

BIEN-AIR INSTALLATION DIAGRAMS AND BRACKET INFORMATION



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IMPORTANT

Bien-Air USA is committed to simplifying operatory workflows for working dental professionals.

The Optima^{INT} and iOptima^{INT} integrated motor control units focus on streamlining dental procedures, and most single motor variations allow for future upgrade, such as adding a second motor, a second and third motor, or a second motor plus piezo scaler.

Included brackets fit most delivery units.

For delivery units by Belmont, Midmark, and Ritter, please contact the manufacturer directly for custom brackets. For A-dec delivery units, see [page 40-41](#) and ensure that the corresponding bracket parts are included when ordering.

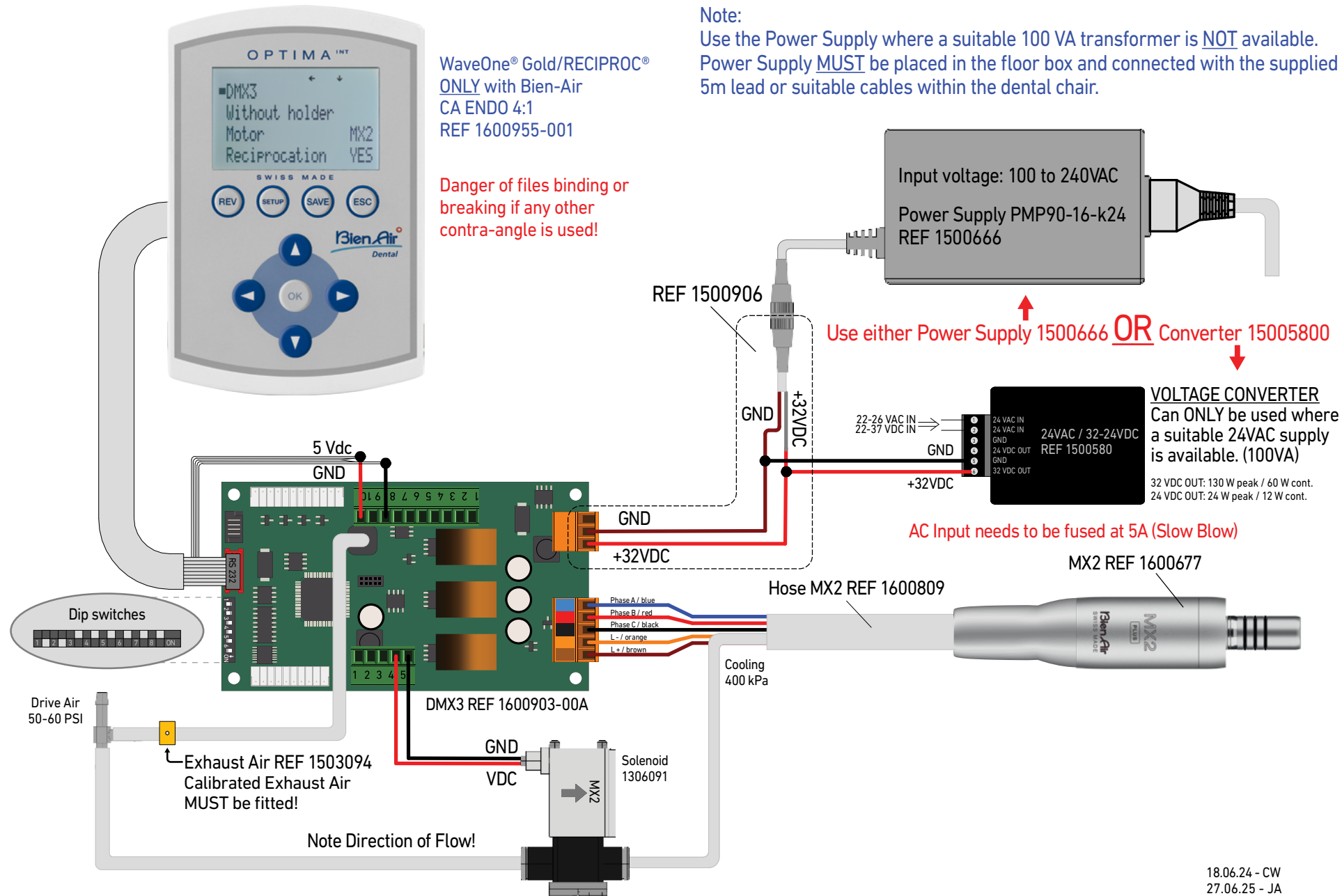
OPTIMA^{INT} (Touchpad) Single Motor configurations do not require installation of an Air Switch to function. To streamline the installation of additional motors to the same system, please keep unused parts, such as the Air Switch, inside the delivery unit and next to the installed circuit board.

Configurations with multiple MX2 PLUS LED micromotors rely on Air Switches for the control unit to determine which motor activates with the foot pedal. See [page 30](#) for troubleshooting information if a motor/attachment does not function when lifted from its holder.

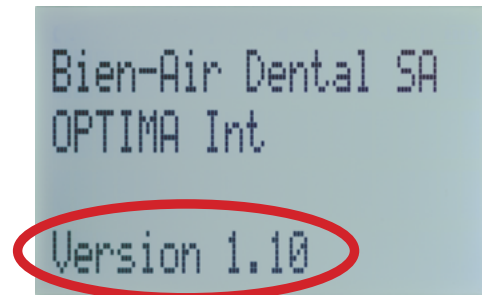
To ensure successful installation, please follow the diagrams and instructions in this manual. The diagrams in this manual contain the most common but are not exhaustive of over 50 different iOPTIMA^{INT} configurations. Specialized configurations may require a combination of steps from different diagrams.

For additional information, please call (800) 433-2436.

OPTIMA^{INT} connection with DMX3 (1 motor)

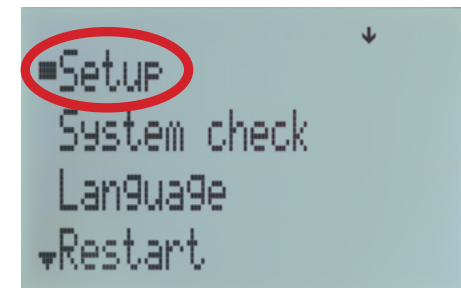


When booting up the system for the first time:

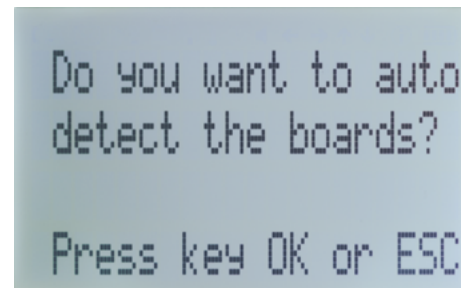


1. Power on system and check for version 1.10 along the bottom of the screen.

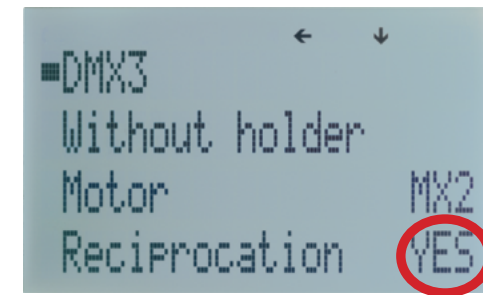
Use the buttons on the touchpad to navigate, change, and confirm selections.



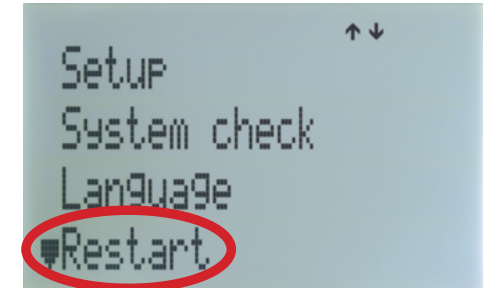
2. Press OK to enter Setup



3. Press OK to auto detect circuit board

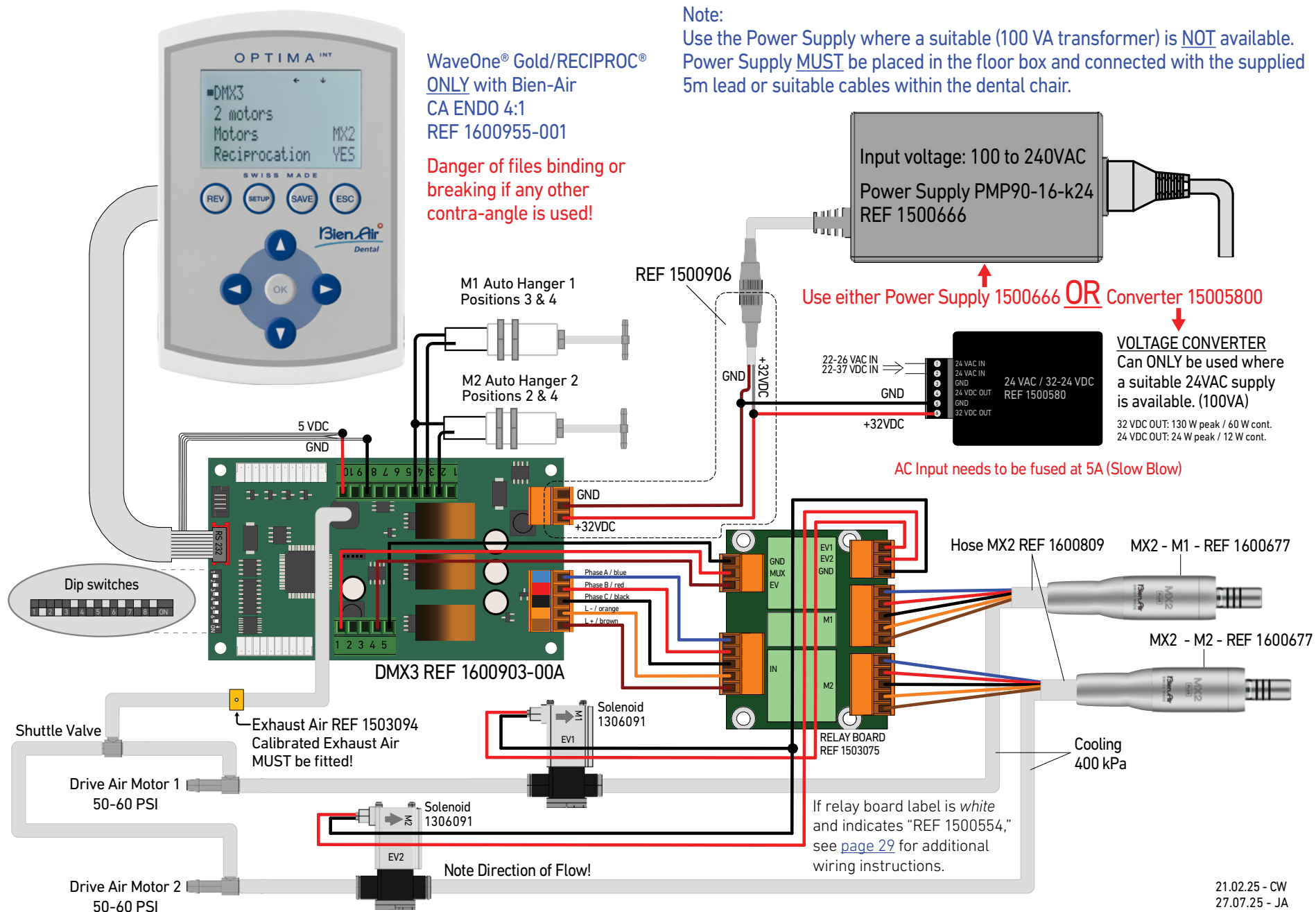


4. Screen will display the above. Ensure that Reciprocation is set to YES, then press SAVE.

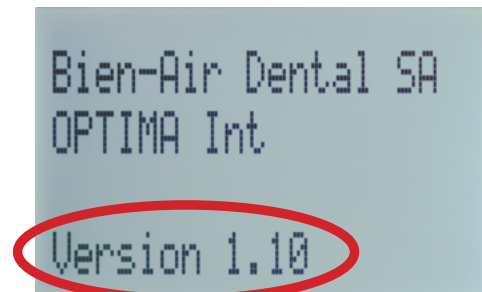


5. Move cursor down to Restart, then press OK. System is now configured and ready for use.

OPTIMA^{INT} connection with DMX3 (2 motors)

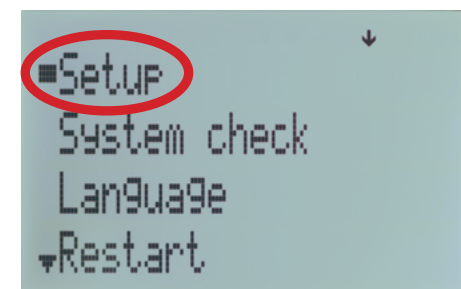


When booting up the system for the first time:

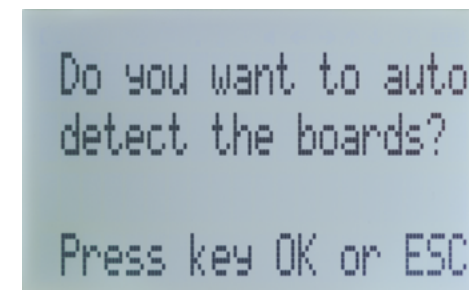


1. Power on system and check for version 1.10 along the bottom of the screen.

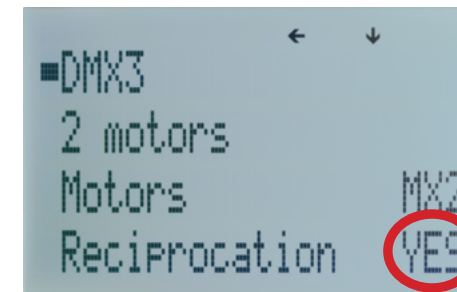
Use the buttons on the touchpad to navigate, change, and confirm selections.



