

Unidrive M600-M70X, F300, H300, E200 & E300 Size 3 DC Bus Paralleling Installation Sheet

1 Safety information



Stored charge

The drive contains capacitors that remain charged to a potentially lethal voltage after the AC supply has been disconnected. If the drive has been energized, the AC supply must be isolated at least ten minutes before work may continue. Refer to the Safety information section in the relevant *Control User Guide*.



Isolation device

The AC / DC supply must be disconnected from the drive using an approved isolation device before any cover is removed from the drive or before any servicing work is performed.



Follow the instructions

The mechanical and electrical installation instructions must be adhered to. Any questions or doubt should be referred to the supplier of the equipment. It is the responsibility of the owner or user to ensure that the installation of the drive and any external option unit, and the way in which they are operated and maintained, comply with the requirements of the Health and Safety at Work Act in the United Kingdom or applicable legislation and regulations and codes of practice in the country in which the equipment is used.

2 Introduction

This document covers DC bus paralleling instructions for Unidrive M600 / M70X, F300, H300, E200 & E300 size 3 drives. The Unidrive M terminal and enclosure design enables the DC bus of a number of drives to be connected together using a pre-made busbar kit (CT part number: 3470-0048-02).

The instructions below explain DC bus paralleling of two Unidrive M size 3 drives. The drives are numbered 1 and 2 to simplify the instructions. Repeat these steps to add more drives to the DC bus.



NOTE

There are limitations to the combinations of the drives which can be used in this configuration. For application data, contact the supplier of the drive.

Contents of the bag (CT part number: 3470-0048-02)

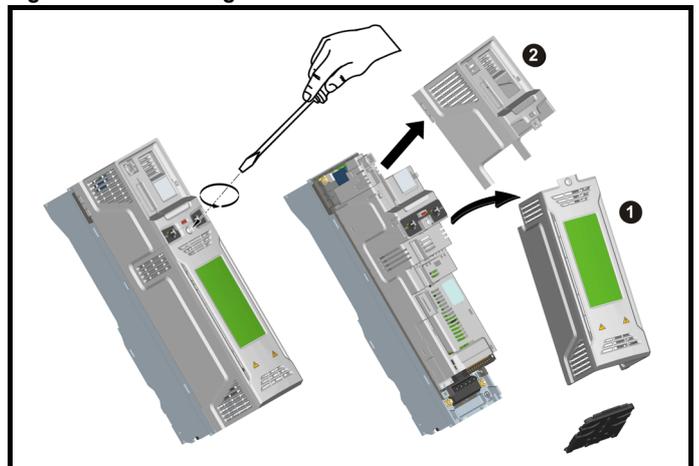
The following items are supplied in the bag:

	Item	Quantity
DC+ busbar		x 1
DC- busbar		x 1
M4 Screw		x 2

3 Instructions

STEP 1 - Drive 1 and 2

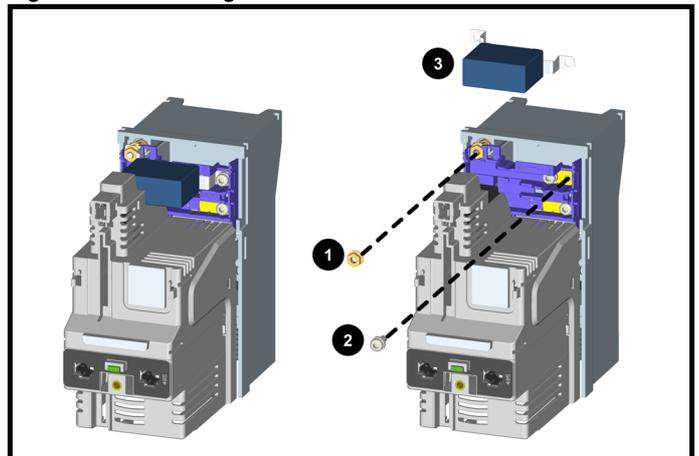
Figure 1-1 Removing the AC and DC terminal covers



- To remove the terminal covers, undo the screw and remove the covers in direction shown above (Figure 1-1).
- The AC terminal cover (1) must be removed prior to the DC terminal cover (2).
- When replacing the terminal covers the screw should be tightened to maximum torque of 1 N m (8.9 lb in).

