MERLIN NX

INTEGRATED ROOM MANAGEMENT
WITH NIAGARA EXTENDED

Benefit from the freely programmable BACnet MS/TP
room control solutions for HVAC, lighting, and shading.

CENTRA LINE®
by Honeywell

MERLIN NX
Integrated Room Management

**MERLIN NX and MERLIN NX COMPACT VAV featuring an integrated actuator
are leading-edge room management solutions that offer:**

Enhanced energy efficiency

Save up to 30% on energy costs while maximizing comfort
and well-being. MERLIN NX can support any application
requirement across heating, ventilation, air conditioning
(HVAC) as well as lighting and shading controls for higher
energy efficiency.

Flexible integration options

The built-in Modbus interface (MERLIN NX, only)
enables multiple integration options, increased scalability,
reduced wiring efforts, and numerous other benefits.

Performance-based engineering

Reduce engineering time up to 30% through live engineering
and Niagara eXtend (NX), which utilizes single-tool
engineering throughout the Building Management System.
Building operators will benefit from its consistent and flexible
handling options.

Cost-effective installation and commissioning

Increase commissioning efficiency up to 80% with the
BACnet MS/TP-based controllers. This enables economically
feasible installations and commissioning for both new
construction and refurbishments.

Enhanced energy efficiency

MERLIN NX offers the highest possible energy efficiency classification 'A' according to the EN 15232 which enables up to 30 % energy cost savings while also maximizing comfort and well-being.

What's more, it reduces energy usage via:

- **Common control strategies** across HVAC, lighting, and shading
- **Demand-based energy generation** for optimized cooling/heating down to the plant control level
- **Application flexibility** to freely program requirements, even customizable by room

High energy performance BACS and TBM	A ✓
Advanced BACS and TBM BACS and TBM	B
Standard BACS	C
Non-energy-efficient BACS	D

Energy Performance Classes – EN 15232

Flexible integration options

MERLIN NX features a built-in Modbus interface for a multitude of benefits, including:

Freely selectable wall modules

Choose from an enhanced range of wall modules that meet your exact design and functionality requirements. The wall modules are capable of simultaneously handling HVAC, light, and blind controls - reducing the number of units required and saving valuable space. Modules can be easily replaced from a wide selection of units at the end of their lifetime or as needed.
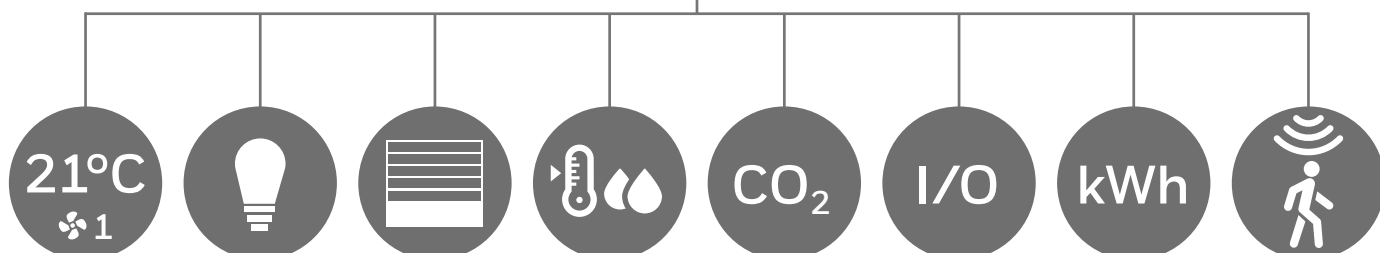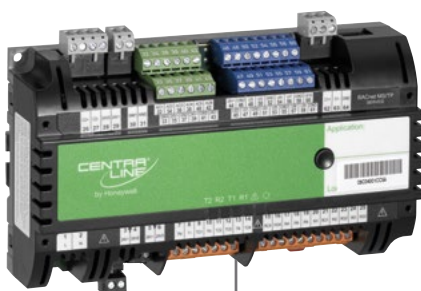
Scalability

Flexible expansion of room control systems thanks to its Modbus I/O extension.

