OPTIMIZER ESSENTIAL CONTROLLERS

The Essential controller is a next generation small plant controller that utilizes the Niagara Framework® with optional Edge licensing, or full Niagara licensing to meet customer application needs. The Essential is a freely programmable IP device powered by a 64bit dual-core i.MX processor, with 28 onboard input and output control points that provide extremely flexible control options. Using the power of the Niagara Framework®, the Essential controller provides both Ethernet & Serial integration options and is a native profile BACnet™ Building Controller ("B-BC").

Honeywell Optimizer Essential 28 Controller

The Essential controller has 28 onboard input and output control points (16 universal I/O channels, 4 relay outputs, 4 solid state relay outputs, and 4 digital inputs). The controller features:

- *RS-485 ports for BACnet™ MS/TP, Panel Bus (Legacy IO and SnapON IO module devices), Modbus RTU, and M-Bus.*
- *Ethernet ports for BACnet™ IP devices, Modbus TCP/IP, and C-Bus.*
- *RJ11 port interface for HMI devices.*

The controller also has a USB Type-C interface port to connect with a computer for serial communication. The controller can be mounted on DIN rail in either a horizontal or vertical orientation. Contact your local Honeywell representative for guidance or additional information. For more details on applications, refer to the "Recommended Applications" on page 4.

FEATURES AND HIGHLIGHTS

SIMPLE AND FLEXIBLE ENGINEERING

- Three RS-485 non-isolated / no galvanic ports (One touch flake and Two via terminals) and two Ethernet ports / two switched IP ports.
- Ethernet ports can be configured as in isolated or switched ports.
- RJ11 port to connect with a dedicated HMI device for field operations.
- Touch flake connections to support RS-485 IO module devices.
- The switched Ethernet IP ports support both daisy chain operation and RSTP (Rapid Spanning Tree Protocol) which allows a fault tolerant network to be created.
- Built-in RSTP switch allowing loop-free forwarding network topology.
- i.MX 8M Mini, dual Arm® Cortex®-A53 processor, long life industrial grade, Frequency: 1.2 GHz.
- Supports BACnet™ SC configuration within the Niagara Framework®. Refer to BACnet™ SC documents.
- Conforms to BACnet™ Standard ANSI/ASHRAE 135 protocol version 1.15 (ISO 16484-5).

EFFICIENCY AND SAFETY ON SITE

- Multi-color LEDs indicate the operational status of the isolated RS-485 communications, HMI device, Ethernet connection, and Service state of the controller.
- Two isolated IP ports providing secure communication.
- Built-in advanced diagnostics software facilitating troubleshooting for IP and MS/TP devices.
- Ferroelectric RAM (FRAM) to store live controller data, including storing the last known values when power is removed.
- Protective end cover included to protect the touch flake connections. The protective end cover has the RS-485 terminal resistor embedded inside required for RS-485 network.
- UTF-8 and UCS-2 character encoding formats are supported.
- Ubuntu Core OS with snap container based modular software design (Cyber Secure).
- Supports 802.1x network authentication protocol as a Client (supplicant). Requires Niagara N4.15u1 (Revision 8) or later. Providing an IT standard security authentication method for network access.
- Processor features Neural Net Accelerator for future development of low latency AI/ML algorithms at the Edge.

EASY UPGRADE

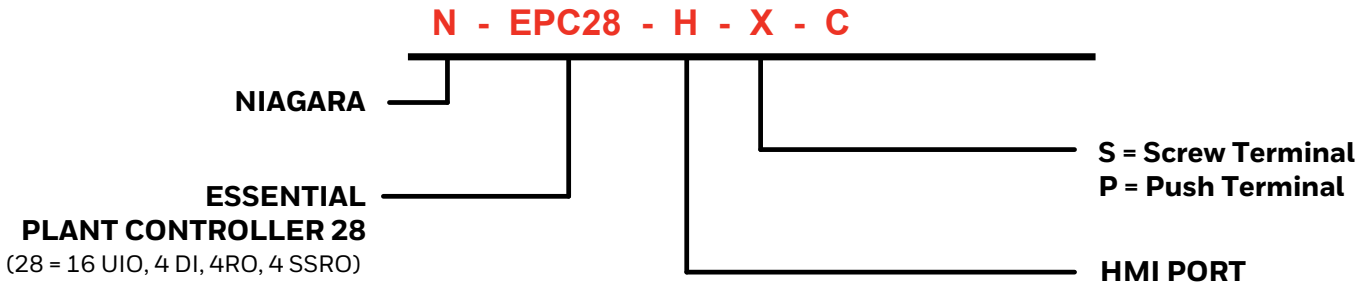
- RS-485 ports support Panel Bus, BACnet™ MS/TP, Modbus RTU, and M-Bus.
- Removable terminal blocks with screw (factory installed) or Push-in terminals.
- Built-in Web server with HTML5 to support graphics.

RETROFIT APPLICATIONS

- Form-fit design for easy retrofit migration from CIPer™ 50 and EAGLEHAWK NX controllers.
- Functional retrofit migration for CIPer™ 30 non-VAV applications.
- Leverage the Engineering Starter Kit (ESK) for retrofit migration projects.

Honeywell

CONTROLLER PART NUMBERS DESCRIPTION



ORDERING INFORMATION

ESSENTIAL CONTROLLER PART NUMBER							
PART NUMBER	**IO MIX**	**SWITCHED IP PORTS**	**HMI PORTS**	**RS-485 PORTS**	**TOUCH FLAKE (RS-485-R)**	**BLUETOOTH**	**TERMINAL TYPE**
N-EPC28-H-S-C	16 UIO 4 DI 4 RO 4 SSRO	2	Yes	2	Yes	No	Screw
N-EPC28-H-P-C		2	Yes	2	Yes	No	Push

Note: For example, a customer wishing to buy an Essential 28 controller with 2 Switched Ethernet ports, and 2 serial RS-485 ports, and Push type terminal would order using part number N-EPC28-H-P-C.

