ENPHASE

DATASHEET PRELIMINARY

IQ System Controller 3/3G

The Enphase IQ System Controller 3/3G connects the home to grid power, the IQ Battery system, and solar PV. It provides microgrid interconnect device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure. It consolidates interconnection equipment into a single enclosure and streamlines grid-independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.

IQ Series Microinverters
The high-powered smart grid-ready IQ Series Microinverters (M Series, IQ6, IQ7, and IQ8 Series) dramatically simplify the installation process

IQ Battery 5P
Fully integrated AC battery system. Includes six field-replaceable IQ8D-BAT microinverters

IQ Combiner 5/5C
Consolidates PV interconnection equipment into a single enclosure and streamlines IQ Series Microinverters and IQ Gateway installation by providing a consistent, pre-wired solution for residential applications

IQ Load Controller
Helps prioritize essential appliances during a grid outage to optimize energy consumption and prolong battery life

Enphase 10 year limited warranty

10-year limited warranty

UL LISTED

Easy to Install

- Connects to service entrance[1] or main load center
- Includes neutral-forming transformer
- Mounts on single stud with centered brackets
- Provides conduit entry from bottom, left, or right
- Includes color-coded wires for ease of wiring System Shutdown Switch
- Integrates hold-down functionality to eliminate the need for hold-down kits and special breakers

Flexible

- Can be used for Sunlight Backup, Home Essentials Backup, or Full Energy Independence
- IQ System Controller 3 integrates with IQ Battery 5P
- IQ System Controller 3G integrates with select AC standby generators. See Generator Integration Tech Brief for a list of generators
- Provides a seamless transition to backup

Safe and Reliable

- System Shutdown Switch can be used to disconnect PV, battery, and generator systems
- It acts as a rapid shutdown initiator of grid-forming IQ8 PV Microinverters for safety of maintenance technicians/first responders
- 10-year limited warranty

Data subject to change.

(1) IQ System Controller 3 is not suitable for use as service equipment in Canada.

IQ System Controller 3/3G

DATASHEET

MODEL NUMBER	DESCRIPTION
SC200D111C240US01	IQ System Controller 3 streamlines grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports up to 40 kWH (without PCS*) and 80 kWh (with PCS*) IQ Battery 5P. **Does not support generator integration**
SC200G111C240US01	IQ System Controller 3G streamlines grid-independent capabilities of PV and storage installations. Integrates hold-down capability. Supports up to 20 kWH (without PCS*) and 40 kWh (with PCS*) IQ Battery 5P. **Supports generator integration**

WHAT'S IN THE BOX	
IQ System Controller 3/3G	Includes neutral-forming transformer (NFT) and microgrid interconnect device (MID)
System Shutdown Switch	Includes pre-wired red, black, orange and purple 12 AWG wire (EP200G-NA-02-RSD)
Wall-mounting bracket	Screws provided in the accessories kit for mounting
4-pole circuit breaker	Pre installed Quad breaker (BRK-20A40A-4P-240V), 20 A-40 A, 10 kAIC, Eaton BQC220240[2]
Accessories Kit	IQ System Controller 3/3G literature kit, including labels, CTRL headers, screws, filler plates, and QIG (EP200G-LITKIT)

OPTIONAL ACCESSORIES AND REPLACEMENT PARTS	
CT-200-SPLIT	200 A split core current transformers for metering (accuracy: ±2.5%)[3]
CT-200-CLAMP	200 A clamp-type current transformers for metering (accuracy: ±2.5%)[3]
Circuit breakers (order separately, as needed)[4]: • BRK-100A-2P-240V : Main breaker, 2-pole, 100A, 25kAIC, CSR2100N or CSR2100 • BRK-125A-2P-240V: Main breaker, 2-pole, 125A, 25kAIC, CSR2125N • BRK-150A-2P-240V: Main breaker, 2-pole, 150A, 25kAIC, CSR2150N • BRK-175A-2P-240V: Main breaker, 2-pole, 175A, 25kAIC, CSR2175N • BRK-200A-2P-240V: Main breaker, 2-pole, 200A, 25kAIC, CSR2200N	Circuit breakers (order separately, as needed)[5]: • BRK-20A-2P-240V-B: Circuit breaker, 2-pole, 20 A, 10 kAIC, BR220B/BR220 • BRK-30A-2P-240V-B: Circuit breaker, 2-pole, 30 A, 10 kAIC, BR230 • BRK-40A-2P-240V-B: Circuit breaker, 2-pole, 40 A, 10 kAIC, BR240B/BR240 • BRK-60A-2P-240V: Circuit breaker, 2-pole, 60 A, 10 kAIC, BR260 • BRK-80A-2P-240V: Circuit breaker, 2-pole, 80 A, 10 kAIC, BR280
EP200G-HNDL-R1	IQ System Controller 3/3G installation handle kit (order separately)
CTRL-SC3-NA-01	Control cable, 500 ft. spool (order separately)

