

**Company** : Xylem Service Italia S.r.l.  
**Project** : HVX  
**Product** : Variable speed control, with Bluetooth® wireless technology,  
for electric motors (on-board installation)  
**FCC**  
**Registration Number (FRN)** : 0030242630  
**Grantee Code** : 2AYCG  
**Expected ID** : 2AYCGXSI02, 2AYCGXSI03  
**ISED**  
**Company number (IC)** : 26881  
**Expected IC** : 26881-XSI02, 26881-XSI03

## Family Description

A	16 May 2023	First edition	Mauro Caldarde	R&D
rev.	Date	Description	Prepared by	Department

A	Checked by	Enrico Marodin Engineering Manager (Drivers & Controls)	file name: Family Description HVX.docx
---	------------	--	---

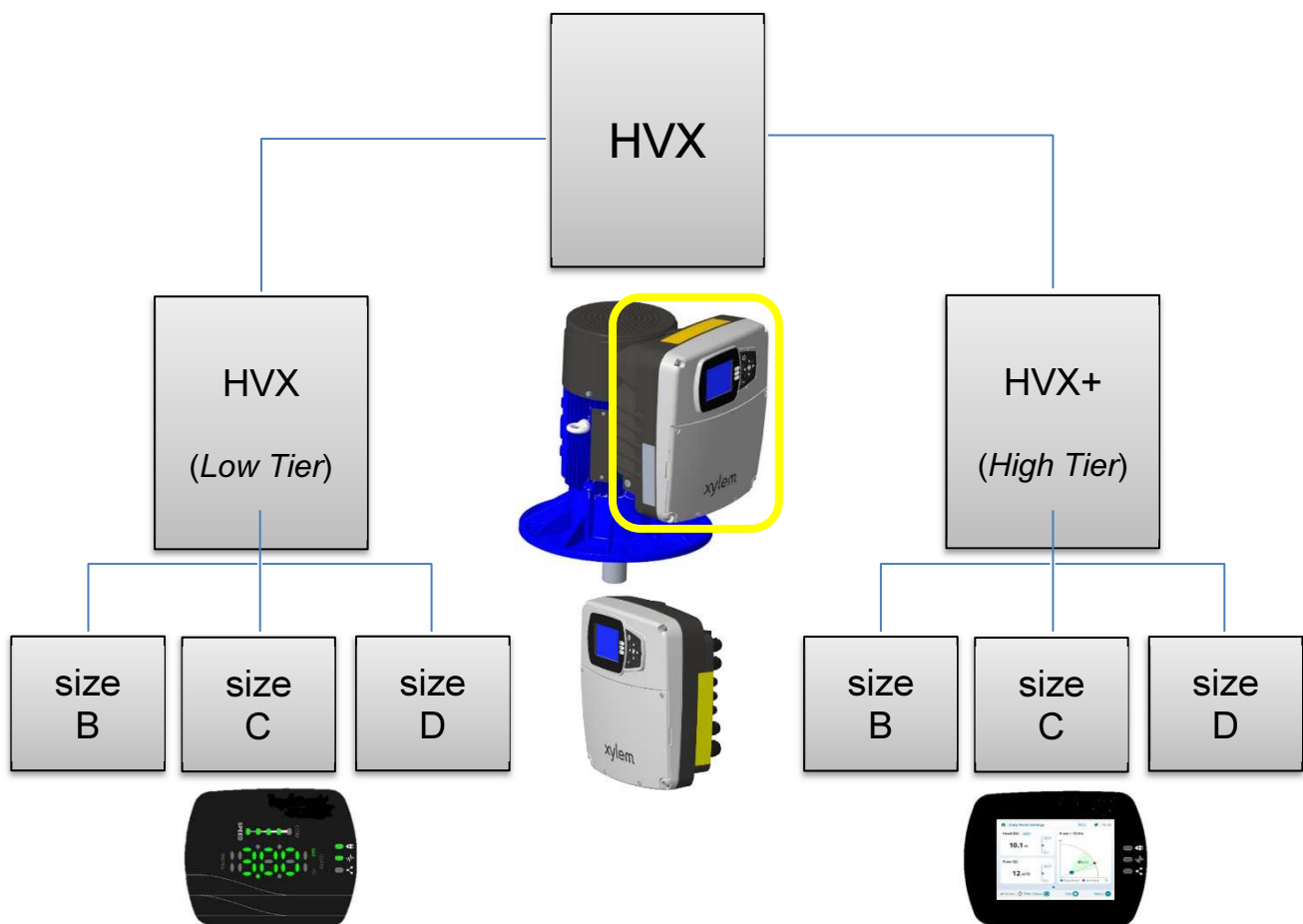
## Contents

- |    |                                    |        |
|----|------------------------------------|--------|
| 1. | Description                        | page 2 |
| 2. | Environmental Operating Conditions | page 4 |

## 1. Description

HVX is the project codename for a variable speed control, with embedded IoT connectivity, to install on-board of Xylem high efficiency synchronous electric motors, up to 22 kW (30 Hp). Those motors can be implemented across multiple pump platforms. The VSD is a 3-phase inverter with voltage range from 200 V up to 480 V, designed with multiple IOs and connectivity options including wireless connection with Bluetooth® 5.2 .

