

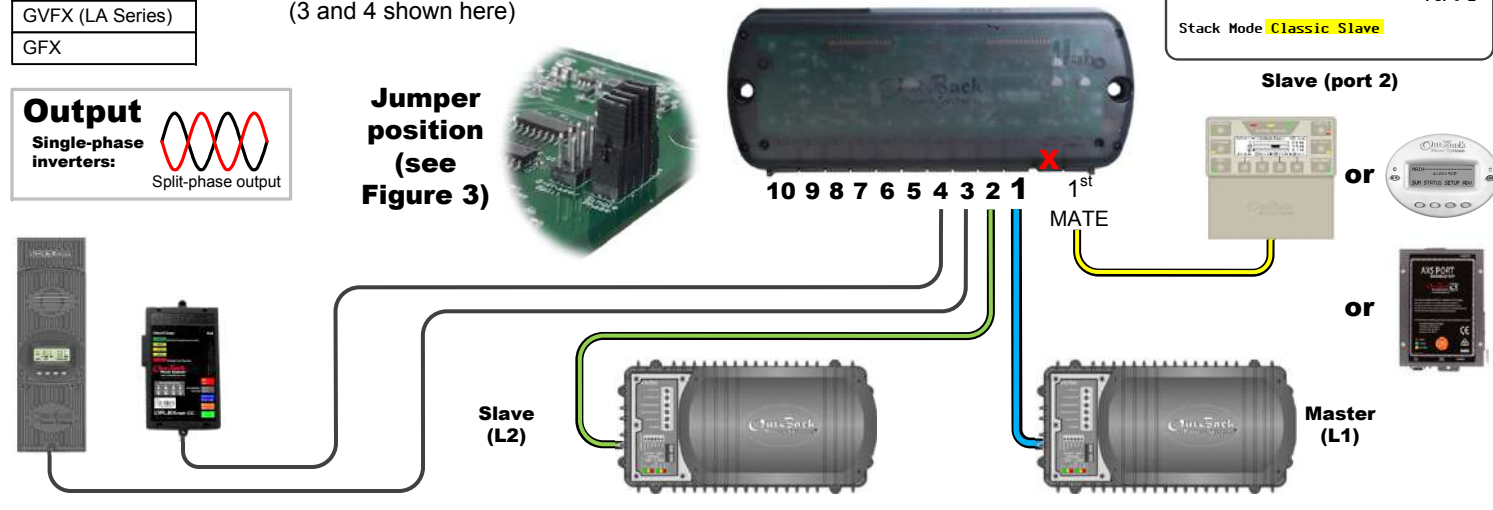
Models
FX / VFX (includes J, M, N Series)
GTFX
GVFX
GTFX (LA Series)
GVFX (LA Series)
GFX

Figure 9 Series Stack (Classic)

- 2 inverters; up to 8 other devices
- Master and single Slave inverter use separate output AC buses (L1 and L2)
- Both inverters always active (no Power Save mode); outputs are loaded independently but output regulation is controlled by load on Master
- Ports 3 through 10 can host other devices (3 and 4 shown here)

Output
Single-phase inverters:
Split-phase output

Jumper position
(see Figure 3)



Inverter Stacking Port 1
Stack Mode **Master** or **1-2phase Master**

Master (port 1 only)

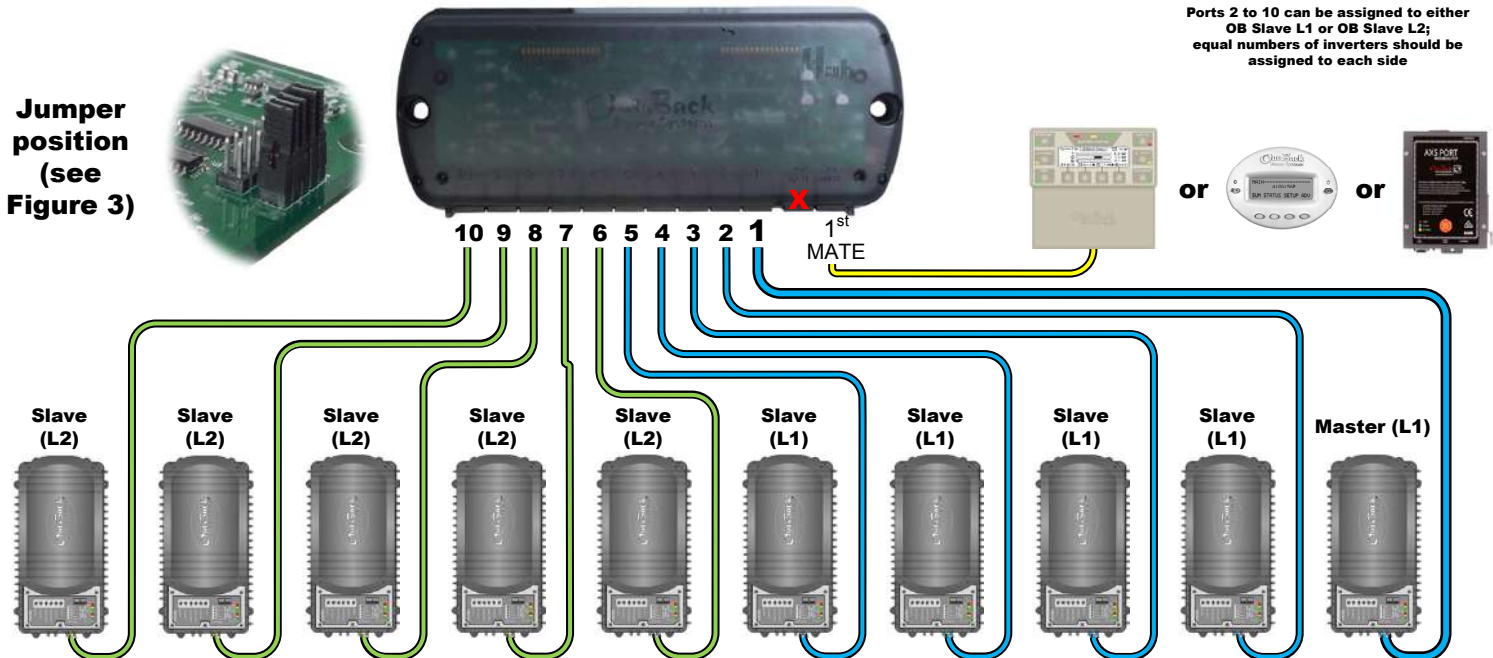
Inverter Stacking Port 2
Stack Mode **Classic Slave**

