ADDENDUM TO INSTALLATION MANUAL

Wire harness var1
Integrated motor drive IMD 100

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Contents

1. Introduction

This document is an addendum to the IMD installation manual. It describes how to connect the IMD with wire harness var1 option as a replacement for the pitch drive in a wind turbine. The IMD installation manual must be at hand as well, when installing the IMD.

The document can be printed on a monochrome printer. However, the details in the pictures will be better if a colour printer is used.

1.1 Revision history

Apart from editorial changes the following changes have been made in this revision:

Date	Revision	Changes
2018-06-06	B	• Manual name changed • Connecting D-sub connector updated
2017-07-06	A	This is the first version of the document.

1.2 Conventions

The following conventions are used in this document:

Used in document	Description
`Monotype` font	Used when describing a path or text input in a machine human interface
Blue underlined font	Used to indicate that the text is also a hyperlink
	A yellow symbol illustrates hazard type (this symbol is an example for general hazard). There are different types such as electrical, chemical and so on.
Danger!	A signal word used to indicate an imminently hazardous situation, which if not avoided, will result in death or serious injury. (ISO 3864)
Warning!	A signal word used to indicate an imminently hazardous situation, which if not avoided, could result in death or serious injury. (ISO 3864)
Caution!	A signal word used to indicate a potentially hazardous situation, which if not avoided, could result in minor or moderate injury. (ISO 3864)
	A blue symbol illustrates a need for mandatory action. In this example read instructions. Other types of blue symbols exist and always indicate mandatory action.
	A symbol used to draw attention to extra information or an action that is not mandatory

2. Safety precautions

Attention!
Read the safety information in the standard IMD installation manual

3. Package content, required tools and handling

3.1 Package content

3.1.1 Standard package content:

	Quantity	Description
	1	IMD 100 Integrated motor drive including pre-mounted S88 wiring kit

3.1.2 Extra content in package for mounting frame option:

The same as in standard option. See IMD Installation manual

3.2 Required tools and accessories

The same as for standard installation. See IMD Installation manual.

3.3 Handling of the product

The same as for standard product. See IMD Installation manual

4. Electrical terminations

This section describes how to connect the electrical connections to the wire kit. Power connections must be moved from the old pitch drive to the IMD. Other connections are moved to the wiring kit as they are. The labels on the wiring kit are the same as on the old pitch drive.

Following is an overview of the connections to the wire kit that need to be made:

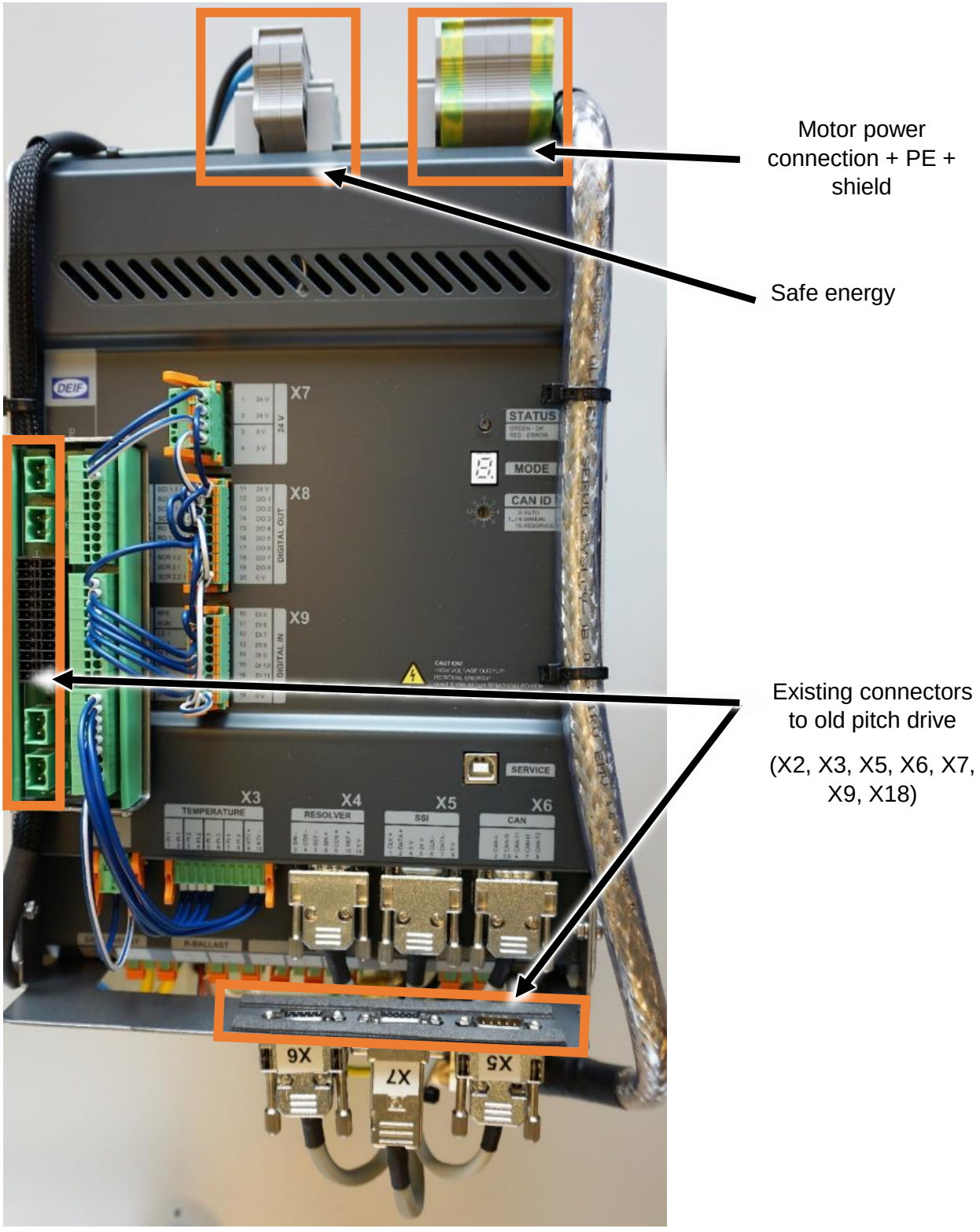


Figure 1 IMD 100 with wiring kit connections overview

4.1 Prerequisites for electrical termination

A wiring or routing diagram for the specific installation must be available before starting with the electrical work. The diagrams must contain information about which cables/wires are connected to each connector terminal.

4.1.1 Using Phoenix ST-6 connectors

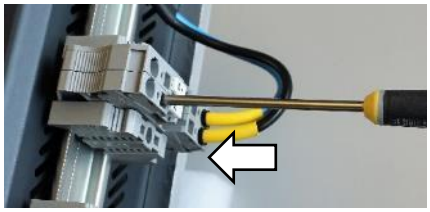
ST-6 connectors are used for safe energy and motor connections.

Table 1 Technical data ST-6

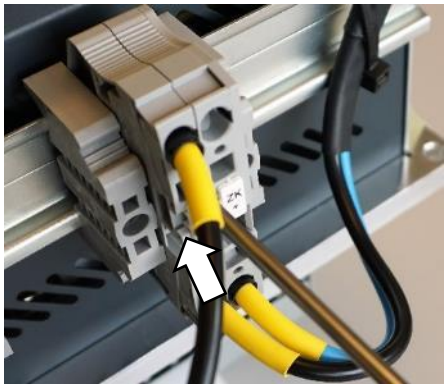
	FK-MCP 1.5 (X3, X8, X9)
Conductor cross section flexible, without ferrule	0.2 – 10 mm^2
Conductor cross section flexible, with ferrule with or without plastic sleeve	0.25 – 6 mm^2
Stripping length	12 mm
Ferrule length	12 mm

To connect wires to the connector:

1. Push a flat screw driver all the way into the connector



2. Push the wire all the way into the connector



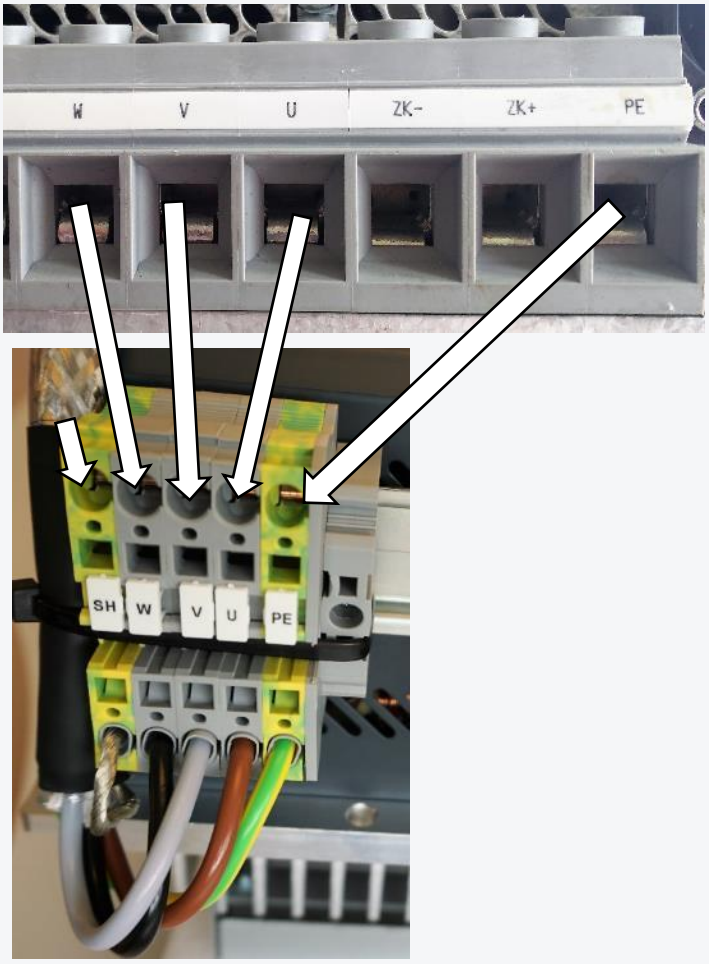
3. Pull the screw driver out to lock the connection

4.2 Mounting power connections

Danger!
Risk of burns and electrical shock from short circuit, electrical arc and uninsulated wires.
Live work is not permitted, except for during commissioning and service.
Observe local regulation when working with electrical components.

Disconnect power
Ensure that all power is disconnected when connecting cables to the IMD.

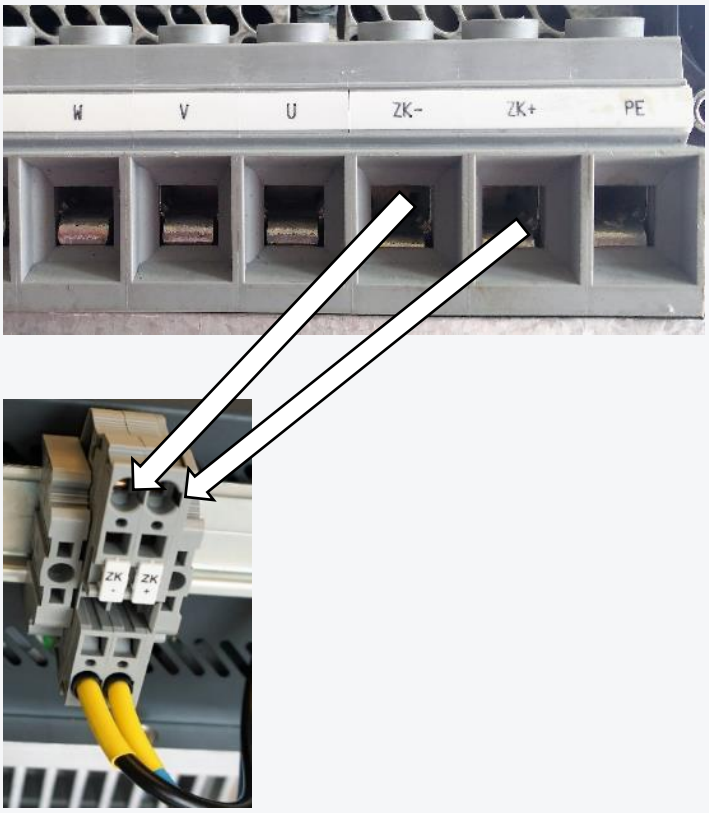
4.2.1 Connecting the motor



Connect the motor wires and PE to the terminals according to the wiring diagram and the instructions in section 4.1.1 on page 7. Connect the shield to SH.