The Figure 1-1A schematically represents the products family structure of motor drives.



**Figure 1-1A**

In general, the HVX variable speed drive is composed by three electronic boards:

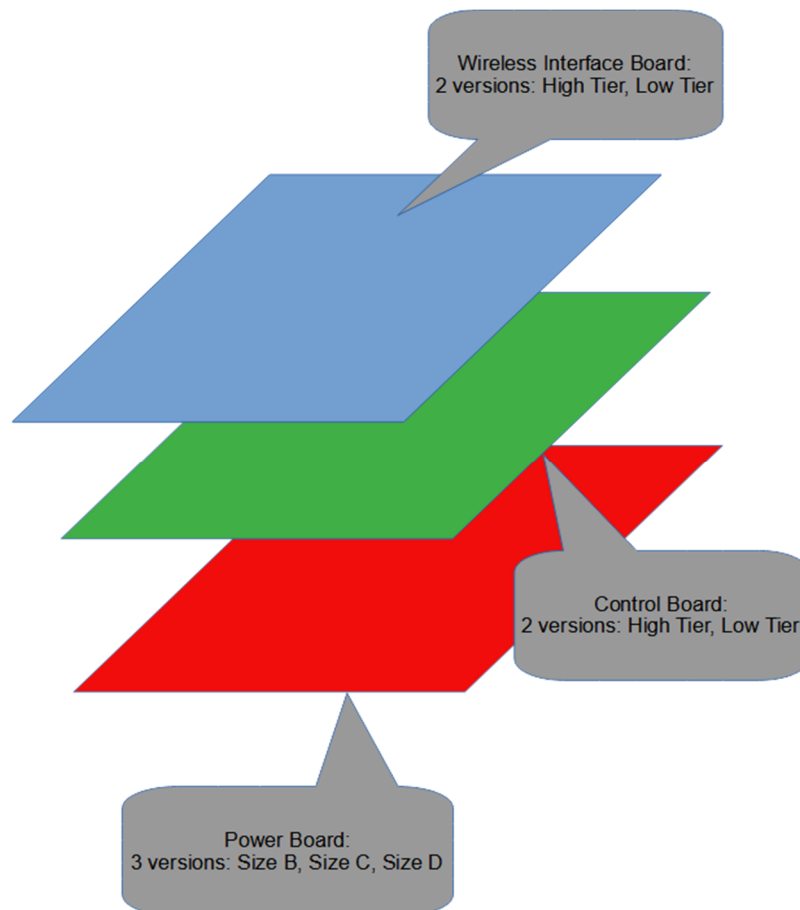
- 1 power electronic board;
- 1 control board with I/O;
- 1 user interface board with wireless capability.

For every size (B, C, D) there is a specific power board.

The boards composing each product differs from each other for:

- Power Board.
  - Different dimensions depending only by the size (one board for Size B, one board for Size C, one board for Size D).
  - Different electronics depending only by the size (one board for Size B, one board for Size C, one board for Size D).
- Control Board.
  - Same PCB for every device but different components mounting plan according to the family (one board for all HVX devices and one board for all HVX+ devices).
- User interface Board.
  - Only one board for each sub-family (one board for HVX devices and one board for HVX+ devices).

The Figure 1-1B graphically describes the relationship of the three board on each HVX product:



**Figure 1-1B**

The dimensions of the enclosures differ from each other for:

- Size B: mm 256 x 149 x 249.
- Size C: mm 296 x 180 x 329.
- Size D: mm 330 x 220 x 360.

For the interface boards there are only two versions:

- Interface board for HVX (*High Tier*).
- Interface board for HVX+ (*Low Tier*).

The interface board hosts the Bluetooth® radio too (the only intentional radiator presents in each HVX product). For the radio part, both the versions of the interface board host the same chip with the same RF conduct part but with differences for antenna position and relation with the rest of the board.

The *HVX+* interface board is characterized by a graphic display while the *HVX* interface board hosts display based on LEDs.

## 2. Environmental Operating Conditions

Operating Temperature:	-20 to + 50 °C (-4 to +122 °F)
Relative humidity:	< 50 % at 40 °C (104 °F), non-condensing
Environmental pollution degree:	2