

PowerXL DX1 series safety ABZ encoder card (DXX-EXT-SABZ)

Instruction Leaflet
Montageanweisung
Notice d'installation
Instrucciones de montaje
Istruzioni per il montaggio
安装说明

Инструкция по монтажу
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Montagevejledning
Οδηγίες εγκατάστασης
Instruções de montagem
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Montāžas instrukcija
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Instrukcja montażu
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Návod na montáž
Монтажни инструкции
Instrucţiuni de montaj



(en)

Electric Current! Danger to Life!

Only skilled or instructed persons may carry out the following operations.

(de) Lebensgefahr durch elektrischen Strom!

Nur Elektrofachkräfte und elektrotechnisch unterwiesene Personen dürfen die im Folgenden beschriebenen Arbeiten ausführen.

(fr) Tension électrique dangereuse !

Seules les personnes qualifiées et averties doivent exécuter les travaux ci-après.

(es) ¡Corriente eléctrica! ¡Peligro de muerte!

El trabajo a continuación descrito debe ser realizado por personas cualificadas y advertidas.

(it) Tensione elettrica: Pericolo di morte!

Solo persone abilitate e qualificate possono eseguire le operazioni di seguito riportate.

(zh) 触电危险!

只允许专业人员和受过专业培训的人员进行下列工作。

(ru) Электрический ток! Опасно для жизни!

Только специалисты или проинструктированные лица могут выполнять следующие операции.

(nl) Levensgevaar door elektrische stroom!

Uitsluitend deskundigen in elektriciteit en elektrotechnisch geïnstrueerde personen is het toegestaan, de navolgend beschreven werkzaamheden uit te voeren.

(da) Livsfare på grund af elektrisk strøm!

Kun uddannede el-installatører og personer der er instruerede i elektrotekniske arbejdsopgaver, må udføre de nedenfor anførte arbejder.

(el) Προσοχή, κίνδυνος ηλεκτροπληξίας!

Οι εργασίες που αναφέρονται στη συνέχεια θα πρέπει να εκτελούνται μόνο από ηλεκτρολόγους και ηλεκτροτεχνίτες.

(pt) Perigo de vida devido a corrente eléctrica!

Apenas electricistas e pessoas com formação electrotécnica podem executar os trabalhos que a seguir se descrevem.

(sv) Livsfara genom elektrisk ström!

Endast utbildade elektriker och personer som undervisats i elektroteknik får utföra de arbeten som beskrivs nedan.

(fi) Hengenvaarallinen jännite!

Vain pätevät sähköasentajat ja opastusta saaneet henkilöt saavat suorittaa seuraavat työt.

EAT•N*Powering Business Worldwide*

CS Nebezpečí úrazu elektrickým proudem!

Níže uvedené práce smějí provádět pouze osoby s elektrotechnickým vzděláním.

et Eluhtlik! Elektrilöögioht!

Järgnevalt kirjeldatud töid tohib teostada ainult elektriala spetsialist või elektrotehnilise instrueerimise läbinud personal.

hu Életveszély az elektromos áram révén!

Csak elektromos szakemberek és elektrotechnikában képzett személyek végezhetik el a következőkben leírt munkákat.

lv Elektriskā strāva apdraud dzīvību!

Tālāk aprakstītos darbus drīkst veikt tikai elektrospeciālisti un darbam ar elektrotehniskām ekārtām instruētās personas!

lt Pavojus gyvybei dėl elektros srovės!

Tik elektrikai ir elektrotechnikos specialistai gali atlikti žemiau aprašytus darbus.

pl Porażenie prądem elektrycznym stanowi zagrożenie dla życia!

Opisane poniżej prace mogą przeprowadzać tylko wykwalifikowani elektrycy oraz osoby odpowiednio poinstruowane w zakresie elektrotechniki.

sl Življenjska nevarnost zaradi električnega toka!

Spodaj opisana dela smejo izvajati samo elektrostrokovnjaki in elektrotehnično poučene osebe.

sk Nebezpečenstvo ohrozenia života elektrickým prúdom!

Práce, ktoré sú nižšie opísané, smú vykonávať iba elektroodborníci a osoby s elektrotechnickým vzdelaním.

bg Опасност за живота от електрически ток!

Операциите, описани в следващите раздели, могат да се извършват само от специалисти-електротехници и инструктиран електротехнически персонал.

ro Atenție! Pericol electric!