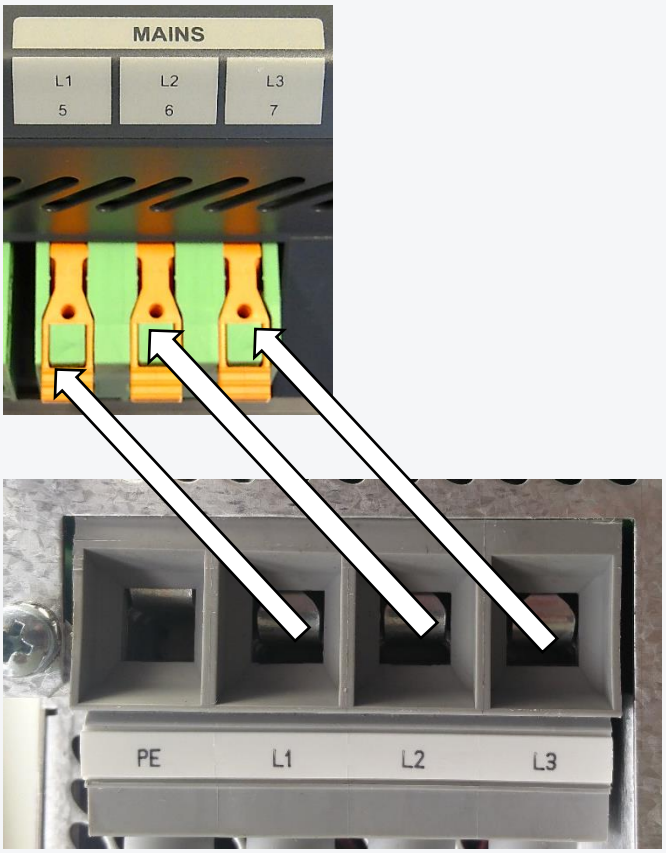
Attention
The motor wires must be as short as possible. Do not make any loops.

4.2.2 Connecting safe energy



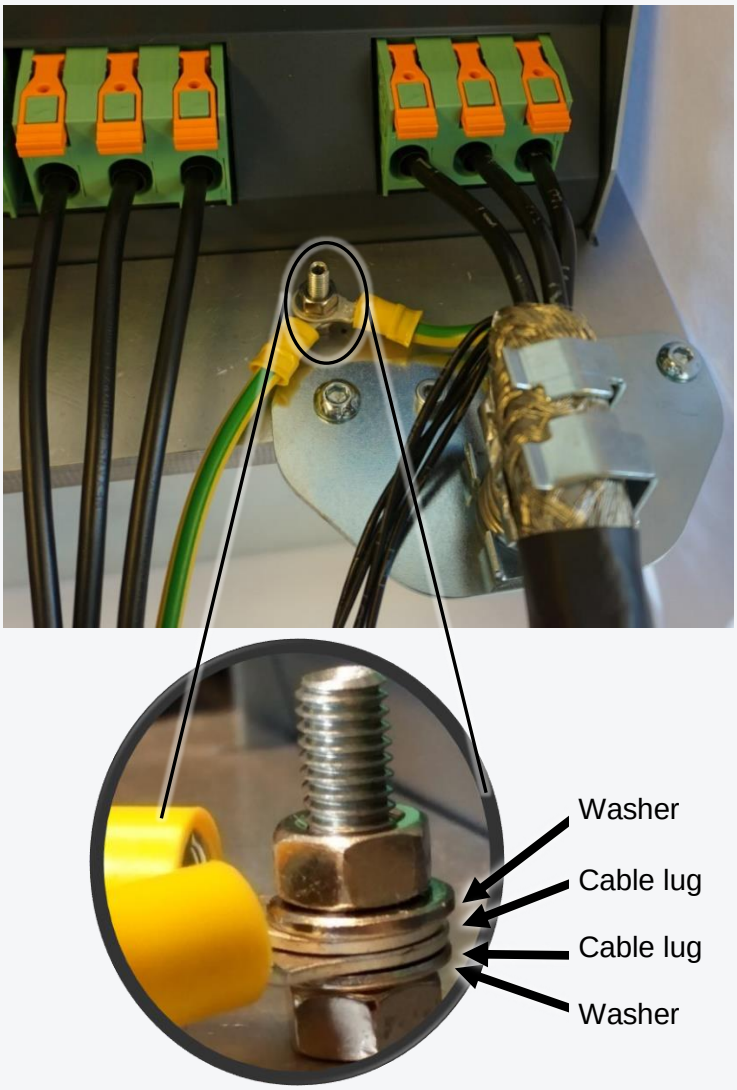
Connect the battery or Ultra Cap wires to the ZK+ and ZK- connectors according to the wiring diagram and the instructions in section 4.1.1 on page 7.