ELECTRICAL SPECIFICATIONS	
Nominal voltage/Range (L-L)	240 V~[6]/±20%
Voltage measurement accuracy	±1% V nominal (±1.2V L-N and ±2.4V L-L)
Auxiliary (dry)contact for load control, excess PV control, and generator two-wire control	24 V, 1 A
Nominal frequency/Range	60 Hz/56–63 Hz
Frequency measurement accuracy	±0.1 Hz
Maximum continuous current rating	160 A
Maximum input overcurrent protection device	200 A
Maximum output overcurrent protection device	200 A
Maximum overcurrent protection device rating for generator circuit	80 A (IQ System Controller 3G only - SC200G111C240US01)
Maximum overcurrent protection device rating for storage circuit	2x 80 A (IQ System Controller 3 - SC200D111C240US01), 1x 80 A (IQ System Controller 3G - SC200G111C240US01)
Maximum overcurrent protection device rating for PV combiner unit	80 A
Internal busbar rating	200 A
Neutral-forming transformer (NFT) • Breaker rating (pre-installed): 40A between L1 and Neutral; 40A between L2 and Neutral • Continuous rated power: 3,600 VA	• Maximum continuous unbalance current: 30 A @ 120 V • Peak rated power: 8,800 VA for 30 seconds • Peak unbalanced current: 80 A @ 120 V for 2 seconds

(2) Factory installed quad breaker (Siemens or Eaton). NFT pre-wired to 40 A terminal of the quad breaker.
(3) Two unit of CT-200-SPLIT or CT-200-CLAMP to be bought separately for generator integration
(4) The IQ System Controller 3 is rated at 22 kAIC.
(5) Integrated hold down kit also support breakers (BR220/BR230/BR240) without predrilled hole .
(6) "~" indicates alternating current (AC) supply .
(*) Power Control System

MECHANICAL DATA		
Dimensions (WxHxD)	50 cm x 91.6 cm x 24.6 cm (19.7 in x 36 in x 9.7 in)	
Weight	39.4 kg (87 lbs)	
Ambient temperature range	-40°C to 50°C (-40°F to 122°F)	
Cooling	Natural convection, plus heat shield	
Enclosure environmental rating	Outdoor, NEMA type 3R, polycarbonate construction	
Maximum altitude	2,500 meters (8,200 feet)	
WIRE SIZES		
Connections (All lugs are rated to 90°C)	Main lugs and backup load lugs CSR breaker bottom wiring lugs AC combiner lugs, IQ Battery lugs, and generator lugs Neutral (large lugs)	Cu/Al: 6 AWG–300 kcmil Cu/Al: 2 AWG–300 kcmil 14 AWG–2 AWG Cu/Al: 6 AWG–300 kcmil
Neutral and ground bars	Large holes (5/16–24 UNF) Small holes (10–32 UNF)	14 AWG–1/0 AWG 14 AWG–6 AWG
COMPLIANCE		
Compliance (under progress)	UL 1741, UL 1741 SA, IEEE 1547:2018 (UL 1741-SB, 3rd Ed.), UL 1741 PCS CRD, UL1 998, UL 869A, UL 675, UL 508[7], UL 50E[7] CSA 22.2 No. 107.1, 47 CFR Part 15 Class B, ICES 003, ICC ES AC156. The IQ System Controller 3/3G is approved for use as service equipment in the United States	
WARRANTY		
Limited warranty (restrictions apply)	Up to 10 years (EP200G-NA-02-RSD is warrantied for 5 years)	
COMPATIBILITY		
IQ Battery 5P	IQBATTERY-5P-1P-NA	
Microinverters	IQ6, IQ7, IQ8, and M[8] Series Microinverters[9]	
IQ Combiner 5/5C	X-IQ-AM1-240-5C, X-IQ-AM1-240-5	
Communications Kit 2	COMMS-KIT-02	

(7) Sections from these standards were used during the safety evaluation and included in the UL 1741 listing.
(8) M Series microinverters can only be supported in states that have not yet adopted IEEE 1547:2018.
(9) Enphase does not support mixing IQ8 Series Microinverters with other Series on the same IQ Gateway.

