Guide to the connection of devices for the As PauX system

Introduction

These pages contain a guide for the wiring procedures to be followed for connecting the devices that form part of the AS PauX system. They are intended for personnel qualified for carrying out repairs, alterations and customisation of the system itself and for fitting new accessories.

Services battery – Power Supply Unit connection wiring

Wiring of the Services Battery connection with the Power Supply Unit takes place as shown in Figure 1. The 50A delayed reed fuse is to be placed in series with the battery positive lead near the battery; the cross section of the two leads must be at least 6 mm^2 [1].

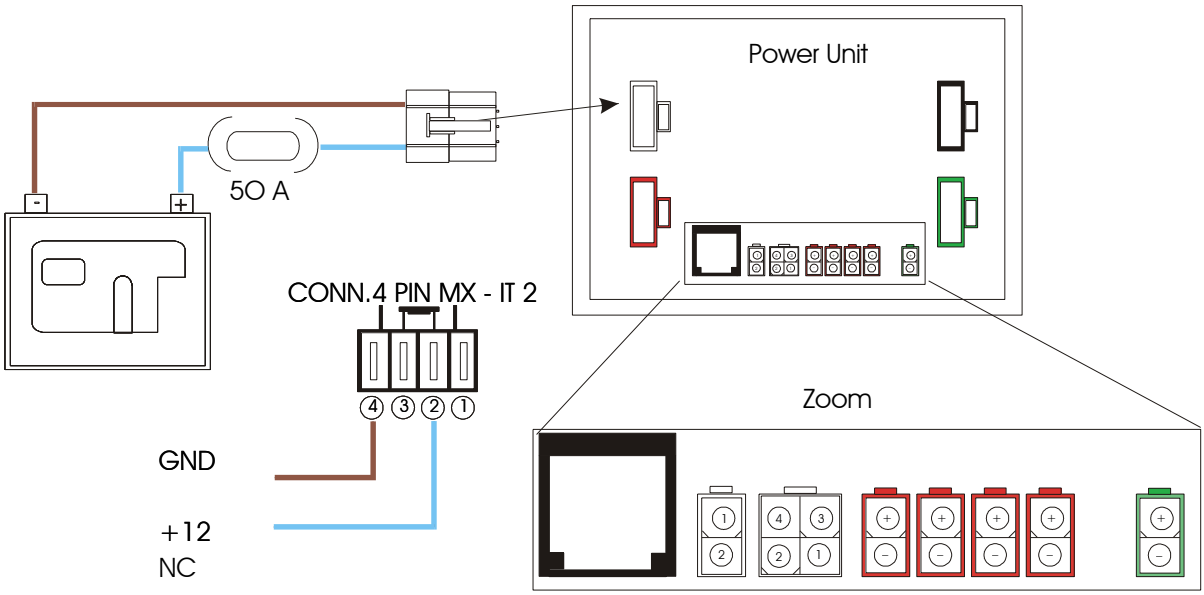


Figure 1 "Services Battery-Power Supply Unit Wiring"

The summary table details the type of heading of the extension (point-to-point connection) i.e. with which type of connector its ends are ended, the cross section and colour of the leads and the position of the contacts inside the actual connector.

Connection:	**Services Battery – Power Supply Unit**		
- -	✍ **Extension Heading** ✍		N.2
Type	**Cross section mm^2**	**Colour**	**Position**
+ 12V	6	LIGHT BLUE	2
GND (GROUND)	6	BROWN	4

Engine Battery – Power Supply Unit connection wiring

Wiring of the Engine Battery connection with the Power Supply Unit takes place as shown in Figure 2. The 50A delayed reed fuse is to be placed in series with the battery positive lead near the battery; the cross section of the two leads must be at least 6 mm^2 [2].

[1] If the distance between the two objects is higher than the standard ones of a camper, it might be necessary to use cables with a larger cross section

In this connection, there is a third wire with a cross section of 1.5 mm^2 necessary for taking the engine on signal to the Power Supply Unit.
From the point in which the signal is picked up the insertion of a 3 A fuse is recommended. In addition, the D+ signal (engine on) must be picked up by the vehicle mechanical unit, taking account that when the engine is on, the Power Supply Unit absorbs about 220 mA from the D+ signal..
The arrangement of the three wires in the connector is as shown in Figure 2 and in the following table.