STEP 2 - Drive 1 and 2

Figure 1-2 Removing the internal EMC filter



The internal EMC filter needs to be removed to establish the DC bus paralleling connections. To remove the internal EMC filter:

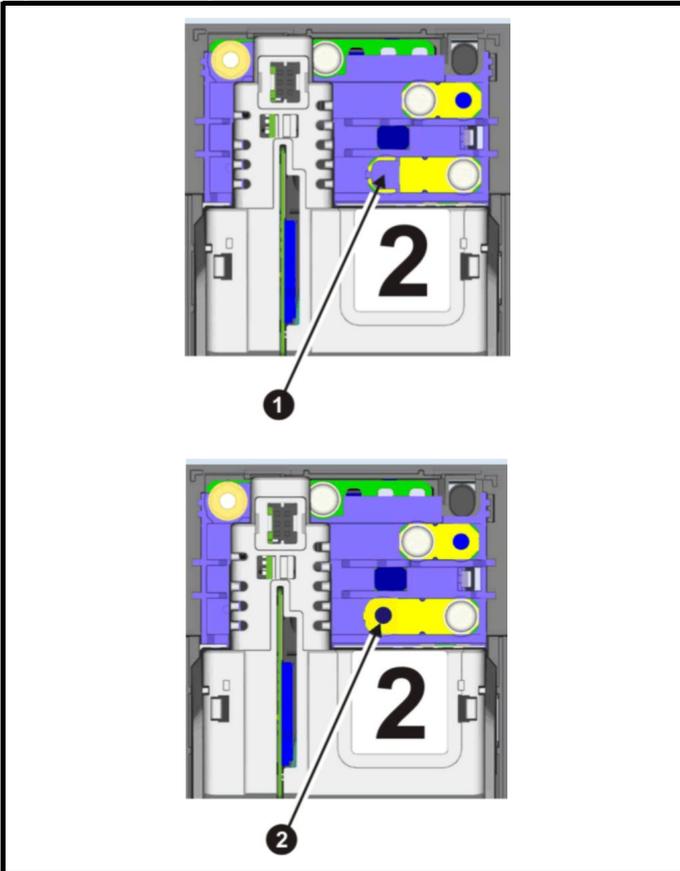
- Loosen / remove the screw and nut as shown (1) and (2).
- Lift away from securing points and then rotate away from the drive (3).



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STEP 3 - Drive 2

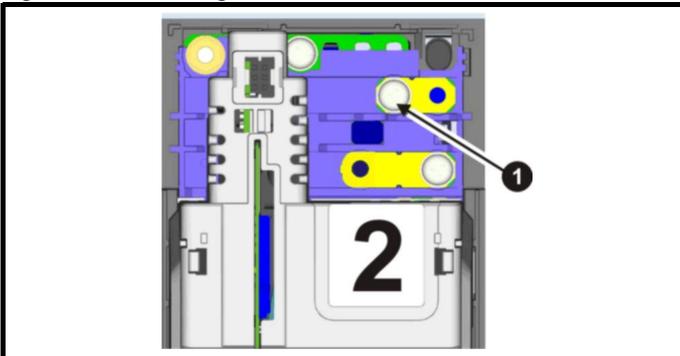
Figure 1-3 Breaking out the tab on the DC barrier



Break out the tab on the DC barrier by lifting it off using a small flat screw driver (1) to reveal a hole in the DC - bus as shown above (2).

STEP 4 - Drive 2

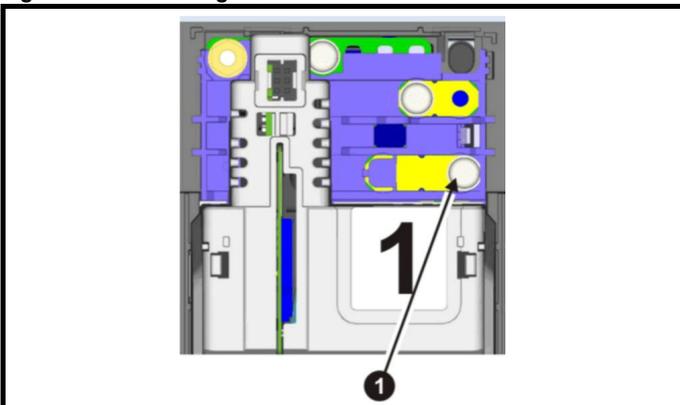
Figure 1-4 Removing the M4 screw from the DC+ terminals



Remove the M4 screw (1) which is still on the DC + bus.