Toate lucrările descrise trebuie efectuate numai de personal de specialitate calificat și de persoane cu cunoștințe profunde în electrotehnică.

Option card slot compatibility

PowerXL™ DX1 variable frequency drive (VFD) has four option slots (A, B, C and D) but there is a slot compatibility matrix in place. The figure below shows the orientation of the option card slots.

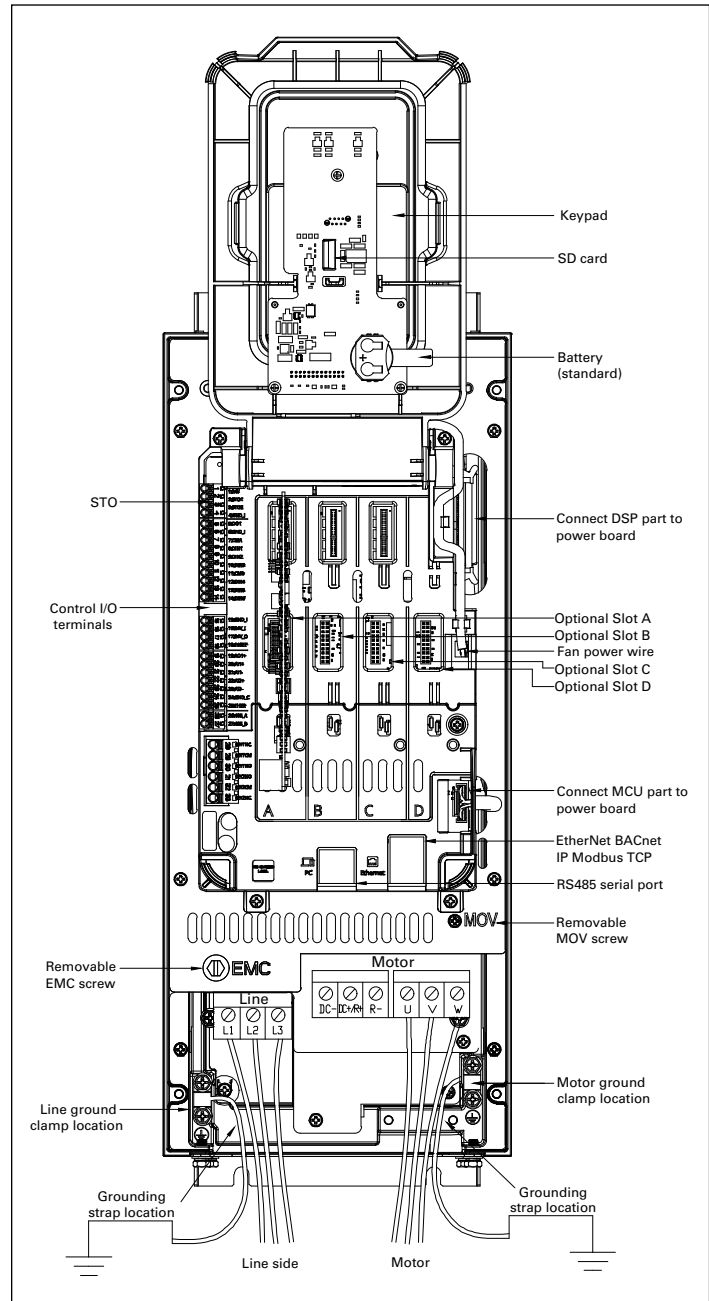


Figure 2. PowerXL variable frequency drive

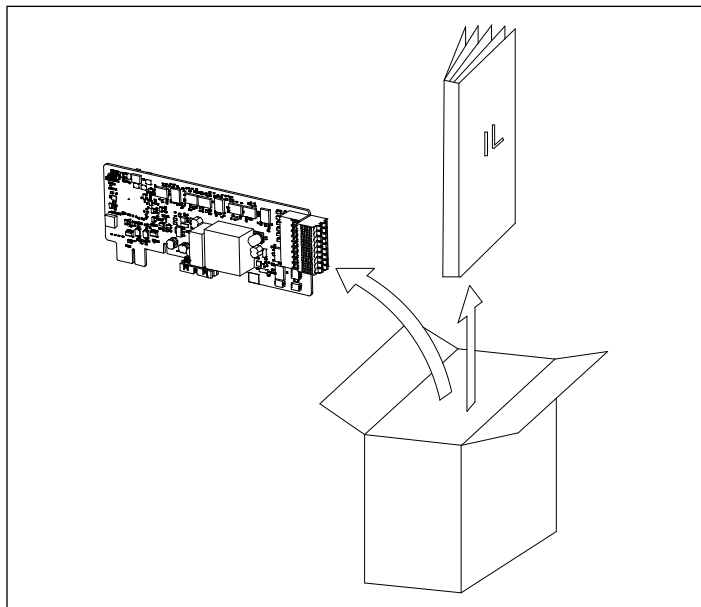


Figure 1. Scope of deliver for DXX-EXT-SABZ encoder card

The table below shows the option cards and their slot compatibility.

Option cards	Description	Slot position
DXX-EXT-3DI3DO1T	IO1—3 x DI, 3 x DO, 1 x Thermistor, 24 Vdc/EXT option card	Slot A/B/C/D
DXX-EXT-1AI2AO	IO2—1 x AI, 2 x AO option card	Slot A/B/C/D
DXX-EXT-3R0	IO3—3 x Relay dry contact (2NO + 1NO/NC) option card	Slot A/B/C/D
DXX-EXT-THER1	IO4—3 x PT100 RTD thermistor input option card	Slot A/B/C/D
