Integrating, controlling, communicating.

Connected Device Solutions

Discover the advantages
www.belimo.us

BELIMO

System integration

The integration of digital communication into devices and equipment provides flexibility in creating innovative HVAC solutions that can be controlled, monitored, and or maintained from anywhere.

Building Management System (BMS) operators benefit from device data that is easily accessible for monitoring and system control. Facility managers gain valuable insights regarding equipment operation and performance. Access to all device data enables timely fault detection and aids in system diagnostics. Available data includes sensor values, control input, device position, min/max ranges, and other operational parameters.

Flexible control

Meeting the future needs of connected buildings, Belimo has developed intelligent controlled devices improving the installation, data transparency, and extensibility with no need for infrastructure changes. With digital connectivity, you can control, service, and optimize your building more efficiently. Belimo is empowering building operators in a connected world.

Additional Data

Each device has a digital address, so the BMS knows where the data is coming from and can send data back to that component to control its operation.

Efficient Installation

The integration of Modbus or BACnet actuators enables direct digital connection to the Building Management System. Actuators and sensors connected to a network segment eliminate traditional home-run wiring cost and installation time.

Future Proof Expandability

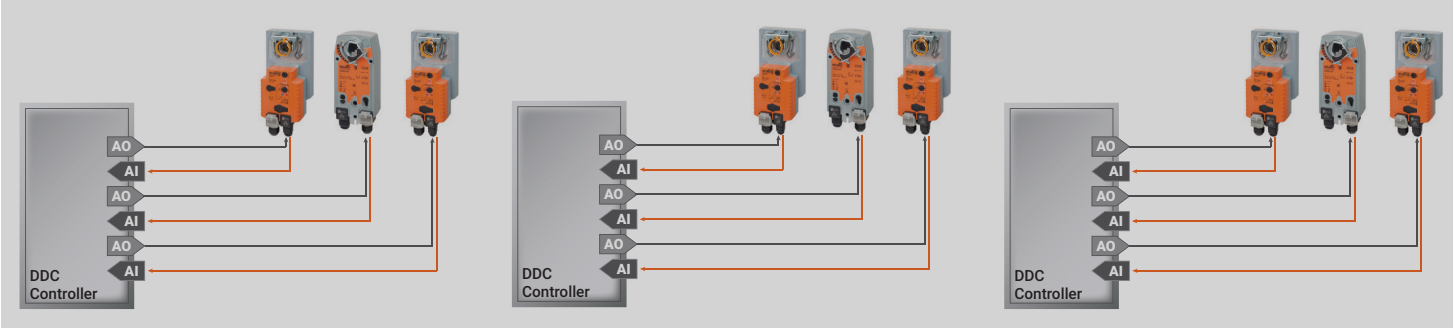
No longer do you need dedicated inputs and outputs. Add devices at any time without any costly infrastructure changes. There is always room for growth.

"By using a bus connected actuator, we can wire up to twenty-four individual fermentation tanks to one centralized control panel. When a brewery wants to add on more fermentation vessels, the connection is easily made at the last actuator on the bus."

Robert Esposito, Chillertron

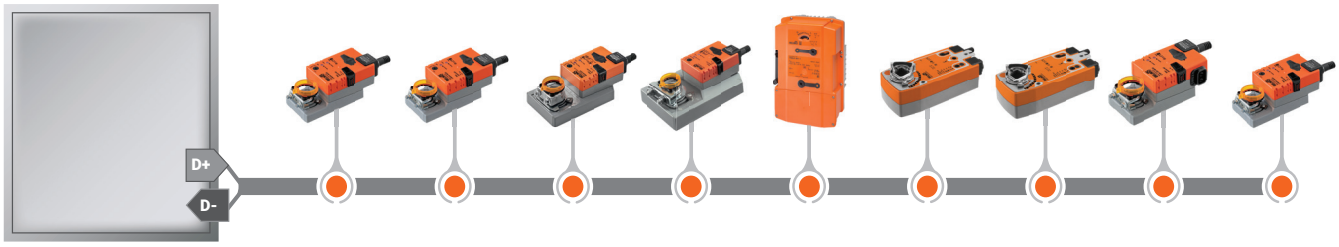
Maximizing communications

Stand Alone DDC Controls Connected to Analog Field Devices



VS.

