



# Submittal Data Sheet

## DGE601B71 – Daikin HERO D4 Pro Edge

Project Name:	Approval:
Location:	Date:
Engineer:	Construction:
Submitted to:	Unit #:
Submitted by:	Drawing #:
Reference:	

### SPECIFICATIONS:

### PRODUCT IMAGE:

<b>Model</b>	DGE601B71
<b>Description</b>	Daikin HERO D4 Pro Edge
<b>Maximum Total Indoor units</b>	512 (with expansion adapters)
<b>Maximum Total Outdoor units</b>	80 (with expansion adapters)
<b>DIII-NET</b>	
<b>Number of DIII-NET ports Available</b>	2
<b>Maximum ODU per DIII-NET port</b>	7 Outdoor Unit systems
<b>Maximum IDU per DIII-NET port</b>	64 Indoor units
<b>Maximum DIII-NET ports available with expansion ports</b>	8
<b>Expansion Adaptor Port</b>	D+, D-
<b>Expansion Adaptor Part Number</b>	DGE601A53, DGE601A72
<b>D4-NET</b>	
<b>Number of D4-NET ports Available</b>	1
<b>Maximum ODU per D4-NET port</b>	20 Outdoor Unit systems
<b>Maximum IDU per D4-NET port</b>	128
<b>Maximum D4-NET ports available</b>	8 (with expansion adaptor)
<b>Expansion Adaptor Part Number</b>	DGE601A54, DGE601A75
<b>Max BACnet Servers (When Pro Edge is BACnet Client)</b>	10 (DGE009A71) / 50 (DGE009A72)
<b>Power Supply (Field provided)</b>	24 VAC, 60 Hz
<b>Power Consumption</b>	23 Watts, 36VA
<b>Operating Temp Range</b>	14-122°F
<b>Operating Humidity Range</b>	85% or less (w/o condensation)
<b>Dimension (W x H x D)</b>	9-3/64 x 3-13/64 x 5-3/4 in.
<b>Weight (Mass)</b>	1.52 Kg / 3.35 lbs.
<b>RJ-45 (Ethernet) 100Base-TX or 10Base-T</b>	1: LAN-1 100Base-TX (Cloud or Local App) 2: LAN-2 100Base-TX or 10Base-T (BACnet)
<b>USB Ports</b>	2 (Both Unused)
<b>RS485 (19 - 22 AWG)</b>	2 (1: WAGO, 2: Unused)
<b>Digital Inputs / Pulse Inputs</b>	8 (The first input is used for emergency stop only)
<b>Digital Outputs (24VDC)</b>	3
<b>Installation type</b>	DIN rail (1-3/8 in) mount or screw mount to a field provided control enclosure
<b>Certification</b>	FCC Class B
<b>HERO Cloud Services (Subscription Required)</b>	
<b>Compatible Browser</b>	Google Chrome, Safari
<b>Compatible Devices</b>	PC, MAC, Smartphone and Tablet with Internet connection
<b>Requires License (Recurring)</b>	Yes
<b>URL</b>	www.Daikinhero.com

**Daikin Pro Edge**



**DAIKIN COMFORT TECHNOLOGIES NORTH AMERICA, INC.**

19001 Kermier Road • Waller, TX 77484

[www.daikinac.com](http://www.daikinac.com)   [www.daikincity.com](http://www.daikincity.com)

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### REQUIRED SUBSCRIPTION:

The Daikin HERO Pro Edge requires a license to connect with HERO Cloud Services and requires access to the internet. The first year's cloud license is included with the purchase of the device; additional renewal licenses can be added.

- HD4PE1YRSUB - HERO Pro Edge 1 Year License Renewal
- HD4PE3YRSUB - HERO Pro Edge 3 Year License Renewal
- HD4PE5YRSUB - HERO Pro Edge 5 Year License Renewal
- 1ODULIC-1 - HERO Cloud Services Outdoor Unit Activation Fee (Required when connecting more than 14 outdoor unit systems)

### OPTIONS:

- **BACnet Client option:**
  - DGE009A71 (up to 10 devices)
  - DGE009A72 (up to 50 devices)
- **Power Proportional Distribution (PPD) (DGE002A71)**
  - Provide function to distribute the energy consumption of the Outdoor units to the selected indoor unit group address, based on indoor unit operation duration, electronic expansion valve opening ration, indoor size.... etc.
  - Up to 512 indoor unit group address
- **Hardware Options:**
  - DIV-NET: DGE601A54, DGE601A75 for expanding IDU and ODU connected to a Pro Edge.
  - DIII-NET: DGE601A72/DGE601A53 for expanding IDU and ODU connected to a Pro Edge.
  - WAGO I/O basic kit (60359653) and I/O modules for controlling/ monitoring of external equipment via Di, Do and Ai.