Slave (port 2)

Figure 10 Series Stack (OutBack)

- Up to 10 inverters or other devices; requires balancing transformer
- Master inverter and half of the Slave inverters use common output AC bus (L1)
- The remaining Slave inverters use a separate common AC bus (L2)
- Master inverter is always active; regulates output based on load; can power both L1 and L2 buses using balancing transformer
- Slave inverters remain in Power Save mode; Master activates any Slave inverters for either L1 or L2 based on load
- Unused ports can host other devices (not shown here)

Jumper position
(see Figure 3)



Models
FX / VFX (includes J, M, N Series)

Output
Single-phase inverters:
Split-phase output

Inverter Stacking Port 1
Stack Mode **Master** or **1-2phase Master**

Master (port 1 only)

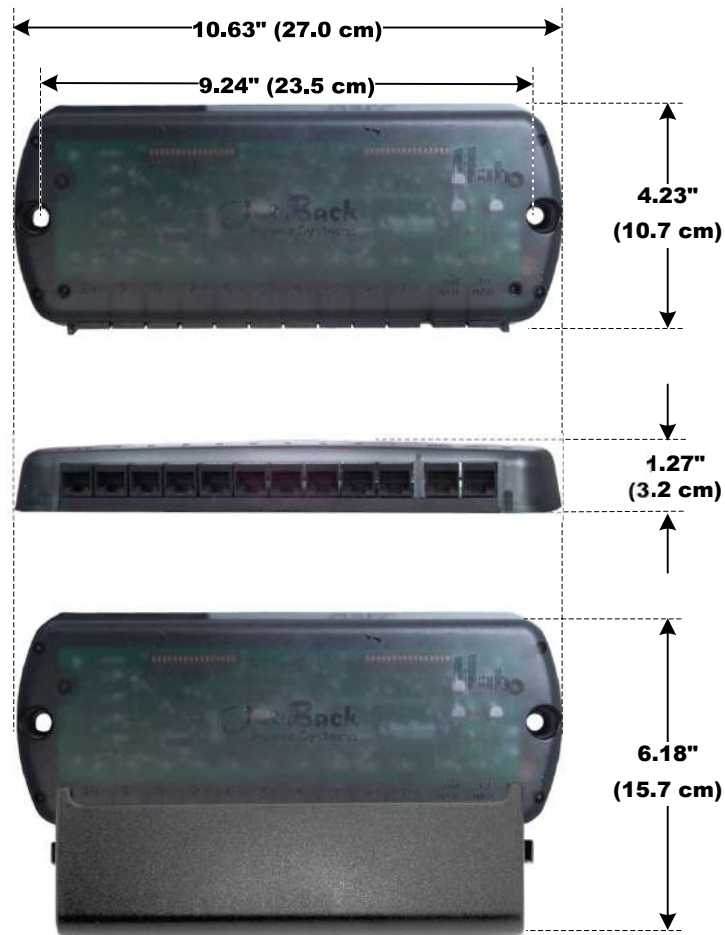
Inverter Stacking Port 2
Stack Mode **OB Slave L1** or **OB Slave L2**

Slave (port 2)

Ports 2 to 10 can be assigned to either OB Slave L1 or OB Slave L2; equal numbers of inverters should be assigned to each side

HUB10.3 Communications Manager

Figure 1 Dimensions



IMPORTANT:
Not intended for use with life support equipment.

