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**AN023**  
This document gathers and summarizes the points connection to the DC link/bus of the most typically VVFs

**Version**  
V1.6  
June, 2025

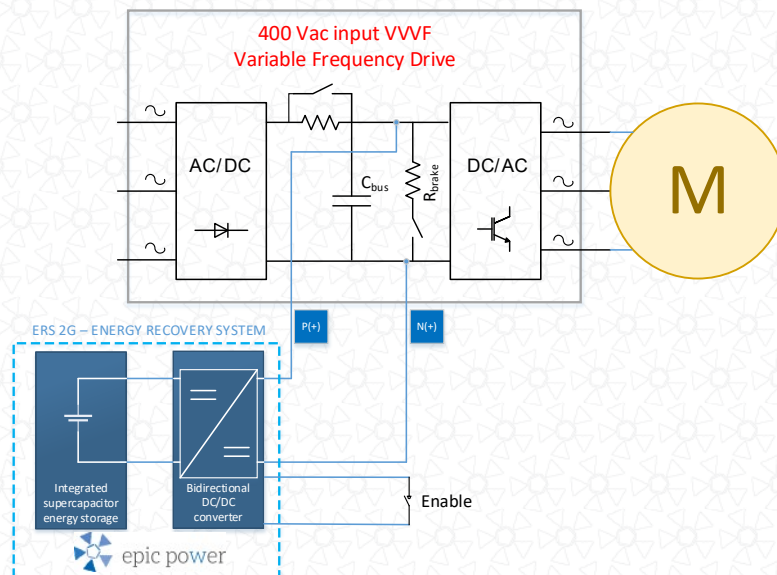
## Application Note - AN023

# Connection to DC link of different VVVF drives

## Introduction

This document gathers and summarizes the points connection to the DC link/bus of the most typically found drives/inverters found in Europe in lift and industrial applications. This document is designed to help find the right point of connection of epic power products but cannot be used alone as complete information for the installation.

The user will have to verify that the installation of the epic power products is done according to the installation manual paying especial attention to the procedure and safety recommendation.



## Table of DC Link connections depending on the drive manufacturer

In Table 1 different drive brands, their connections to the DC link (positive and negative) and a link to a schematic is depicted.

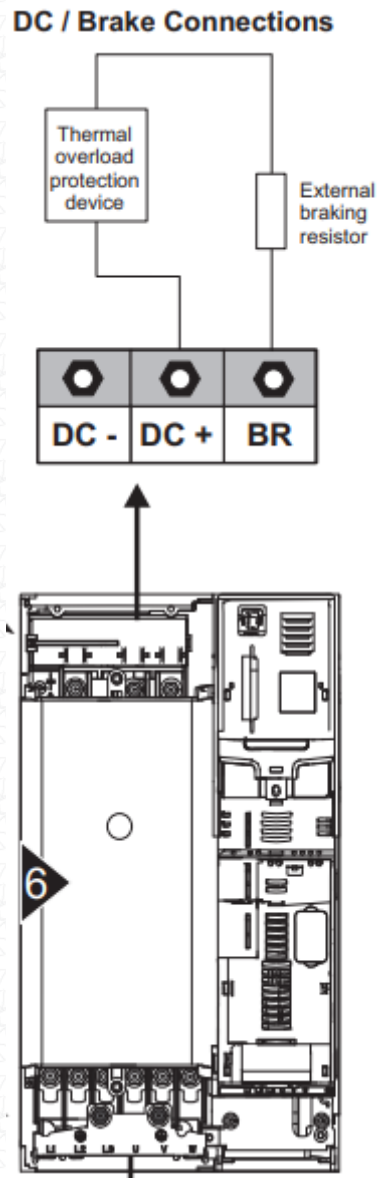
Drive brand	DC bus + (positive)	DC bus - (negative)	Figure
<b>Control Techniques (Nidec)</b>	DC+	DC-	Fig. 1
<b>Fuji</b>	P+	N-	Fig. 2
<b>KEB</b>	++	--	Fig. 3
<b>Lenze</b>	RB2	UG-	Fig. 4
<b>Omron</b>	P+	N-	Fig. 5
<b>SEW</b>	UZ+	UZ-	Fig. 6
<b>Vacon</b>	B+	B-	Fig. 7
<b>Yaskawa</b>	+1	-	Fig. 8
<b>Ziehl Abbeg</b>	+DC	-DC	Fig. 9
<b>Danfoss</b>	(+)	(-)	Fig. 10
<b>Gefran</b>	BR1	D	Fig. 11
<b>Delta</b>	B1	-/DC-	Fig. 12
<b>WEG</b>	BR1	D	Fig. 13
<b>epic power</b>	<b>P(+)</b>	<b>N(-)</b>	