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### MODEL COMPATIBILITY:

The following indoor units are compatible with the **D4 HERO Pro Edge**:

Communication	System	Model
<b>DIII-NET</b>	VRV and VRV Life™	FXAQ, FXDQ, FXEQ, FXFQ, FXHQ, FXLQ, FXMQ, FXMQ_MF, FXNQ, FXSQ, FXTQ, FXUQ, FXZQ, CXTQ
	SkyAir	FAQ, FBQ, FCQ, FHQ, FTQ
	Single Zone/Multi Zone/SkyAir	FDMQ, FFQ_Q, FDMA *Connect other units using KRP928BB2S if compatible.
	Ventilation	VAM
<b>D4-NET</b>	VRV and VRV Life™	FXFA, FXMA, FXTA, FXZA, FXAA, FXSA
	SkyAir	FAA, FBA, FCA, FTA

The outdoor operational data is available for the following outdoor unit models:

Communication	VRV Family	Model
<b>DIII-NET</b>	VRV IV S	RXTQ_TAVJU
	VRV LIFE	RXSQ_TAVJU
	VRV III	RXYQ_PBTJ, RXYQ_PBYD, REYQ_PATJ, REYQ_PBTJ, REYQ_PBYD, REYQ_PCTJ, REYQ_PCYD, RWEYQ_PTJU and RWEYQ_PYDN
	VRV AURORA	RXLQ_TATJU, RXLQ_TAYDU, RXLQ_TAYCU, RELQ_TATJU, RELQ_TAYDU and RELQ_TAYCU
	VRV IV X	REYQ_XATJU, REYQ_XAYDU, REYQ_XAYCU, RXYQ_XATJA, RXYQ_XAYDA, REYQ_XATJA, REYQ_XAYDA, REYQ_XAYCA
	VRV T	RWEQ_TATJU, RWEQ_TAYDU, RWEQ_TAYCU
	VRV IV	RXYQ_TTJU, RXYQ_TATJU, RXYQ_TAYDU, REYQ_TATJU, REYQ_TAYDU, RXYQ_TAYCU, RXYQ_TYDN, REYQ_TAYCU, REYQ_TTJU, REYQ_TYDN, RWEYQ_PCTJ and RWEYQ_PCYD
	VRV Emerion	REYQ_AATJA, REYQ_AAYDA, RXYQ_AATJA, RXYQ_AAYDA
<b>D4-NET</b>	VRV	RXYA
		REYA

**Notes:**

- Low Temperature Hydrobox (HXY48TAVJ)\* is not compatible with Daikin HERO Pro Edge.
- MEGA-Q shall not connect to the HERO Pro Edge using the DIII-Net communication.
- D3-D4 Conversion Adaptor Kit (BRD72A-L) is required if any of the D4-NET systems is connected to D3 terminal of the Pro Edge.



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### FEATURES:

1. **Management size** - up to 512 indoor unit groups.
  - a. D4-NET
    - i. The Pro Edge can manage two (1) D4-Network which can have up to 128 indoor unit groups each, so 128 indoor units groups per Pro Edge.
    - ii. The Pro Edge can manage up to eight (8) D4-Net systems with the addition of the Adapters which can manage one (1) D4-Net system each.
  - b. DIII-NET
    - i. The Pro Edge can manage two (2) DIII-Net system which can have up to 64 indoor unit groups each, so 128 indoor units groups per Pro Edge.
    - ii. The Pro Edge can manage up to eight (8) DIII-Net systems with the addition of the Adapters which can manage one (1) DIII-Net system each.
  - c. A maximum of 1000 management points can be created in a Pro Edge Controller.
2. **Control / Monitoring**
  - a. Independent Cool and Heat setpoints
    - i. Setpoint tracking for full range of setpoint differentials
  - b. Independent Cool and Heat Setback setpoints (unoccupied)
  - c. Room temperature displayed in 0.1°F/0.1°C
  - d. Scheduling with exception days
  - e. Auto-changeover: Fixed, Individual, Average, and Vote
    - i. Weighted demand (0-3) configurable for Average and Vote methods
    - ii. Adjustable (1-4°F) Primary and Secondary changeover bands
3. **Web Accessibility**
  - a. Web and Alert Email function is available via HERO Cloud Services (renewable license required)
  - b. The indoor unit can be changed remotely: Indoor unit settings such as schedule, On/Off, fan speed, Setpoint, louver position, setpoint range limits etc
4. **Easy Engineering**
  - a. Automatic registration and model detection for most of the VRV units.
    - i. FXDQ and other indoor units with model number ending in MVJU may not respond to auto discovery.
  - b. Units communication with D4,
    - i. Remote field setting for the outdoor unit.
    - ii. Remote field setting for the indoor units.
    - iii. Remote addressing (Label) for indoor units and outdoor units.
5. **Building facilities management**
  - a. The Pro Edge is equipped with 8 digital/pulse inputs and 3 digital outputs.
  - b. Building ancillary equipment can be connected by using the WAGO I/O system (optional).
    - i. I/O configuration for Digital Input, Digital Output, Analog Input.
  - c. BACnet IP Client management points with BACnet Client option (optional).
    - i. AI, AO, AV, BI, BO, BV, MI, MO and MV
6. **History**
  - a. Cloud: The data is stored for the 5 years on a minute-to-minute basis.
7. **HERO Cloud Monitoring Service (License Required)**
  - a. Remote monitoring of VRV equipment status and reporting
  - b. Connects the VRV system to the HERO Cloud Services.
  - c. Remote monitoring for outdoor unit operation data.
  - d. Remote monitoring for indoor unit operation data.

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- e. Simple customizable dashboards to provide quick status of connected units and sites.
- f. Animated piping layout with live data and past data at 1-minute intervals.
- g. View and download trend graphs of historical operation data.
- h. Download historical operation data.
- i. Alarm dashboard with automatic email notifications when an alarm occurs.
- j. Energy management dashboard to view energy consumption for the outdoor units.
- k. User management with customizable access for the specified user type.
- l. Monitors and control multiple outdoor units and indoor units across multiple sites with a single login.
- m. Provides operational data for the Branch Selector box.

### BACNET CLIENT OPTION (OPTION) :

- Monitor and control equipment and sensors connected to a BACnet server via BACnet IP.
- Up to 50 BACnet IP servers can be connected and 512 Management points can be handled.
- The following BACnet object types can be monitored and controlled by Pro Edge through BACnet Client Option via the BACnet/IP protocol:

Object Type #	Object Name	Description
0	Analog Input	Analog input value such as a temperature and measurement value.
1	Analog Output	Analog output value such as a setting value (For example, can be used as the analog input value of a setting value).
2	Analog Value	Analog input value such as a temperature and measurement value or analog output value such as a setting value.
3	Binary Input	Digital input value such as an On/Off status and error status.
4	Binary Output	Digital output value such as an On/Off operation (For example, can be used as the digital input value of an On/Off operation).
5	Binary Value	Digital input value such as an On/Off status and error status or digital output value such as an On/Off operation.
13	Multi-state Input	Input value such as an operation mode
14	Multi-state Output	Output value such as an operation mode (For example, can be used as the digital input value of an operation mode).
19	Multi-state Value	Input value such as an operation mode or Output value such as an operation mode.



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### WIRING SPECIFICATION:

Specifications of Communication Cabling	
<b>D4-Net</b>	
<b>Type</b>	2-conductor, stranded, non-shielded copper cable / PVC of vinyl jacket
<b>Size</b>	AWG 18-2
<b>Key Wiring Length Parameters</b>	Maximum wiring distance between units 656 ft. Total wire length 6,560 ft. Maximum distance between Pro Edge and First outdoor unit is 656ft.
<b>DIII-Net</b>	
<b>Type</b>	2-conductor, stranded, non-shielded copper cable / PVC of vinyl jacket
<b>Size</b>	AWG 18-2
<b>Key Wiring Length Parameters</b>	Maximum wiring distance between units 3,280 ft. Total wire length 6,560 ft.
<b>WAGO</b>	
<b>Type</b>	2-conductor, stranded, non-shielded copper cable / PVC of vinyl jacket (CPEV or FCPEV)
<b>Size</b>	2 Wire AWG 24 - 18 stranded
<b>Key Wiring Length Parameters</b>	Maximum wiring distance between Pro Edge and Bus Coupler 1640 ft.