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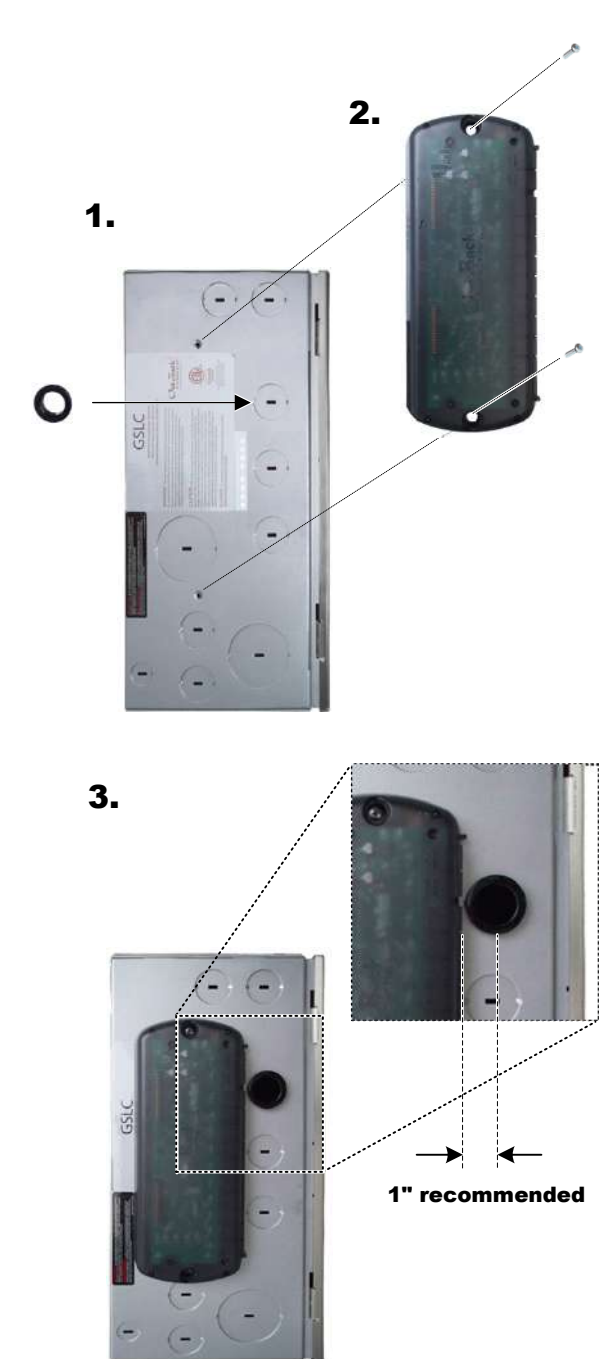
Date and Revision

July 2016, Revision E

Parts List	
HUB10.3	HUB Wiring Cover
#10 x 1/2" Screws x 2	Cable, CAT5e, 3' (1 m) x 2
Shutter Bushing x 2	Cable, CAT5e, 6' (2 m) x 3
Snap Bushing x 2	Cable, CAT5e, 10' (3 m) x 4

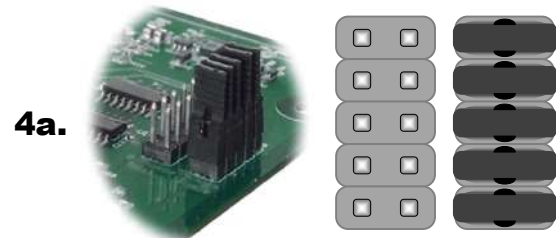
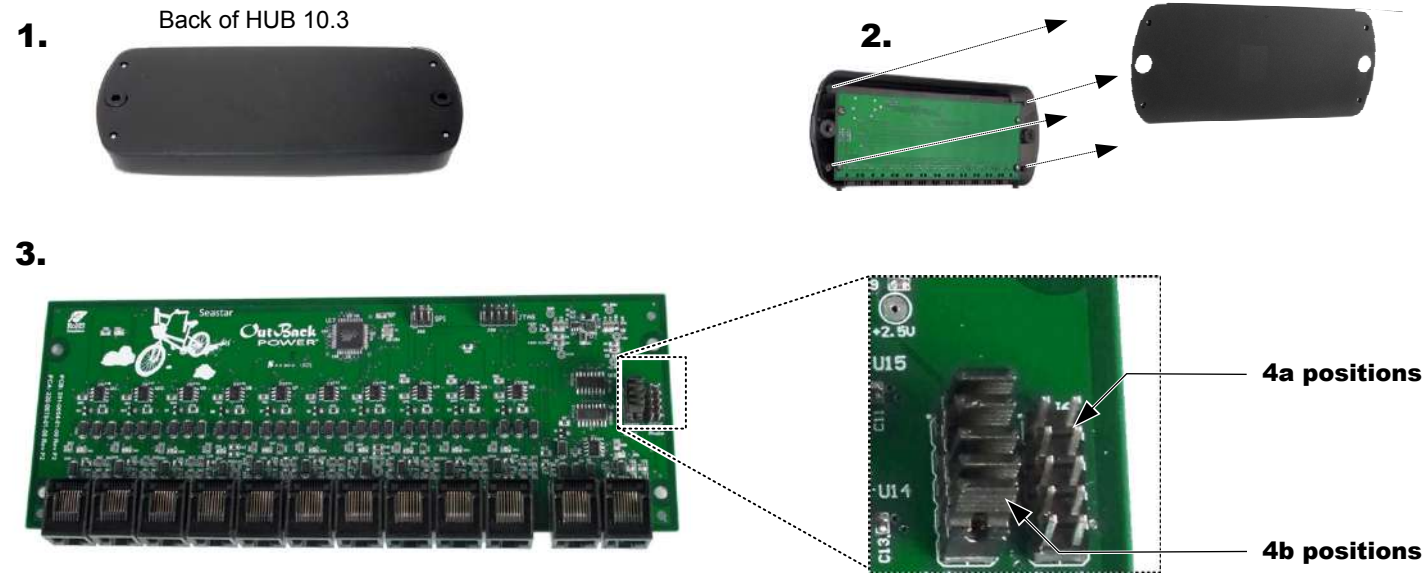
NOTE: See inverter literature for more information on stacking modes and designations.

Figure 2 Mounting



Jumper Configurations

Figure 3 Changing Jumpers



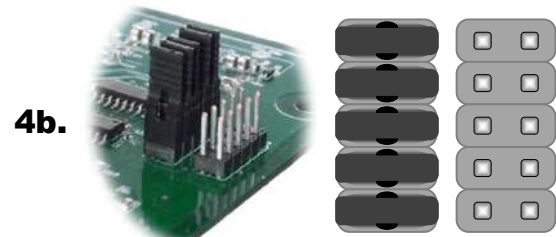
This is the factory-installed initial position.

- Used for parallel stacking in all models. See Figure 4.
- Used for classic or OutBack series stacking. See Figures 8 and 9.
- Used for three-phase OutBack stacking with models GVFX(E) and GTFX(E). See Figure 6.