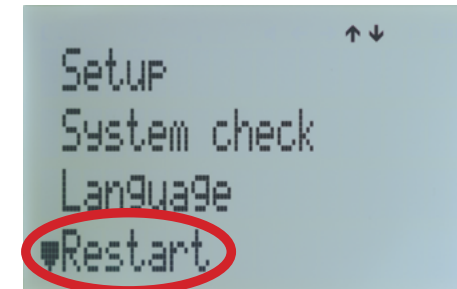
2. Press OK to enter Setup



3. Press OK to auto detect circuit board

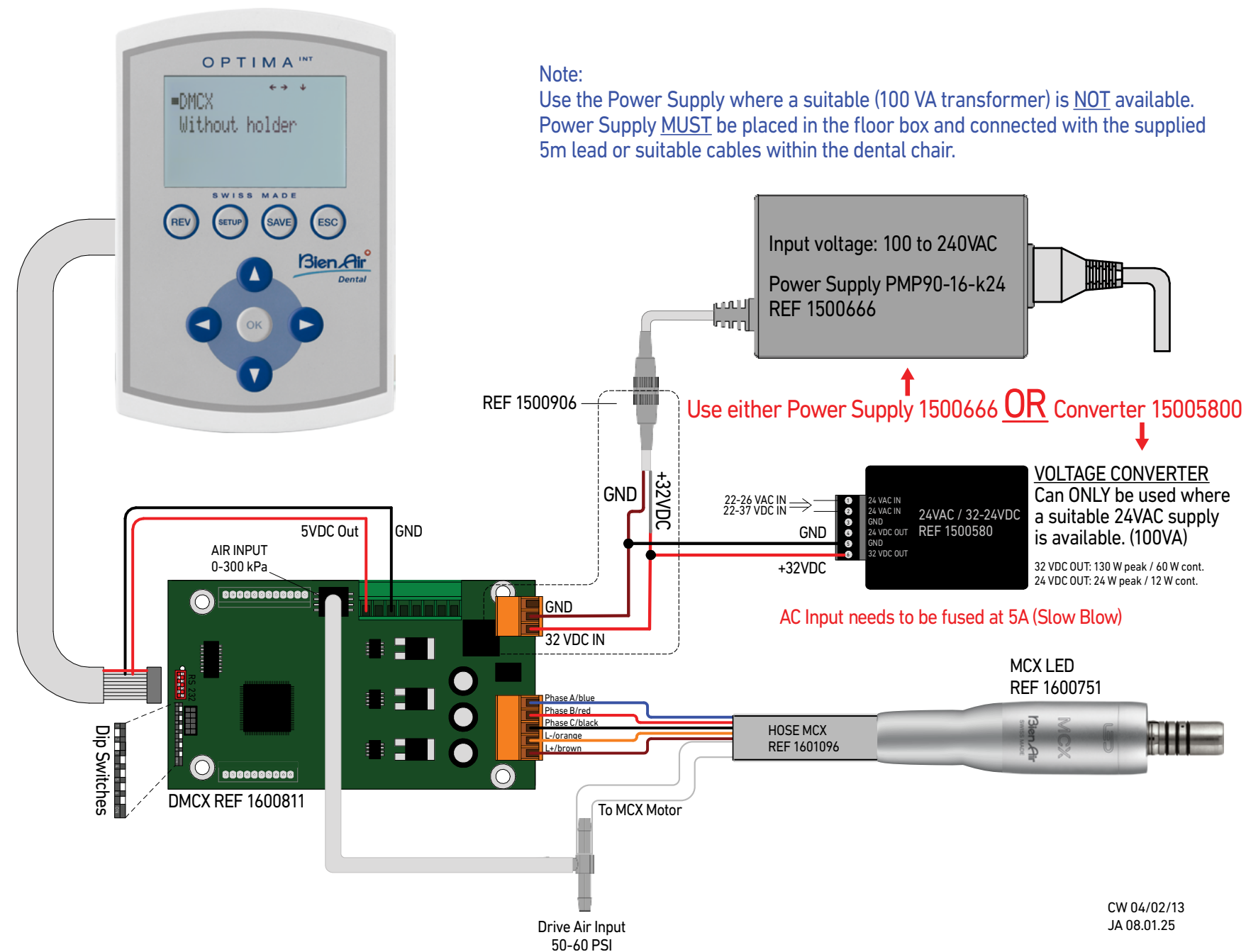


4. Screen will display the above. Ensure that Reciprocation is set to YES, then press SAVE.



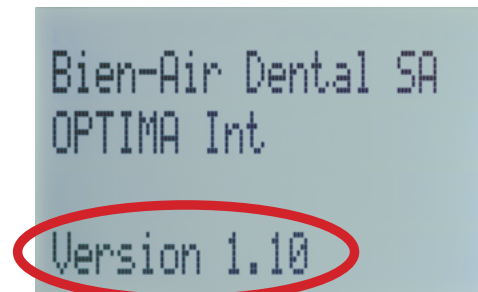
5. Move cursor down to Restart, then press OK. System is now configured and ready for use.

OPTIMA^{INT} connection with DMCX (1 motor without holder)



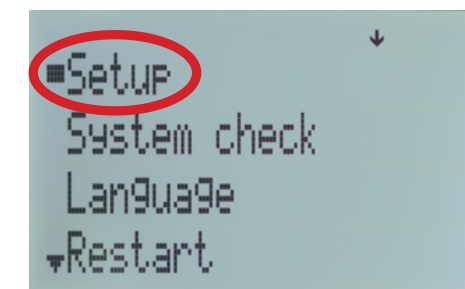
CW 04/02/13
JA 08.01.25

When booting up the system for the first time:

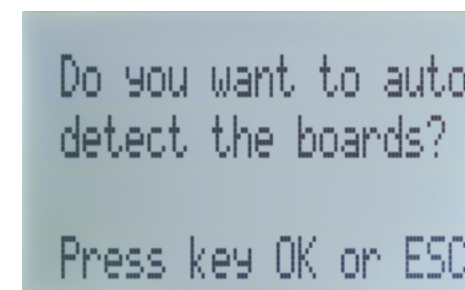


1. Power on system and check for version 1.10 along the bottom of the screen.

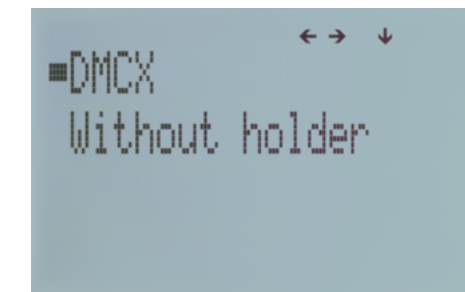
Use the buttons on the touchpad to navigate, change, and confirm selections.



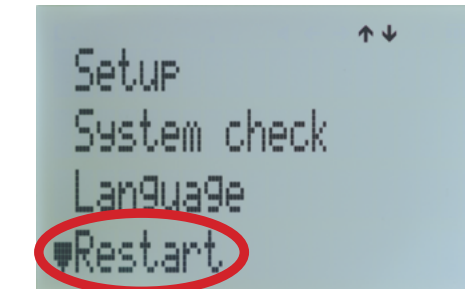
2. Press OK to enter Setup



3. Press OK to auto detect circuit board

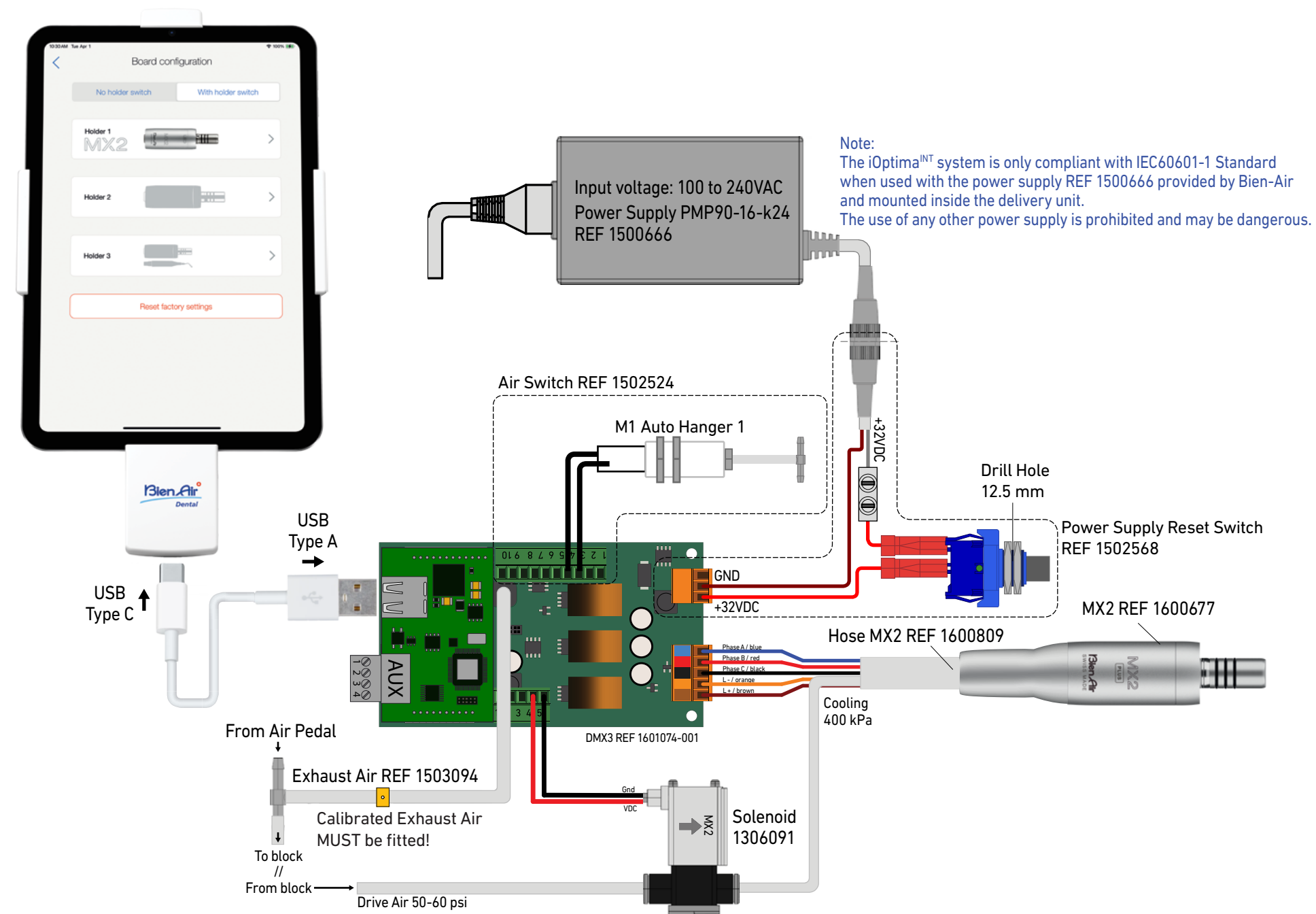


4. Screen will display the above. Press SAVE.



5. Move cursor down to Restart, then press OK. System is now configured and ready for use.

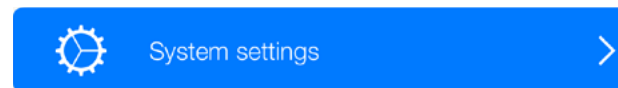
iOPTIMA^{INT} connection with DMX3 (1 motor)



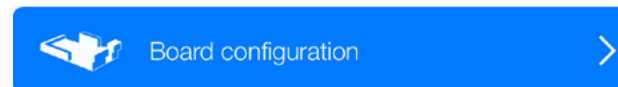
iOptima^{INT} Application Settings



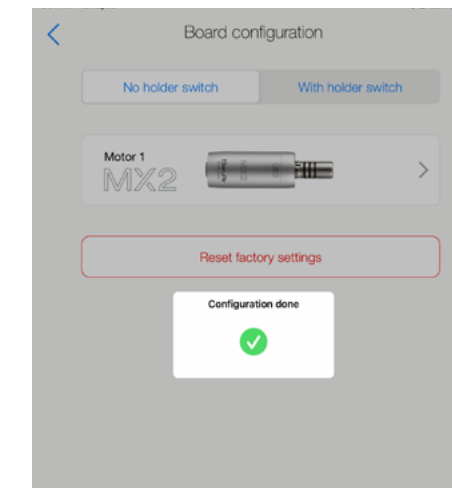
1. Start the iOptima App. At the main screen, tap the Settings icon (⚙️) in the bottom left.



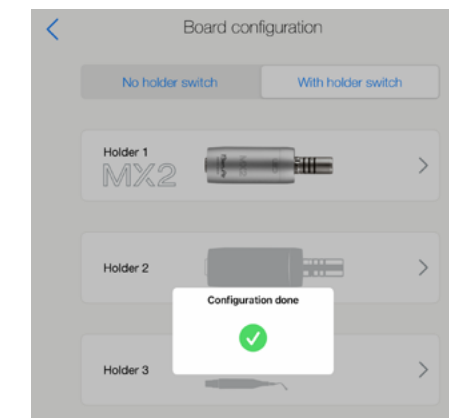
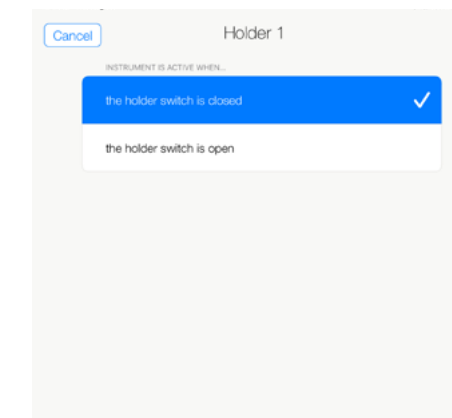
2. Enter the password 1959, then enter the System settings page.