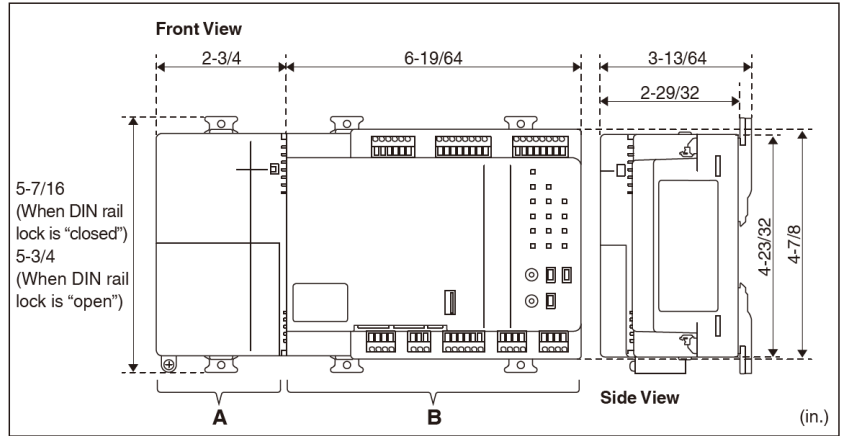
Project Name: \_\_\_\_\_  
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### DIMENSIONS:

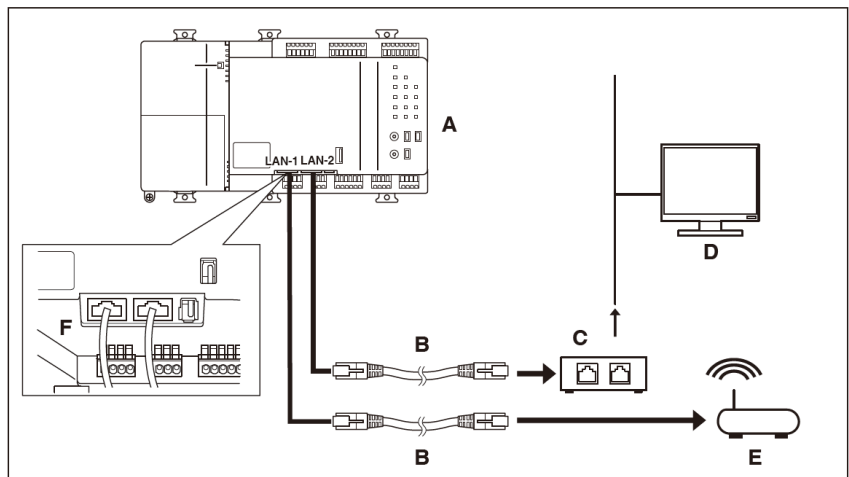
Daikin HERO Pro Edge

- A. Power Supply Unit
- B. Main Unit



### SCHEMATIC FOR LAN WIRING

- A. DGE601B71 (Daikin HERO Pro Edge)
- B. LAN Cable (field provided)
- C. Network switch (field provided)
- D. Monitoring PC – Local (Optional, field provided)
- E. Router for internet connectivity (field provided)
- F. LAN-1/LAN-2