ACCESSORIES OR REPLACEMENT PARTS		
PART NUMBER	**DESCRIPTION**	**AVAILABILITY**
ENDCOVER-10	Protective end covers, pack of 10	Sold Separately
TCVR-140-10	Terminal covers 5.5 inches (140 mm), pack of 10	Sold Separately
SCRW-TB-2-BLK-50	Black 2 way screw terminals, pack of 50	Sold Separately
SCRW-TB-2-ORN-50	Orange 2 way screw terminals, pack of 50	Sold Separately
SCRW-TB-3-BLK-50	Black 3 way screw terminals, pack of 50	Sold Separately
SCRW-TB-3-GRY-50	Grey 3 way screw terminals, pack of 50	Sold Separately
SCRW-TB-3-PUR-50	Purple 3 way screw terminals, pack of 50	Sold Separately
SCRW-TB-3-YEL-50	Yellow 3 way screw terminals, pack of 50	Sold Separately
SCRW-TB-3-ORN-50	Orange 3 way screw terminals, pack of 50	Sold Separately
SCRW-TB-R-2-ORN-50	Orange 2 way screw line voltage terminals, pack of 50	Sold Separately
PUSH-TB-2-BLK-50	Black 2 way push terminals, pack of 50	Sold Separately
PUSH-TB-2-ORN-50	Orange 2 way push terminals, pack of 50	Sold Separately
PUSH-TB-3-BLK-50	Black 3 way push terminals, pack of 50	Sold Separately
PUSH-TB-3-GRY-50	Grey 3 way push terminals, pack of 50	Sold Separately
PUSH-TB-3-PUR-50	Purple 3 way push terminals, pack of 50	Sold Separately
PUSH-TB-3-YEL-50	Yellow 3 way push terminals, pack of 50	Sold Separately
PUSH-TB-3-ORN-50	Orange 3 way push terminals, pack of 50	Sold Separately
PUSH-TB-R-2-ORN-50	Orange 2 way push line voltage terminals, pack of 50	Sold Separately
IO-JUMPER-4-10	4 pin relay output Jumper Bar - pack of 10. Connects 4 relay commons.	Sold Separately
IO-JUMPER-2-10	2 pin relay output Jumper Bar- pack of 10. Connects 2 relay commons.	Sold Separately
AUX-TRM-16-10	Auxiliary Terminal Block - 16 way - pack of 10 AUX-TRM-16. Each Auxiliary Terminal Block has two groups of eight internally connected push in terminals for distributing signals/power.	Sold Separately
AUX-TRM-10-10	Auxiliary Terminal Block - 10 way - pack of 10 AUX-TRM-10. Each Auxiliary Terminal Block has two groups of five internally connected push in terminals for distributing signals/power.	Sold Separately
DIN-CLIP-10	Din rail clip, pack of 10	Sold Separately
IO-ADPT-S-2	Wiring adapters, Power & Comms, Serial, pack of 2	Sold Separately

SOFTWARE LICENSES AND UPGRADES

ESSENTIAL 28 CONTROLLER NIAGARA CORE LICENSES

A Niagara license is required to connect with the Niagara Framework®. Select one of the licenses from the table below.

ESSENTIAL 28 CONTROLLER NIAGARA CORE LICENSES	
PART NUMBER	**DESCRIPTION**
N-EPC-EDGE-C *	Essential EDGE license for 100 points, 5 Devices, and 3 Drivers (BACnet™ MS/TP, Modbus RTU, M-Bus). SMA not needed. Includes On-board IO's and panel bus points. Panel Bus IO modules do not count towards the device limits.
N-EPC-100-255P-C *	Essential Large license for 100 global points, 255 Panel Bus points, 5 Devices (AMER/APAC only) and 18 months initial SMA. Panel Bus IO modules do not count towards the device limits.

Note: * To reference your region for ordering. **A** is for America, **E** for Europe, **C** for Greater China and **R** for APAC. Please contact your Honeywell Sales Representative if you have any questions.

For example, a customer wishing to buy a 100 global point controller with 255 Panel Bus points in the USA, would order using part number N-EPC-100-255P-C**A**.

For example, a customer wishing to buy a 100 global point controller with 255 Panel Bus points in Europe, would order using part number N-EPC-100-255P-C**E**.

ESSENTIAL 28 CONTROLLER PANEL BUS POINT UPGRADE LICENSES

Essential 28 controller large license can be upgraded with any of the following upgrade licenses.

PANEL BUS POINT UPGRADE LICENSES	
PART NUMBER	**DESCRIPTION**
N-EPC-0100P-UP	Upgrade base license for 100 Panel Bus points.

ESSENTIAL 28 CONTROLLER GLOBAL CAPACITY POINT UPGRADE LICENSES

Essential 28 controller large license global points capacity can be upgraded with any of the following upgrade licenses.

GLOBAL CAPACITY POINT UPGRADE LICENSES	
PART NUMBER	**DESCRIPTION**
PIN-DEV-1	Additional 1 Device**, 50 global points capacity for large license.
PIN-DEV-2	Additional 2 Device**, 100 global points capacity for large license.
PIN-DEV-UNLOCK	License to Unlock the Max 5 devices***, Enabled by the global points expansion. (Not applicable for EMEA)

** Device limit applies outside of Europe / META only. Panel Bus IO modules do not count towards the device limits.

*** Enables the controller license to support the maximum tested capacity of 35 devices by allocating licensed global points on the controller.

ESSENTIAL 28 CONTROLLER SMA LICENSES

The Essential 28 controller large licenses can be upgraded with the following SMA licenses.