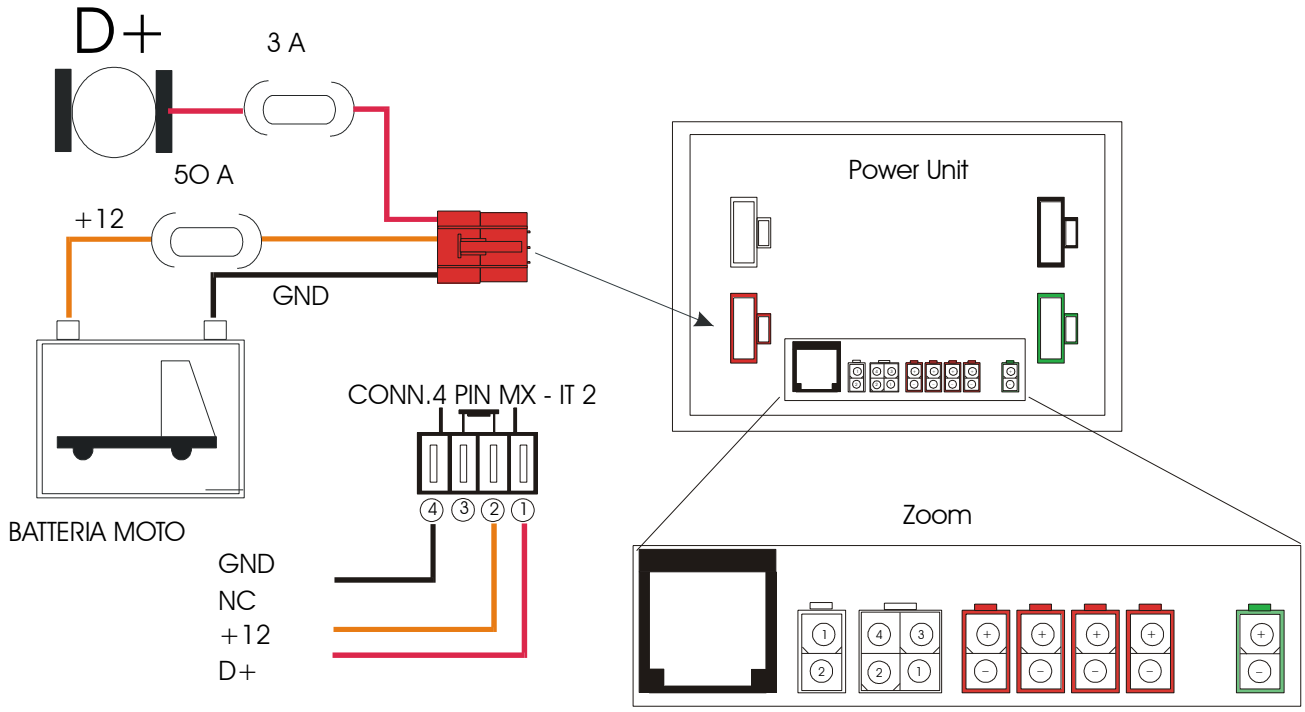


Figure 2 "Engine Battery and Alternator -Power Supply Unit Wiring "

For the above connection, the summary table details the type of heading of the extension (point-to-point connection) i.e. with which type of connector its ends are ended, the cross section and colour of the various leads and the position of the contacts inside the actual connector (See section "Type of Connectors and their Description ")

Connection:	**Engine battery – Power Supply Unit**		
- -	✍ **Extension heading** ✍		N.2
Type	**Cross section mm^2**	**Colour**	**Position**
+ 12V	6	ORANGE	2
GND (GROUND)	6	BLACK	4
D+	1.5	RED	1
- -	- -	- -	3

Power Supply Unit – Standard Fridge connection Wiring

The Fridge connection to the Power Supply Unit is made with a three-wire cable with a cross section of 6mm^2 (+12, GROUND, +12 D+) as shown in Figure 3. No external fuse is necessary as the Power Supply Unit has a provision for protecting this type of load with a thermal protection. The threshold of this protection is about 15 A.