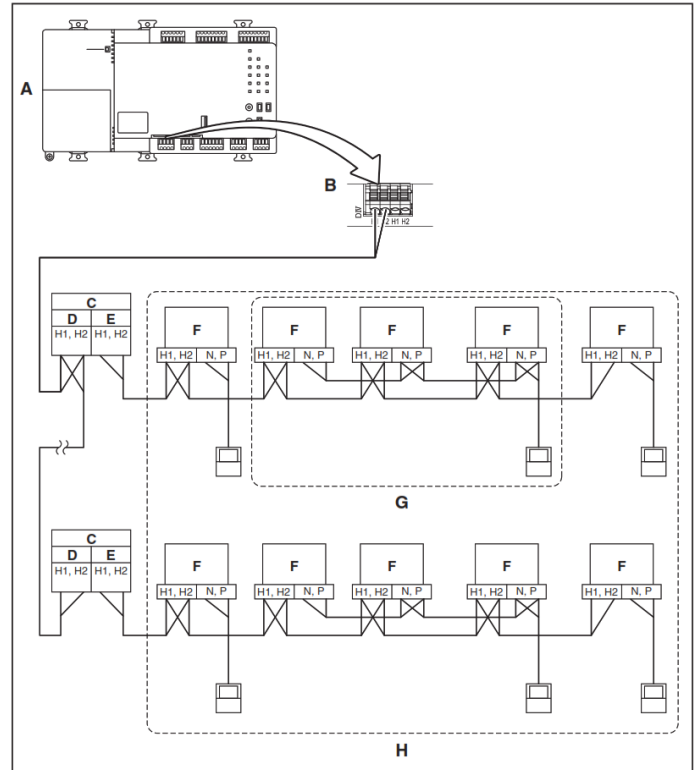


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### SCHEMATIC FOR D4-NET COMMUNICATION WIRING

- A. Daikin HERO Pro Edge
- B. D IV terminal (Daikin HERO Pro Edge)
- C. Outdoor unit
- D. OUT - OUT communication (terminal)
- E. IN - OUT communication (terminal)
- F. Indoor unit
- G. A maximum of 16 indoor units can be connected to 1 remote controller group.
- H. A maximum of 128 remote controller groups (128 units including group SUBs) can be connected to 1 D IV port.

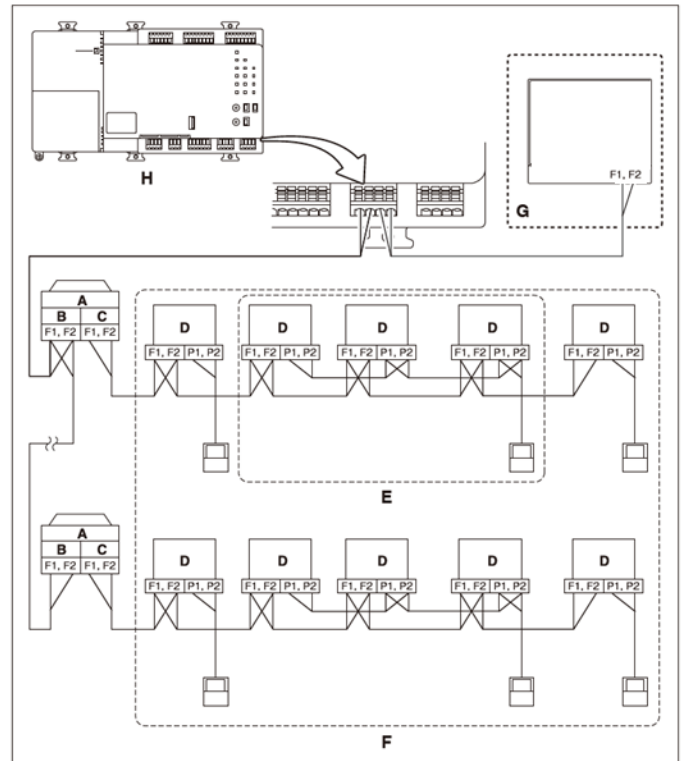


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### SCHEMATIC FOR DIII-NET COMMUNICATION WIRING

- A. Outdoor unit
- B. OUT - OUT communication (terminal)
- C. IN - OUT communication (terminal)
- D. Indoor unit
- E. A maximum of 16 indoor units can be connected to 1 remote controller group.
- F. A remote controller group can connect a maximum of 64 groups (64 indoor units) to each DIII-NET communication line.
- G. When connecting an additional centralized controller
- H. DGE601B71 (Daikin HERO Pro Edge)



#### Centralized controllers that cannot be connected to the same DIII-NET network as the DGE601B71:

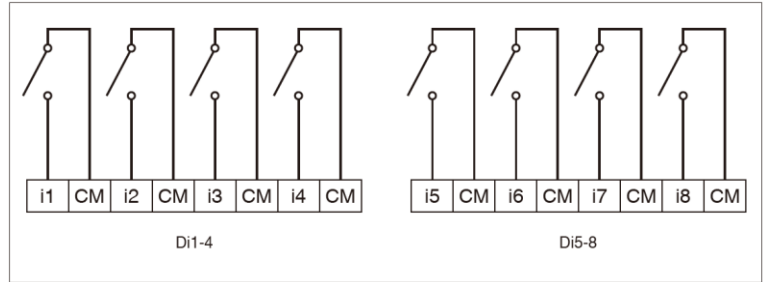
- intelligent Processing Unit
- Intelligent Touch Controller
- DIII-NET Plus Adapter – DCM601A72
- Residential Central Remote Controller
- Schedule Timer
- Group Control Adapter PCB (KRP4)