SMA LICENSES	
PART NUMBER	**DESCRIPTION**
SMA-0002-1YR	1 year maintenance for up to 249 global points.
SMA-0002-3YR	3 year maintenance for up to 249 global points.
SMA-0002-5YR	5 year maintenance for up to 249 global points.
SMA-0005-1YR	1 year maintenance for up to 499 global points.
SMA-0005-3YR	3 year maintenance for up to 499 global points.
SMA-0005-5YR	5 year maintenance for up to 499 global points.

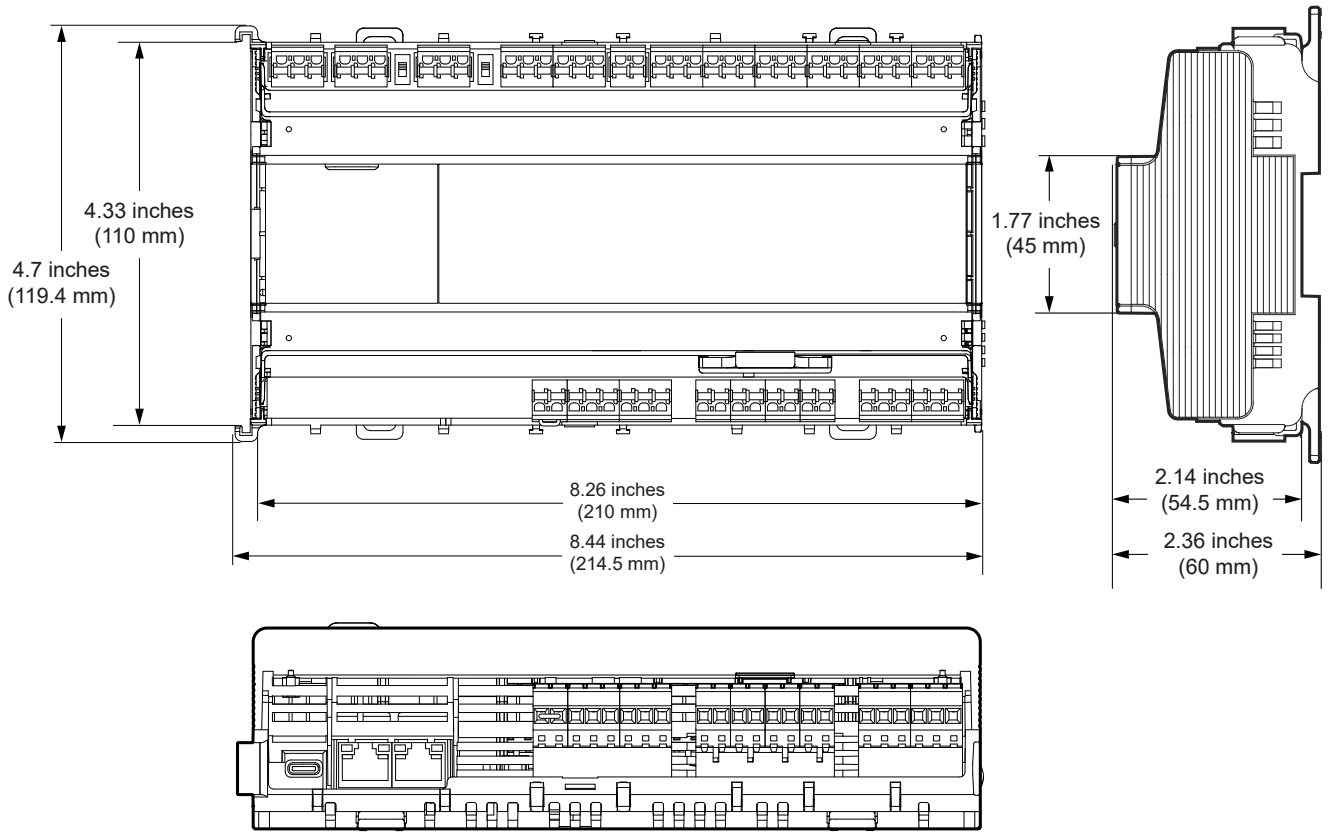
Note: The number of global points is taken into consideration at the moment of licensing. If you have a valid SMA and you upgrade with a number of global points exceeding the SMA, the licenses will run until your SMA expires. If you extend your SMA after expiration, you will have to buy the SMA associated with the new number of global points.

RECOMMENDED APPLICATIONS

- Essential controllers are powerful, freely programmable devices designed for HVAC building automation.
- They support a maximum of 555 control points.
- Honeywell strongly recommends the following applications for Essential controllers (but not limited to):
  - Small, medium, and large HVAC chiller, heating, and boiler plants, including cooling towers and condenser water systems.
  - Water pump stations and pumping control applications.
  - Large, customized, or complex HVAC equipment, including:
    - Air Handling Units (AHUs)
    - Energy Recovery Units (ERVs)
    - Rooftop Units (RTUs)
    - Heat pump (HP)
    - Outdoor air (OAU)
    - Single-zone and multi-zone applications
  - Multiple exhaust fans, air vents, or unit ventilators.
- Contact your local Honeywell representative for guidance or additional information.