[2] See note 1

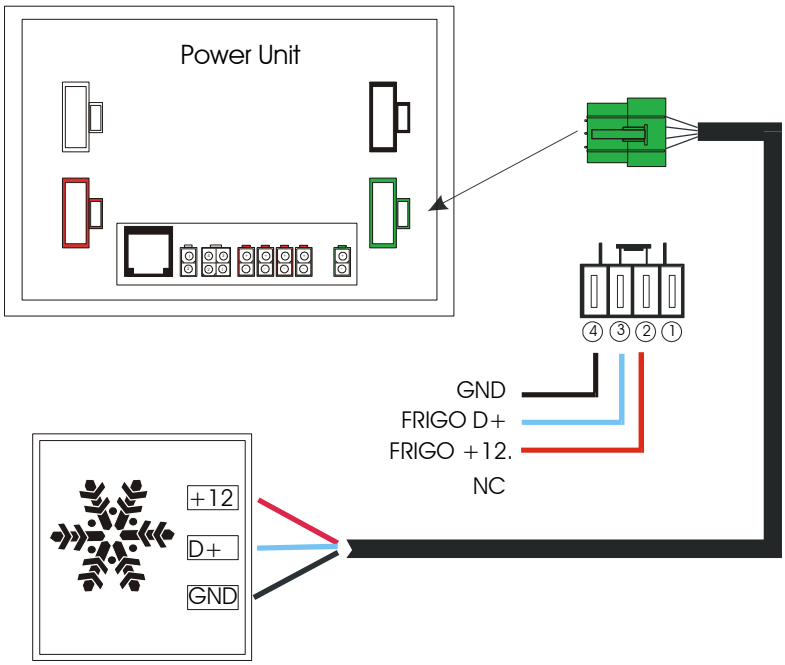


Figure 3 "Power Supply Unit – Standard Fridge Connection"

For the above connection, the summary table details the type of heading of the extension (point-to-point connection) i.e. with which type of connector its ends are ended, the cross section and colour of the various leads and the position of the contacts inside the actual connector (See section "Type of Connectors and their Description ")

Connection:	**Power Supply Unit – AES type Fridge**		
- -	✍ **Extension Heading** ✍		N.2
Type	**Cross Section mm²**	**Colour**	**Position**
GND (GROUND)	6	BLACK	4
+12_D+	6	LIGHT BLUE	3
+12	6	RED	2
- -	- -	- -	1

Floor-mounted Appliances Connection wiring

Connection of the floor-mounted Appliances (heater, boiler, etc.) is to be made as shown in Figure 4. Connector J1 must be connected to the pump positive and negative in the upper section (controlled by the control unit); all the other floor-mounted appliances are to be connected to connectors from J2 to J5.

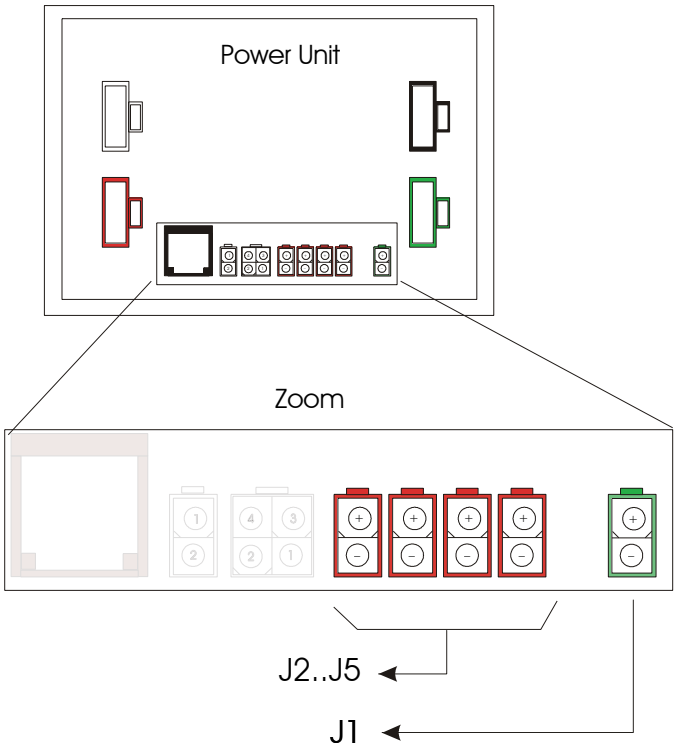


Figure 4 "Power Supply Unit – Floor-mounted Appliances Connection"