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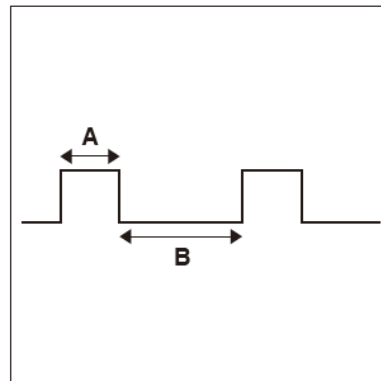
### SCHEMATIC FOR DI WIRING

- Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- Core thickness: CPEV cable, FCPEV cable: AWG 22-18, CVV(S) cable: AWG 18-16
- Cable length: 656 ft. or less
- The contact connected to the contact input terminal must be capable of handling 10 mA at 16 V DC.
- If an instantaneous contact is used for triggering an emergency stop, use one that has an energized time of 200 ms or more.



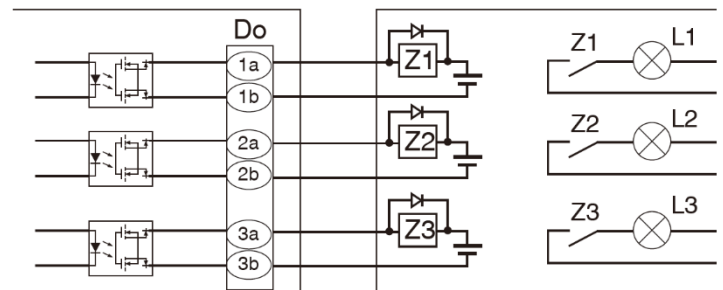
### PULSE WIDTH SPECIFICATIONS

- A. Pulse width: 20 to 400 ms
- B. Pulse interval: 100 ms or more



### SCHEMATIC FOR DO WIRING

- A. DO Contact point specifications
- B. Non-voltage contact point
- C. Voltage: 24 V DC Maximum load current: 50 mA
- D. Cable type: CPEV cable, FCPEV cable, CVV(S) cable
- E. Core thickness: CPEV cable, FCPEV cable: AWG 22-18, CVV(S) cable: AWG 18-16
- F. Cable length: 656 ft. or less





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### RELATED PART NUMBERS

Part Number	Description
<b>DGE601B71</b>	Daikin <i>HERO</i> Pro Edge
<b>DGE601A54</b>	D4 Plus Adaptor
<b>DGE601A75</b>	D4 Plus Unit
<b>DGE601A751</b>	Power supply unit for D4 Plus Unit.
<b>DGE601A72</b>	<i>DIII Plus</i> Adapter for <i>HERO</i> Pro Edge and <i>iTM</i>
<b>DGE601A53</b>	<i>DIII Plus</i> Adapter Slot (For Use with DGE601A72)
<b>DGE009A71</b>	Pro Edge <i>BACnet</i> Client (10 Pack) - Monitor up to 10 <i>BACnet</i> Devices
<b>DGE009A72</b>	Pro Edge <i>BACnet</i> Client (50 Pack) - Monitor up to 50 <i>BACnet</i> Devices
<b>DGE002A71</b>	Power proportional distribution PPD – Tennant Billing
<b>WAGO I/O – Multiple</b>	Monitor and control third party units using I/O contacts.
<b>10DULIC-1</b>	<i>HERO</i> Cloud Services Outdoor Unit Activation Fee (Need when connecting more than 14 outdoor unit systems)
<b>HD4PE1YRSUB</b>	Basic Subscription Renewal for 1 Year
<b>HD4PE3YRSUB</b>	Basic Subscription Renewal for 3 Years
<b>HD4PE5YRSUB</b>	Basic Subscription Renewal for 5 Years

### DOCUMENTATION:

Documentation available on [www.daikincity.com](http://www.daikincity.com) and/or [www.daikinac.com](http://www.daikinac.com):

- Submittal
- Sales Brochure
- Guide Specs
- Installation Manual
- Operation Manual
  - Submittal
  - Installation Manual
  - Sales Flyer