Maximum flexibility for integration

Simple integration of Modbus devices such as sensors, I/O modules for light and blind controls, meters, wall modules, and much more. Additional option integrates Modbus to DALI or KNX gateways for the ultimate application flexibility.

Less wiring

Bus wiring to Modbus sensors and remote I/O reduces wiring efforts and associated costs.

Performance-based engineering and flexibility

"Anytime" engineering
Prepare offline in the back-office or perform optimizations on-the-fly without downloading anything. Instant access to live values from controllers on a function block level.

Freely programmable
The universal Niagara framework allows perfect application coverage for any requirement, across devices and protocols.

Single-tool engineering
Niagara is the ideal operational platform across room, plant, and supervisor programming, as well as application testing.

Documentation Generator
Our Niagara version features an embedded Documentation Generator that automatically outputs the application-specific documentation, including wiring information, graphics, function block parameters, and wiresheet printouts.

Cost-effective installation and commissioning

Differential download
This function supports fast and system-wide application optimization.
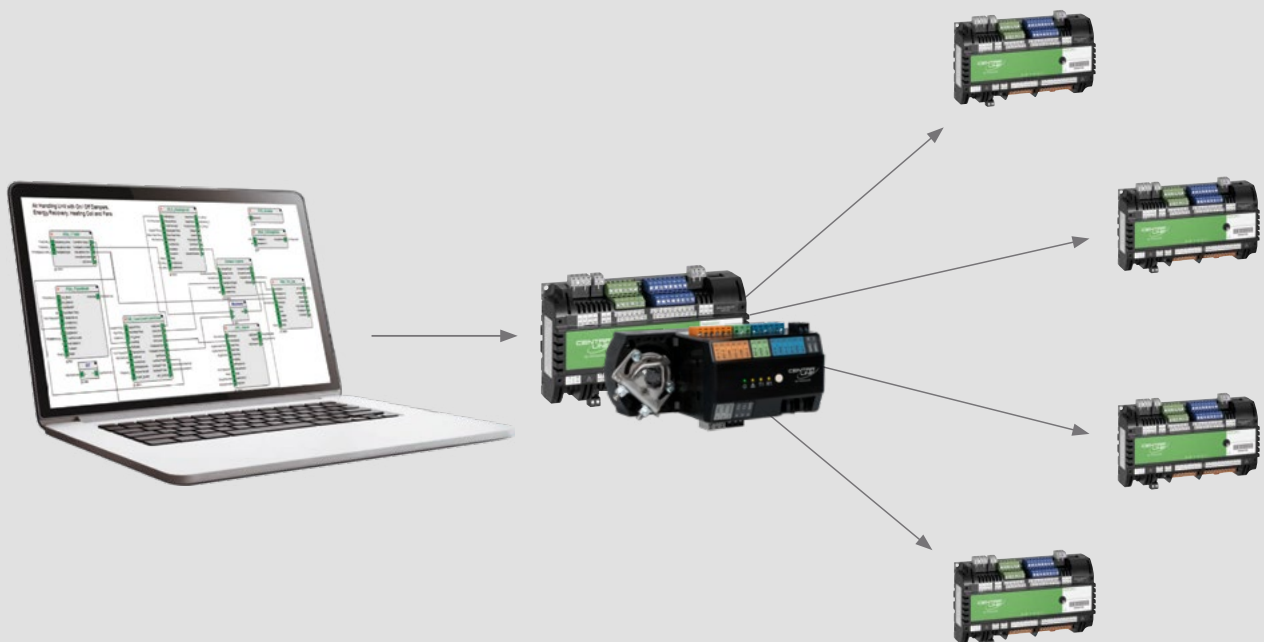
Master-follower concept
Fully automated application change rollout from the master controller to networked controllers. Especially beneficial for quick adaptations at sites with multiple similar rooms (e.g., offices, hotels).

Flexible mounting
The universally mountable controller can be installed on DIN rails, small installation housings, and walls (including optional terminal covers).

Installation savings
BACnet MS/TP-based MERLIN NX and its features enable an economically feasible installation and commissioning for both new construction and refurbishments.