For these applications, verify that all jumpers are in the positions noted in the photograph and the diagram.

Jumper position identified by MATE3 on power-up:

Searching for Devices
Found
HUB10.3



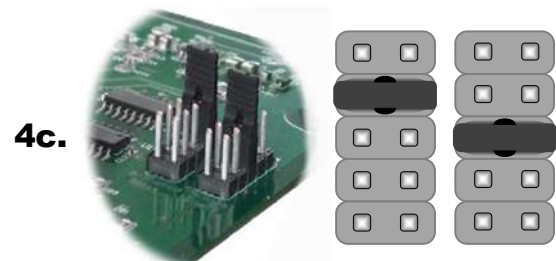
- Used for Subphase Master stacking in FXR, GS, and GFX inverters (both series and three-phase configurations). See Figures 7 and 8.

For these applications, place all jumpers in the positions noted in the photograph and the diagram.

NOTE: This option requires MATE3 firmware revision 002.013.000 or higher.

Jumper position identified by MATE3 on power-up:

Searching for Devices
Found
HUB10.3



- Used for three-phase OutBack stacking with FX, VFX, FX(E) or VFX(E) inverters. See Figure 5.

For this application, place *only two jumpers* in the positions noted in the photograph and the diagram.

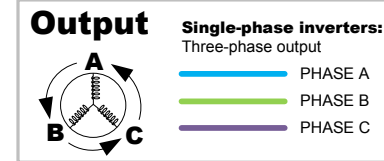
Remove all remaining jumpers. No others are used for this configuration.

Jumper position identified by MATE3 on power-up:

Searching for Devices
Found
HUB10.3 Sub-phase Master

Figure 8 Three-Phase Stack (Subphase Master)

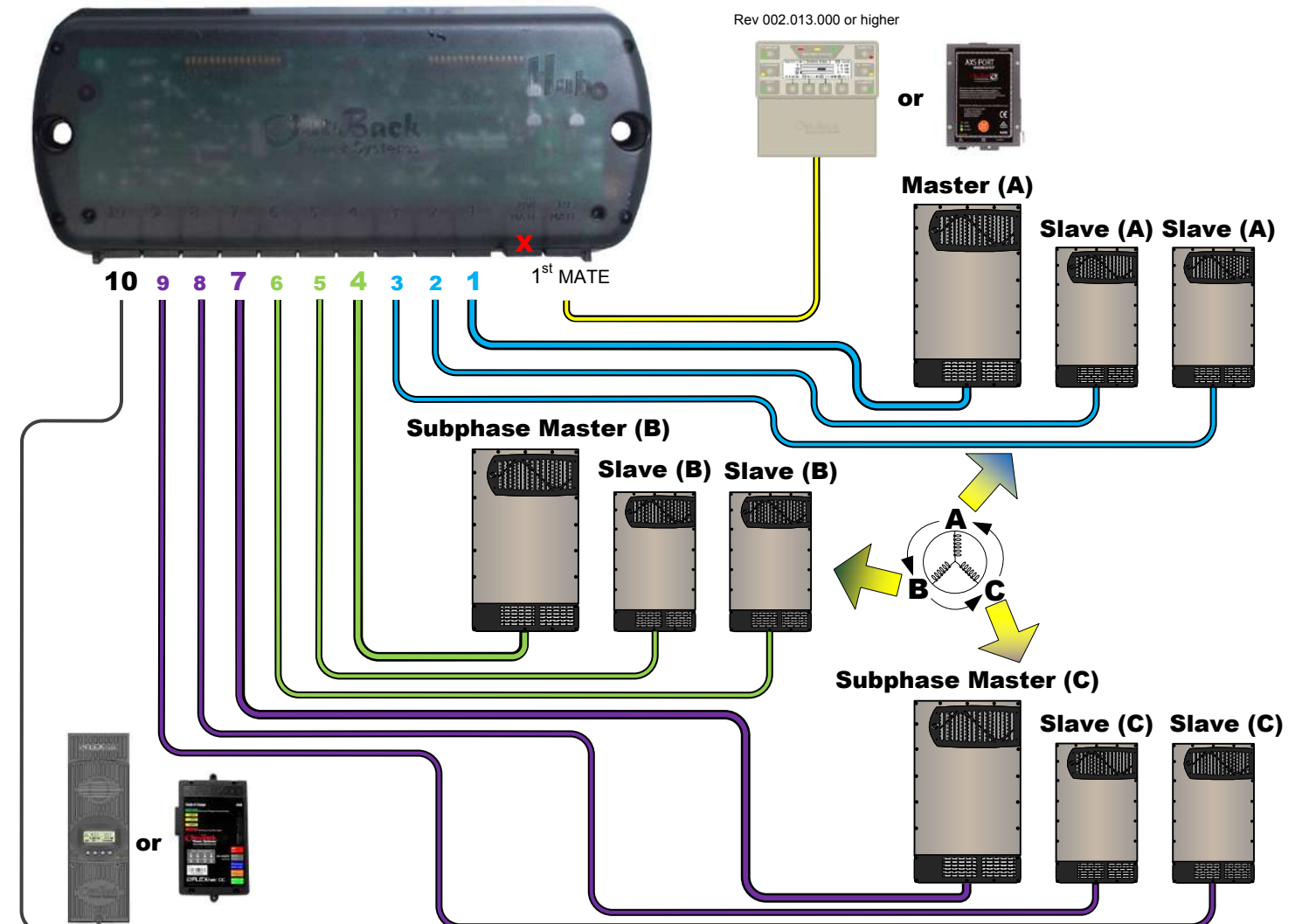
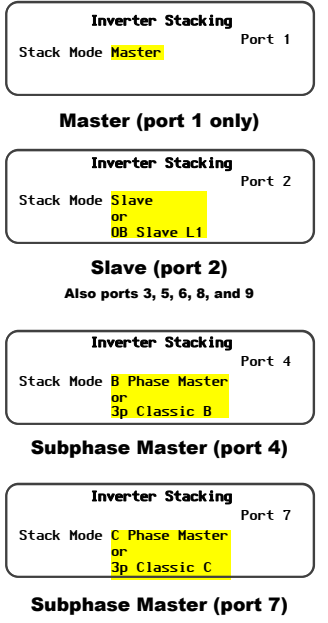
Models
FXR (A series)
FXR (E series)
GS (E Series)
GFX
GFX (E Series)