STEP 5 - Drive 1

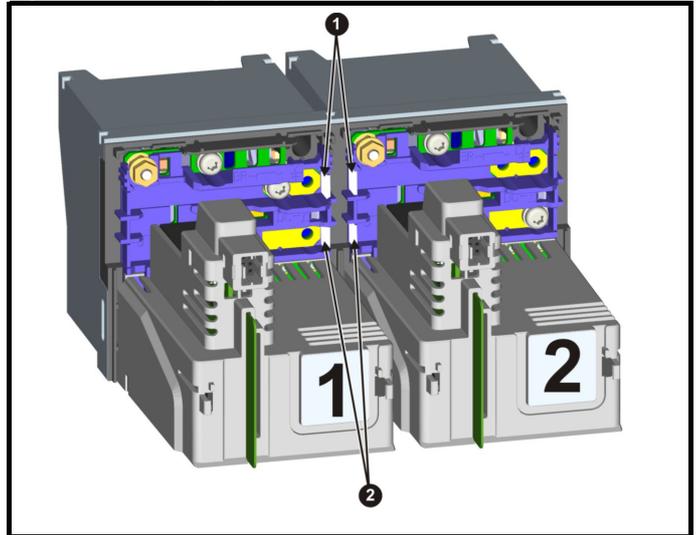
Figure 1-5 Removing the M4 screw from the DC- terminals



Remove the M4 screw (1) which is still on the DC - bus.

STEP 6 - Drive 1 and 2

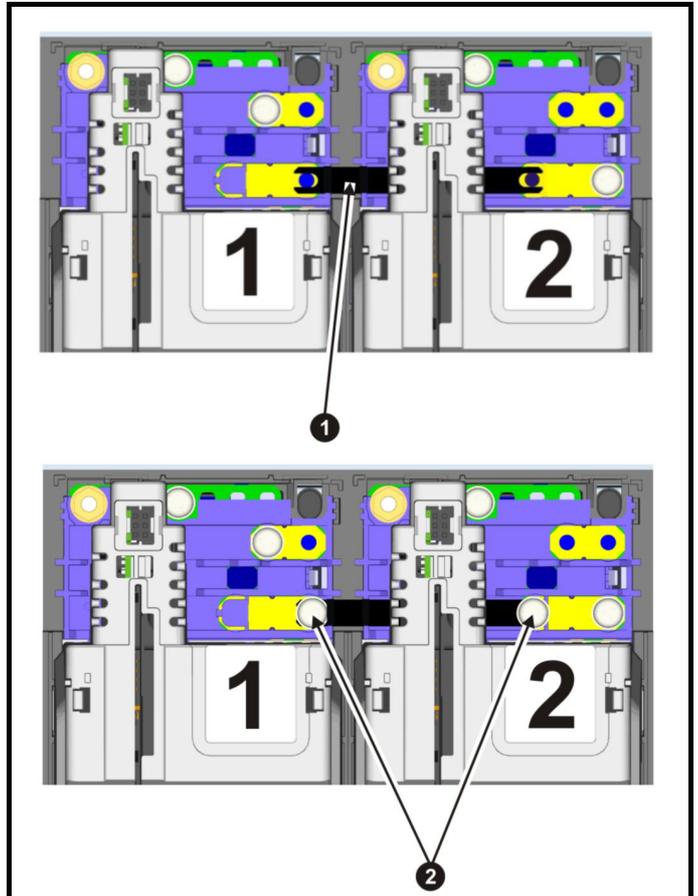
Figure 1-6 Breaking out the tabs



On the DC barriers break out the tabs on the DC + (1) and DC - (2) adjacent to each other using a long and narrow pair of pliers. DO NOT break out the tabs on the outer ends of the drives. These are NOT involved with installing the paralleling busbars, and must remain intact.

