

Service Information Bulletin

Upgrade Instructions to Version 9.0 for new functionalities: Keypad, Infrared Eye and DR10s / DR14s Battery charger

Task

Timing		Category
Next service	<input type="radio"/>	Apply at all sites
	<input type="radio"/>	Apply at affected sites as listed below
	<input checked="" type="radio"/>	Optional to improve functionality of product

Task Tracking

After completion of your task the following entry in your Service Report is required:

DD+DIS173.16E

*

* Insert the document number into the field "Comment" (SMS form).

Purpose of this document:

This document contains installation instructions for the following optional hardware components to upgrade the installed base of DX-D 100 / DX-D 100 Wireless systems to Version 9.0:

- Keypad
- IR Eye
- Battery charger including grid storage holder

Affected serial number(s) / batch:

Refer to DX-D 100 / DX-D 100 Wireless Service Bulletin "Announcement of Update to System Version 9.0 (bug fixes)" with Document ID [57286060](#).

List of contents

1	Introduction	3
2	Replacing the on/off keyswitch with a Keypad	5
2.1	Prerequisites.....	5
2.2	Installation of the Keypad	6
2.3	Verification.....	11
3	Upgrading the DX-D 100 Wireless Type 5411 / 300 with the Infrared Eye to implement Multi Detector Type Support.....	12
4	Upgrading DX-D 100 Wireless Type 5411 / 300 / 400 with DR10s / DR14s Battery charger and grid storage holder	19
4.1	Prerequisites.....	19
4.2	Installation of the Battery charger including grid storage holder	20
4.3	Verification.....	31
5	Keywords	32
6	Version history	32

1 Introduction

With DX-D 100 / DX-D 100 Wireless Version 9 the following optional hardware components can be upgraded:

- For all DX-D 100 systems:
The Keypad is an option to replace the on/off keyswitch, which is installed at the DX-D 100 system. It has the same functionality as the keyswitch, but the release function is activated by numerical code instead of a key. The Keypad is optionally for already installed systems.



Figure 1



Figure 2

- For DX-D 100 Wireless Type 5411/300, with wireless detector DX-D 40C/G or DX-D 45C/G:

Infrared Data communication interface, which is required when installing DR 10s / DR 14s on a DX-D 100 Wireless Type 5411/300 system for Multi Detector type support.



Figure 3

- For DX-D 100 Wireless Type number 5411/300/400, with wireless detector DR 10s / DR 14s / DX-D 40 / DX-D 45:

Battery charger including power adapter and grid storage holder. The battery charger is an option to charge the DR10s / DR14s detector battery directly at the DX-D 100 Wireless unit. This avoids covering distances to replace the battery. The battery charger is fixed in the grid storage holder and will be charged automatically.



Figure 4



NOTE:

For detailed information, software installation instructions and serial numbers concerning DX-D 100 / DX-D 100 Wireless Version 9, refer to Service Bulletin “Announcement of Update to System Version 9.0 (bug fixes)” with Document ID [57286060](#).

2 Replacing the on/off keyswitch with a Keypad

**NOTE:**

The Keypad is compatible with all types of DX-D 100 / DX-D 100 Wireless.

2.1 Prerequisites

**TOOLS:**

- Standard service tool kit

**SPARE PARTS:**

- Keypad (on-off) with order number CM+6155070

**REFERENCED DOCUMENTS:**

- Mobile X-Ray Unit - Service Manual
Direct Radiography > DX-D 100 > DX-D 100 Generic > Service Manual, Document ID [41600560](#).
- DX-D 100 Wireless - Service Manual
Direct Radiography > DX-D 100 Wireless > DX-D 100 Wireless V9 > Service Manual, Document ID [57323150](#)
- DX-D 100 - Service Manual
Direct Radiography > DX-D 100 > DX-D 100 V9 > Service Manual, Document ID 57538751 [57538751](#)
- DX-D 100 / DX-D 100 Wireless - Spare Parts List
Direct Radiography > DX-D 100 > DX-D 100 Generic > Service Spare Parts, Document ID 30872155 [30872155](#)

**IMPORTANT:**

The installation and service of the product(s) described herein is to be performed by qualified personnel who are employed by Agfa HealthCare N.V or one of its affiliates or who are otherwise authorized by Agfa HealthCare N.V. or one of its affiliates to provide such services.

2.2 Installation of the Keypad



REQUIRED TIME:
Approximately 90 min.



NOTE:
The Keypad consists out of several sub-components:

- Keypad with frame



Figure 5

- Keypad Controller Board with holder

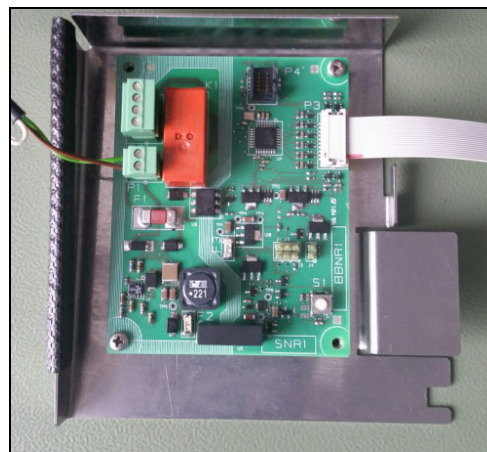


Figure 6

- Cabling
There are three additional components needed:
 - 1 x 20 pin flat cable.
 - 1 x Earth/GND cable with a 2 pin phoenix connector
 - 1 x 4 pin phoenix connector

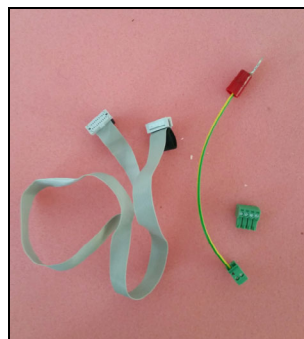


Figure 7

- Mounting metal plate for Keypad

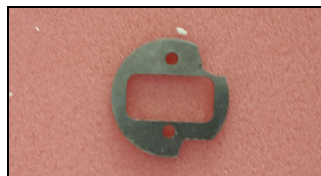


Figure 8

- (1) Disconnect the power connectors from the Battery Test 03 (A9504-3).
- (2) Remove the keyswitch to get access to the hole, which is used for fixing the Keypad.