Jumper position (see Figure 3)



- Up to 9 inverters (ports 1 to 9); 1 other device (port 10); MATE3 only
- Master inverter (required on port 1) and up to two Slaves (ports 2 & 3) use Phase A output AC bus
- Subphase Master (required on port 4) and up to two Slaves (ports 5 & 6) use Phase B output AC bus
- Subphase Master (required on port 7) and up to two Slaves (ports 8 & 9) use Phase C output AC bus
- Phase A, B, and C Slave inverters should be equal in number; Slave selection screen may display **Slave** but could display **OB Slave L1** depending on model
- Master and Subphase Masters are always active; each Master regulates output based on its own load
- Slave inverters remain in Power Save mode; the Master activates Phase A Slave inverters based on its load, while the Subphase Masters **independently** activate Phase B or C Slave inverters based on their own loads
- Port 10 not used for inverters; this and any unused slave ports can host other devices



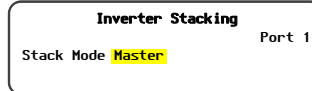
Stacking (Subphase Master)

Figure 7 Series Stack (Subphase Master)

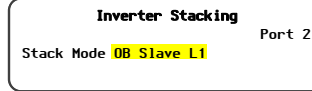
Models
FXR (A Series)
GFX



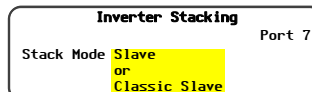
- Up to 8 inverters (ports 1 to 4, 7 to 10); balancing transformer is not used
- Master inverter and half of the Slave inverters use common output AC bus (L1); ports 2 to 4 are L1 slaves
- Subphase Master inverter and half of the Slave inverters use a separate common AC bus (2); ports 8 to 10 are L2 Slave inverters despite the screen selection (OB Slave L1)
- Port 7 is the L2 Subphase Master despite the screen selection (Classic Slave); this port is required regardless of the number of Slave inverters
- Master and Subphase Master are always active; each Master regulates output based on its own load
- Slave inverters remain in Power Save mode; Master activates L1 Slave inverters based on its load, while the Subphase Master **independently** activates L2 Slave inverters based on its own load
- Ports 5 and 6 not used for inverters; these and any unused slave ports can host other devices



Master (port 1 only)



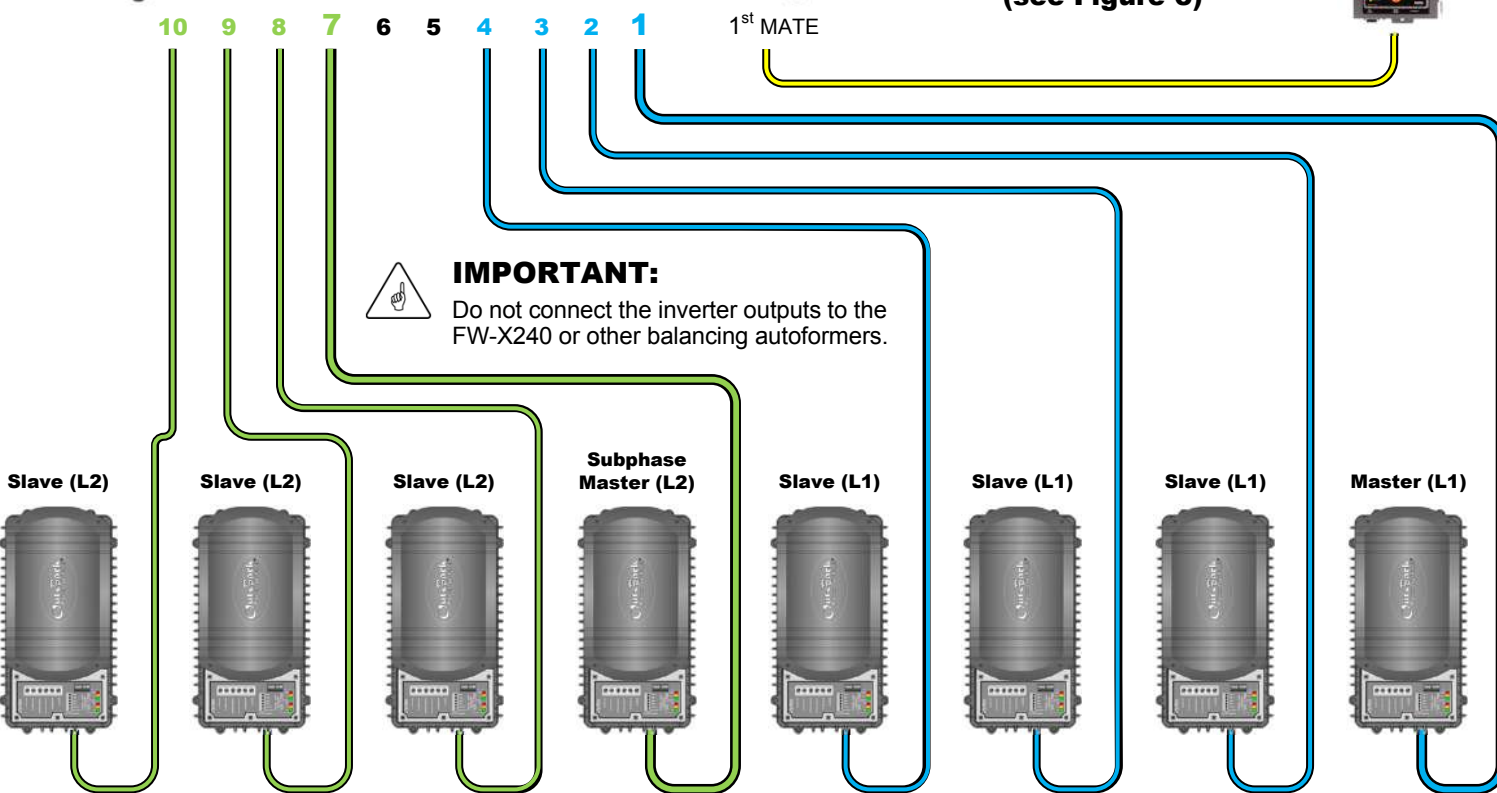
Slave (port 2)
Also ports 3, 4, 8, 9, and 10