3. Choose Board configuration, and the motor for Holder 1 will automatically choose MX2.

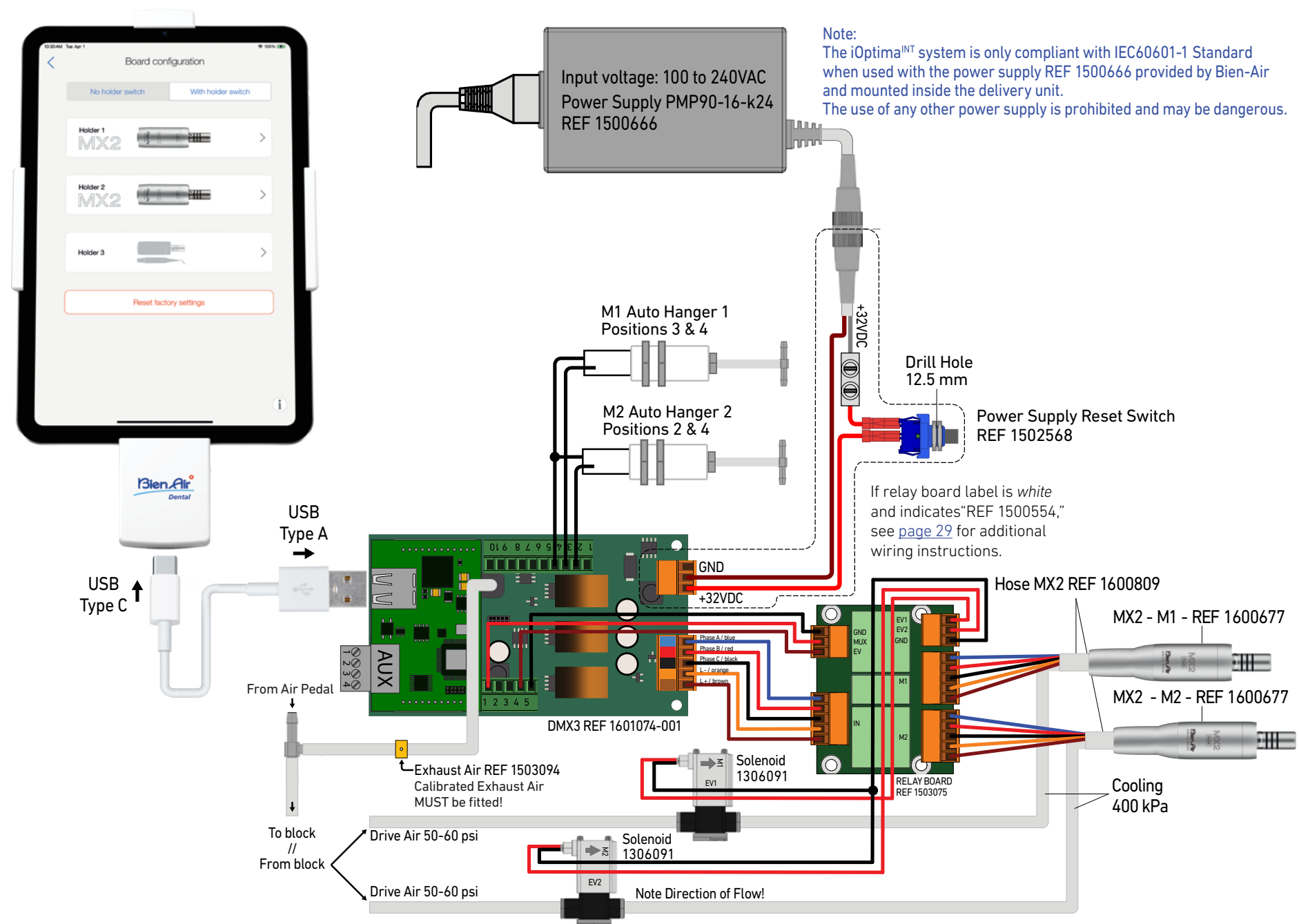


4. If using a holder switch, tap "With Holder Switch" at the top, tap Holder 1, then MX2 at the top of the list. While the hose is firmly placed in delivery holder 1, choose "the holder switch is closed." Lift the motor from its holder. If a green checkmark does not appear next to its icon, see [page 30](#) for troubleshooting.



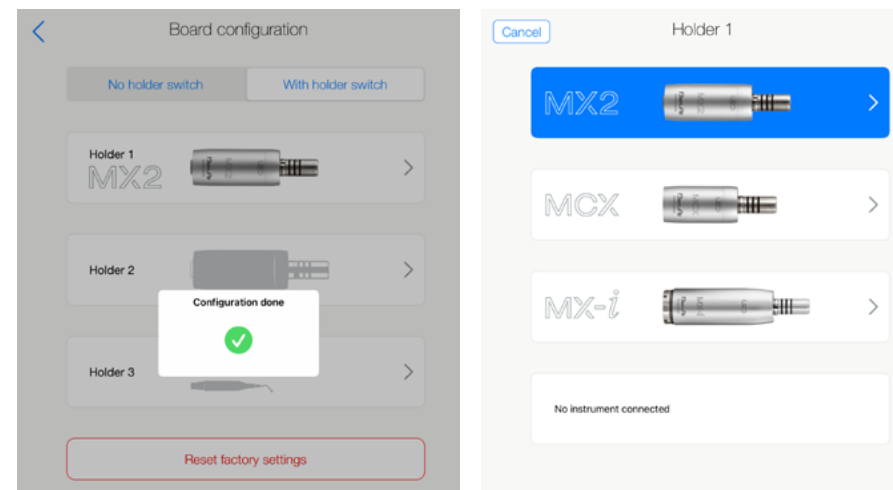
5. System is now configured and ready for use.

iOPTIMA^{INT} connection with DMX3 (2x MX2)

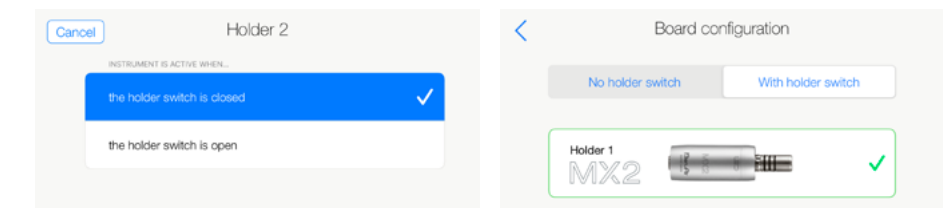
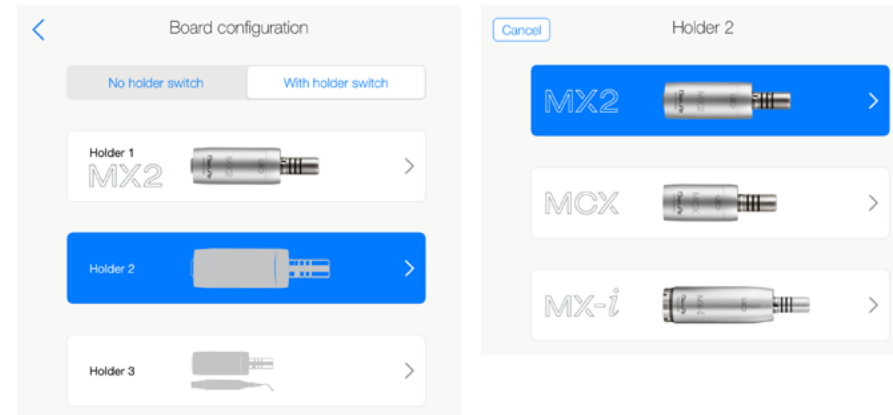


iOptima^{INT} Application Settings

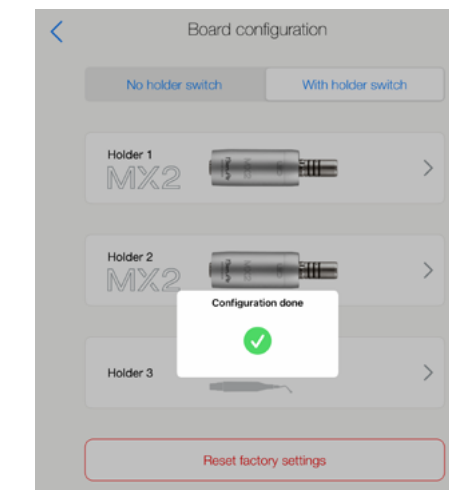
1. Complete steps 1-3 on [page 13](#).



2. For two MX2 motors, tap "With Holder Switch" at the top, tap Holder 1, then MX2 at the top of the list. While the hose is firmly placed in delivery holder 1, choose "the holder switch is closed." Repeat with Holder 2.

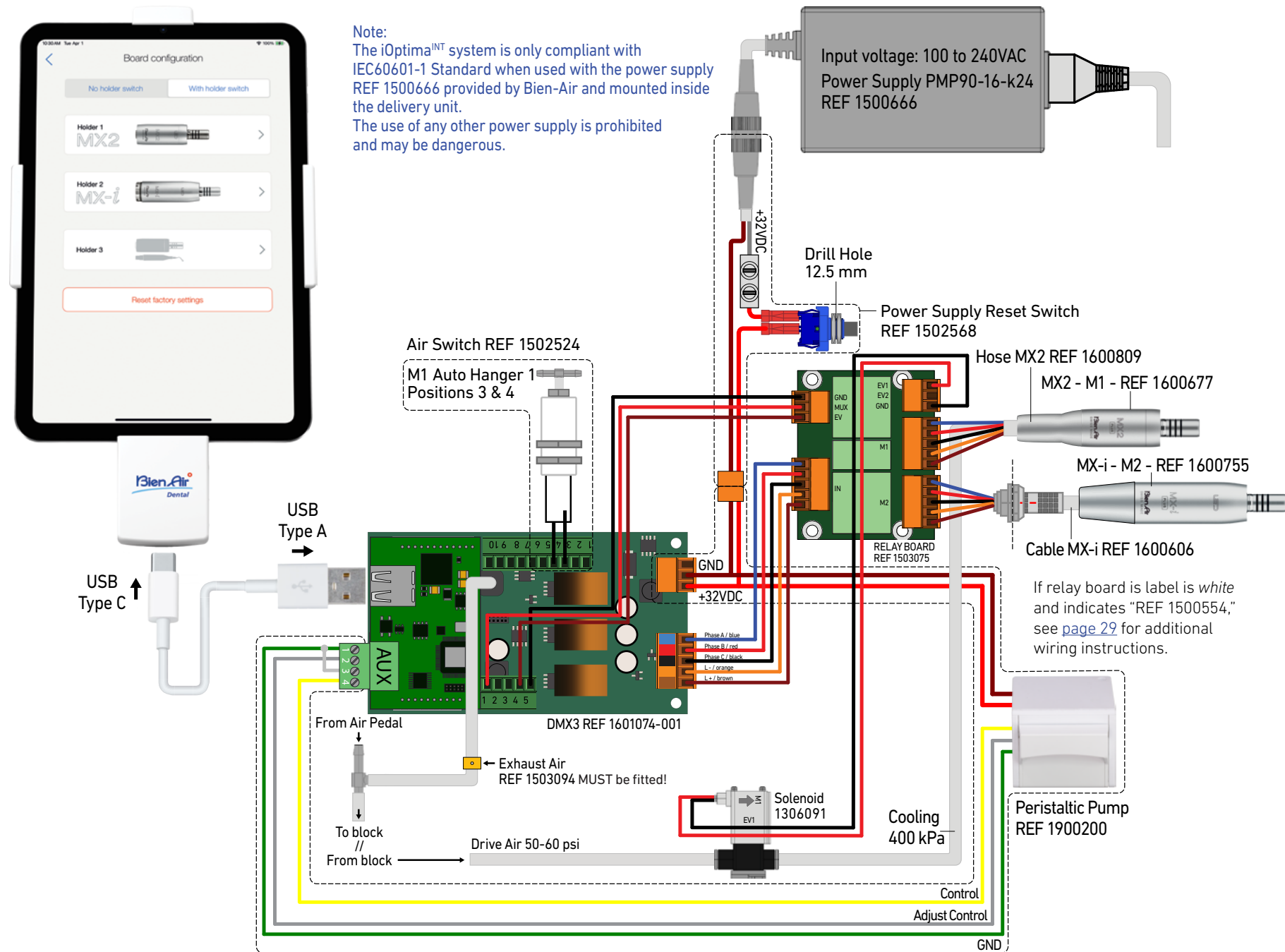


3. If a green checkmark appears by either or both motors while they are seated firmly in the delivery holders, see [page 30](#) for troubleshooting.



4. System is now configured and ready for use.

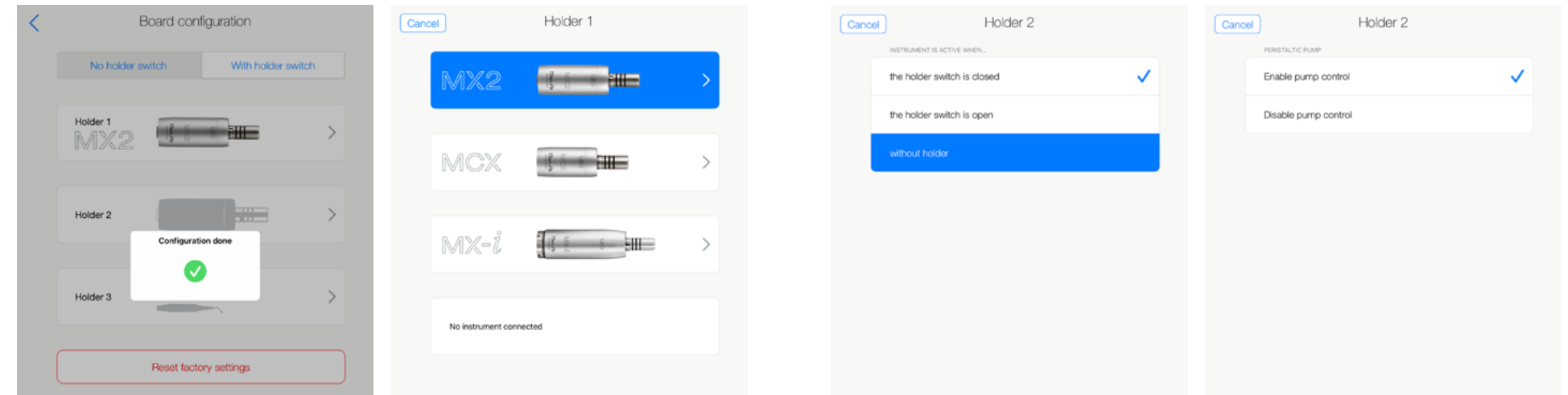
iOPTIMA^{INT} connection with DMX3 (1 MX2 PLUS LED, 1 MX-i)



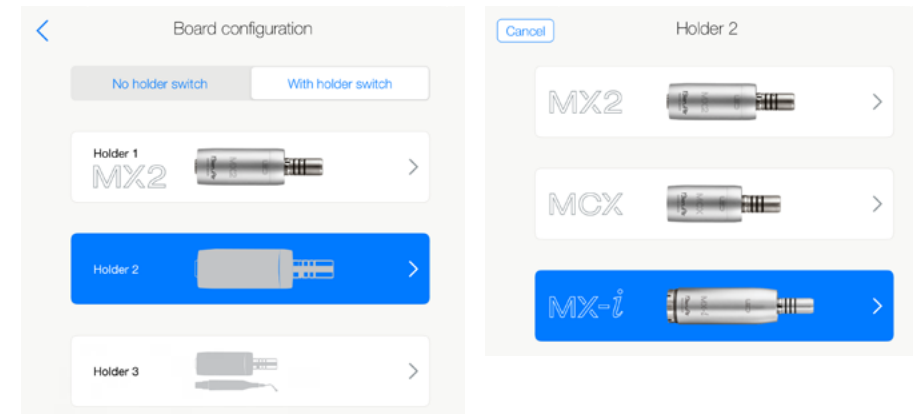
Note:
The iOptima^{INT} system is only compliant with IEC60601-1 Standard when used with the power supply REF 1500666 provided by Bien-Air and mounted inside the delivery unit.
The use of any other power supply is prohibited and may be dangerous.

iOptima^{INT} Application Settings

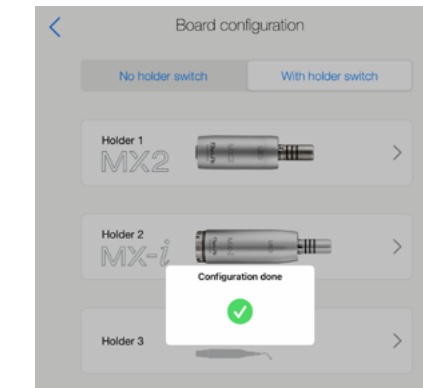
1. Complete steps 1-3 on [page 13](#).