Figure 1A: Installing DER breakers for IQ8 System without generator

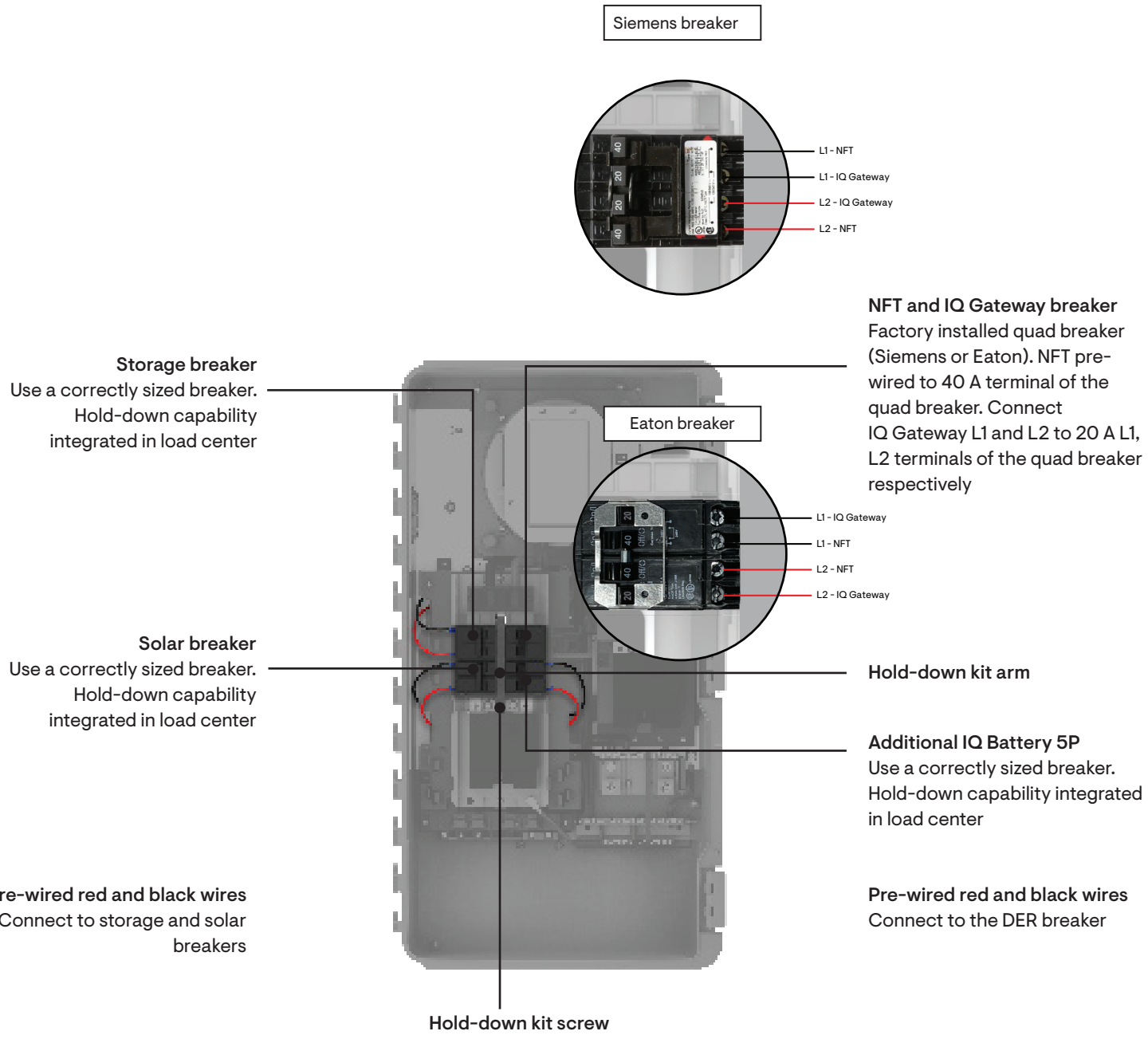


Figure 1B: Installing DER