and must not be used on lines carrying liquids below 0 C degree.</p> <p>These series may be used on liquids with high salt or chlorine content but is not for use in hazardous atmospheres. They may be also used outdoors but must be protected from weather or splashing water. All series WFS flow switches are designed for use only as operating controls.</p> <p>Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of user to add safety devices that protect against, or supervisory systems that warn of control failure.</p>

MANUAL VALVES

MODEL	FEATURES	APPLICATION																																				
<div>V2-CHS-A125</div> <div>Check Valve - Horizontal Swing</div> <div></div>	<ul style="list-style-type: none">• Brass body• Brass disc• NPT / BSP threading	<div>Specifications</div> <div>Valve sizes: ½" to 2" (Threaded ends) Nominal pressure: PN16 from -20 C to 150°C (Water)</div> <table><tr><th>No.</th><th>Description</th><th>Material</th></tr><tr><td>1</td><td>Body</td><td>Brass</td></tr><tr><td>2</td><td>Seal Washer</td><td>Tefon</td></tr><tr><td>3</td><td>Cap</td><td>Brass</td></tr><tr><td>4</td><td>Disc</td><td>Brass</td></tr><tr><td>5</td><td>Pin</td><td>Stainless Steel</td></tr><tr><td>6</td><td>Seal Ring</td><td>Tefon</td></tr><tr><td>7</td><td>Bolt</td><td>Brass</td></tr></table>	No.	Description	Material	1	Body	Brass	2	Seal Washer	Tefon	3	Cap	Brass	4	Disc	Brass	5	Pin	Stainless Steel	6	Seal Ring	Tefon	7	Bolt	Brass												
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<div>V2-GAN-A125</div> <div>Gate Valve, Non Rising Stem</div> <div></div>	<ul style="list-style-type: none">• Brass body• Non Rising Stem• Forged brass stem• NPT / BSP threading	<div>Specifications</div> <div>Valve sizes: ½" to 2" (Threaded ends) Nominal pressure: PN16 from 0°C to 100°C (Water or non-corrosive liquid)</div> <table><tr><th>No.</th><th>Description</th><th>Material</th></tr><tr><td>1</td><td>Wheel Nut</td><td>Stainless Steel</td></tr><tr><td>2</td><td>Name Plate</td><td>Aluminum Plate</td></tr><tr><td>3</td><td>Handwheel</td><td>Cast Iron</td></tr><tr><td>4</td><td>Stem</td><td>Brass</td></tr><tr><td>5</td><td>Packing Nut</td><td>Brass</td></tr><tr><td>6</td><td>Gland</td><td>Brass</td></tr><tr><td>7</td><td>Packing</td><td>Tefon</td></tr><tr><td>8</td><td>Lock Nut</td><td>Brass</td></tr><tr><td>9</td><td>Bonnet</td><td>Brass</td></tr><tr><td>10</td><td>Disc</td><td>Brass</td></tr><tr><td>11</td><td>Body</td><td>Brass</td></tr></table>	No.	Description	Material	1	Wheel Nut	Stainless Steel	2	Name Plate	Aluminum Plate	3	Handwheel	Cast Iron	4	Stem	Brass	5	Packing Nut	Brass	6	Gland	Brass	7	Packing	Tefon	8	Lock Nut	Brass	9	Bonnet	Brass	10	Disc	Brass	11	Body	Brass
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<div>V2-YST-A150</div> <div>Y-Strainer</div> <div></div>	<ul style="list-style-type: none">• Forged brass body• Bolted Bonnet Cover• Stainless Steel 304 Perforated Screen• NPT / BSP threading	<div>Specifications</div> <div>Valve sizes: ½" to 2" (Threaded ends) Nominal pressure: PN16 from 0°C to 100°C (Water, Non-corrosive)</div> <table><tr><th>No.</th><th>Description</th><th>Material</th><th>Astm Standard</th></tr><tr><td>1</td><td>Body</td><td>Forged Brass</td><td>ASTM B124, C37700</td></tr><tr><td>2</td><td>Bonnet</td><td>Forged Brass</td><td>ASTM B124, C37700</td></tr><tr><td>3</td><td>Filter</td><td>Stainless Steel</td><td>AISI 304</td></tr><tr><td>4</td><td>Sealing Washer</td><td>Tefon</td><td>PTFE</td></tr></table>	No.	Description	Material	Astm Standard	1	Body	Forged Brass	ASTM B124, C37700	2	Bonnet	Forged Brass	ASTM B124, C37700	3	Filter	Stainless Steel	AISI 304	4	Sealing Washer	Tefon	PTFE																
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MANUAL VALVES