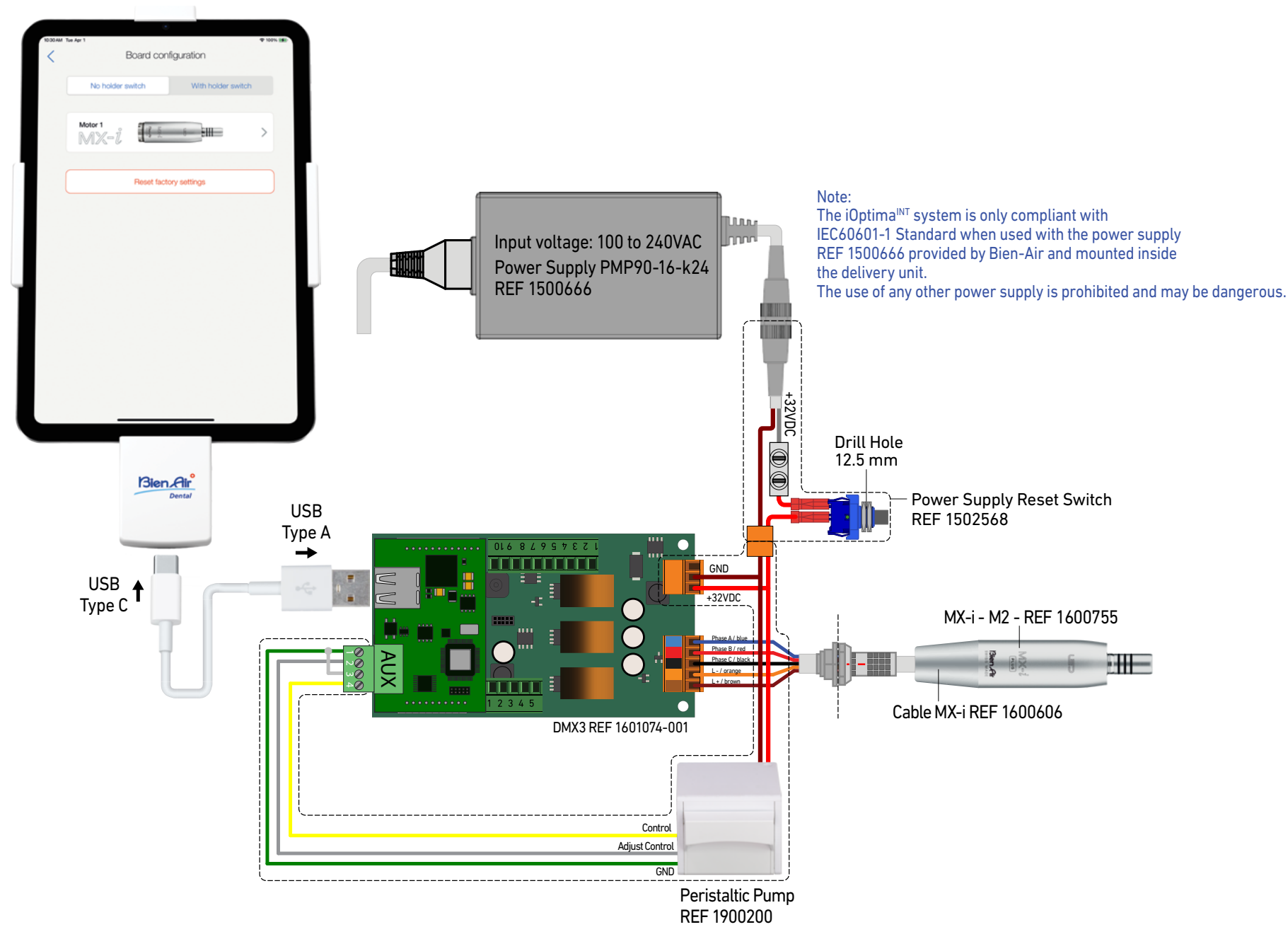
2. To set up multiple motors, tap "With Holder Switch" at the top, tap Holder 1, then MX2 at the top of the list. While the hose is firmly placed in delivery holder 1, choose "the holder switch is closed." If a green checkmark appears by the motor without lifting it from the holder, see [page 30](#) for troubleshooting.



3. For Holder 2, choose MX-i, then "without holder." Enable pump control if Peristaltic Pump (1900200) was installed. Disable if using a separate pump.

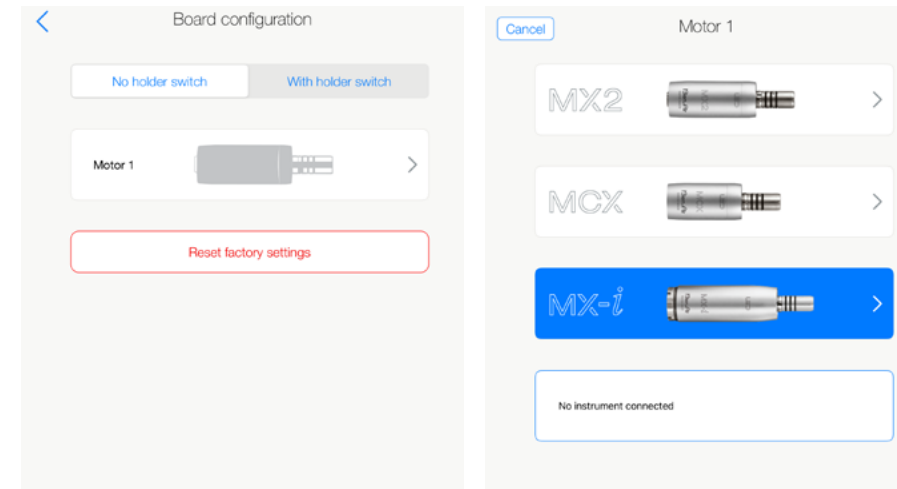


4. System is now configured and ready for use.

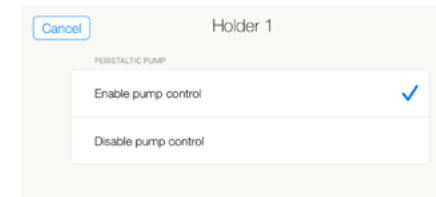


iOptima^{INT} Application Settings

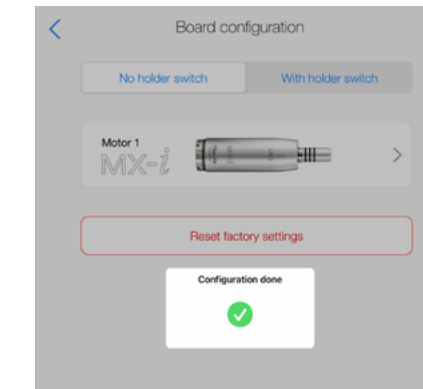
1. Complete steps 1-3 on [page 13](#).



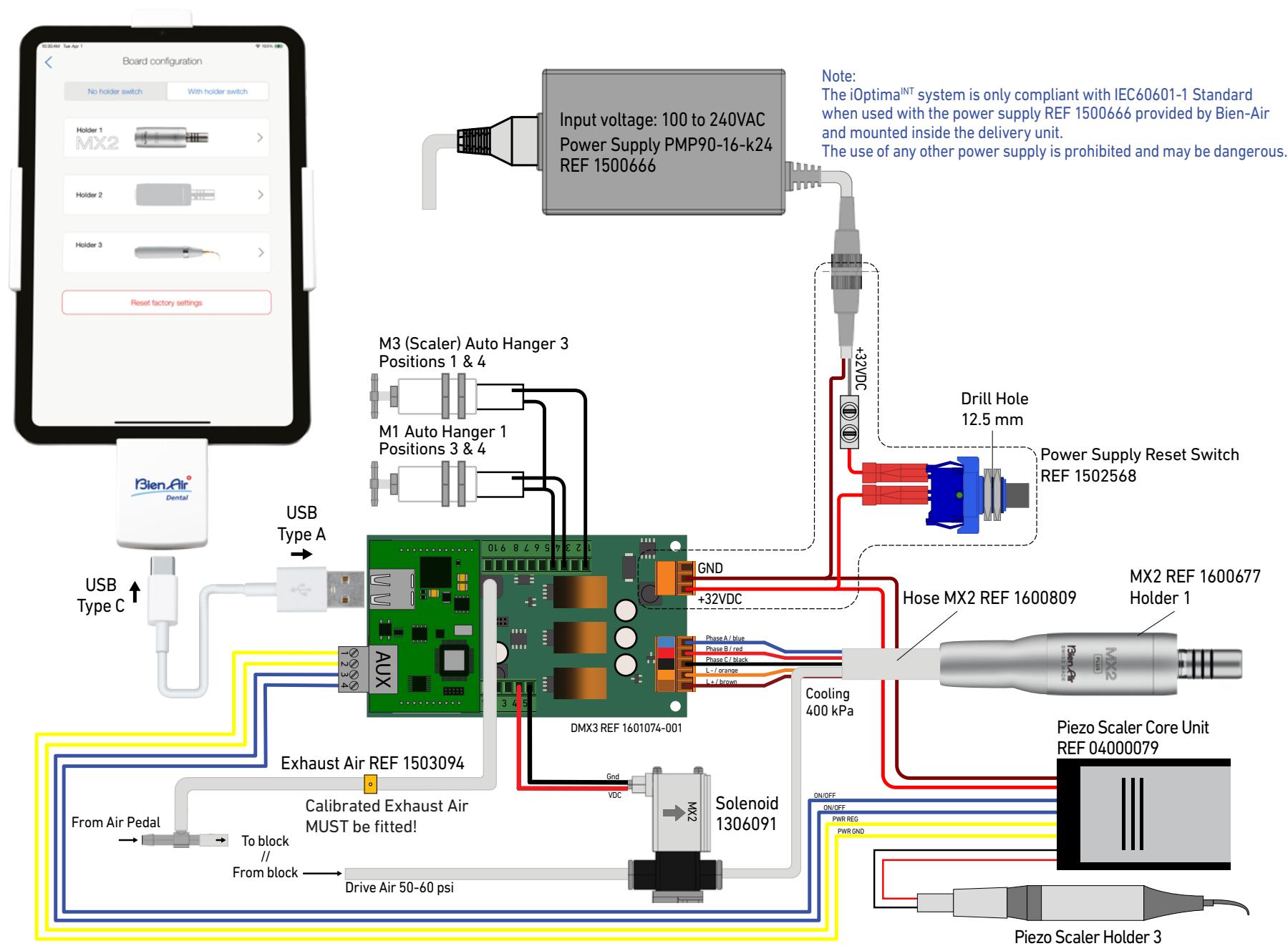
2. Ensure “No holder switch” is selected, then tap Motor 1.
On the next screen, choose MX-i.



3. Enable pump control if Peristaltic Pump (1900200) was installed. Disable if using a separate pump.



4. System is now configured and ready for use.



iOptima^{INT} Application Settings

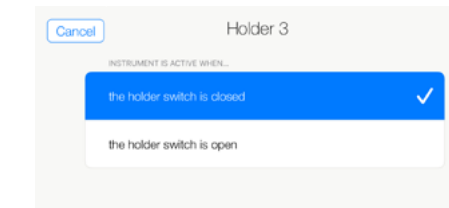
1. Complete steps 1-3 on [page 13](#).



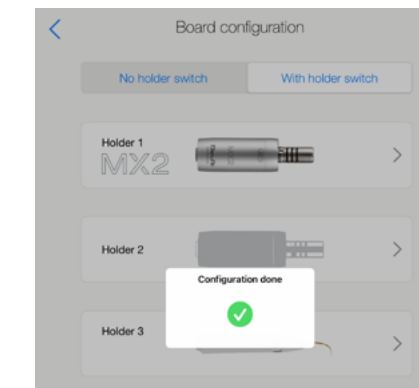
2. Tap Holder 3 to add the Piezo Scaler.