*Table 1 - DC link terminals connections*

Note: Do not forget to connect the earth (PE) terminals between epic power device and the drive



## Control Techniques (Nidec) example



*Fig. 1 - DC link connection to Nidec / Control Techniques*



## FUJI example

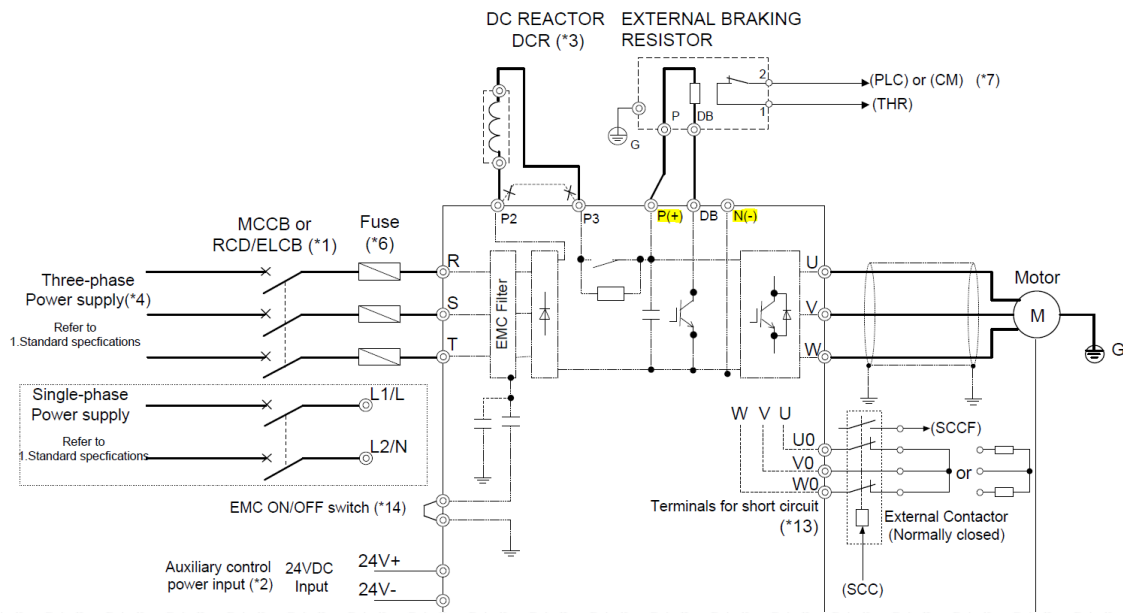


Fig. 2 - DC link connection to FUJI



## KEB example

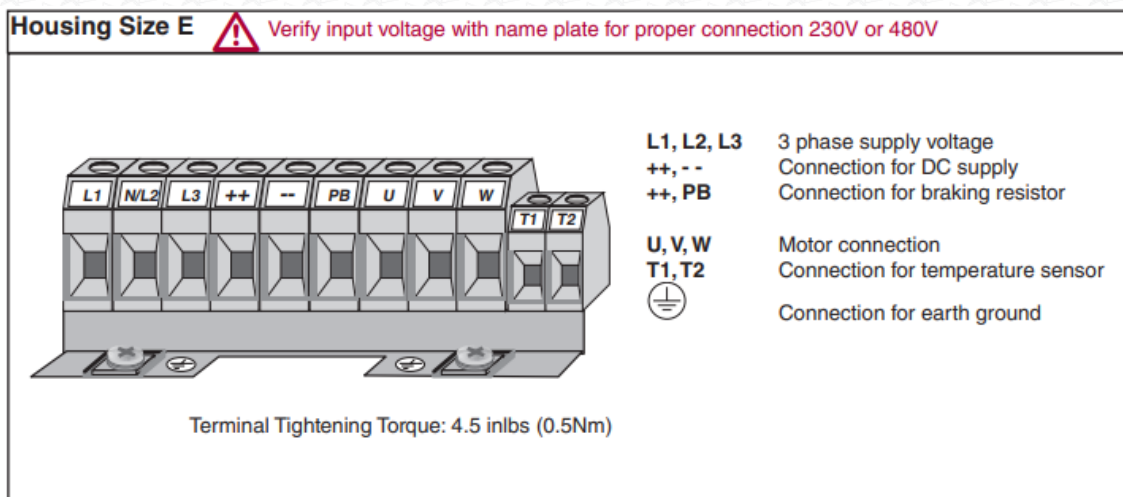


Fig. 3 - DC link connection to KEB



## LENZE example

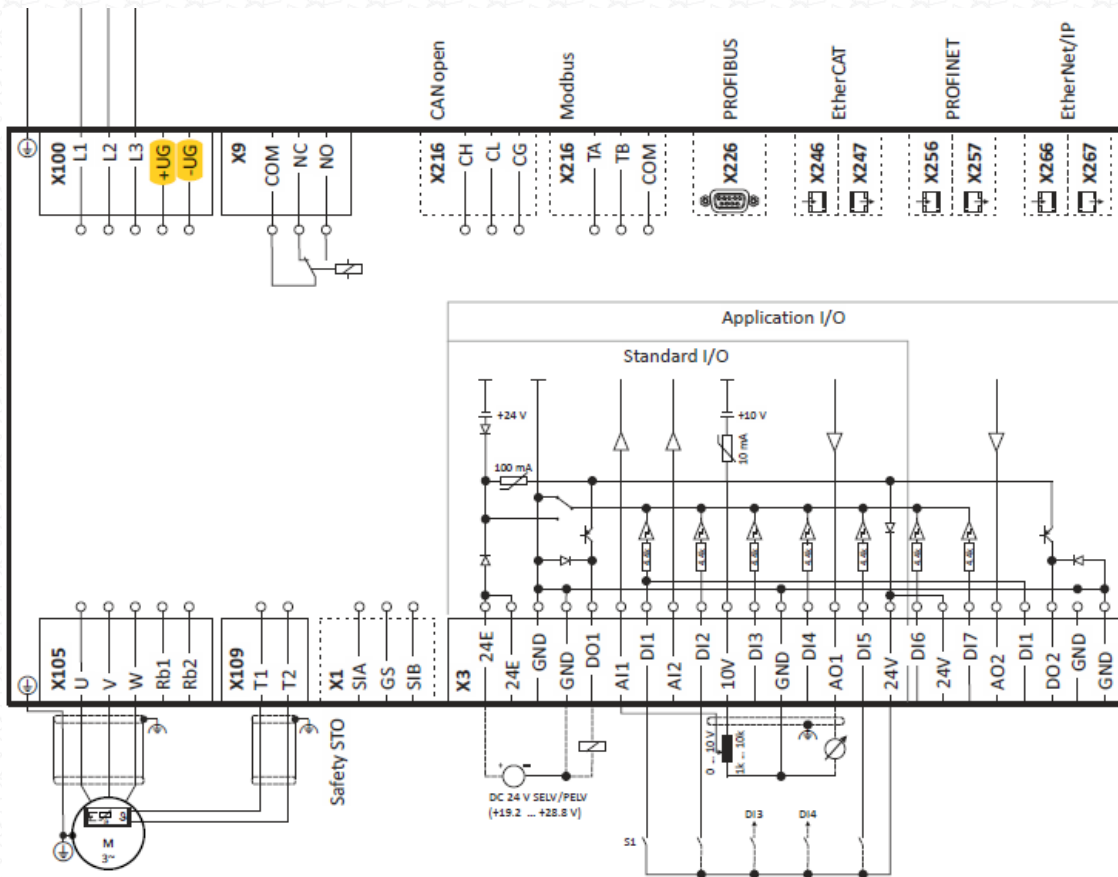


Fig. 4 - DC link connection to LENZE