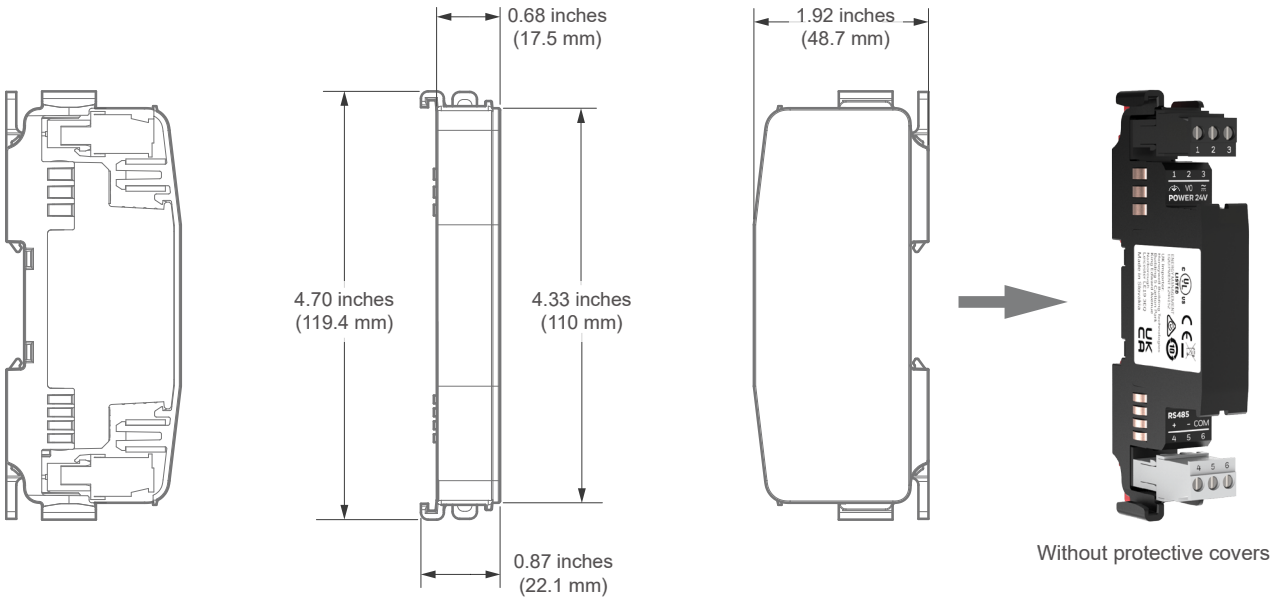
DIMENSIONS

ESSENTIAL 28 CONTROLLER



All dimensions are in inches (mm). For illustration, the N-EPC28-H-S controller is shown.

WIRING ADAPTER



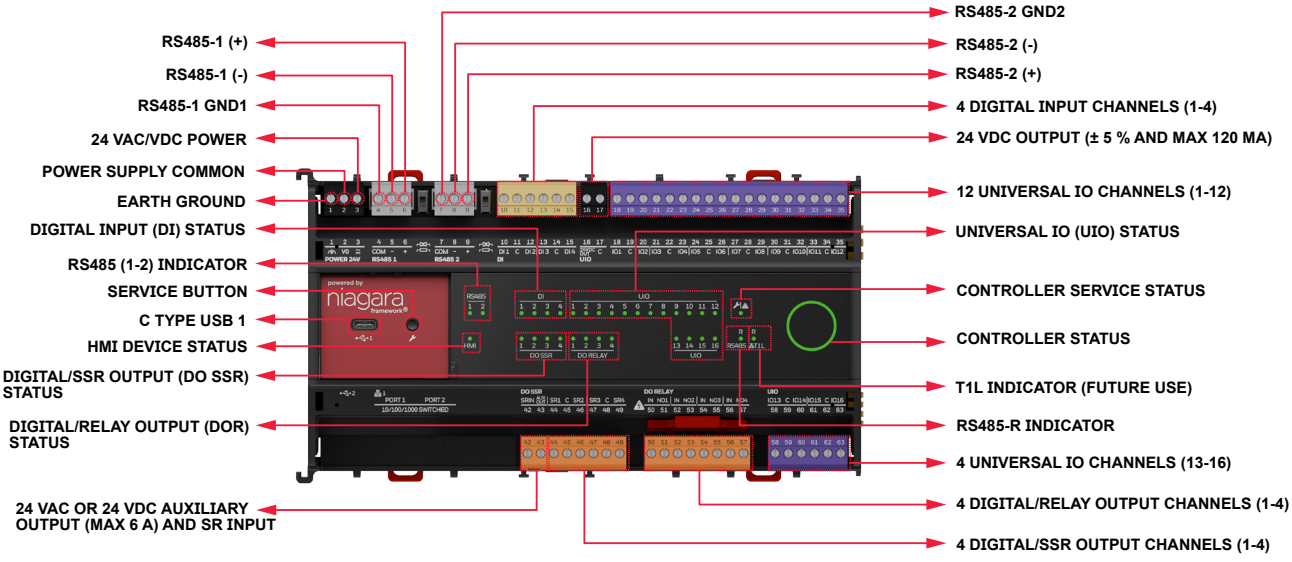
All dimensions are in inches (mm).

DIMENSIONS	
PARAMETER	**SPECIFICATION**
Controller Dimensions	8.44 x 2.36 x 4.7 inches (214.5 x 60 x 119.4 mm)
Mounting	DIN rail mounted
Wiring Adapter Dimensions	0.87 x 1.92 x 4.7 inches (22.1 x 48.7 x 119.4 mm)
Weight	1.37 lbs. (625 grams)