Networked BACnet or Modbus Field Devices



System integrators can take full advantage of Belimo field devices' flexible control with built-in BACnet or Modbus digital communication protocols. Actuators and sensors integrated directly to the Building Management System which allows the system integrator to utilize existing industry software to perform all required field device setups, monitoring, and control of connected devices. No additional hardware is required, thus eliminating errors and reducing commissioning time. Expensive home-run wiring associated with traditional DDC systems connected to analog field devices is avoided.

Bus control with sensor integration

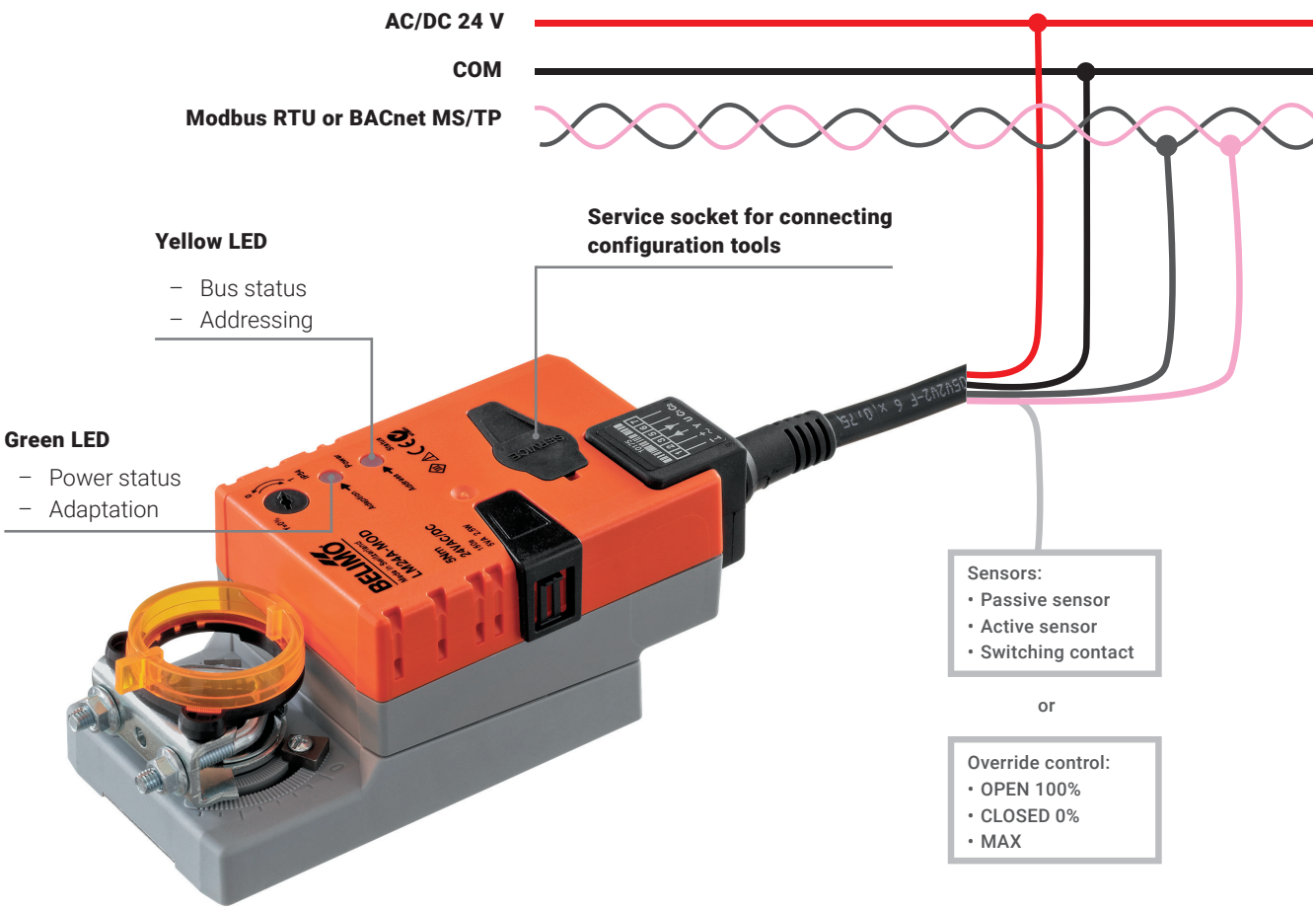
Improving efficient installation

Integrating sensor data directly to the actuator saves wiring cost, and reduces the complexity associated with home-run wiring for sensors. Digital communicating actuators feature up to two auxiliary inputs for connection to an active or passive signal, or dry contact. The signals are digitized in the actuator and transferred to the BMS over Modbus or BACnet. The actuator using local override control can be fully open or closed with a preset maximum value.