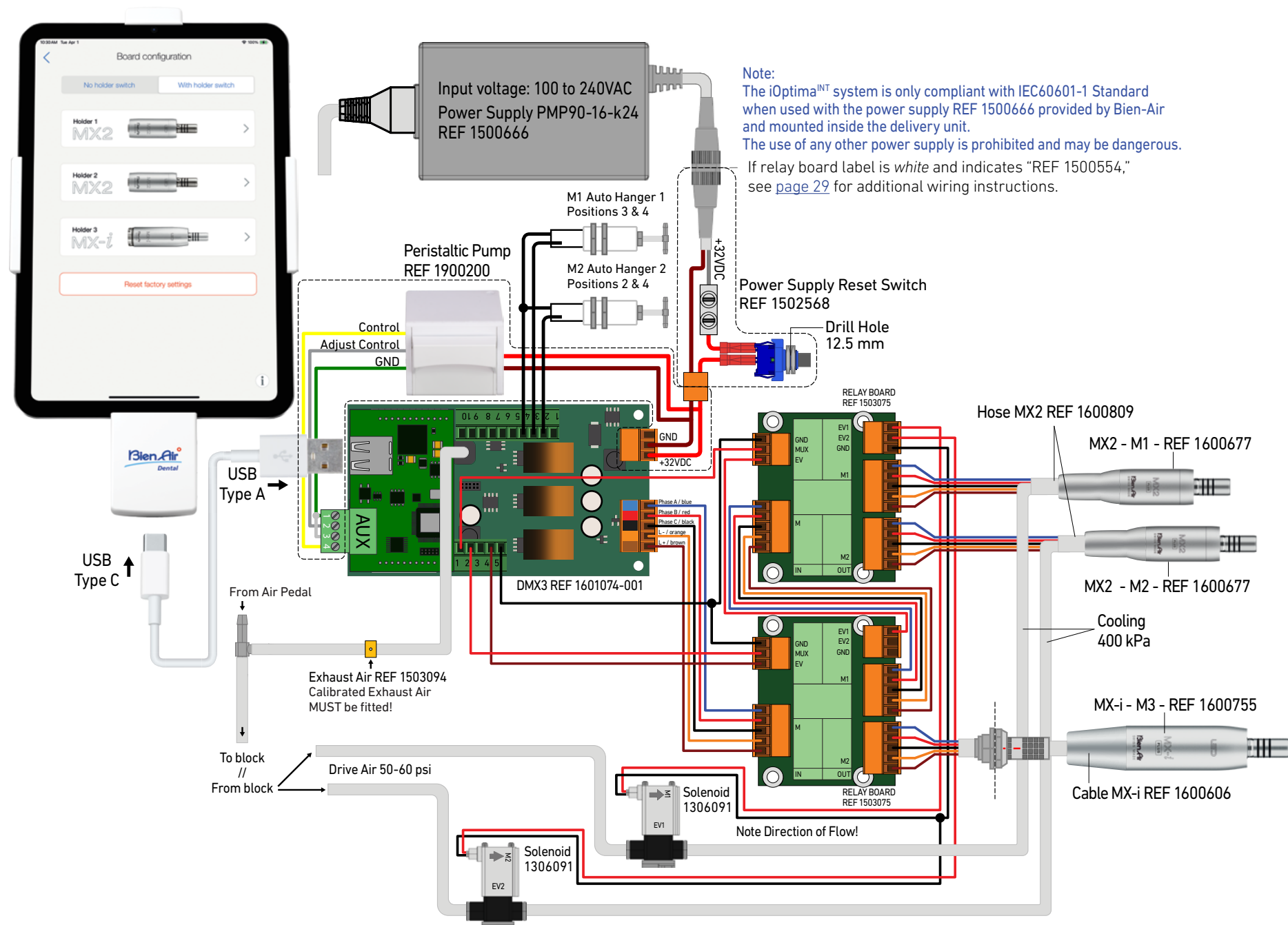
3. Choose "Power regulation 0 to 5V analog voltage," and specify the holder switch value the same as with the MX2 motor. The 2.2KΩ potentiometer option is available to operators who use a potentiometer to adjust power on their scaler instead of using a foot pedal.



4. While the scaler connection is firmly placed in delivery holder 3, choose "the holder switch is closed." If a green checkmark appears by the scaler without lifting it from the holder, see [page 30](#) for troubleshooting.



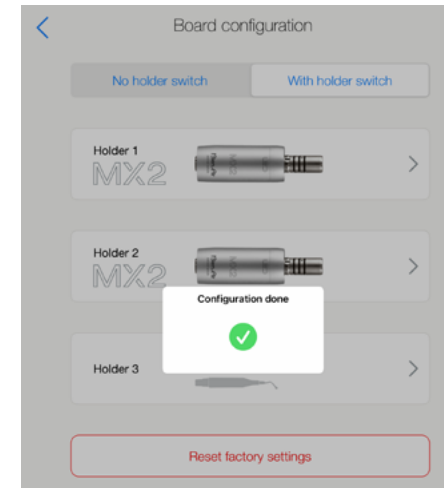
5. System is now configured and ready for use.



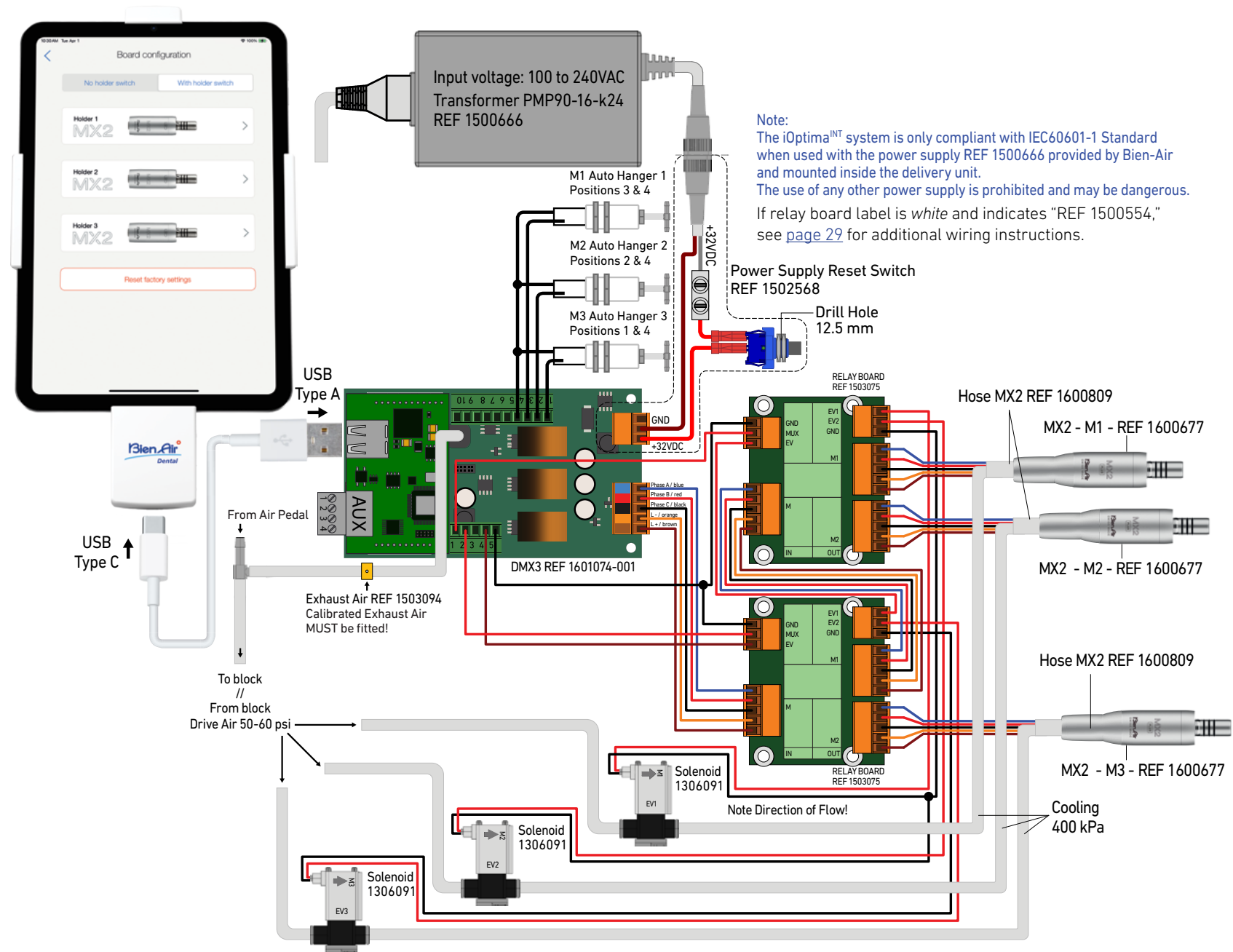
iOptima^{INT} Application Settings

- Complete steps 1-3 on [page 13](#), 2-3 on [page 15](#), then 2-3 on [page 17](#).
Holders 1 & 2 should contain MX2 PLUS LED micromotors,
and the MX-i PLUS LED micromotor should remain on an external motor support.

If a green checkmark appears by either or both motors while they are seated firmly in the delivery holders, see [page 30](#) for troubleshooting.

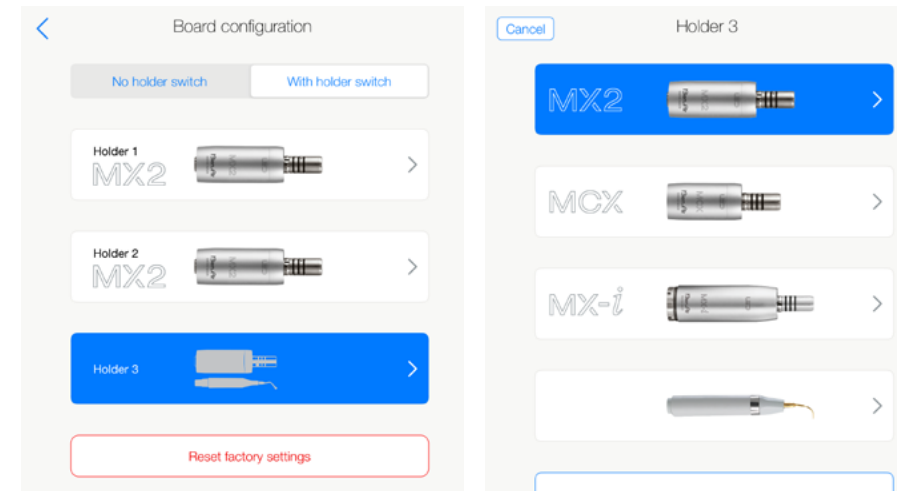


- System is now configured and ready for use.

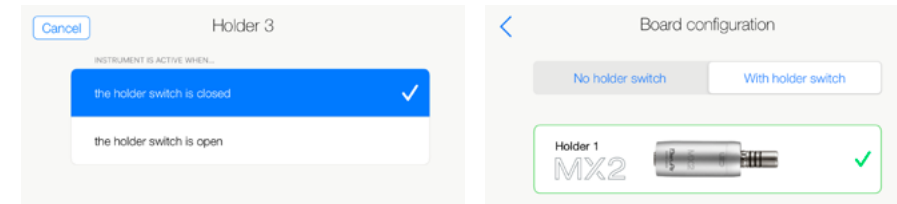


iOptima^{INT} Application Settings

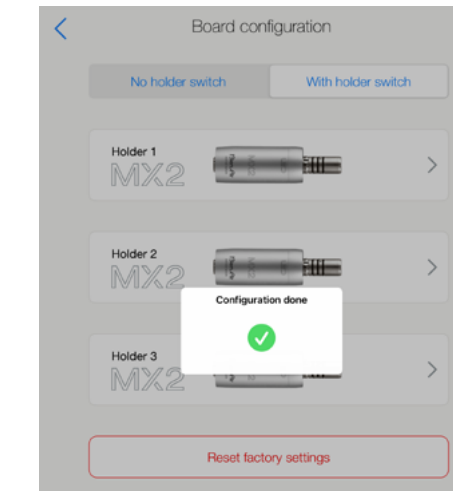
1. Complete steps 1-3 on [page 13](#), then 2-3 on [page 15](#).



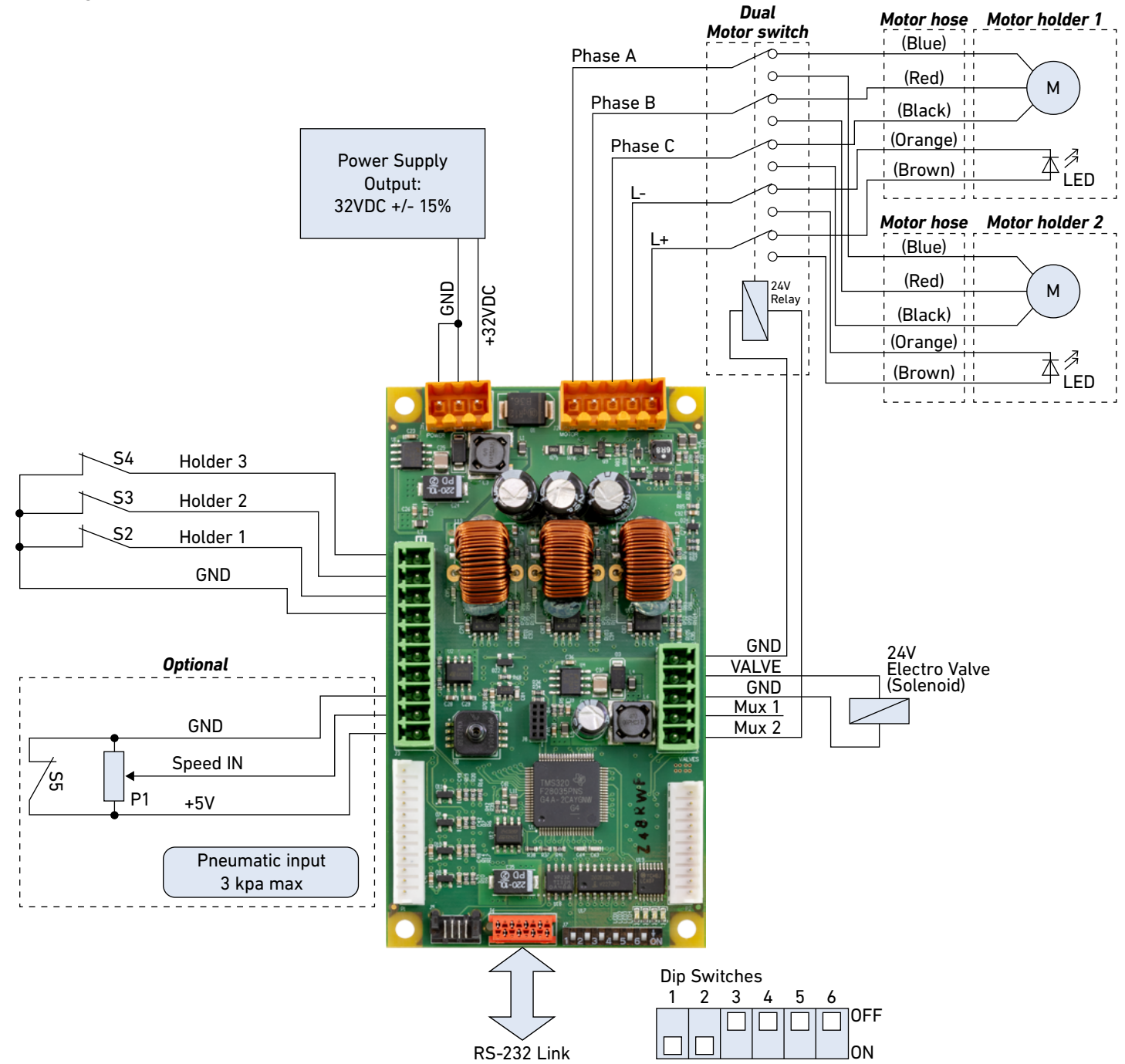
2. For the third MX2 motor, tap Holder 3, repeating the process in the previous steps.