## OMRON example

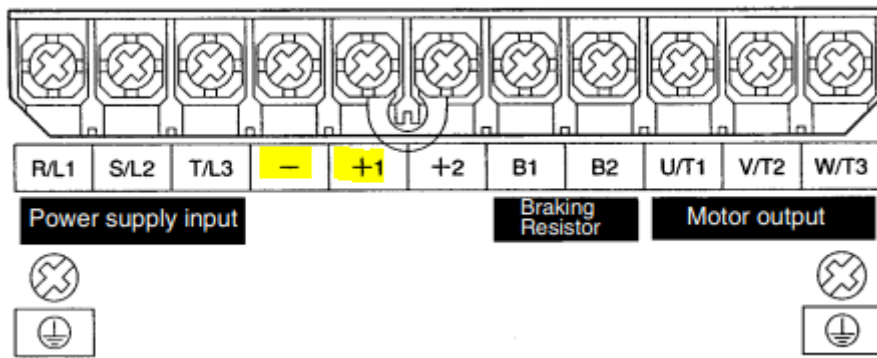
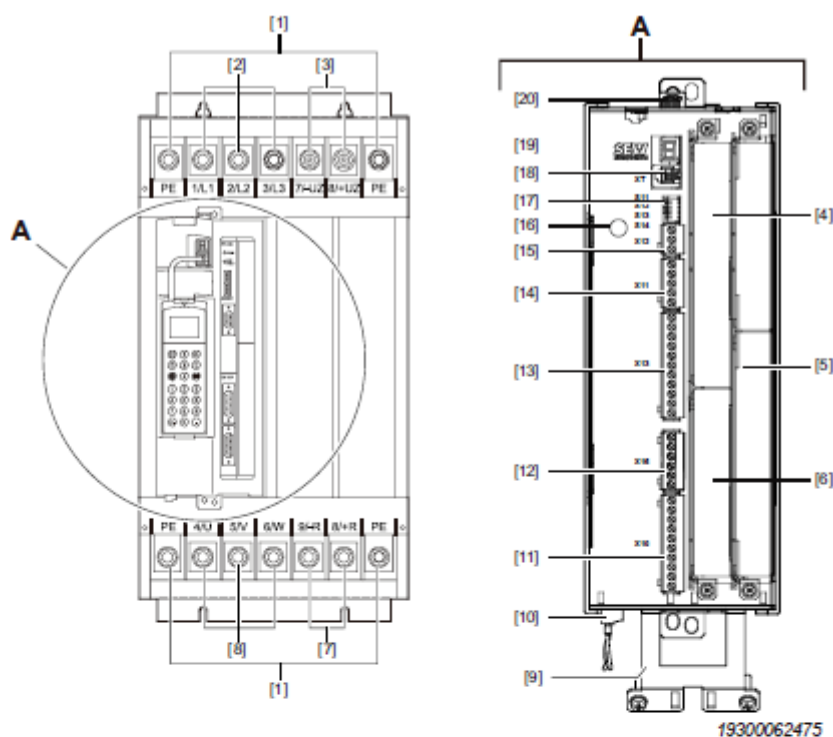


Fig. 5 - DC link connection to OMRON



## SEW example



- [1] PE connection
- [2] X1: Line connection 1/L1, 2/L2, 3/L3
- [3] X4: Connection for DC link coupling  $-U_z$   $+U_z$
- [4] Fieldbus slot
- [5] Expansion slot
- [6] Encoder slot
- [7] X3: Braking resistor connection 8/+R, 9/-R
- [8] X2: Motor connection 4/U, 5/V, 6/W
- [9] Shield clamp for signal cables and PE connection
- [10] X17: Signal terminal block for safety contacts of drive safety function STO
- [11] X10: Signal terminal strip for digital outputs and TF/TH input
- [12] X16: Signal terminal strip digital inputs and outputs
- [13] X13: Signal terminal strip terminal strip for digital inputs and RS485 interface
- [14] X11: Signal terminal strip for setpoint input AI1 and 10 V reference voltage
- [15] X12: Signal terminal strip system bus (SBus)
- [16] Grounding screw M4 x 14
- [17] DIP switches S11 – S14
- [18] XT: Slot for DBG60B keypad or USB11A/UWS21B serial interface
- [19] 7-segment display