Master-Follower-Concept

MERLIN NX COMPACT VAV

The COMPACT VAV version is a compact, easy-to-install variable air volume controller which offers all the benefits of the MERLIN NX (minus the Modbus interface), plus an integrated actuator and airflow sensor for VAV applications. This provides superb advantages during installation and operation.
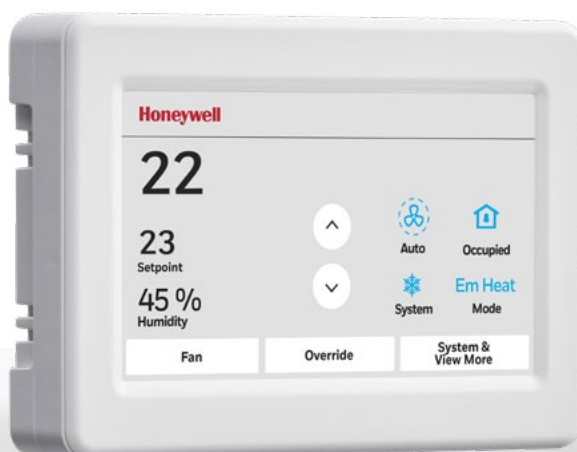
- Easy mounting on square or round ducts with only 1 screw
- Compact size (153x78x99 mm)
- Optional actuator replacement, independent of the controller
- Less wiring effort due to 24VDC output to supply, e.g., field devices
- Connect to several actuators in parallel with no additional external relays thanks to its 3 Solid State Relays (SSR) and 1.5A constant-current switching

- Flexible room design through grouping dampers, change of supply/extract relations and room adjustments via tool and application
- Migration tool to migrate existing LYNX VAV applications to MERLIN NX COMPACT VAV

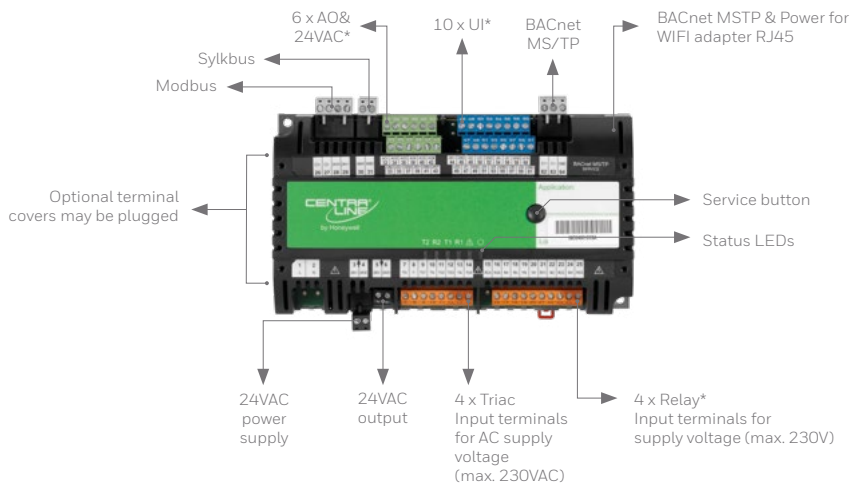# Touchscreen wall module TR120

The TR120/TR120-H color touchscreen wall modules are ideally suited for MERLIN NX and COMPACT VAV controllers. The wall module communicates and is powered over a polarity independent 2-wire Sylkbus, so no miswiring risk exists. Both versions include integral temperature controls, while the TR120-H also features a humidity sensor. These devices enable intuitive local HVAC setting adjustments through an easy-to-use touchscreen interface with menu-driven selections.