HARDWARE OVERVIEW

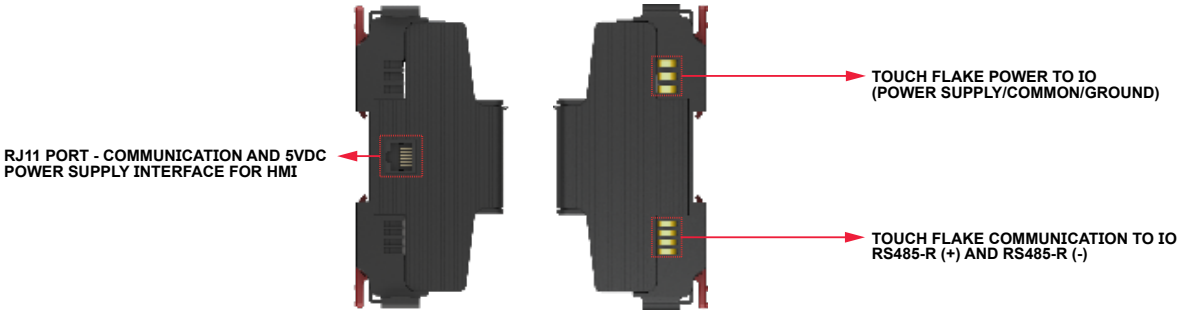
N-EPC28-H

TOP VIEW

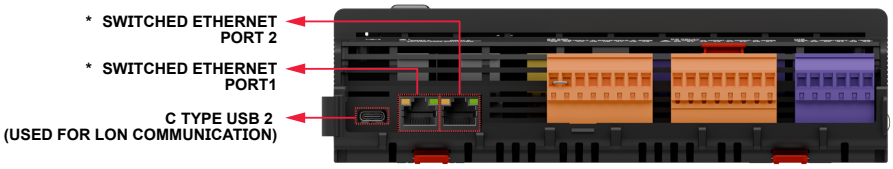


SIDE VIEW

LEFT RIGHT

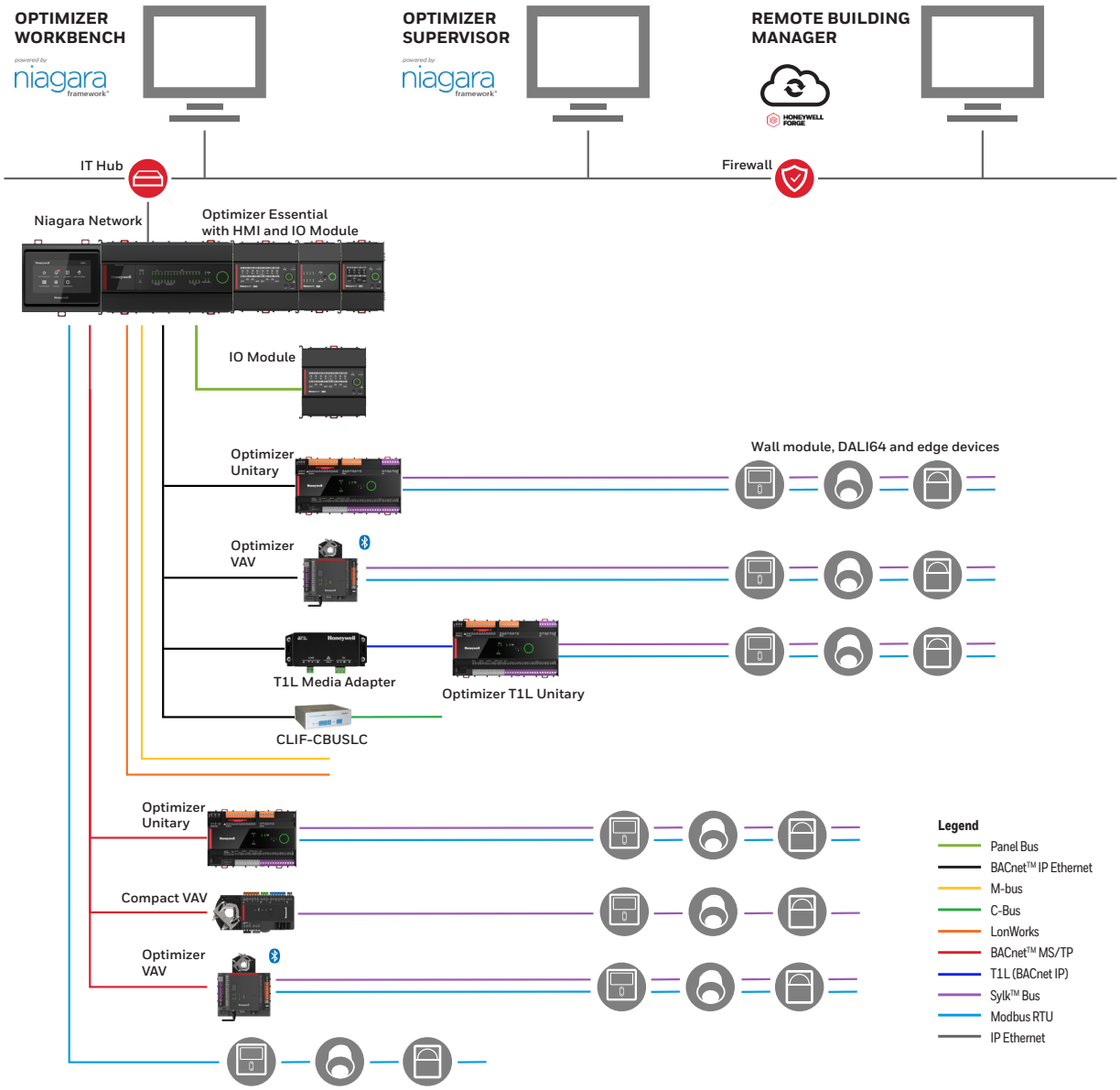


BOTTOM VIEW



* CAN BE CONFIGURED ALSO AS TWO ISOLATED IP PORTS.

SYSTEM OVERVIEW



Note: Images shown are for illustration purposes only. Refer to products installation and commissioning manuals for full integration and engineering requirements.

***** Devices subject to local availability. Contact your local sales representative for information on available devices in your region.

PORTS AND BUS CONNECTIONS

The Essential 28 controller can be connected to a variety of devices and systems by using its multiple RS-485, IP, and USB ports.

ETHERNET PORTS

Both Ethernet ports can connect the controller to a computer using an Ethernet cable.