The connection cables must have a cross section of 1.5 mm^2.
The outputs are protected by thermal protections. The threshold of these protections is about 4 A for connector J1 and about 5 A for the group of connectors J2..J5.
For the above connection the summary table details the type of heading of the extension (point-to-point connection) i.e. with which type of connector its ends are ended, the cross section and colour of the various leads and the position of the contacts inside the actual connector (See section "Type of Connectors and their Description ").

Connection:	**Power Supply Unit – Floor-mounted Appliances**		
N.5	✍ **Extension Heading** ✍		N.5
Type	**Cross section mm^2**	**Colour**	**Position**
+ 12V	1.5	RED	1
GND (GROUND)	1.5	BLACK	2

Connection Wiring for Fresh water and Drain Level Sensors

The Sensor[3] for the Fresh Water levels must be connected to connector J7 with a four-lead extension, arranged as follows:

Connection:	**Power Supply Unit – Floor-mounted Appliances**		
sensor	✍ **Extension Heading** ✍		N.4
Type	**Cross section mm^2**	**Colour**	**Position**
Long Rod A	0.75	BROWN	4
Long Rod B	0.75	WHITE	1

[3] provision for four-level sensor

Medium Rod	0.75	GREEN	2
Short Rod	0.75	YELLOW	3

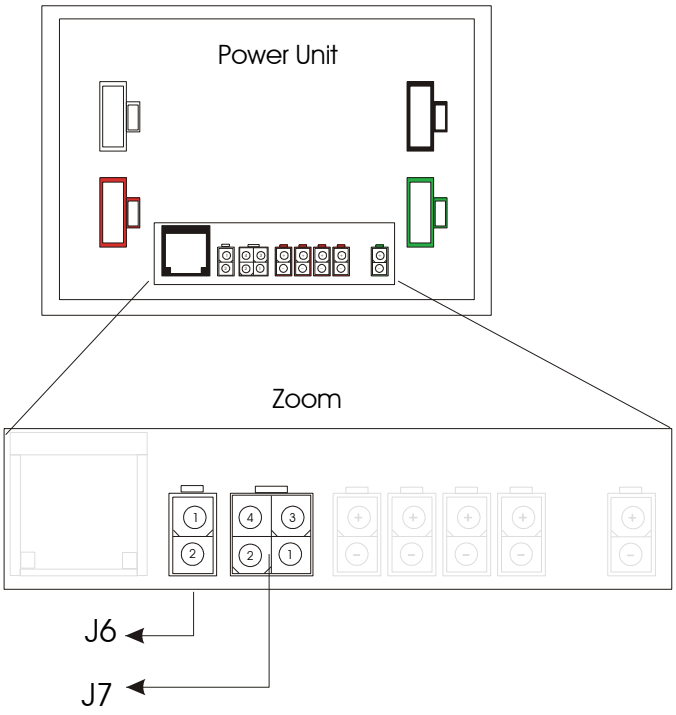


Figure 5"Power Supply Unit – Level Sensors Wiring"

The overflow sensor of any recovery tank must be connected to connector J6 of Figure 5 in accordance with the following table.