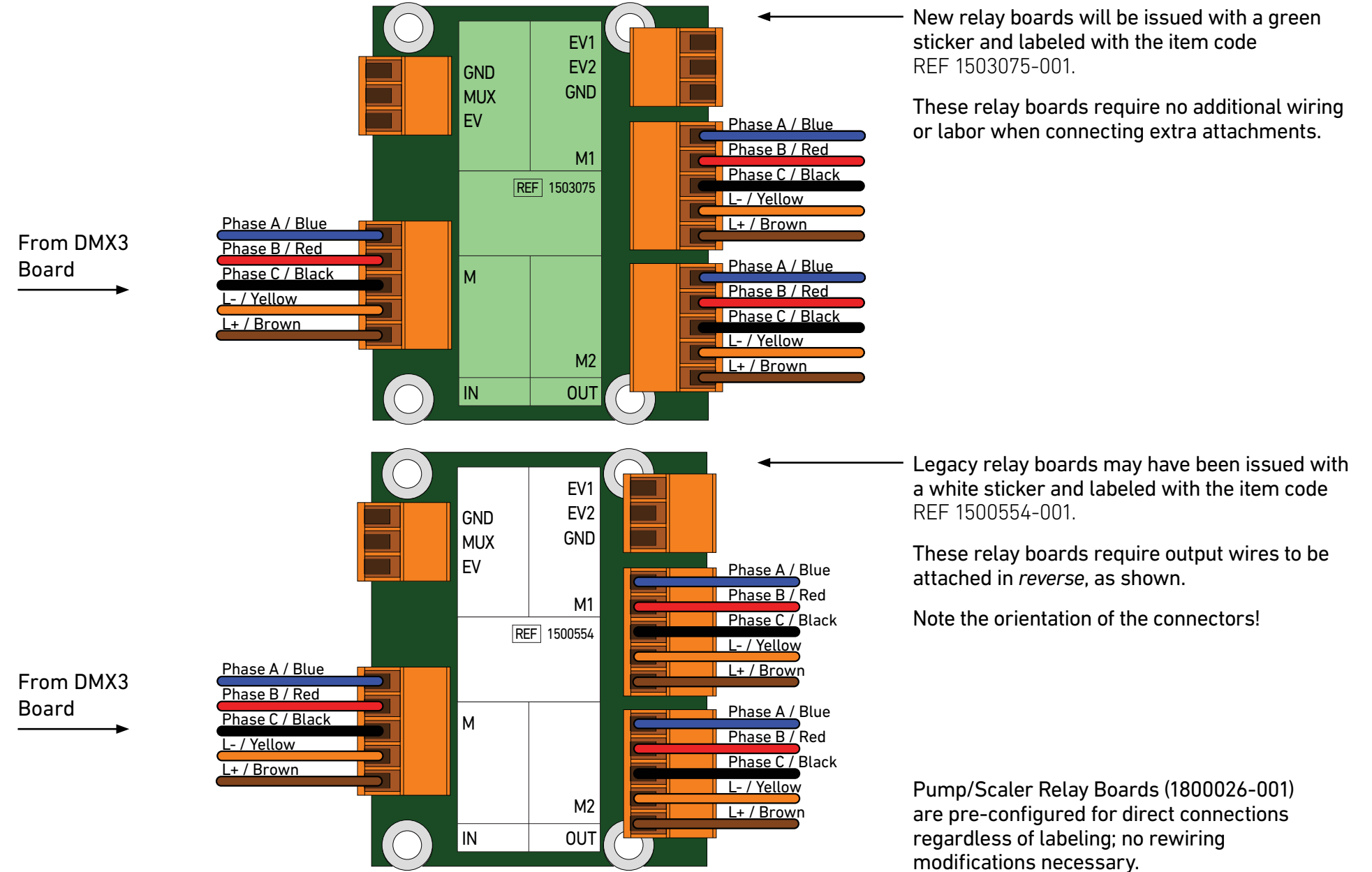
3. If a green checkmark appears by any or all of the motors while they are seated firmly in the delivery holders, see [page 30](#) for troubleshooting.



4. System is now configured and ready for use.



As a general rule: blue wires on top, brown wires on bottom.



New relay boards will be issued with a green sticker and labeled with the item code REF 1503075-001.

These relay boards require no additional wiring or labor when connecting extra attachments.

Legacy relay boards may have been issued with a white sticker and labeled with the item code REF 1500554-001.

These relay boards require output wires to be attached in reverse, as shown.

Note the orientation of the connectors!

Pump/Scaler Relay Boards (1800026-001) are pre-configured for direct connections regardless of labeling; no rewiring modifications necessary.

When setting up the touchpad for single motor configuration, the operator wants to switch to with/without holder.

Position yourself where you can cycle power to the touchpad while also holding down three of its buttons.

Asking a second person to cut and restore the power may be easier in some cases.

Switch off power to the control unit.

Press and hold down the Left, Right, and Escape buttons, then restore power.

Release the buttons once the system information is displayed, and enter the Setup menu.

Follow the same steps during first time setup, then toggle between "WITHOUT HOLDER" and "1 MOTOR" as desired.

Ensure that RECIPROCATION is still set to YES.

Restart the system.

"Motor Drive Error" message appears on the touchpad screen.

Check the RS-232 connection from the touchpad to the DMX3 board. While it is capable of seating in either direction, ensure that the wires lead into the board as shown on the wiring diagram. The RS-232 connection should lead directly outward from the DMX3 circuit board.

The app appears to open sideways relative to the iPad mini's orientation.

Force close the iOptima app and restart it in the current iPad mini's orientation.

Lifting an attachment from its holder does not show a green checkmark, but placing it in its holder does.

Place the motor/scaler firmly within its holder. Enter the Settings menu (⚙️) on the main screen, enter System Settings, enter 1959 for the configuration passcode, then enter Board Configuration.

If the green checkmark appears at this time, choose the motor holder, tap the relevant attachment, then set the holder switch to "Open" to swap the air/electric switch functionality.

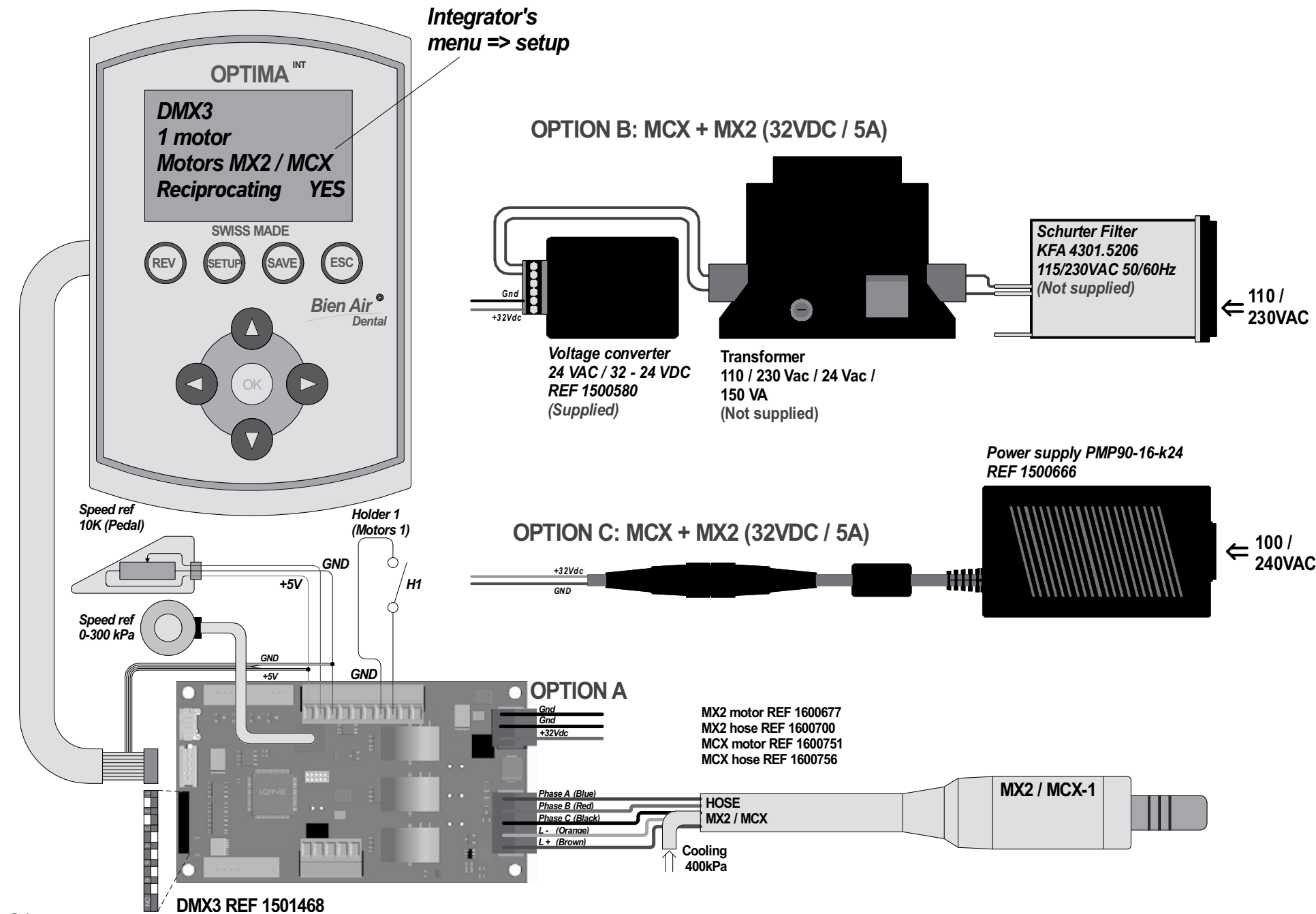
Lift the attachment from its holder to ensure that it displays a green checkmark.

LEGACY UNIT INSTALLATIONS

The following legacy unit installation drawings are provided as-is.

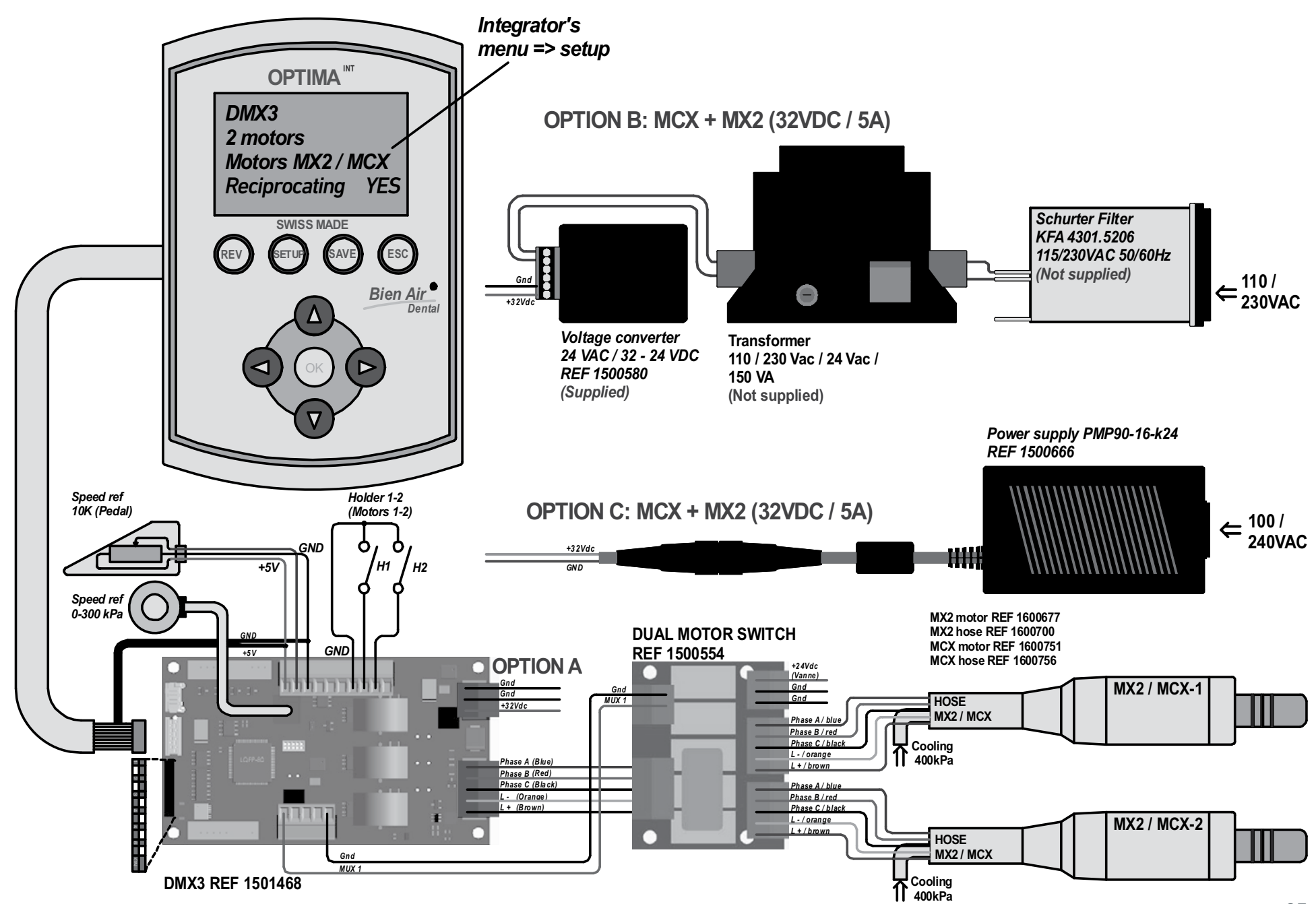
OPTIMA^{INT} SINGLE MOTOR SYSTEM TOUCHPAD CONFIGURATION