Facility managers or service technicians can take full advantage of networked field devices to troubleshoot or make parameter adjustments. Actuator performance data can be read by the system level controllers to make HVAC equipment more efficient.

FEATURES

- Provide advanced functionality to control, monitor, and optimizer the buildings' performance
- Advanced technology enables integration, automation, and optimization enhancing the building operation and performance
- Significant reductions in troubleshooting time, maintenance cost, and system complexity
- Improved control, fault detection, diagnostics, and save time during setup and maintenance



Solutions

Air Solutions

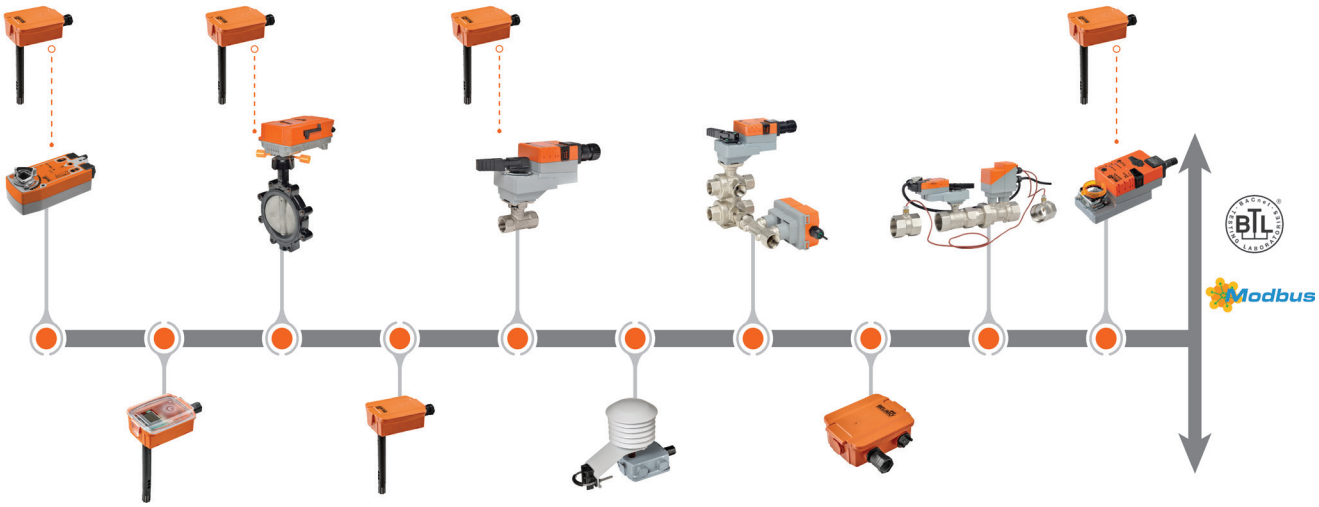
Model #	Torque	Communication	Sensor Inputs	Passive Sensor	Analog (Active) Sensor	Contact Closure	Configurable
Non Fail-Safe							
LMB24-IP	45 in-lb [5 Nm]	Modbus TCP / BACnet IP / Belimo Cloud	2	■	■	■	■
NMB24-IP	90 in-lb [10 Nm]	Modbus TCP/BACnet IP / Belimo Cloud	2	■	■	■	■
AMB24-IP	180 in-lb [20 Nm]	Modbus TCP / BACnet IP / Belimo Cloud	2	■	■	■	■
GMB24-IP	360 in-lb [40 Nm]	Modbus TCP / BACnet IP / Belimo Cloud	2	■	■	■	■
LM24A-MOD	45 in-lb [5 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
NM24A-MOD	90 in-lb [10 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
SM24A-MOD	180 in-lb [20 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
GM24A-MOD	360 in-lb [40 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
PMBUP-MFT-T	1400 in-lb [160 Nm]	Modbus RTU / BACnet MS/TP	2	■		■	■
Fail-Safe							
NF24A-MOD	90 in-lb [10 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
SF24A-MOD	180 in-lb [20 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
PKBUP-MFT-T	1400 in-lb [160 Nm]	Modbus RTU / BACnet MS/TP	2	■		■	■
Linear							
LH24A-MOD200	34 lb [150 N]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
Quick Running							
SMC24A-MOD	180 in-lb [20 Nm]	Modbus RTU / BACnet MS/TP	1	■	■	■	■
System Solutions							
VAV Compact							
LMV-D3-MOD	45 in-lb [5 Nm]	Modbus RTU / BACnet MS/TP	1		■	■	■
NMV-D3-MOD	90 in-lb [10 Nm]	Modbus RTU / BACnet MS/TP	1		■	■	■
VAV Universal							
VRU-D3-BAC	-	Modbus RTU / BACnet MS/TP	1	■	■	■	■
VRU-M1-BAC	-	Modbus RTU / BACnet MS/TP	1	■	■	■	■
VRU-M1R-BAC	-	Modbus RTU / BACnet MS/TP	1	■	■	■	■