DXX-EXT-6DI	IO5—6 x DI 120 Vac / 240 Vac input option card	Slot A/B/C/D
DXX-EXT-ABZ	PowerXL DX1 ABZ Encoder Card	Slot A
DXX-EXT-SABZ	PowerXL DX1 Safety ABZ Encoder Card	Slot A
DXX-EXT-FS	PowerXL DX1 Functional Safety Card	Slot B
DXX-NET-EIP	PowerXL DX1 Dual-Port EIP Card	Slot D
DXX-NET-PROFINET	PowerXL DX1 Dual-Port ProfiNet Card	Slot D
DXX-EXT-OF	PowerXL DX1 Fiber Optic Card	Slot C

An encoder option card shall only be installed in **Slot A** of PowerXL DX1 drive.

⚠ WARNING

(1) INSTALLATION OF AN ENCODER CARD IN ANY SLOT OTHER THAN SLOT A WILL RESULT IN A FAULT CONDITION.

(2) POWER NEEDS TO BE REMOVED FROM THE POWERXL DX1 VFD BEFORE INSTALLING / UNINSTALLING AN OPTION CARD.

Encoder option card installation

Follow these steps to install the encoder option card in Slot A.

Step 1: Flip the B-cover up and stop at a specific angle (120° or 150°).

Step 2: Make sure the encoder option card is fully inserted into Slot A.

Step 3: Flip the B-cover down for snap fit with C-cover to fix the option cards firmly.