Subphase Master (port 7)



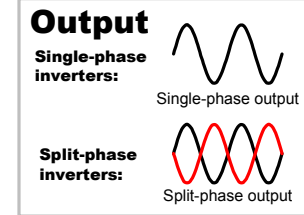
Jumper position (see Figure 3)



Stacking (Parallel)

Figure 4 Parallel Stack

Models
FXR (A Series)
FXR (E Series)
GS (A Series)
GS (E Series)
GS8048
FX / VFX (all series, including E, J, M, N, and W)
GFX
GFX (E Series)
GTFX / GVFX (E Series)



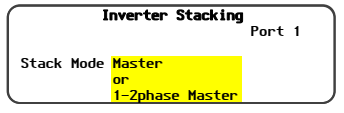
Jumper position (see Figure 3)



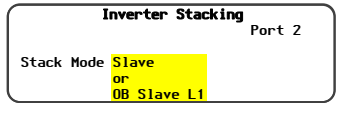
(with FX-class inverter)



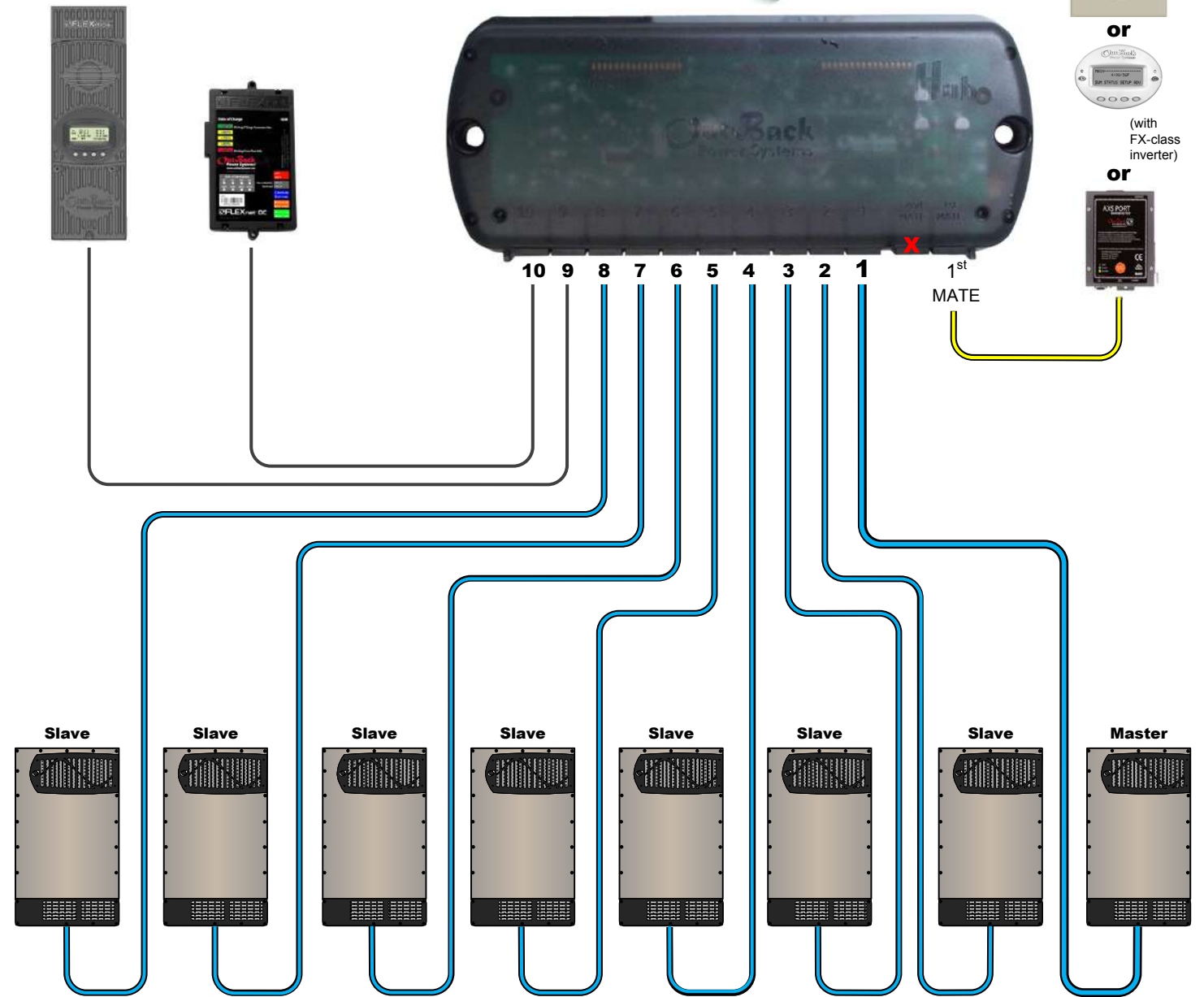
- Up to 10 inverters or other devices
- All inverters use common AC output bus
- Master inverter always active; regulates power output based on load
- Slave inverters remain in Power Save mode; Master activates Slave inverters based on load
- Any unused port can host other devices (ports 9 and 10 shown here)