STEP 7 - Drive 1 and 2

Figure 1-7 Installing the DC - busbar

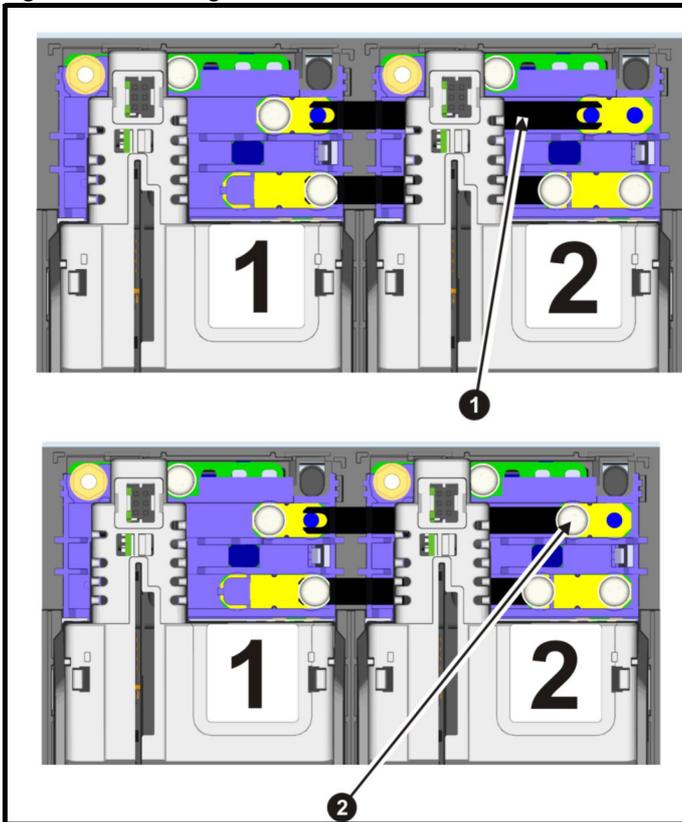


Take the shorter busbar (DC -) and lower it towards the DC barrier, passing it between the control pods of the two drives (1), rotating and sliding it along its length so that the ends rest on the DC - bus of each drive. Alternatively, and if space permits, the minus DC - busbar can also be placed in the same position by sliding it towards the left, from the right hand side of the second drive, or simply dropping it in place, passing over the DC barriers from the top.

Replace the two M4 screws to the ends of the DC - busbar as shown above (2). The screws should be tightened to maximum torque of 2 N m (17.7 lb in).



Figure 1-8 Installing the DC + busbar

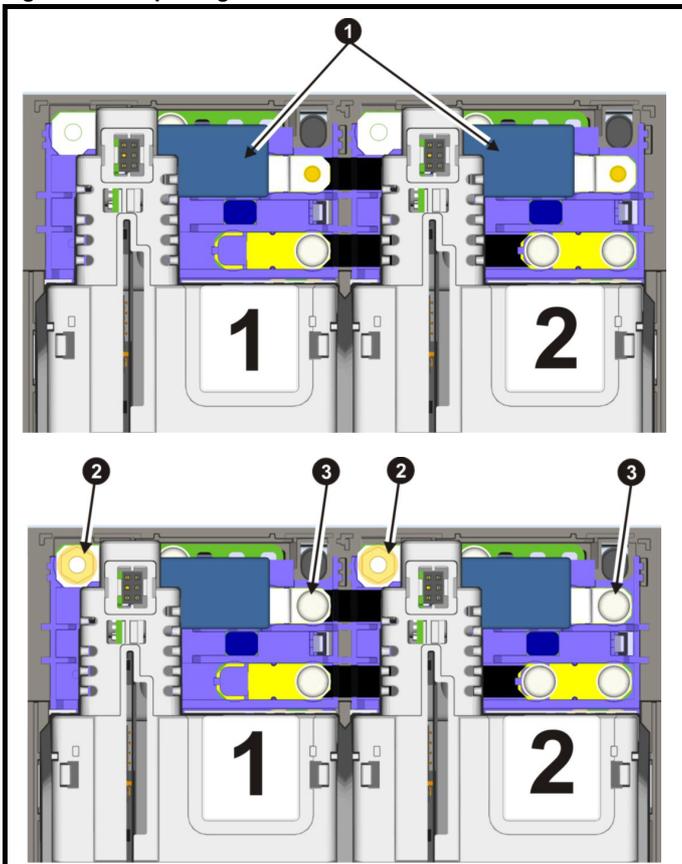


Take the longer (DC + busbar) and simply place the ends on the plus DC bus of each drive (1).