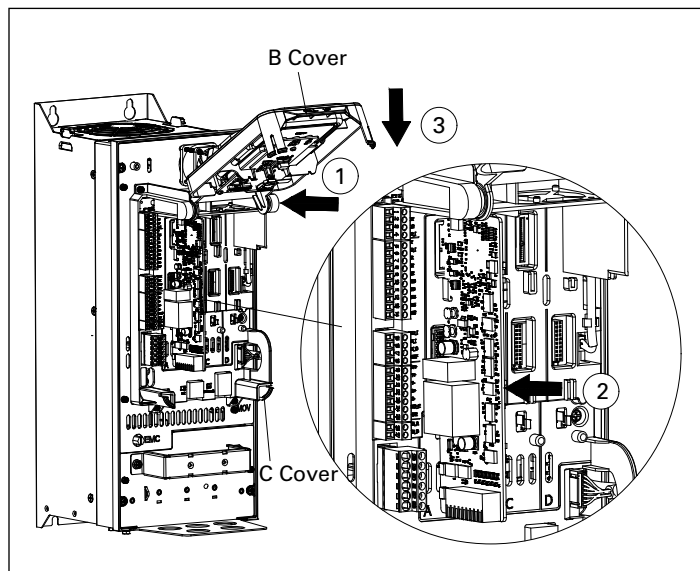


Figure 3. Option cards assembly

DXX-EXT-SABZ

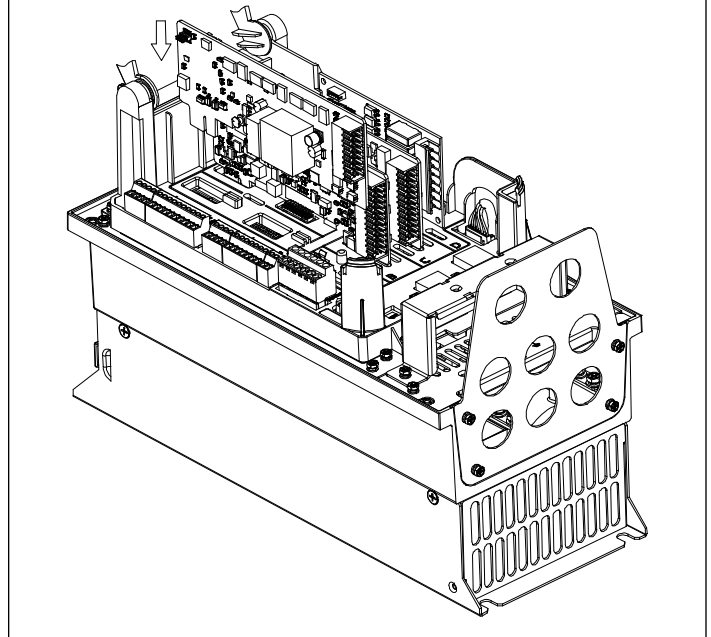


Figure 4. DXX-EXT-SABZ encoder card (Slot A)

Setting up encoder supply voltage

Two supply voltages are available on pins 8 and 16 in connector CN1. They can power two encoders separately at the same time. The supply voltage is selected by DIP switch (SW1/SW2).

The following supply voltages can be selected:

Encoder supply voltage	SW1 selection	SW2 selection
VPG = 5 V	On Off	On Off
VPG = 15 V	On Off	On Off
VPG = 24 V	On Off	On Off

Notes:

- SABZ card only supports one safety certified incremental Encoder1. SABZ card provides selectable safety power supply 15 V or 24 V for user's safety Encoder1.
- SABZ card provides selectable safety power supply 5 V, 15 V, or 24 V for user's Encoder2.
- Only when SW1 and SW2 are both set correctly, there will be a corresponding power supply voltage output. If only one is set, the output voltage is 5 V.

SABZ card connection

Note: Check that the DIP switch settings on the board correspond to your need.

Table 1. Wire sizes

Wire type	Wire size
SABZ card wire (push-in design)	16–28 AWG (0.2–1.5 mm ²)

The following figure shows the pin layout of DXX-EXT-SABZ (DX1 safety ABZ encoder card).

