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## Appendix II - UPG\_PFC PFC Control Interface

### II.1 Introduction

The optional UPG\_PFC interface is required for those stepper installations with a Programmable Focus Controller (PFC). The UPG\_PFC is attached to one of the parallel printer ports of the desktop PC (e.g. LPT1: or LPT2:) and serves to allow the upgrade software to control the operation of the small linear actuator (stepper motor) within the PFC.

### II.2 Contents

The UPG\_PFC kit comes with the following components:

- parallel port stepper motor driver
- 12VDC (1A) AC adapter (110VAC North American standard line voltage)

### II.3 Installation

The installation of the UPG\_PFC kit involves the following steps (see Figure II.1):

- Attach the 10-conductor connector (usually designated P4) from the stepper PFC to the matching header J2 on the UPG\_PFC unit. The header is keyed so the P4 plug can only be inserted in one orientation.
- Plug the DB25M (J1) end of the adapter into the DB25F plug associated with one of the desktop PC's unused parallel ports, typically LPT1: or LPT2:
- Plug the 12VDC adapter output into the power supply input (J3) of the UPG\_PFC unit
- Plug the 12VDC adapter itself into one of the empty 110VAC outlets of the GCA stepper equipment rack. For installations where 110VAC is not the standard mains voltage, the GCA stepper equipment rack should have unused outlets configured for this line voltage.

### II.4 Operation

Once installed, no further user intervention is required. The user will now be able to control the operation of the PFC either through the actual stepper MOP (Master Operating Programme) in Control Mode or through the separate PFC dialogue of the upgrade software when operating in Configuration Mode.