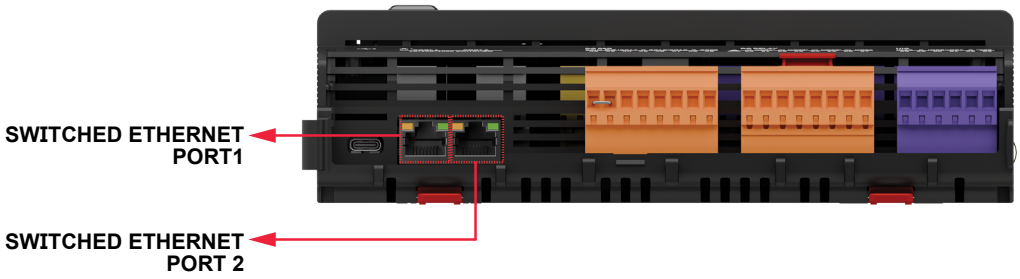
The user can upload, download, and debug the controller application using Niagara workbench from the computer. These connections also establish Internet connectivity.

The controller can be operated via a standard browser. By default, an integrated webserver provides all operation pages for a full browser-based operation. While browsing, the controller can remain connected to the Ethernet network without interruption. Ethernet ports can be configured to operate in two functional modes depending on the network topology and traffic isolation requirements:

Daisy Chain Mode = Ports operate as Switched Ports

Standard Mode = Ports operate as Isolated Ports

Each mode defines how Ethernet frames are forwarded between ports and how devices connected to those ports communicate with each other. For more details and TCP/IP configuration, refer to the Essential Controller Installation Instruction and Commissioning Guide-31-00872



USB PORTS (USB 2.0 HOST PORTS)

The controller is built with two USB Type-C ports to connect with the computer and mobile/tablet devices using a USB cable to monitor and troubleshoot the controller. The USB2 port 2 can connect the IFLON2 gateway interface, allowing the Essential 28 controller to connect to a LON network.

USB PORTS (USB 2.0 DEVICE PORTS)

The USB 1 device port at the front, which is an Ethernet over USB connection. The permanent IP address of this USB port is 192.168.255.241.
This interface allows connection of the Niagara workbench for programming and operation.

INTERFACES AND BUS CONNECTIONS

WIRING ADAPTER

Use the wiring adapter when power and the communication bus need to be extended to the next DIN rail of IO modules or when an IO module is remotely mounted from the controller. The wiring adapter has a reversible cover that allows wiring left to right or right to left in the panel.

The wiring adapter has Touch flake connections on both left and right sides and provides a set of terminals for power and a set of terminals for the RS-485 communication bus. The power and the communication bus are transferred to the IO modules by the Touch flake connections.

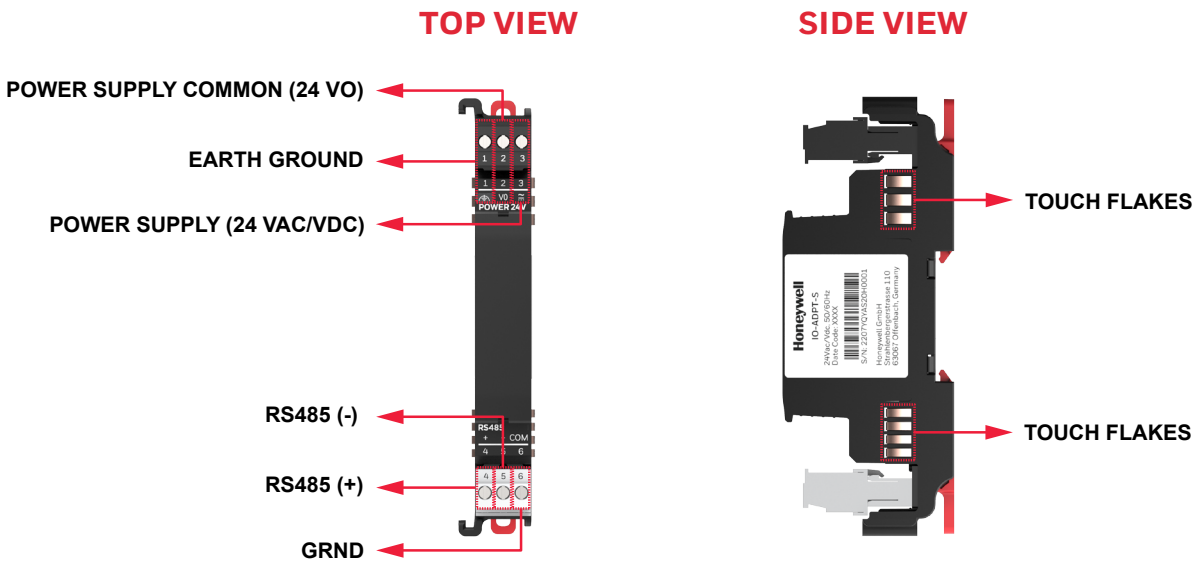
For terminal information, refer to the Wiring Adapter Interface section below. The wiring adapter has removable factory -installed screw terminal blocks.

The electrical ratings, environmental ratings, DIN standards, IP protection of the touch flakes, life expectancy, and other compliance standards of the adapter are the same as IO modules.

RS-485-R TERMINAL AND RS-485-1 & 2

- RS-485 Terminals - Touch flake connections extend RS-485 communications from the Essential 28 controller to the IO modules.
- Both the RS-485-1 & 2 ports are non-isolated / not galvanically isolated port.

WIRING ADAPTER - INTERFACE



PRODUCT SPECIFICATION

HARDWARE	
PARAMETER	**SPECIFICATION**
Ferroelectric RAM (FRAM)	512 KB
LPDDR4	2 GB
EMMC	8 GB
CPU	i.MX 8M mini, dual Arm® Cortex®-A53 processor, long life industrial grade, Frequency: 1.2 GHz
Operating System	LINUX 64-bit
Real-Time Clock Timekeeping Accuracy	+/- 3 ppm: +/- 1.57 minutes per year (+/- 0.26 seconds per day)
Real-Time Clock Retention	Buffered for 72 hours by gold capacitor (3 day retention)

ELECTRICAL	
PARAMETER	**SPECIFICATION**
Operating Voltage (AC)	24 VAC (+/-20 %) = 19 to 29 VAC 50/60 Hz
Operating Voltage (DC)	24 VDC (+/-20 %) = 20 to 30 VDC
Overvoltage Protection	Protected against overvoltage of max. 29 VAC or 40 VDC. Terminals protected against short-circuiting.