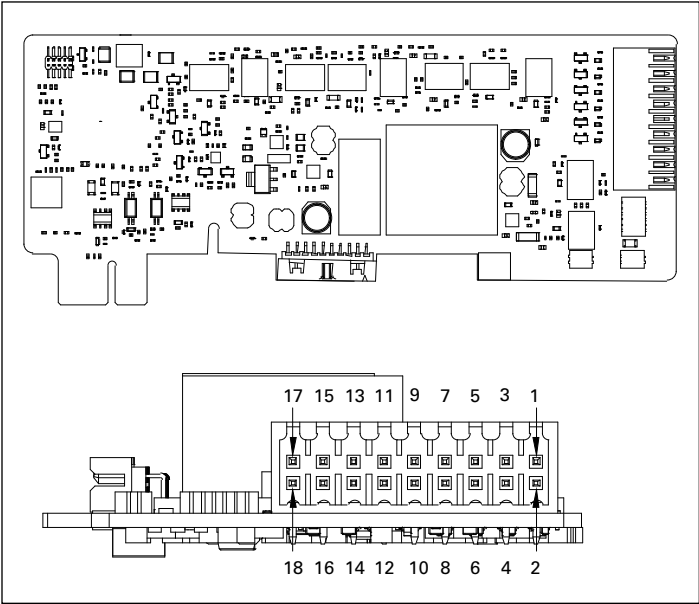


Figure 5. DXX-EXT-SABZ pin layout

Table 2. Terminal designations

Pin	Signal name	Signal	Direction	Description
1	A1+	Encoder1 signal A1+ input	DI	Safety encoder channel 1 signal
2	A1-	Encoder1 signal A1- input	DI	Safety encoder channel 1 signal
3	B1+	Encoder1 signal B1+ input	DI	Safety encoder channel 2 signal
4	B1-	Encoder1 signal B1- input	DI	Safety encoder channel 2 signal
5	Z1+	Encoder1 signal Z1+ input	DI	Safety encoder safety unrelated signal
6	Z1-	Encoder1 signal Z1- input	DI	Safety encoder safety unrelated signal
7	GND	I/O signal ground	—	Safety encoder signal ground
8	VPG	Encoder1 power supply	PO	Safety encoder power supply
9	A2+	Encoder2 signal A2+ input	DI	Ordinary encoder signal
10	A2-	Encoder2 signal A2- input	DI	Ordinary encoder signal
11	B2+	Encoder2 signal B2+ input	DI	Ordinary encoder signal
12	B2-	Encoder2 signal B2- input	DI	Ordinary encoder signal
13	Z2+	Encoder2 signal Z2+ input	DI	Ordinary encoder signal
14	Z2-	Encoder2 signal Z2- input	DI	Ordinary encoder signal
15	GND	I/O signal ground	—	Ordinary encoder signal ground
16	VPG	Encoder2 power supply	PO	Ordinary encoder power supply
17	PE	Chassis	—	Cable shield
18	PE	Chassis	—	Cable shield

Notes:

SABZ card is an interface between the control board and a safety ABZ encoder. Encoder1 only supports safety encoders, and the signals are differential. Encoder2 supports various types of ABZ encoders.

For the wiring and use of Encoder1, please refer to the functional safety option card for PowerXL DX1 variable frequency drive user manual (MN040070EN).

For the wiring and use of Encoder2, please refer to the PowerXL DX1 Series encoder option cards (DXX-EXT-ABZ) user manual (MN040075EN).

The SABZ encoder card can be wired as shown below.

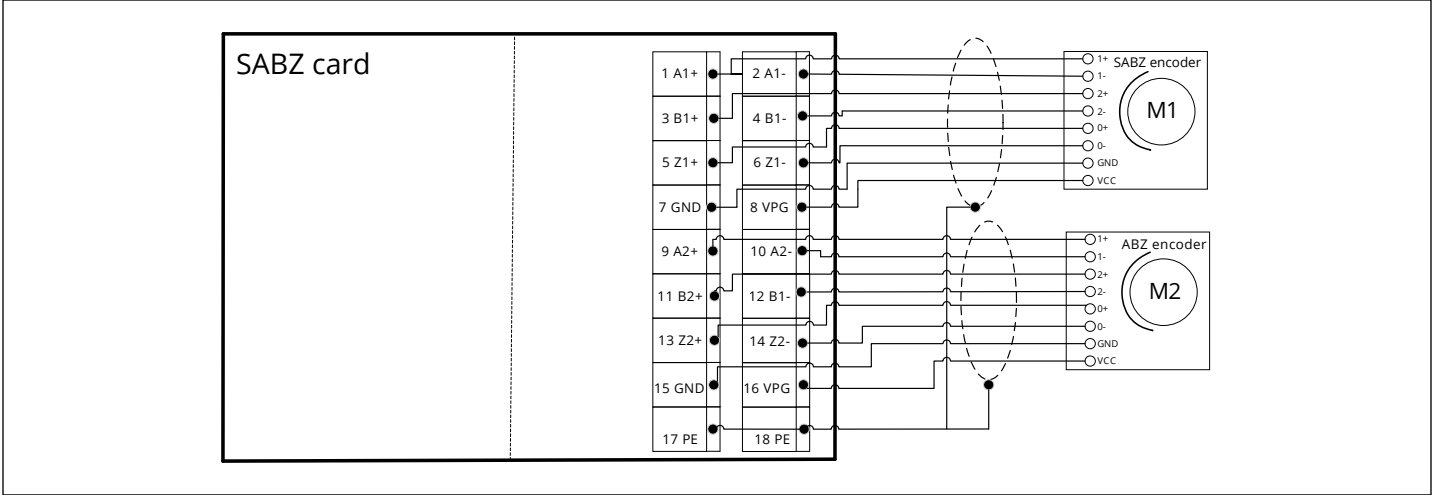


Figure 6. SABZ encoder card wiring

The cables must be screened and the corresponding cable screen must be earthed (PES).

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