4.2.3 Connecting the mains



Connect the Mains wires to the IMD X1 MAINS connectors according to the wiring diagram and the instructions of how to use the Phoenix PLH16 connector in the installation manual.

4.2.4 Connecting earth from mains and motor



Connect the earth from the mains together on the earth terminal using an appropriate cable lug (the motor PE is already connected).

Use washers under and over the lugs as illustrated.

Tighten with an 8 mm wrench (4 Nm).

Note: The shielding clamp bracket is not used with the wire-kit.

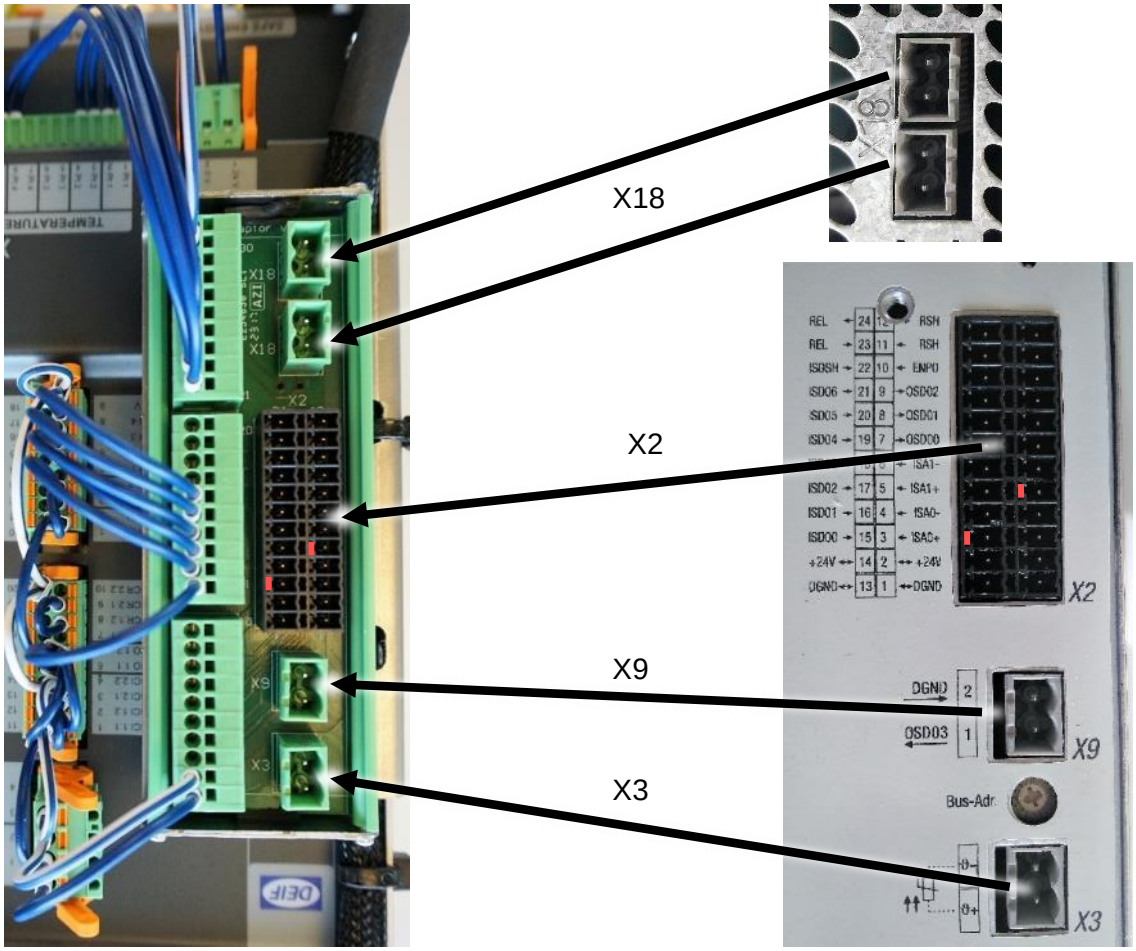
4.3 Mounting peripheral connections

The peripheral connections are moved directly from the Old pitch drive to the IMD wiring kit.

4.3.1 Connecting old pitch drive connectors