Master (port 1 only)



Slave (port 2, port 3, etc.)



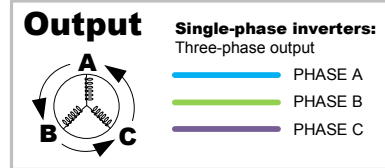
Stacking (Three-Phase)

Models
FX / VFX (all series, including E, J, M, N, and W)

Figure 5 Three-Phase Stack (all series FX)

- 3 inverters; up to 7 other devices
- Master and two Slave inverters use separate output AC buses (A, B, and C)
- All inverters always active (no Power Save mode); outputs are loaded independently but output regulation is controlled by load on Master
- Ports 2,3, and 6 through 10 can host other devices (ports 9 and 10 shown here)

Jumper position (see Figure 3)

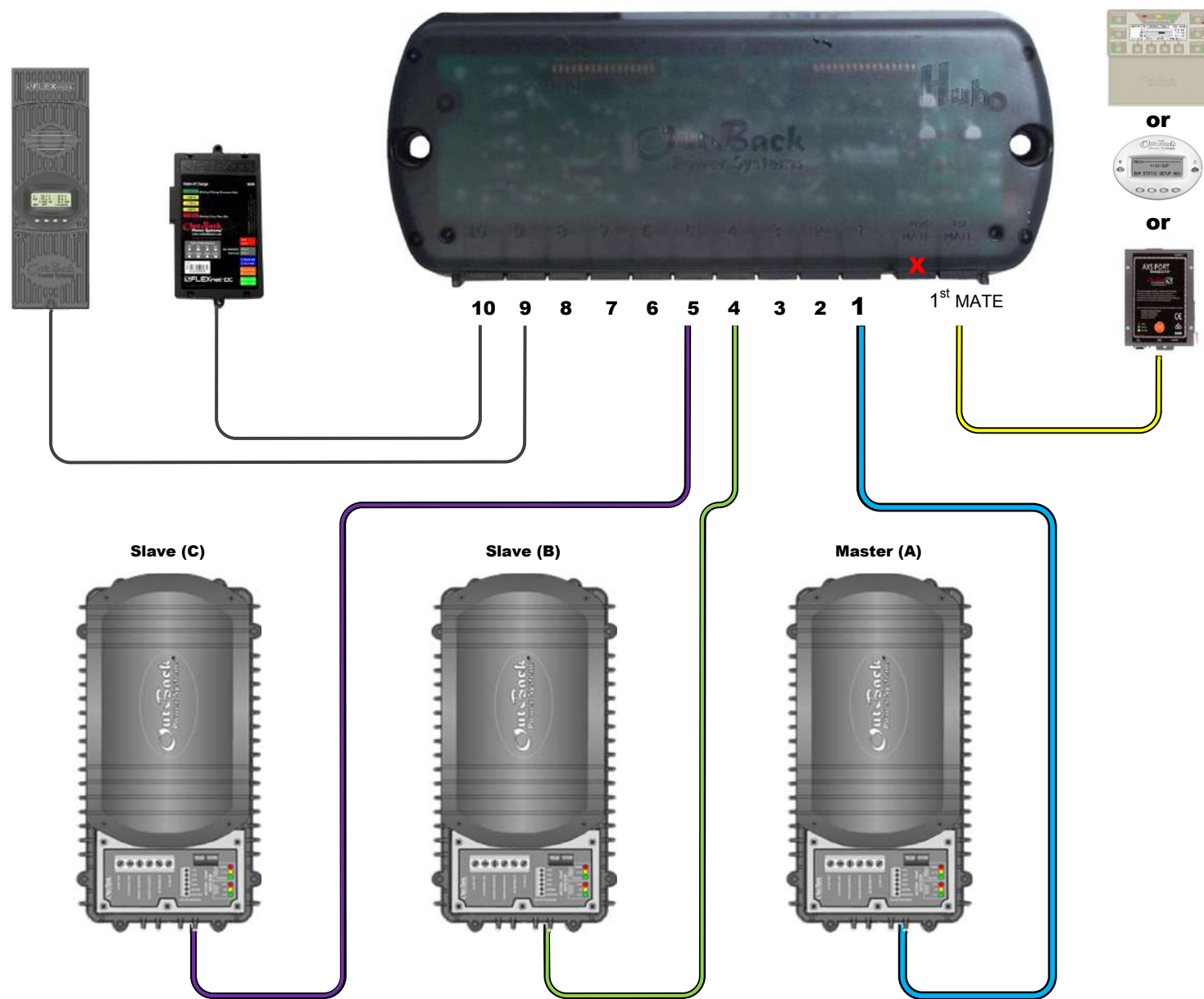


Inverter Stacking Port 1
Stack Mode **Master**

Inverter Stacking Port 4
Stack Mode **3ph Slave**

Inverter Stacking Port 5
Stack Mode **3ph Slave**

Slave C (port 5 only)