MODEL	APPLICATION
V4/V5-BFL-GP16/GP25 SERIES Lug Type Butterfly Valves – with Hand Level / Gear Operated Handwheel 	<ul style="list-style-type: none"> • Cast/ Ductile Iron body • 90 closing or opening operation (10 position) • Lock level handle (steel material) • Elastomer liner • Memory lock mechanism • Ductile disc with nickel plated
V4/V5-BFW-GP16/GP25 SERIES Wafer Type Butterfly Valves – with Hand Level/ Gear Operated Handwheel 	<ul style="list-style-type: none"> • Cast / Ductile Iron body • 90 closing or opening operation (10 position) • Lock level handle (steel material) • Elastomer liner • Memory lock mechanism • Ductile disc with nickel plated
V4-CGV-GP16 Silent Check Valve – Globe Type Product 	<ul style="list-style-type: none"> • Cast Iron body • Silent Check Function • Complies with the requirement of EN12334 • Spring automatically closes disc at zero flow before flow reversal occurs. This prevent surge and water hammer • Perfect tightness soft sealed even at low differential pressure • Completely guided disc both top and bottom • Liquid epoxy painted or fusion bonded epoxy powder coated (FBE)
V4/V5-CWD-GP16/GP25 SERIES Wafer Butterfly Check Valves Product 	<ul style="list-style-type: none"> • Cast/ Ductile iron body • Stainless steel disc • Compact size • Quick close, preventing water hammer • Easy installation, either vertical or horizontal • Reliable and safe
V5-GAN-GP16 SERIES Resilient Seated Gate Valve, Non Rising Stem (Hand Wheel) 	<ul style="list-style-type: none"> • Ductile iron body • Stainless steel stem • Full port type, lowest pressure lost • O-ring packing in up seal, no leakage • Complies with the requirement of EN1171- 2002 • Resilient sealing • High strength thrust collar
V5-YST-GP16 SERIES Y-Strainer 	<ul style="list-style-type: none"> • Ductile iron body • Stainless steel filter stem • Recessed seat in body assures accurate screen alignment • BSPT blow off outlet on cover. Blow off outlets are finished with plugs • Screens are perforated 304 stainless steel with spot welded seam

HONEYWELL CONTROLLERS & BAS

Honeywell offers the Niagara Framework-based Building Automation Systems (BAS) that takes all aspects of a building and occupant needs into consideration to maximize energy efficiency. It is also open, customizable and intuitive allowing OEM specific programming while making the management of your customer's facilities simpler and more user-friendly. In addition to BAS, these controllers can be applied to any process control or monitoring need.