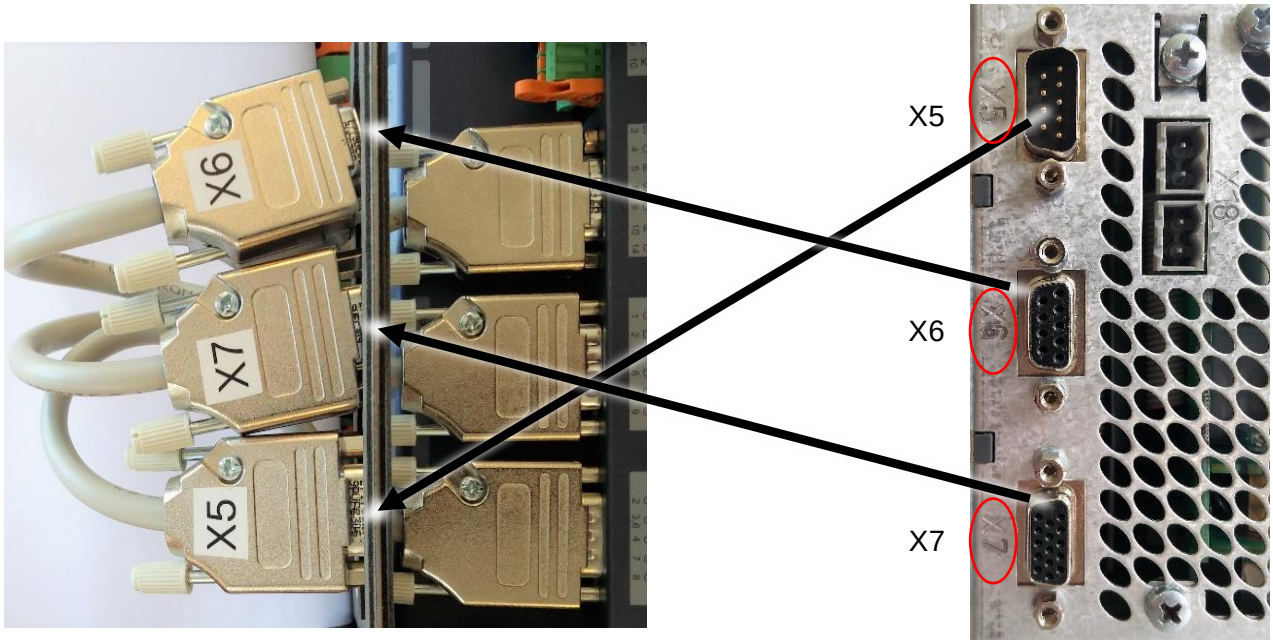
Connect X3, X9, X2 and X18 to the wiring kit. No modification is needed.

Info
X2 is coded at terminals 5 and 15 to prevent incorrect mounting of the connectors



4.3.2 Connecting the D-SUB connectors

1. Connect the D-sub connectors for X5, X6 and X7 to the respective connectors on the IMD (the connectors on the IMD are marked with the same naming as on the old drive). The connections must go through the holes in the bracket.



2. Loosen completely the screws of the D-sub connectors

3. Tighten the screws (hand tightened) to ensure good contact and mechanical stability (1).
   Tighten (as much as possible) the loosened screws on the wire harness D-sub connectors (2).