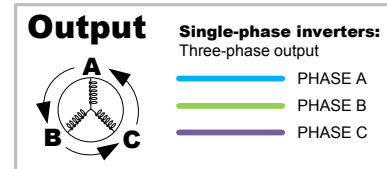


Models
GTFX (E Series)
GVFX (E Series)

Figure 6 Three-Phase Stack (E series FX)

- Up to 9 inverters; 1 other device
- Master and two Slave inverters use separate output AC buses (A, B, and C)
- All inverters always active (no Power Save mode); outputs are loaded independently but output regulation is controlled by load on Master
- Any unused port can host other devices (port 10 shown here)

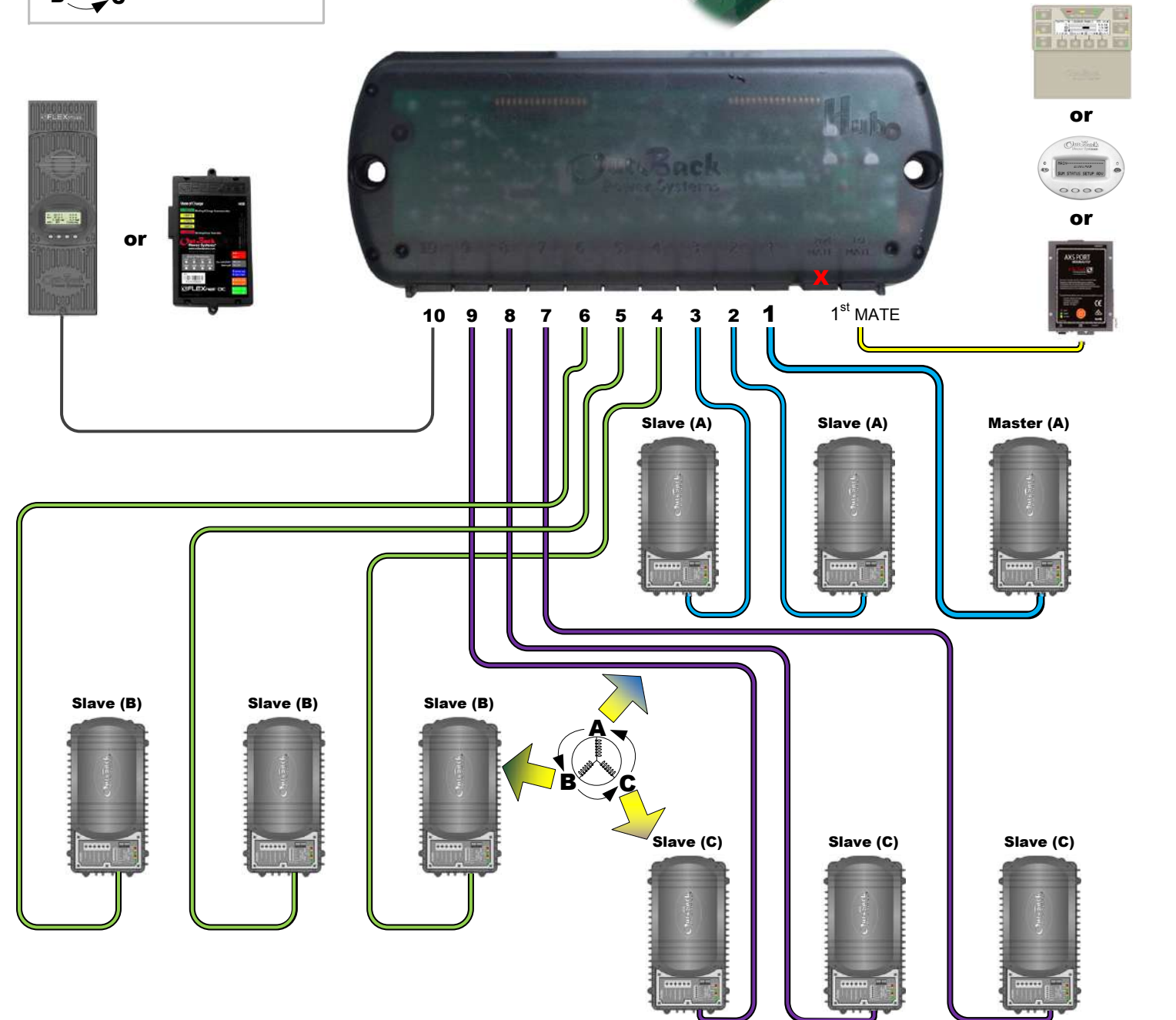
Jumper position (see Figure 3)



Inverter Stacking Port 1
Stack Mode **Master**

Inverter Stacking Port 2
Stack Mode **3phase 0B Slave A**
3phase 0B Slave B
3phase 0B Slave C

Slave A, B, or C (port 2, port 3, etc.)
Ports 2 to 10 can be assigned any 3phase 0B Slave stack mode; no more than 3 inverters per mode





Worldwide Corporate Offices			
Headquarter Germany Hansastraße 8 D-91126 Schwabach Tel: +49 9122 79889 0 Fax: +49 9122 79889 21 Mail: info@alpha-outback-energy.com	Eastern Europe ee@alpha-outback-energy.com	France and Benelux fbnl@alpha-outback-energy.com	Russia russia@alpha-outback-energy.com
	Middle East me@alpha-outback-energy.com	Spain spain@alpha-outback-energy.com	Africa africa@alpha-outback-energy.com

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