CIPER™

CIPer™ Model 10
CIPer™ Model 30
CIPer™ Model 50



Optimizer Suite

Optimizer Unitary
Optimizer VAV
Optimizer Advanced



Spyder

Spyder Classic
Spyder Model 5 Unitary
Spyder Model 5 VAV
Spyder Model 7 VAV



HON-9000

Streamline Building Management



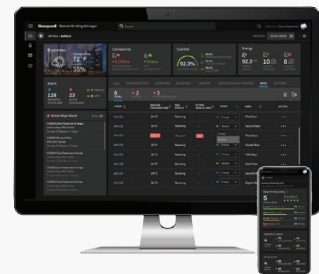
Optimizer Supervisor

Analytics Enterprise Security Software

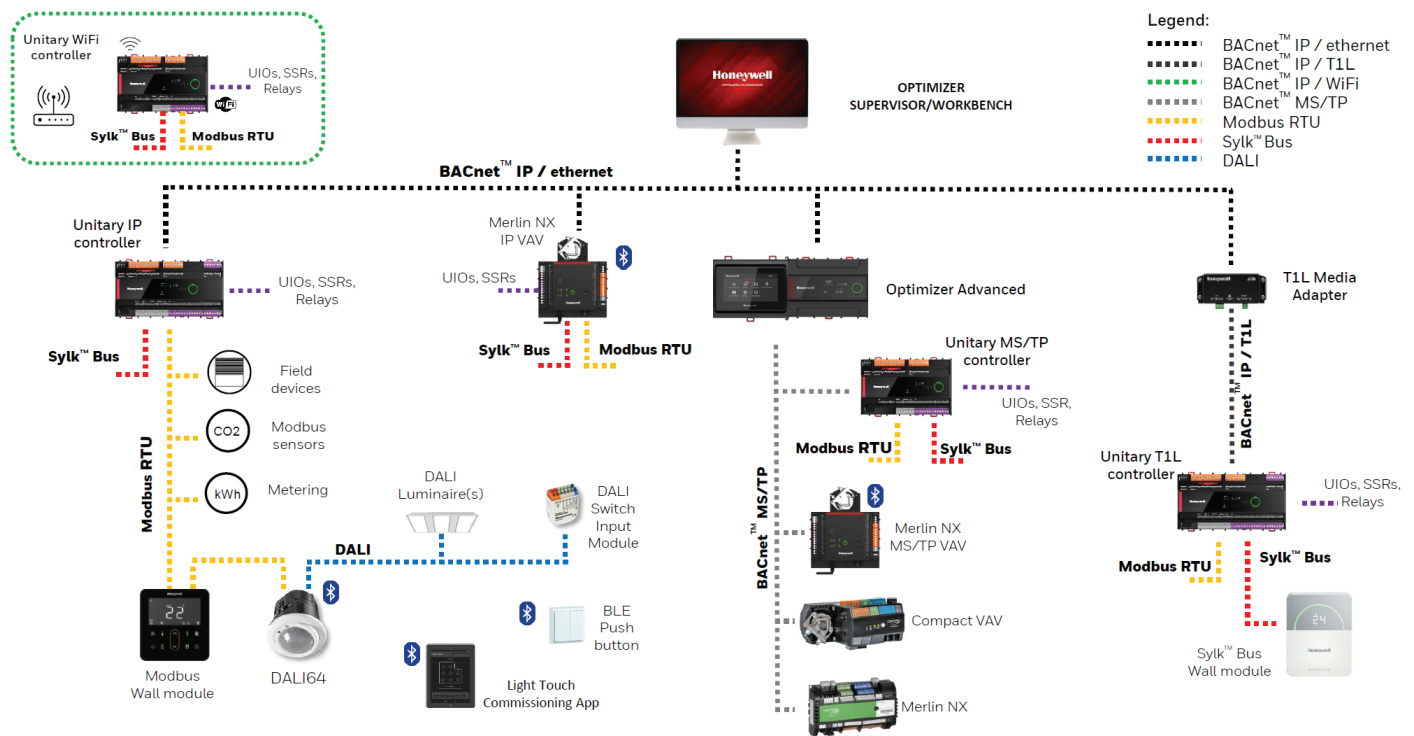


Connected Software Solutions

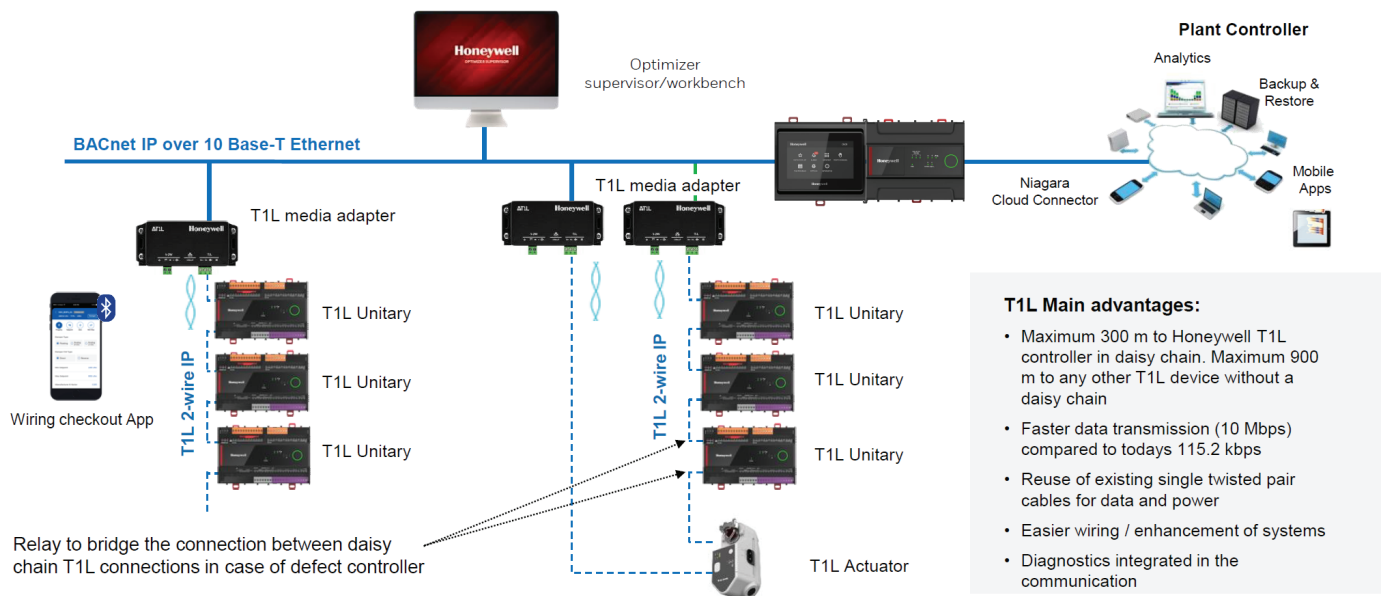
Carbon and Energy Manager
Remote Building Manager
Global Engineering Services