POWER CONSUMPTION

CONTROLLER	WITH IO CONNECTED							
	UIO (24 VAC)	UIO (24 VDC)	DI (24 VAC)	DI (24 VDC)	RO (24 VAC)	RO (24 VDC)	SSRO (24 VAC)	SSRO (24 VDC)
N-EPC28-H-S	Max. 76.5 VA	Max. 33.5 W	Max 63 VA	Max 27.5 W	Max 62.5 VA	Max 27.5 W	Max 62.5 VA	Max 27.5 W
N-EPC28-H-P	Max. 76.5 VA	Max. 33.5 W	Max 63 VA	Max 27.5 W	Max 62.5 VA	Max 27.5 W	Max 62.5 VA	Max 27.5 W

Note:

- Total power consumption when all the IO terminals are in use = 80 VA/35 W
- Total power consumption when no IO terminals are connected = 62 VA/27.5 W
- Auxiliary power supply = As per input power

If the total power demand of the controller, IO module, power supply, and DOSSR outputs exceeds the controller's internal Class 2 power supply limit (maximum 100 VA), an external power source must be used to power the outputs. In this case, the connection between the auxiliary output and the SR input should be disconnected to enable the use of the external supply.

CURRENT CONSUMPTION

CONTROLLER	WITH IO CONNECTED							
	UIO (24 VAC)	UIO (24 VDC)	DI (24 VAC)	DI (24 VDC)	RO (24 VAC)	RO (24 VDC)	SSRO (24 VAC)	SSRO (24 VDC)
N-EPC28-H-S	Max. 3.2 A	Max. 1.4 A	Max 2.6 A	Max 1.15 A	Max 2.6 A	Max 1.15 A	Max 2.6 A	Max 1.15 A
N-EPC28-H-P	Max. 3.2 A	Max. 1.4 A	Max 2.6 A	Max 1.15 A	Max 2.6 A	Max 1.15 A	Max 2.6 A	Max 1.15 A

Note:

- Total current consumption when all the IO terminals are in use =Max. 1.5 A (DC)/3.4 A (AC)
- Total current consumption when no IO terminals are connected =Max. 1.2 A (DC)/2.7 A (AC)
- Auxiliary power supply = Maximum 6 A also limited by per input power

If the total power demand of the controller, IO module, power supply, and DOSSR outputs exceeds the controller's internal Class 2 power supply limit (maximum 100 VA), an external power source must be used to power the outputs. In this case, the connection between the auxiliary output and the SR input should be disconnected to enable the use of the external supply.

PRODUCT SPECIFICATION

OPERATIONAL ENVIRONMENT	
PARAMETER	**SPECIFICATION**
Storage Temperature	-20 to 158 °F (-28.9 to +70 °C)
Operating temperature	-13 to 140 °F (-25 to 60 °C)
Humidity	5 to 95 % relative humidity (non-condensing)
Vibration Under Operation	0.024" double amplitude (2 to 30 Hz), 0.6 g (30 to 300 Hz)
Dust, Vibration	According to EN60730-1
Protection	IP20 with optional terminal covers
Pollution Level	2
Altitude	13123 ft (4000 m)

STANDARDS AND CERTIFICATIONS	
PARAMETER	**SPECIFICATION**
Protection Class	IP20
Product Standards	UL60730-1, UL60730-2-9, UL916, IEC/EN60730-1, Energy Management Equipment, IEC/EN60730-2-9, CAN/CSA-E60730-1:02, IEC/EN61326-1, and IEC/EN61010.
Testing Electrical Components	IEC68
Certification	UL60730-1, UL916, CE, BTL B-BC, BACnet™ Standard 135 version 1.14, ISO 16484-5, AMEV AS-B, FCC Part15, WEEE, C-tick RCM, Subpart B, CAN ICES-3 (B)/NMB- 3(B), RCM, EAC, RoHS II, Ethernet Protocol version IEEEC 802.3, EN-1434-3, and EN-13757-3
Energy Performance	EN12098-1:2022 and EN ISO 52120-1:2022
System Transformer	The system transformer(s) must be safety isolating transformers according to IEC 61558-2-6. In the U.S.A. and Canada, NEC Class 2 transformers must be used.

CONNECTION TO BUSES				
PROTOCOLS	**MAX. NO. OF DEVICES PER CHANNEL**	**RS-485-1**	**RS-485-2**	**RS-485-R (WIRING ADAPTER)**
Panel Bus#	64	Yes	Yes	Yes
BACnet™ MS/TP#	64	Yes	Yes	Yes
Modbus RTU	32	Yes	Yes	Yes
M-Bus*	60	Yes	Yes	Yes

Note:

- The communication rate across each interface depends on the given communication protocol.
- # Panel BUS addressing supports up to 64 I/O modules per channel (BUS), with a max of 16 devices of each I/O module type allowed up to the maximum of 64 devices on a bus.

  While the Essential 28 controller has several bus connections this means the total addresses supported is significant, therefore it is important to review the station CPU and memory capacity. The maximum total number of Panel BUS points in the Essential 28 controller across all busses is 355 max total. The max total number of points is 555 (global and panel bus points together). Max total number of global points is 300 and max total number of panel bus points is 355. Performance is also dependent on the poll rate and other station configuration (for example number of wiresheets, PX pages, History & alarm extensions, & 3rd party driver integration). It is important for the design engineer to review the station design and performance required for the application.
- * The controller can function as an M-Bus Master. It uses a standard-level converter (e.g., PW60) to connect to the M-Bus devices.
- A wiring adapter is required to establish communication and power supply over RS-485-R (touchflakes). The default channel must be closed with the protective cover if it is not used.