breakers for IQ8 System with generator

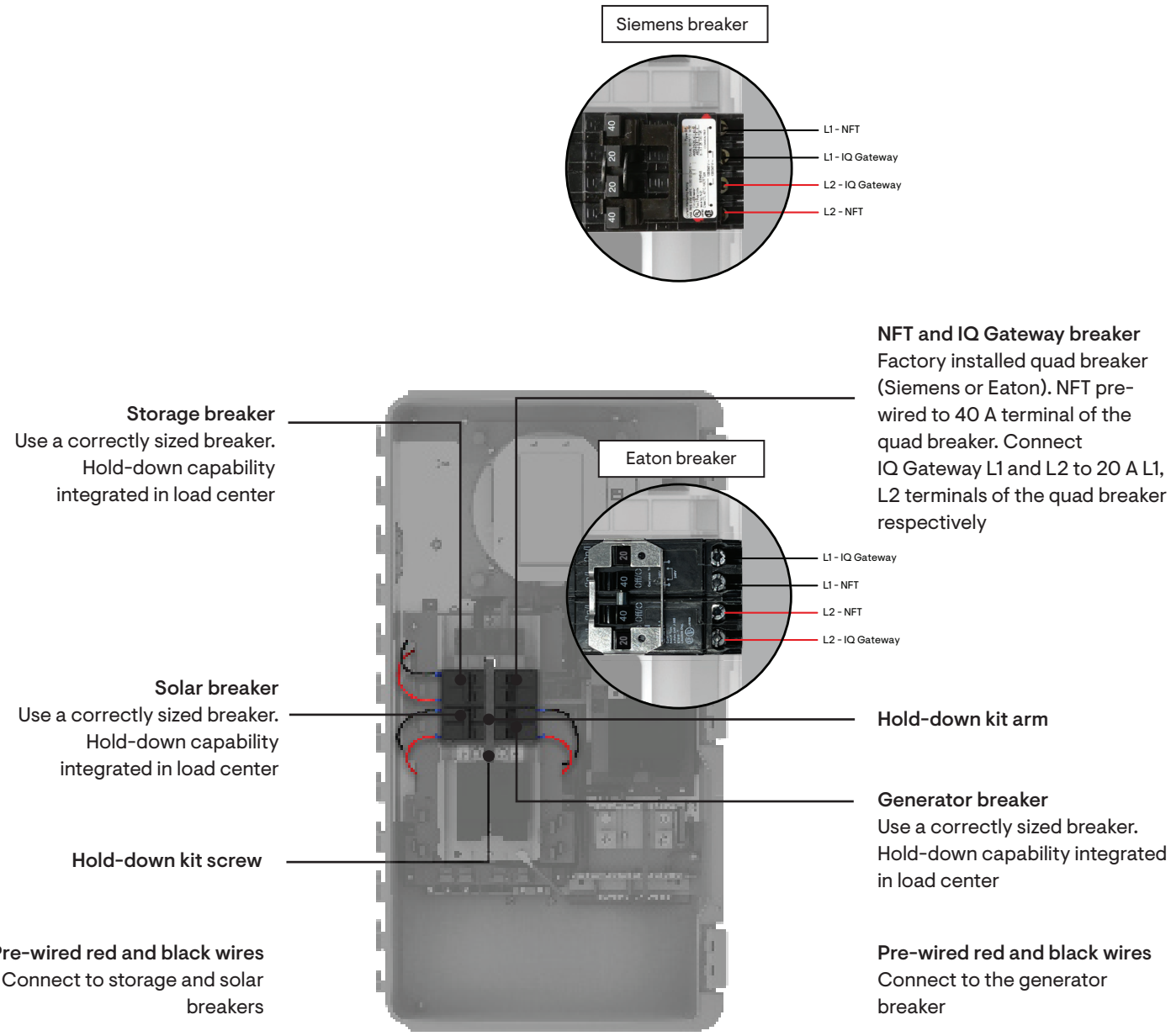
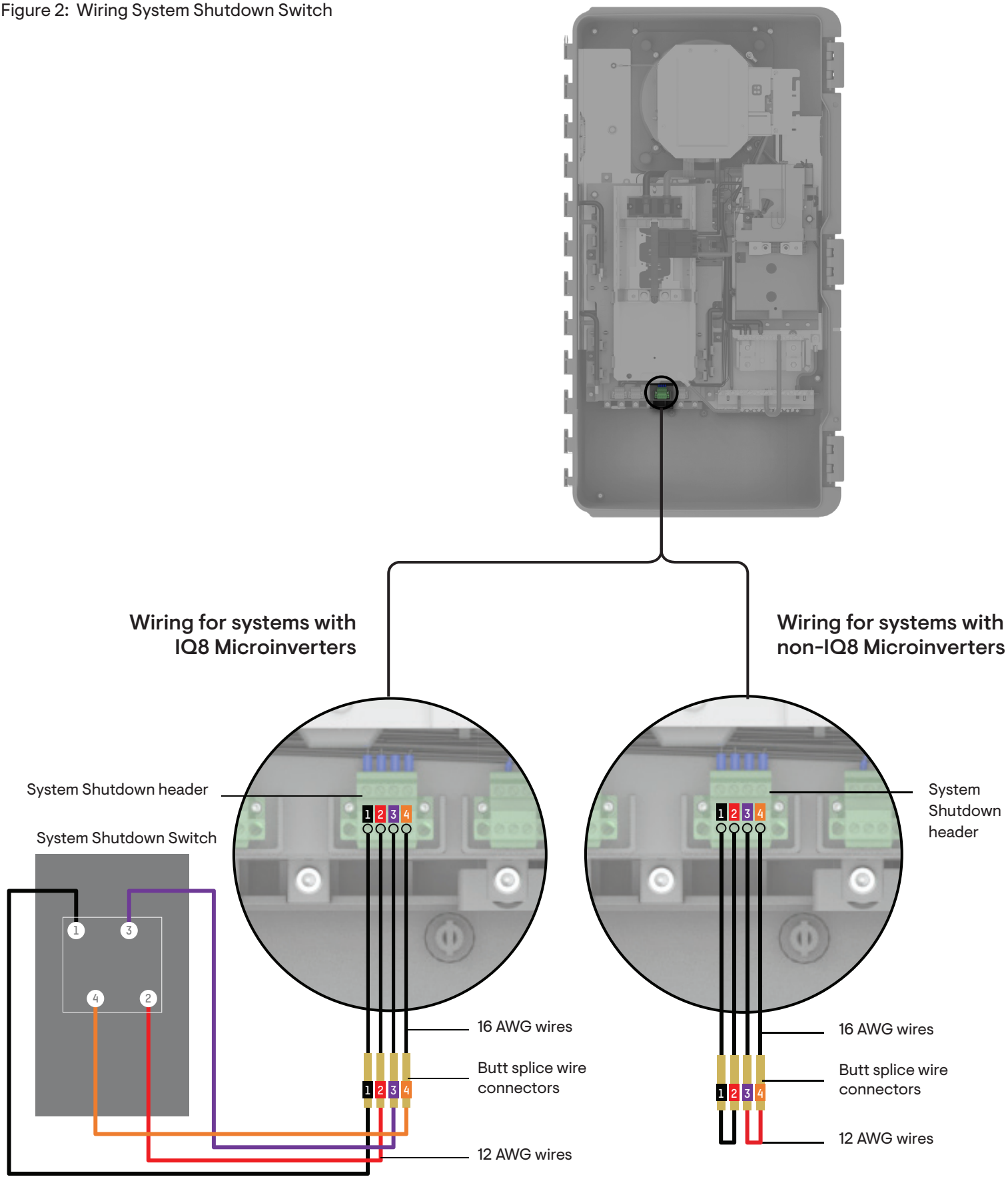


Figure 2: Wiring System Shutdown Switch



Revision history

REVISION	DATE	DESCRIPTION
DSH-00021-1.0	May 2023	Initial release

Data subject to change.