ARCHITECTURE OVERVIEW



T1L ARCHITECTURE



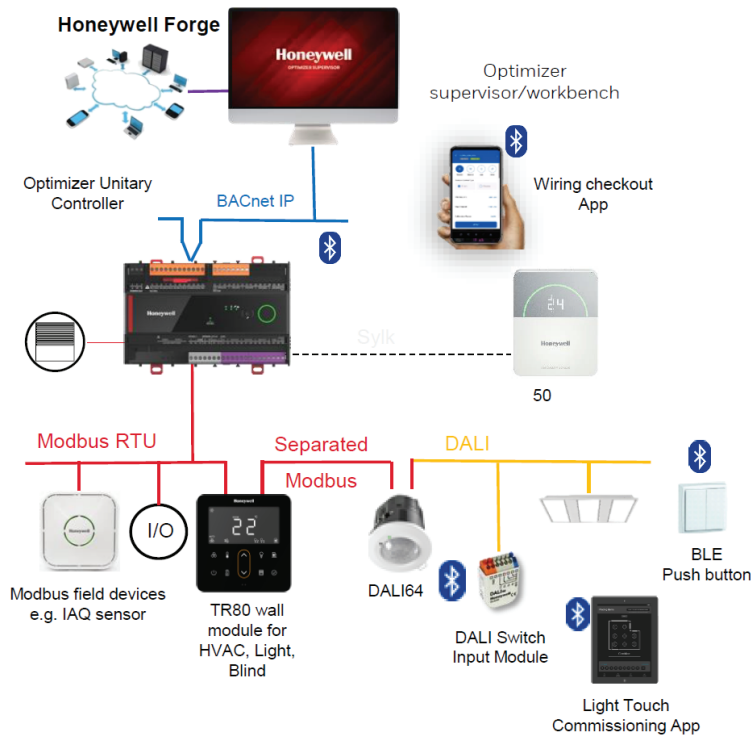
T1L Replaces low-bandwidth RS-485 & LON controller networks

- Daisy chain with up to 100 controllers
- Loop wiring with up to 40 controllers in a loop

OPTIMIZER UNITARY CONTROLLER - BENEFITS

BENEFITS

Creating a healthy and productive room environment that is energy efficient, easy to maintain and future-safe



- **Installation time savings**

including T1L or IP CAT5 daisy chain/ring topology with RSTP and flexibility with UIO

- **Commissioning time savings**

with wiring checkout app (available Q4) and integrated BLE (no need for an existing building infrastructure), Master-Follower concept

- **Integrated room control**

solutions for HVAC + Light + Blinds achievable (integrated Modbus interface)

- **Cyber security implementation**

as the devices were designed along ISA 62443-3-3 SL3 (expert protection) requirements to protect against threats in digitized BMS environments – protect BMS assets and eliminate downtime

- **Support of IoT standards**

like MQTT and JSON over ARENA NX and Cloud connectable for cloud-based solutions and analysis with Honeywell Forge which helps to better understand the building use

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