Tighten the M4 screw (2) at the RIGHT end of the DC + busbar. The screws should be tightened to maximum torque of 2 N m (17.7 lb in).

STEP 8 - Drive 1 and 2

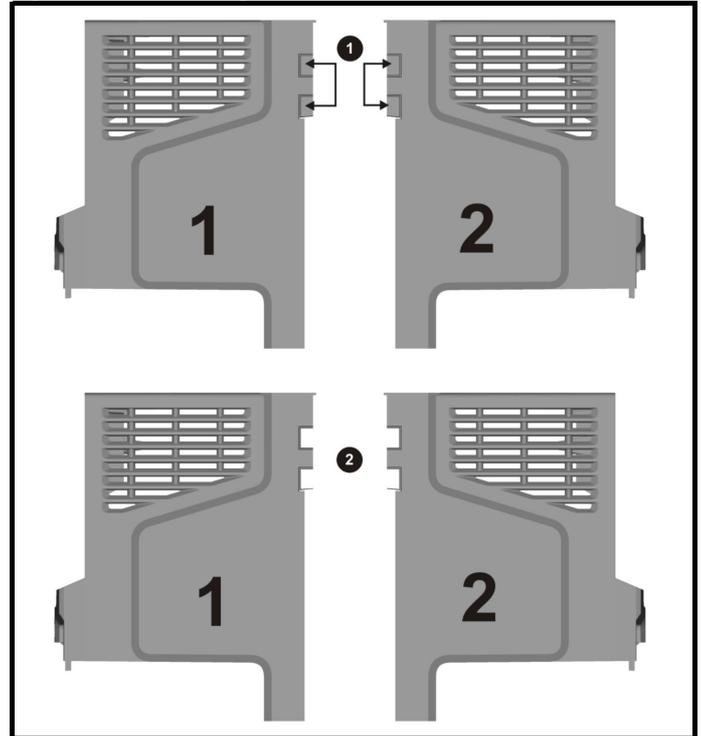
Figure 1-9 Replacing the internal EMC filter



Replace the internal EMC filter to the drives (1). Ensure the nuts (2) and screws (3) are replaced and re-tightened with a maximum torque of 2 N m (17.7 lb in).

STEP 9 - Drive 1 and 2

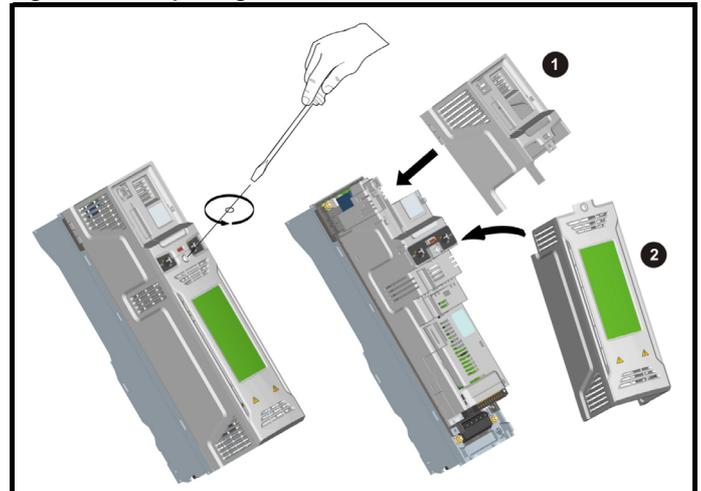
Figure 1-10 Removing the break outs on the DC terminal covers



On the DC covers, break off the tabs (1) that are adjacent to each other, creating the necessary space for the busbars linking the two drives (2). DO NOT break off the tabs on the outer sides that are not involved with the busbars linking the drives.

STEP 10 - Drive 1 and 2

Figure 1-11 Replacing the AC, DC terminal covers



Replace the DC covers (1), and AC covers (2), secure them to complete the installation. When replacing the terminal covers the screw should be tightened to a maximum torque of 1 N m (8.9 lb in).