Connection:	**Power Supply Unit – Drain Water**		
Drain Tank	✍ **Extension Heading** ✍		N.5
Type	**Cross section mm²**	**Colour**	**Position**
Wire A	0.75	BLACK	1
Wire B	0.75	BLACK	2

Power Supply Unit – Control Unit Connection Wiring

The Connection of the Power Supply Unit with the Control Unit takes place through two connections as shown in Figure 6. The connection from connector J8 of the Power Supply Unit to the similar connector on the back of the Control Unit panel takes place with a standard RJ45 cable, the other connection is shown in the following table:

Connection:	**Power Supply Unit – Control Unit**		
N.2	✍ **Extension Heading** ✍		N.2
Type	**Cross section mm²**	**Colour**	**Position**
+ 12V	4	RED	2
GND (GROUND)	4	BLACK	4
+ P	0.75	ORANGE	1
+P	0.75	GREY	3

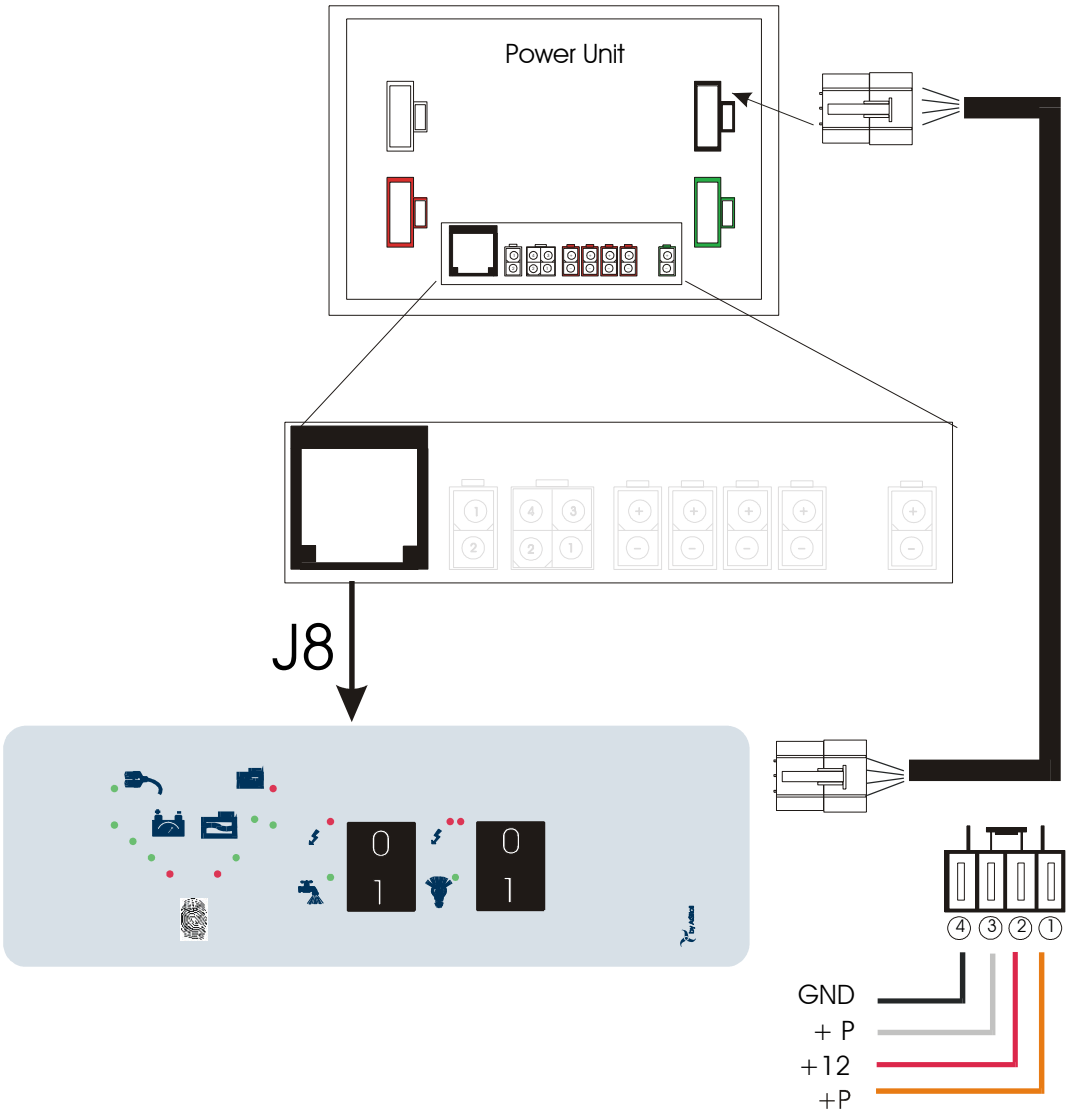


Figure 6 "Power Supply Unit – Control Unit Wiring"