OPTIMA^{INT} connection with DMX3 (1 motor)



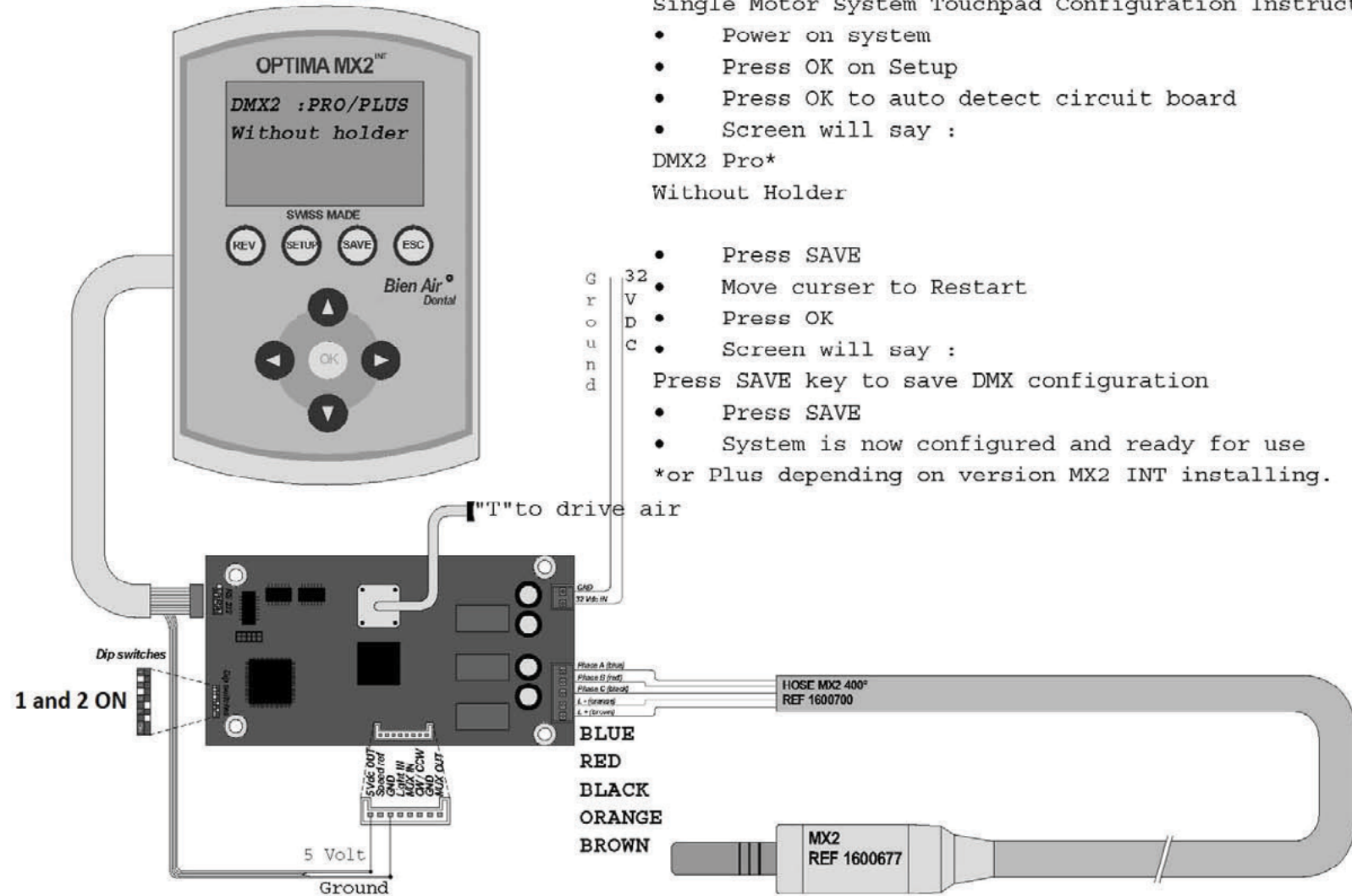
OPTIMA^{INT} DUAL MOTOR SYSTEM TOUCHPAD CONFIGURATION

OPTIMA^{INT} connection with DMX3 (2 motors)



OPTIMA^{INT} connection with DMX2 (1 motor)

SINGLE MOTOR
OPTIMA MX2 INT PRO or PLUS



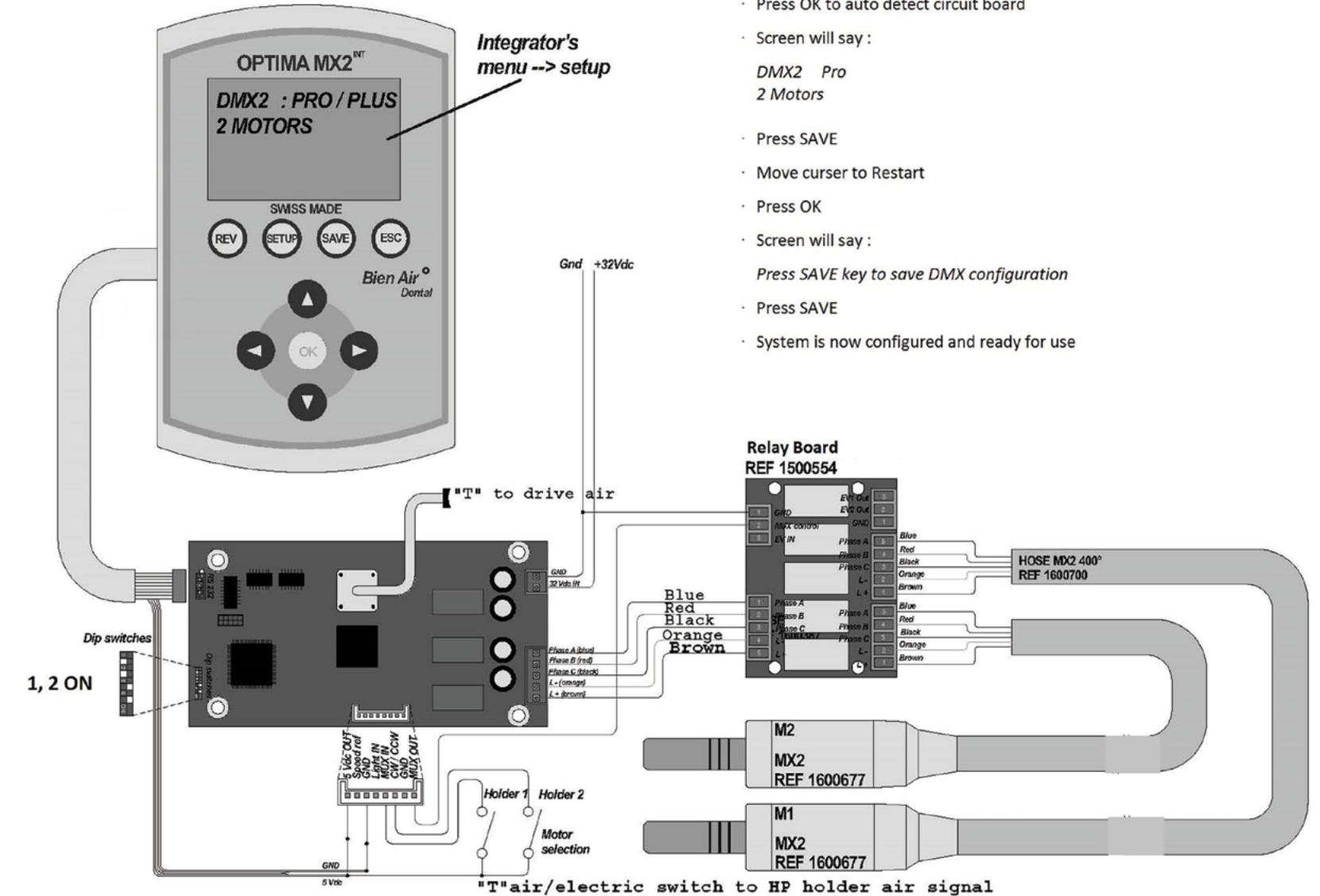
PLEASE FOLLOW THESE INSTRUCTIONS WHEN BOOTING UP SYSTEM FOR THE FIRST TIME **

Single Motor System Touchpad Configuration Instructions

- Power on system
 - Press OK on Setup
 - Press OK to auto detect circuit board
 - Screen will say :
DMX2 Pro*
Without Holder
 - Press SAVE
 - Move cursor to Restart
 - Press OK
 - Screen will say :
Press SAVE key to save DMX configuration
 - Press SAVE
 - System is now configured and ready for use
- *or Plus depending on version MX2 INT installing.

OPTIMA^{INT} connection with DMX2 (2 motors)

Optima MX2 INT Pro Dual Motor Set

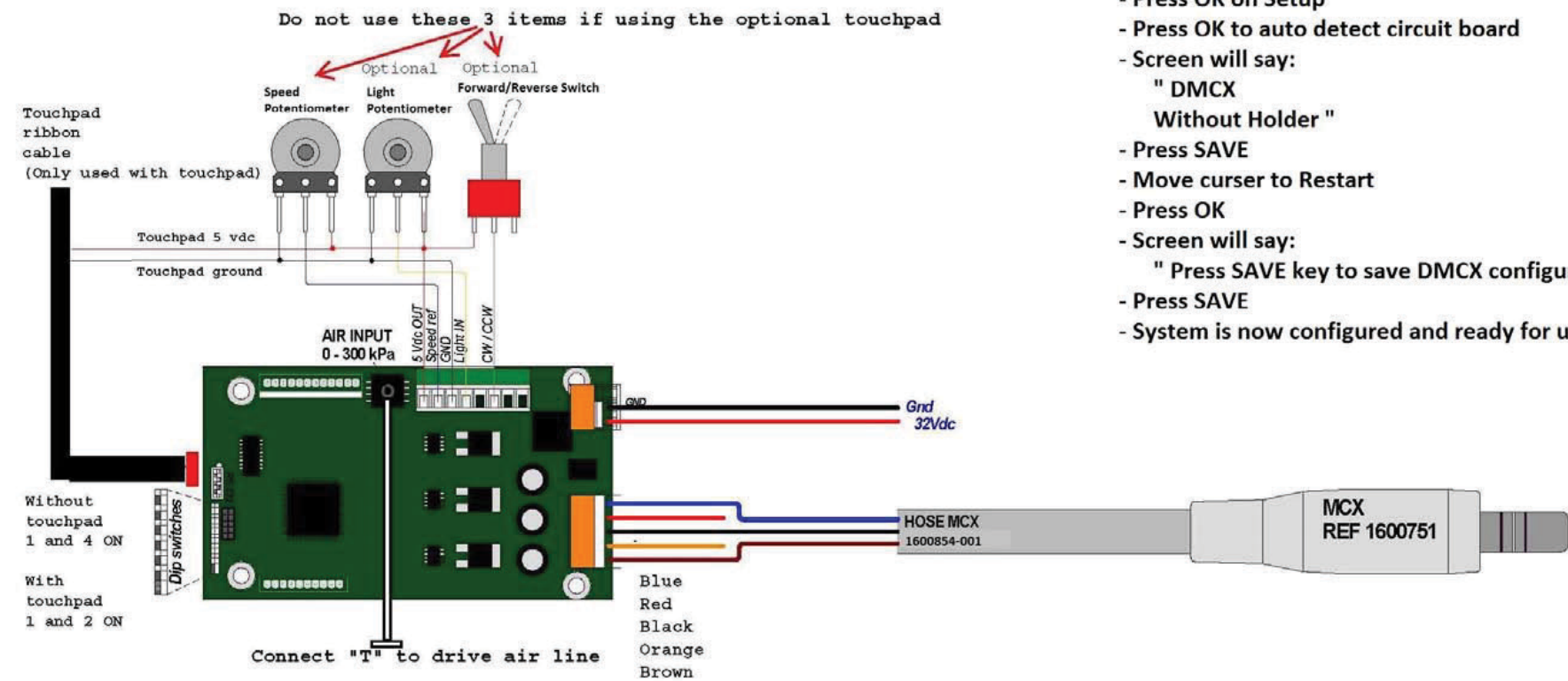


** Please follow these instructions when booting up system for the first time **

- Power on system
- Press OK on Setup
- Press OK to auto detect circuit board
- Screen will say :
DMX2 Pro
2 Motors
- Press SAVE
- Move cursor to Restart
- Press OK
- Screen will say :
Press SAVE key to save DMX configuration
- Press SAVE
- System is now configured and ready for use