PRODUCT SPECIFICATION

STANDARD PROTOCOL

The Essential 28 controller runs the Niagara N4 Framework® and supports all the standard protocols and drivers available in the core framework (requires large license type). These drivers include, but are not limited to:

STANDARD PROTOCOL			
PROTOCOLS	**DRIVER NAME**	**CONNECTION TYPE**	**DETAILS**
BACnet™	BACnet™ MSTP	Serial	RS-485 serial communication
	BACnet™ IP	IP	IP based communication using unencrypted UDP packets
	BACnet™ SC	IP	Encrypted communication via HTTPS over Transport Security Layer 1.3 (TLSv1.3). Requires Niagara Framework® N4.11 or higher.
EIB/KNX	EIB/KNX Driver	IP	Connectivity to EIBNET/IP devices
LON	ILON Driver	IP	Yes
	LON FTT10 Driver	USB-C (2) to IFLON2 (FTT10)	Requires the IF-LON2 interface connected to the Essential 28 controller USB-C port (2) and provides connectivity to FTT10 LON bus.
M-Bus	M-Bus Driver	RS-485	Requires the M-BUS level converter connected to the Essential 28 controller RS-485 and provides M-BUS Master communications to M-Bus devices
Modbus	Modbus RTU Driver	Serial	Connectivity to Modbus RTU Devices
	Modbus RTU Slave Driver	Serial	Enables Essential 28 controller Station to function as a Modbus RTU Slave Device
	Modbus TCP Driver	IP	Connectivity to Modbus TCP Devices
	Modbus TCP Slave Driver	IP	Enables Essential 28 controller Station to function as a Modbus TCP Client Device
MQTT (Message Queuing Telemetry Transport)	MQTT Client	IP	Allows the Essential 28 controller to connect to MQTT Broker to send and receive data. Note: The use of the JSON tool kit simplifies MQTT engineering and deployment.
		IP to LORAWAN Sensor	The Essential 28 controller can connect to a series of LORAWAN wireless sensors via an IP to LORAWAN gateway using the honMqttDriver-rt.jar driver.
oBIX (Open Building Information Exchange)	oBIX Driver	IP	Enables communication to oBIX servers – Open Building Information Xchange is an XML standard and WEB services focused on buildings
OPC UA (Unified Architecture)	OPC UA Client	IP	OPC UA support for Essential 28 controller
	OPC UA Server	IP	OPC UA support for Essential 28 controller
SNMP	SNMP Network	IP	Supports communications to SNMP Devices (SNMPv1, SNMPv2 and SNMPv3)
Panel Bus	Panelbus Network	Serial	Supports the connection for Panel bus I/O modules from Honeywell
IPv4 & v6	-	IP	Supports IP v4 & IPv6 addressing
S-BUS	SBCIP Network	IP	Supports RS-485 communication. For more information, refer to the document Saia PCD® Supervisor Datasheet 34-001 – ENG07.
C-BUS	C-BUS	IP	A converter is required to connect the controller with C-Bus.

Note:

Drivers developed by Tridium & Honeywell are tested within the Niagara Framework® and fully compliant with Niagara Driver development compliance. Therefore, they will operate on the Optimizer Essential 28 controller.

- Drivers that run on IP protocol should select the “IP interface” and choose Ethernet 1 or 2 on Optimizer Essential 28 controller.
- Drivers running on standard serial platform services must select RS485_x interfaces on Optimizer Essential 28 controller.

For drivers not developed by Tridium or Honeywell, i.e., a third-party developer, user should perform their own validation prior to deployment on a production system.

Additional drivers and license extensions are also available, such as the Niagara Analytics, E-Signature, JSON toolkit, and serial driver. Please contact your commercial representative if you do not see the driver required listed.

PRODUCT SPECIFICATION

COMMUNICATION	
PARAMETER	**SPECIFICATION**
Ethernet Connection Speed	10/100/1000 Mbps, RJ45
IP Addressing Modes	• DHCP - Dynamic • Static

COMMUNICATION BAUD RATES	
PARAMETER	**SPECIFICATION**
M-Bus	0.3 to 19.2 Kbps
HMI Port	5 VDC power output and RS-485-R
Modbus RTU	0.3 to 115.2 Kbps
BACnet™ MS/TP	9.6, 19.2, 38.4, 76.8, and 115.2 Kbps
Panel Bus	115.2 Kbps

STANDARDS AND APPROVALS

FCC REGULATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

However, there is no guarantee that interference will not occur in a particular installation.

Suppose this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. In that case, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between equipment and receiver
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

CANADIAN REGULATORY STATEMENT

This device complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisee aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage.
2. l'utilisateur de l'appareil doit accepter tout brouillage radioelectrique subi, meme si le brouillage est susceptible d'en compromettre le fonctionnement.

EMF Statement: To comply with the RF exposure requirement, a separation distance of 20 cm between the device and the human should be maintained.

Déclaration d'exposition Attention: Cet émetteur doit être installé pour fournir une distance de separation d'au moins 20 cm de toute personne.

PROFESSIONAL INSTALLATION WARNING

1. This device must be professionally installed; this should be noted on grantee.
2. This device requires a significant technology engineering expertise towards understanding of the tools and relevant technology, not readily available to average consumer. Only a person professionally trained in the technology is competent.

Honeywell | Building Automation
715 Peachtree Street, N.E.,
Atlanta, Georgia, 30308, United States.
https://buildings.honeywell.com/us/en

31-00871-01 | Rev. 4-26

Honeywell