Water Solutions

Model #	Size	CCV*	Butterfly	Presure Independent	Communication	Sensor Inputs	Passive Sensor	Analog (Active) Sensor	Contact Closure	Configurable
Non Fail-Safe										
+LRB24-IP	½…1¼"	■			Modbus TCP, BACnet IP / Belimo Cloud	2	■	■	■	■
+ARB24-IP	1¼…3"	■			Modbus TCP, BACnet IP /Belimo Cloud	2	■	■	■	■
+LR24A-MOD	½…1¼"	■			Modbus RTU / BACnet MS/TP	1	■	■	■	■
+NR24A-MOD	1¼…3"	■			Modbus RTU / BACnet MS/TP	1	■	■	■	■
+SR24A-MOD	1¼…3"	■			Modbus RTU (22RT-A001)	1	■	■	■	■
+GR24A-MOD-5	4…6"	■			Modbus RTU (22RT-A001)	1	■	■	■	■
+PRBUP-MFT-T	1…6"		■		Modbus RTU, BACnet MS/TP	2	■		■	■
Non Fail-Safe										
+PRXUP-MFT-T	1…12"	■	■		Modbus RTU, BACnet MS/TP	2	■		■	■
Fail-Safe										
+AFRB24-IP	1¼…3"	■			Modbus TCP, BACnet IP / Belimo Cloud	2	■	■	■	■
+AKRB24-IP	1¼…3"	■			Modbus TCP, BACnet IP / Belimo Cloud	2	■	■	■	■
+PKRXUP-MFT-T	1…12"	■	■		Modbus RTU, BACnet MS/TP	2	■		■	■
Performance Devices										
Electronic Pressure Independent Valve (ePIV)										
6-way ePIV	½…¾"	■		■	Modbus RTU, BACnet MS/TP	1		■		■
2-way ePIV	½…6"	■		■	Modbus RTU, BACnet MS/TP	1		■		■
Belimo Energy Valve										
2-way EV	½…6"	■		■	Modbus RTU, Modbus TCP/IP, BACnet MS/TP, BACnet IP	1		■		■

*Actuator options for ball valves vary by product family.

Note: Performance devices, ePIVs and Energy Valves have predefined sensor inputs that are application specific.



Sensors

Types	Multirange	Temperature	Humidity (Relative Humidity, Absolute Humidity, Enthalpy, Dew-Point)	CO_2 (Self-Calibrating Dual Channel)	Differential Pressure	Display (LCD)	Auto-Zero	Communication
Duct/Air								
Temperature / Humidity / Air Quality								
22DTH-55M	■	■	■					Modbus RTU
22DTH-56M	■	■	■					BACnet MS/TP
22DTM-56	■	■	■	■				BACnet MS/TP
Pressure								
22ADP-55Q	■				■			Modbus RTU
22ADP-55QL	■				■	■		Modbus RTU
22ADP-55QA	■				■		■	Modbus RTU
22ADP-55QB	■				■	■	■	Modbus RTU
22ADP-554	■				■			Modbus RTU
22ADP-554L	■				■	■		Modbus RTU
22ADP-556	■				■			Modbus RTU
22ADP-556L	■				■	■		Modbus RTU
Outdoor / Air								
Humidity / Temperature								
22UTH-550X	■	■	■					Modbus RTU
22UTH-560X	■	■	■					BACnet MS/TP

*Factory setting – ranges are configurable on the sensor

Belimo Americas
USA, Latin America, and the Caribbean: www.belimo.us
Canada: www.belimo.ca, Brazil: www.belimo.com.br