Fig. 6 - DC link connection to SEW





## VACON example

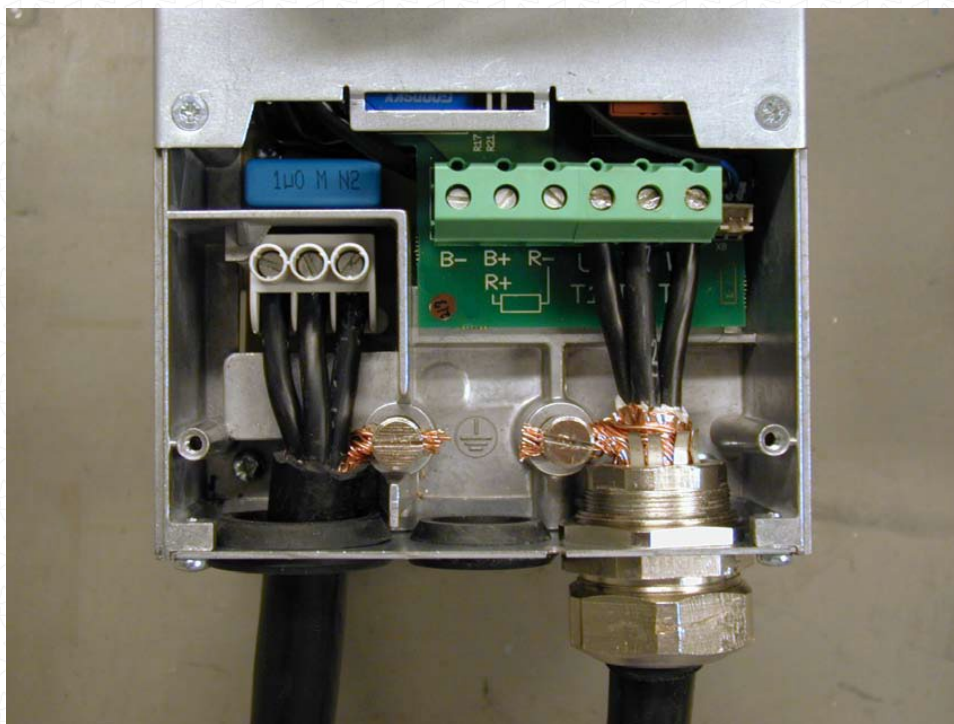


Fig. 7 - DC link connection to VACON



## YASKAWA example

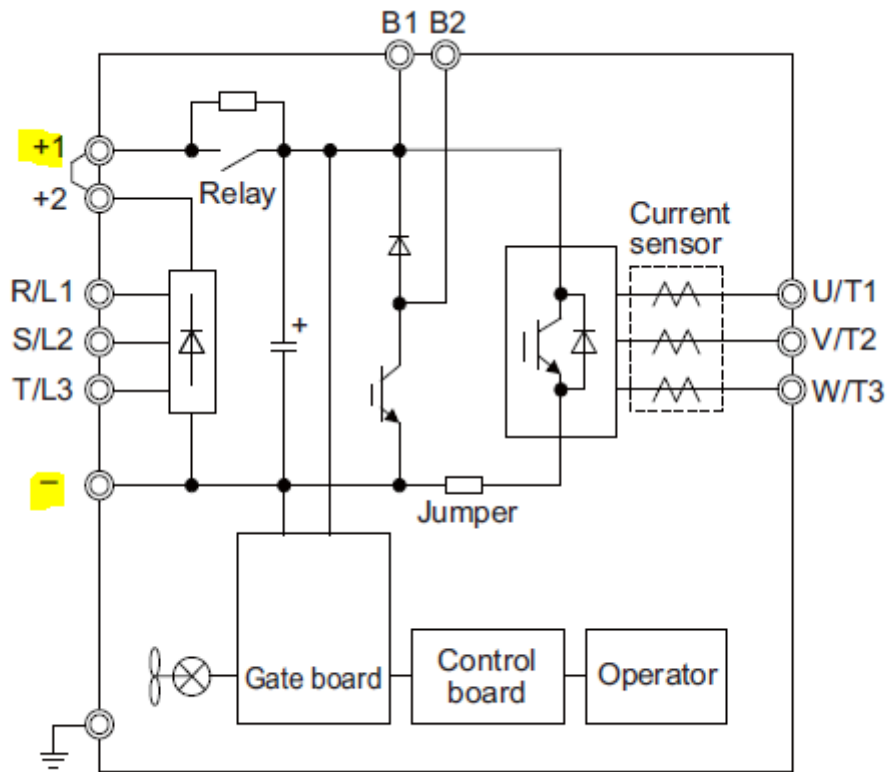


Fig. 8 - DC link connection to YASKAWA



## Zielh Abbeg example

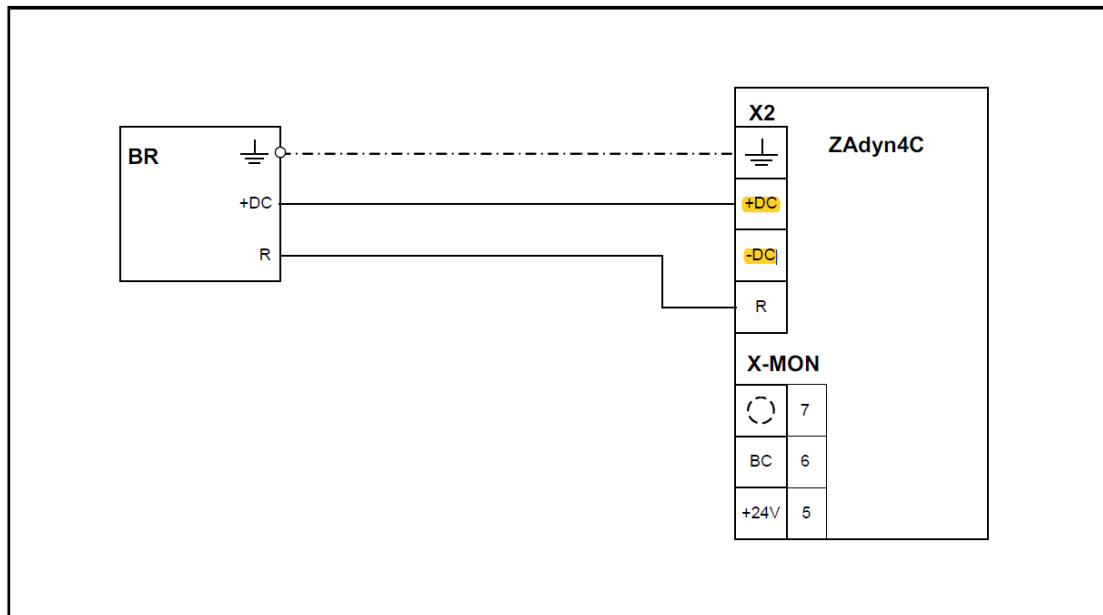