- Color touchscreen with a clear, intuitive interface
- Easy to install, customize, and commission
- Manage temperature, occupancy, fan speed, and scheduling

- Schedule adjustment of time program which is running in controller
- Install vertically or horizontally
- Commissioning support for COMPACT VAV controller

- VAV balancing through application
- Control nearly any system point
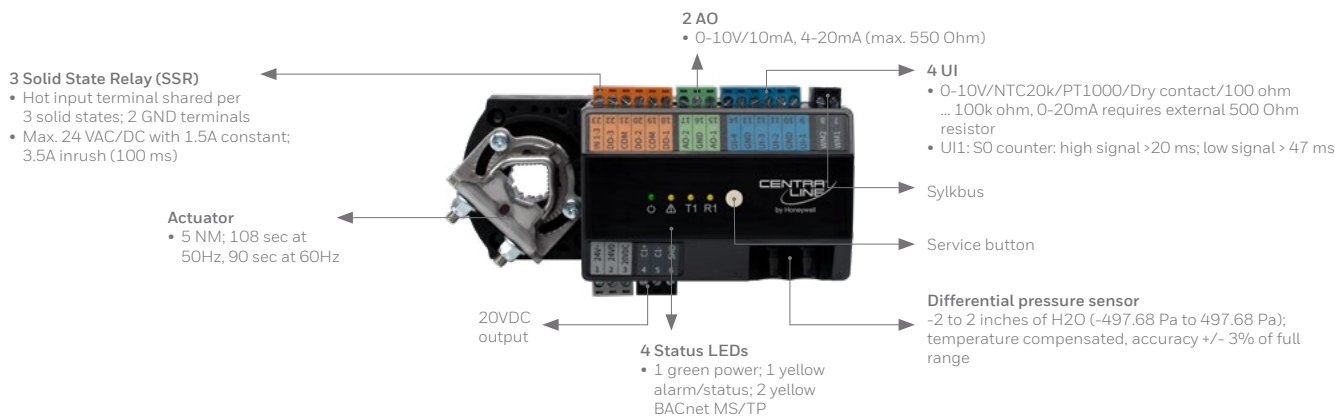- Tamper-proof system settings via password protection

MERLIN NX

	Version	Power supply	AOs	UIs	BIs	Rel.	Triacs (24/230VAC)	Sum IO	24VAC outputs for field devices	BACnet MS/TP	Sylk-bus	2nd RS485 (Modbus)
Large controller (198x110x59 mm)	CLMERL4N	230 VAC	6	10	0	4	4	24	300 mA	Yes	Yes	1
	CLMERL6N	24 VAC	6	10	0	4	4	24	600 mA	Yes	Yes	1
	CLMERL8N	230 VAC	6	6	4	4	4	24	300 mA	Yes	Yes	1
	IRM-RLC	Package with 10 terminal covers for large controllers										
Small controller (162x110x59 mm)	CLMERS4N	230 VAC	4	4	0	4	2	14	300 mA	Yes	Yes	1
	CLMERS5N	24 VAC	4	4	0	4	2	14	600 mA	Yes	Yes	1
	IRM-RSC	Package with 10 terminal covers for small controllers										

Sylkbus
Modbus
6 x AO& 24VAC*
10 x UI*
BACnet MS/TP
BACnet MSTP & Power for WIFI adapter RJ45
Optional terminal covers may be plugged
Service button
Status LEDs

24VAC power supply
24VAC output
4 x Triac Input terminals for AC supply voltage (max. 230VAC)
4 x Relay* Input terminals for supply voltage (max. 230V)
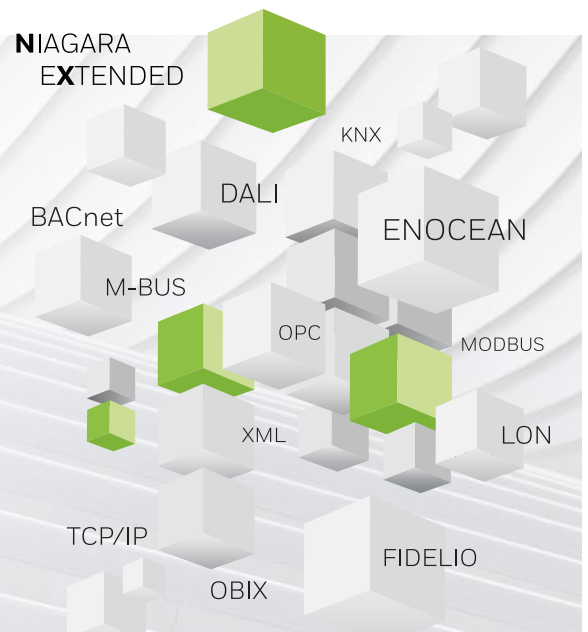
*CLMERL6N example