OPTIMA^{INT} SINGLE MOTOR SYSTEM TOUCHPAD CONFIGURATION

DMCX (No Touchpad) / OPTIMA MCX (With Touchpad) Single Motor

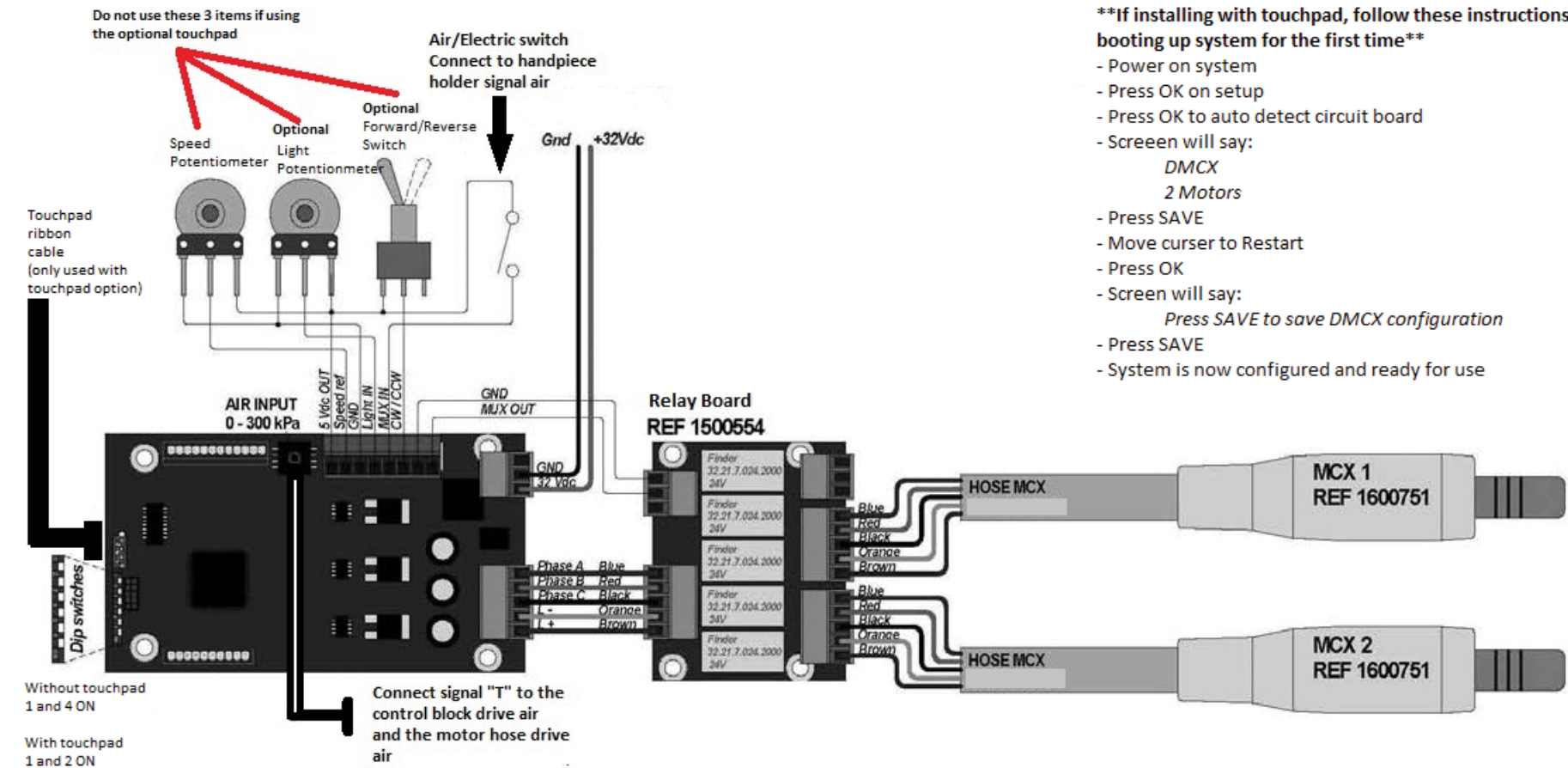


****If installing with touchpad, follow these instructions when booting up system for the first time****

- Power on system
- Press OK on Setup
- Press OK to auto detect circuit board
- Screen will say:
" DMCX
Without Holder "
- Press SAVE
- Move cursor to Restart
- Press OK
- Screen will say:
" Press SAVE key to save DMCX configuration "
- Press SAVE
- System is now configured and ready for use

iOPTIMA^{INT} DUAL MOTOR SYSTEM TOUCHPAD CONFIGURATION

DMCX (No Touchpad) / OPTIMA MCX (With Touchpad) Dual Motor

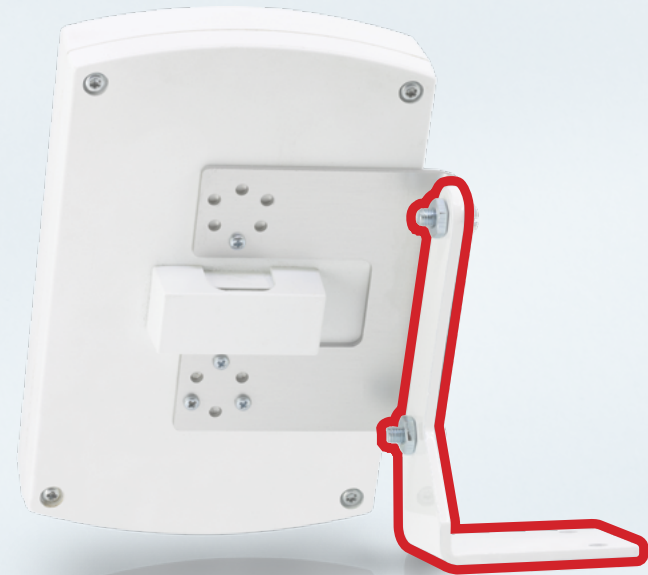


****If installing with touchpad, follow these instructions when booting up system for the first time****

- Power on system
- Press OK on setup
- Press OK to auto detect circuit board
- Screen will say:
DMCX
2 Motors
- Press SAVE
- Move cursor to Restart
- Press OK
- Screen will say:
Press SAVE to save DMCX configuration
- Press SAVE
- System is now configured and ready for use

OPTIMA^{INT} A-dec Brackets

A-DEC 300	REF 1304437-001 & 1304437-HRD
A-DEC 500	REF 1304437-001
A-DEC 532B/533B (LEFT SIDE MOUNT ONLY)	REF 1308204-001
A-DEC 541 REAR DELIVERY UNIT	REF 1900345-001



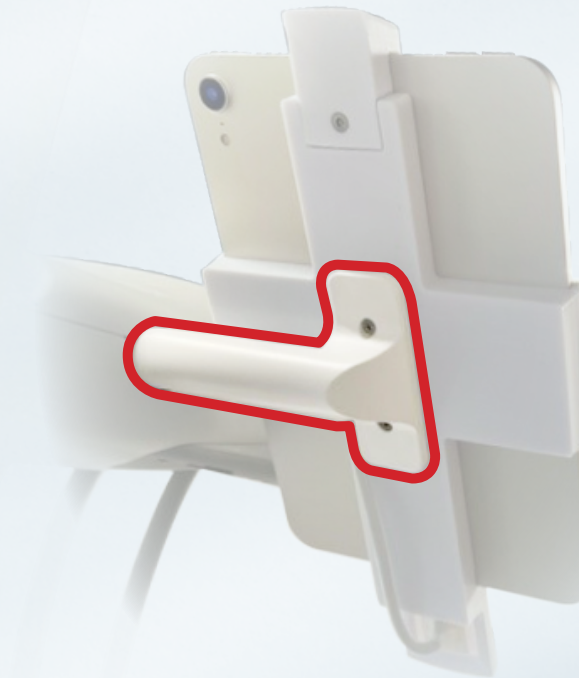
Right Side Mount (1302927-001A, outlined in red), connected to Angle Plate Bracket (1302927-001).

Included brackets fit most delivery units.

For delivery units by Belmont, Midmark, and Ritter, please contact the manufacturer directly for custom brackets.
 For A-dec delivery units, ensure that the corresponding bracket parts are included in the order.
 For delivery units not listed, please call (800) 433-2436.

iOPTIMA^{INT} A-dec Brackets

A-DEC 300	REF 1307830-001 & 1304437-HRD
A-DEC 500	REF 1307830-001
A-DEC 532B/533B (LEFT SIDE MOUNT ONLY)	REF 1308204-001
A-DEC 541 REAR DELIVERY UNIT	REF 1900346-001



1307830-001 bracket for A-DEC 300 & 500 delivery units



1304437-HRD add-on to bracket for A-DEC 300 delivery units

Included brackets fit most delivery units.

For delivery units by Belmont, Midmark, and Ritter, please contact the manufacturer directly for custom brackets.
 For A-dec delivery units, ensure that the corresponding bracket parts are included in the order.
 For delivery units not listed, please call (800) 433-2436.

Add-ons

MX2 PLUS LED KIT (RESTORATIVE/ENDO MOTOR ADD-ON)	REF 1700390-2MT
MCX PLUS LED KIT (RESTORATIVE MOTOR ADD-ON)	REF 1700636-2MT

Brackets

ANGLE PLATE BRACKET (INCLUDED)	REF 1302927-001
RIGHT SIDE SUPPORT BRACKET (INCLUDED)	REF 1302927-001A
LEFT SIDE SUPPORT BRACKET (INCLUDED)	REF 1302927-001AL
VERTICAL SUPPORT BRACKET	REF 1302927-001V
A-DEC 300	REF 1304437-001 & REF 1304437-HRD
A-DEC 500	REF 1304437-001
A-DEC 532B/533B (LEFT SIDE MOUNT ONLY)	REF 1308204-001
A-DEC 541 REAR DELIVERY UNIT	REF 1900345-001

Replacement Parts

OPTIMA ^{INT} TOUCHPAD	REF 1600715-001
STANDARD LENGTH TOUCHPAD CABLE	REF 1500868-001
EXTENDED LENGTH TOUCHPAD CABLE	REF 1501073-001
MX2 PLUS LED MICROMOTOR	REF 1600677-001
MX2 STANDARD LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1600809-001
MX2 EXTENDED LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1600809-0
MCX LED MICROMOTOR	REF 1600751-001
MCX STANDARD LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1601096-001
MCX EXTENDED LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1601096-0
MOTOR SUPPORT (STERILIZABLE)*	REF 1301575-001
SOLENOID	REF 1306091-001
CALIBRATED BLEED VALVE	REF 1503094-001
DMX2 PC BOARD (LEGACY SYSTEMS ONLY)	REF 1600666-001
DMX3 PC BOARD FOR SINGLE MOTOR SYSTEM	REF 1600903-00A
DMCX PC BOARD	REF 1600811-001
RELAY BOARD (WHITE LABEL, LEGACY)	REF 1500554-001
RELAY BOARD (GREEN LABEL, SUPERSEDES LEGACY VERSION)	REF 1503075-001
24VAC TO 32VAC CONVERTER (ONLY IF POWER SUPPLY IS NOT USED)	REF 1500580-001
POWER SUPPLY & POWER CONNECTOR TO DMX3 (ONLY IF CONVERTER IS NOT USED)	REF 1600591-001
POWER SUPPLY ONLY	REF 1500666-001
CONNECTOR FROM POWER SUPPLY TO DMX3 PC BOARD	REF 1500906-001

*Sterilizable motor support is optional but recommended for single motor systems without a motor holder.

iOPTIMA^{INT} ADD-ONS, BRACKETS, AND REPLACEMENT PARTSAdd-ons

MX2 PLUS LED KIT (RESTORATIVE/ENDO MOTOR ADD-ON)	REF 1700704-2MT
MX-i PLUS LED KIT (IMPLANT/SURGICAL MOTOR ADD-ON)	REF 1700704-MXI
PIEZO SCALER KIT (WITH LIGHT)	REF 1900300-IOPTIMA
PIEZO SCALER KIT (WITHOUT LIGHT)	REF 1900301-IOPTIMA
STERILE IRRIGATION PERISTALTIC PUMP	REF 1900200-001
PUMP/SCALER RELAY BOARD*	REF 1800026-001

Brackets

iPAD MINI 6TH GEN BRACKET (INCLUDED WITH CURRENT SYSTEMS).....	REF 1503129-001
iPAD MINI 4TH & 5TH GEN BRACKET (INCLUDED WITH MATCHING LEGACY SYSTEMS).....	REF 1502472-001
iPAD MINI SUPPORT BRACKET/FIXATION SUPPORT (INCLUDED)	REF 1502534-001
A-DEC 300	REF 1307830-001 & 1304437-HRD
A-DEC 500	REF 1307830-001
A-DEC 532B/533B (LEFT SIDE MOUNT ONLY)	REF 1308204-001
A-DEC 541 REAR DELIVERY UNIT	REF 1900346-001
STERILE IRRIGATION PERISTALTIC PUMP BRACKET (OPTIONAL)†	REF 1501988-001

* Pump/Scaler Relay Board included free when a Piezo Scaler Kit is ordered together with the Sterile Irrigation Peristaltic Pump.

† Bracket is intended for OPTIMA MCX external motor control units but may be used for the sterile irrigation / peristaltic pump.

Replacement Parts

iPAD MINI	REF APPLEIPADMINI
MX2 PLUS LED MICROMOTOR	REF 1600677-001
MX2 STANDARD LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1600809-001
MX2 EXTENDED LENGTH HOSE W/ 400° GRAY EXTENDED LENGTH COLLAR	REF 1600809-0
iOPTIMA ^{INT} MOUNTING TOOLS	REF 1502567-001
MX-i PLUS LED MICROMOTOR	REF 1700755-001
MX-i PLUS LED SURGICAL CABLE (STERILIZABLE)	REF 1700606-001
MX-i MOUNTING KIT	REF 1502572-001
MOTOR SUPPORT (STERILIZABLE)	REF 1301575-001
SOLENOID	REF 1306091-001
CALIBRATED BLEED VALVE	REF 1503094-001
DMX3 PC BOARD FOR SINGLE MOTOR SYSTEM	REF 1601074-001
DMX3 PC BOARD FOR DUAL MOTOR SYSTEM (2×MX2)	REF 1601075-001
DMX3 PC BOARD FOR DUAL MOTOR SYSTEM ("ALL-IN-ONE" MX2 + MX-i)	REF 1601076-001
RELAY BOARD (WHITE LABEL, LEGACY)	REF 1500554-001
RELAY BOARD (GREEN LABEL, SUPERSEDES LEGACY VERSION)	REF 1503075-001
POWER SUPPLY ONLY	REF 1500666-001
POWER SUPPLY RESET SWITCH (CONNECTS POWER SUPPLY TO PC BOARD)	REF 1502568-001
M3 TORX-S SCREW HEAD	REF 3300404
M4 TORX-S SCREW HEAD	REF 3300403
USB-A TO USB-C CABLE FOR iPAD MINI	REF 1308624-001
CABLE FASTENERS (SET OF 4)	REF 1502535-001