Fig. 9 - DC link connection to ZIELH ABBEG



## Danfoss example

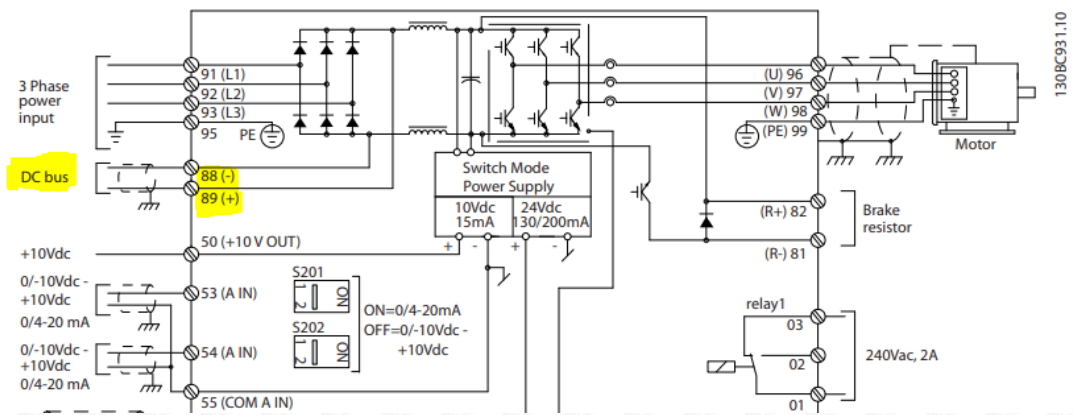


Fig. 10 - DC link connection to DANFOSS



## Gefran example

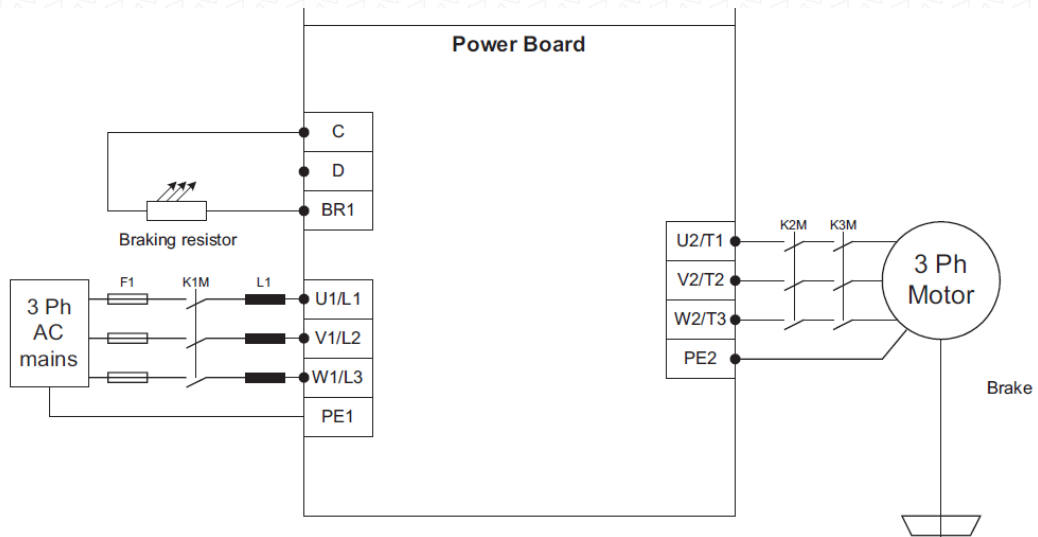


Fig. 11 - DC link connection to GEFAN