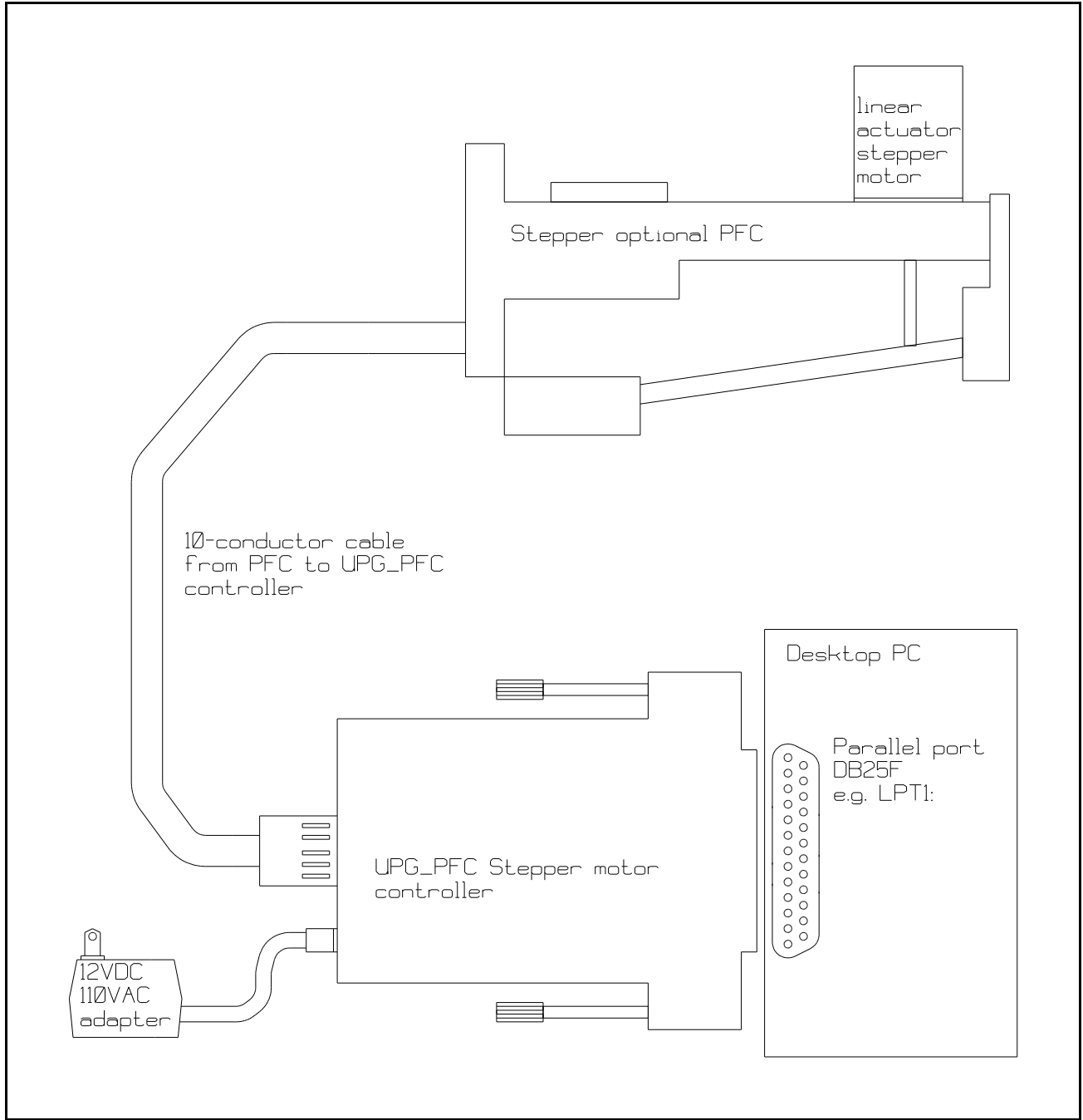


Figure II.1 : UPG\_PFC PFC Interface Installation

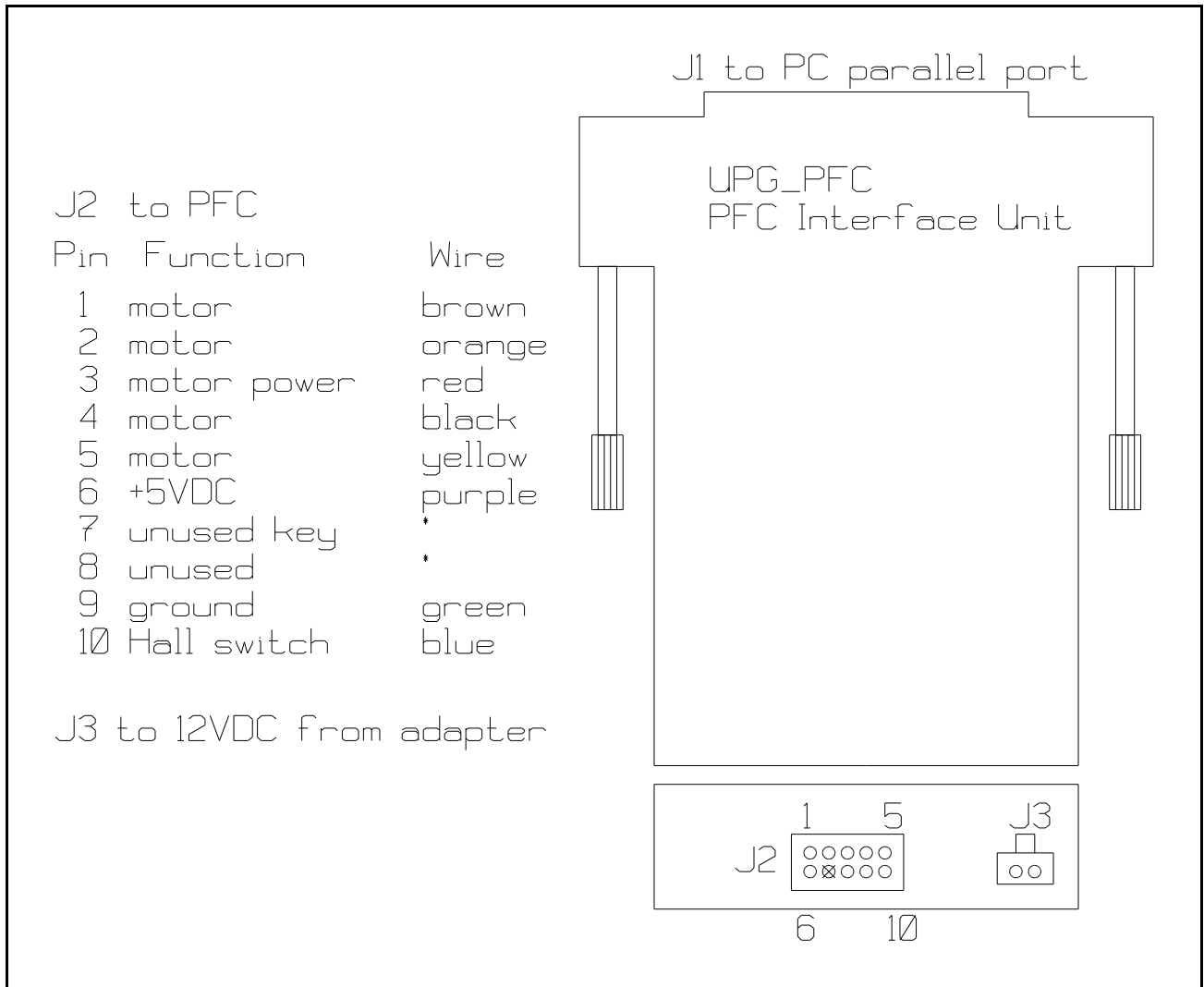


Figure II.2 : UPG\_PFC Interface Connectors J1, J2 and J3

## II.5 PFC Control User Dialogue

If a UPG\_PFC interface is detected, the user will have control of the PFC through the system software and a user dialogue as shown in Figure II.3. This user dialogue is usually found as a selection in the main Hardware or Peripheral\_bus menu selections of the UPG3696/UPG4800/UPG6000 system software.



Figure II.3 : PFC Control User Dialogue

The Counts input line holds the number of individual steps that the user wishes the PFC linear actuator to move. A Hall Effect switch is attached to the PFC mechanism and is used to detect the middle of the allowed travel motion. When this switch is activated, a check mark will appear in the Hall effect switch checkbox.

The PFC linear actuator can be set to move in the Forward/down/out direction or the Reverse/up/in direction using the Direction radiobutton.

When the [Go] button is pressed, the PFC linear actuator will start to move the chosen number of steps and in the selected direction. Pressing [Stop] will immediately stop any PFC motion.

Pressing [Done] will close and remove this user dialogue.