Control Unit – Ceiling-mounted Appliances Connection Wiring

In general all the Ceiling-mounted appliances, mainly including the neon or incandescent lights or fans are connected to the Control Unit panel. It is possible to connect up to a maximum of eight loads; the connection between the generic load (generally set of bulbs) is made with a point-to-point connection (extension) as shown in Figure 7. The extension is headed from both ends with the same connector, the cables are arranged as shown in the following table[4]
The thermal protections on the Control Unit panel have a rating of about 10 A per set of lights (2 sets of 4 Outputs)

Connection:	**Power Supply Unit – Floor-mounted Appliances**		
N.5	✍ **Extension Heading** ✍		N.5
Type	**Cross section mm²**	**Colour**	**Position**
+ 12V	1.5	RED	1
GND (GROUND)	1.5	BLACK	2

[4] please be reminded that for incandescent light connections there is no need to respect the positive and negative arrangement while it is important for fans and certain neon lights.

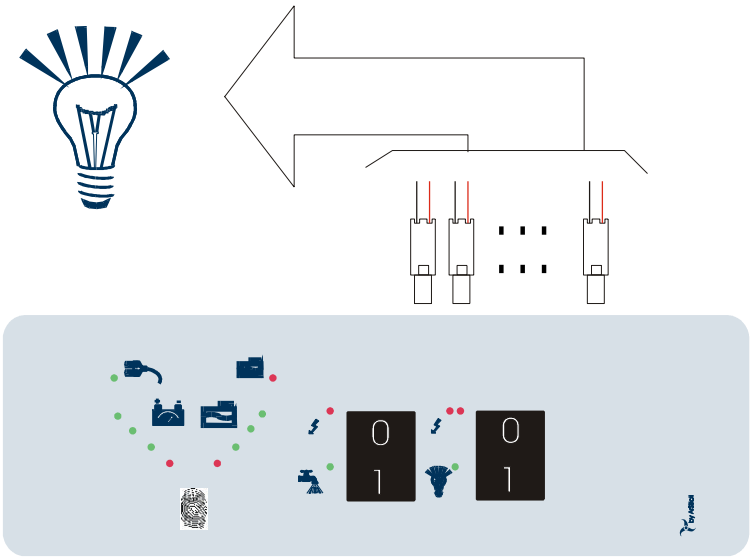


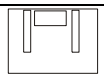
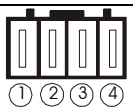
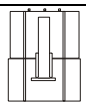
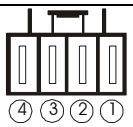
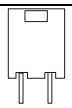
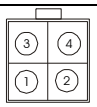
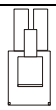
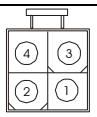
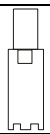
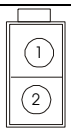
Figure 7"Ceiling Power Hub – Ceiling Appliances Connection"

For the above connection, the summary table details the type of heading of the extension (point-to-point connection) i.e. with which type of connector its ends are ended, the cross section and colour of the various leads and the position of the contacts inside the actual connector (See section "Type of Connectors and their Description ").

For any other installation that differs from the ones described in this guide, you are advised to follow the specifications of EN Std. 1648-2, in particular reference should be made to Annex A of this Std. for the sizing of the cables.

Type of Connectors and their Description

NB. The view of the arrangement of the contacts is that from the back of the connector, namely where the contacts are inserted.

	Connector Symbol	Arrangement of contacts (Back view)	Description	
N.1			Name:	Molex Caimano MX - IT – 3
			Contacts	Male
			Contact holder:	Male holder
N.2			Name:	Molex Caimano MX - IT – 2
			Contacts	Female
			Contact holder:	Female holder
N.3			Name:	Molex MXJ – 1 5559A
			Contacts	Male
			Contact holder:	Male holder
N.4			Name:	Molex MX - IT – 4 5557
			Contacts	Female
			Contact holder:	Female holder
N.5			Name:	Molex MiniFit 2
			Contacts	Female
			Contact holder:	Female holder