## Delta example

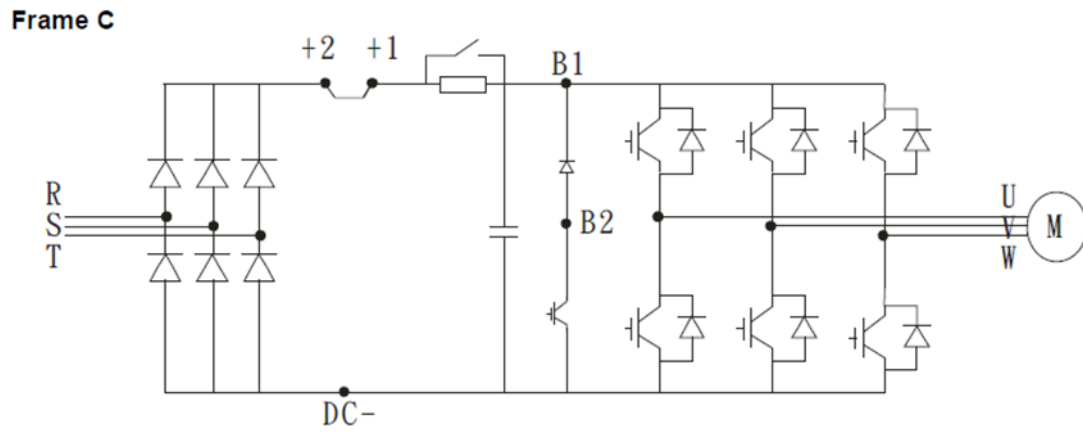
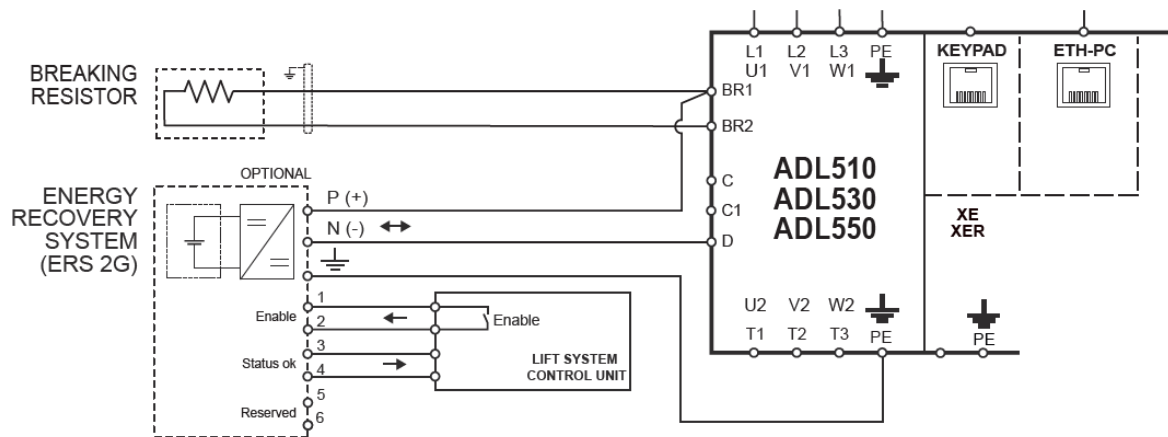


Fig. 12 - DC link connection to DELTA



WEG example

Figure 5.6.1: Connection for energy storage module ERS 2G



ADL500 • Quick installation guide - Specifications and connection

Fig. 13 - DC link connection to WEG