MERLIN NX COMPACT VAV

CentraLine IRM Compact VAV	Power supply	UI	AO	Solid State	Sum IO	20 VDC for field devices	Air flow sensor	Integrated Actuator/Declutch	Service button	Supercap for RTC, memory back-up	RTC accuracy per month	BACnet MS/TP	Sylk-bus
CLMEVA423B24N with integrated actuator	24VAC	4	2	3	9	75 mA	Yes	Yes	Yes	72 hours	+/- 3.5 min	Yes	Yes
CLMEV423B24N controller only FOR REPLACEMENT	24VAC	4	2	3	9	75 mA	Yes	No	Yes	72 hours	+/- 3.5 min	Yes	Yes
COVA actuator only FOR REPLACEMENT	24VAC												

3 Solid State Relay (SSR)
• Hot input terminal shared per 3 solid states; 2 GND terminals
• Max. 24 VAC/DC with 1.5A constant; 3.5A inrush (100 ms)

Actuator
• 5 NM; 108 sec at 50Hz, 90 sec at 60Hz

2 AO
• 0-10V/10mA, 4-20mA (max. 550 Ohm)

4 UI
• 0-10V/NTC20k/PT1000/Dry contact/100 ohm ... 100k ohm, 0-20mA requires external 500 Ohm resistor
• UI1: S0 counter: high signal >20 ms; low signal > 47 ms

Sylkbus
Service button

20VDC output

4 Status LEDs
• 1 green power; 1 yellow alarm/status; 2 yellow BACnet MS/TP

Differential pressure sensor
-2 to 2 inches of H2O (-497.68 Pa to 497.68 Pa); temperature compensated, accuracy +/- 3% of full range

Niagara eXtended (NX)

Niagara eXtended (NX) offers Single-Tool-Engineering, covering all application needs, from room to plant control and up to supervision and cloud solutions.

It is expanded upon Niagara 4 – the industry leading platform for integrated building management – and offers as NX version additional benefits and value to CentraLine customers and partners.

NIAGARA
EXTENDED

KNX

DALI

BACnet

ENOCEAN

M-BUS

OPC

MODBUS

XML

LON

TCP/IP

FIDELIO

OBIX

S I N G L E – T O O L   E N G I N E E R I N G

CONNECTED BUILDING MANAGEMENT

Managing and servicing your plant/assets becomes much easier with our new cloud-based solutions, utilizing the collective power of Internet of Things (IoT) technologies and the deep domain expertise of our engineers.

SUPERVISION

ARENA NX by CentraLine is a powerful integration and supervision platform, offering a unified vision across all building subsystems. ENERGY MANAGER puts you in control of your building's energy consumption.

PLANT CONTROL

CentraLine offers a comprehensive line of connected building management controllers for a variety of applications including HVAC and fully integrated solutions. CentraLine-specific are two further components:

- **APPLICATION LIBRARY**

  The CentraLine Application Library ensures unparalleled energy efficiency as well as maximum application reliability. Energy Class A can be attained to meet international standards such as EN 15232.

- **PANEL-BUS IO CONCEPT**

  Robust and scalable, the CentraLine Panel Bus Input/Output modules support application sizes from small appliances to large systems with over 1000 IOs.

ROOM CONTROL

Our extensive offering of configurable and freely programmable room solutions ensures both customer comfort and high-energy efficiency. Easily integrate lighting and blind control solutions in accordance with EN 15232.

INVESTMENT SAFEGUARD

Niagara eXtended allows for seamless integration of Honeywell legacy installations, including C-Bus, Lon, and BACnet systems. This minimizes cost of change and offers additional flexibility to upgrade installations to the Internet of Things.

More information   centraline.com/room

Technical details,
Documentation, videos

Contacts to room
control experts

Registration for our
expert newsletter

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