Figure 9

- (3) The two bolts on the bottom side of the Keypad must be guided through the hole in the cover. That is only possible if one of the stud bolts is guided through the notch on the right side of the hole.

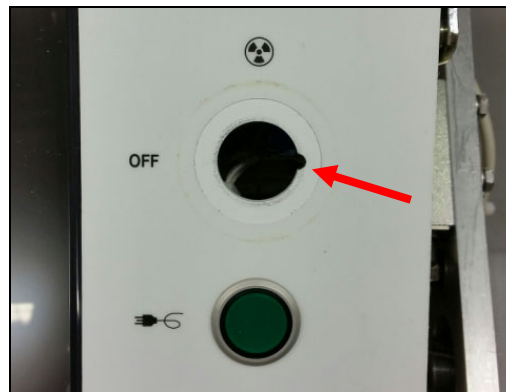


Figure 10

- (4) Fix the Keypad at the bottom side of the cover with the metal mounting plate.

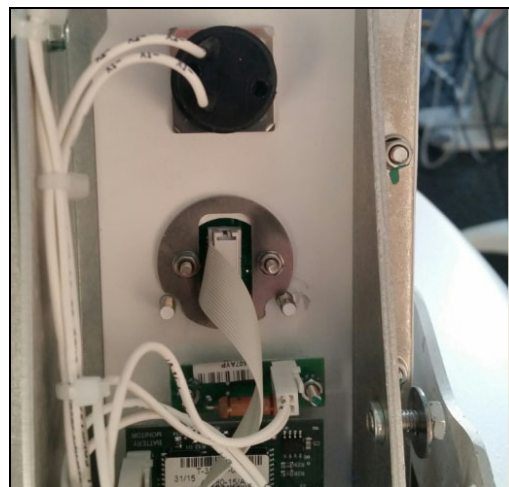


Figure 11

- (5) Check that the cover looks like the cover shown in the figure on the right side.



Figure 12

- (6) Fix the Keypad Controller Board and its holder under the DX-D 100 monitor at the chassis with the already existing screw.
- (7) Fix the GND cable at the screw.



Figure 13

- (8) Cut off the four cables from the keyswitch. The cables are marked with Key 21, Key 22, Key 13 and Key 14. Strip the lagging at the cable ends to bring the four cable ends to the Controller Board P1. At the end there should be four white cables (Key 13, Key 14, Key 21 and Key22) and one black cable close to the Board.



NOTE:

The best way to do this is to open one cable tie, remove the cables and close the cable harness with a new cable tie. The same with the next cable ties until the cables are long enough to connect them to P1 and P2 of Keypad Controller Board.

- (9) Connect the 20 pin flat cable from Controller Board P3 to the backside of the Keypad.
- (10) Connect cable Key 14 to the 2 pin phoenix connector at pin 2. Pin 1 is already occupied with the black GND cable.
- (11) Connect the cables Key 13, Key 21 and Key 22 to the 4 pin phoenix connector:
 - Pin 4: Cable Key 13
 - Pin 3: Not connected
 - Pin 2: Cable Key 21
 - Pin 1: Cable Key 22



Figure 14

- (12) Close the monitor.
- (13) Reconnect the power cables.
- (14) Press the ON/OFF button for about 1s to start the system.
- (15) Enter **92643718** and press Enter.
Now the system should be ready.
- (16) Press the ON/OFF button for about 3s to switch the system off.
- (17) If the system works:
Close the covers.

**NOTE:**

Instructions for the programming of new codes or removing of single codes are described in the DX-D 100 Wireless User Manual with Document ID [56731192](#).

2.3 Verification

- (1) Switch the system on / off.

3 Upgrading the DX-D 100 Wireless Type 5411 / 300 with the Infrared Eye to implement Multi Detector Type Support

**IMPORTANT:**

For the configuration of Multi Detector Type Support refer to: DX-D 100 Wireless Service Manual, Document ID [57323150](#), Chapter 11 “Upgrade procedure”.

**NOTE:**

The infrared eye is required for the Multi Detector type support when using DR 10s / DR 14s with DX-D 40/45 together. It is only compatible with DX-D 100 Wireless Type 5411 / 300.

**SOFTWARE:**

Make sure that the latest versions of the NX, XRD1 SC and ATP are installed.

For more information refer to DX-D 100 / DX-D 100 Wireless Service Bulletin “Release of System version 9.0” with Document ID [57286060](#).

**TOOLS:**

- Portable storage medium, checked to be virus-free, e.g. USB Flash Drive.
- Standard service tool kit

**SPARE PARTS:**

- DR 14s/DR 10s infrared upgrade kit with order number: SC+A521155-01

- (1) Power off the DX-D 100 Wireless System.
- (2) Press the emergency stop switch.
- (3) Remove the covers of the DX-D 100 wireless. Refer to the Service Manual for more instructions.



Figure 15

- (4) Unplug ETH and HS.
- (5) Remove the 5 fixation nuts from the front panel.

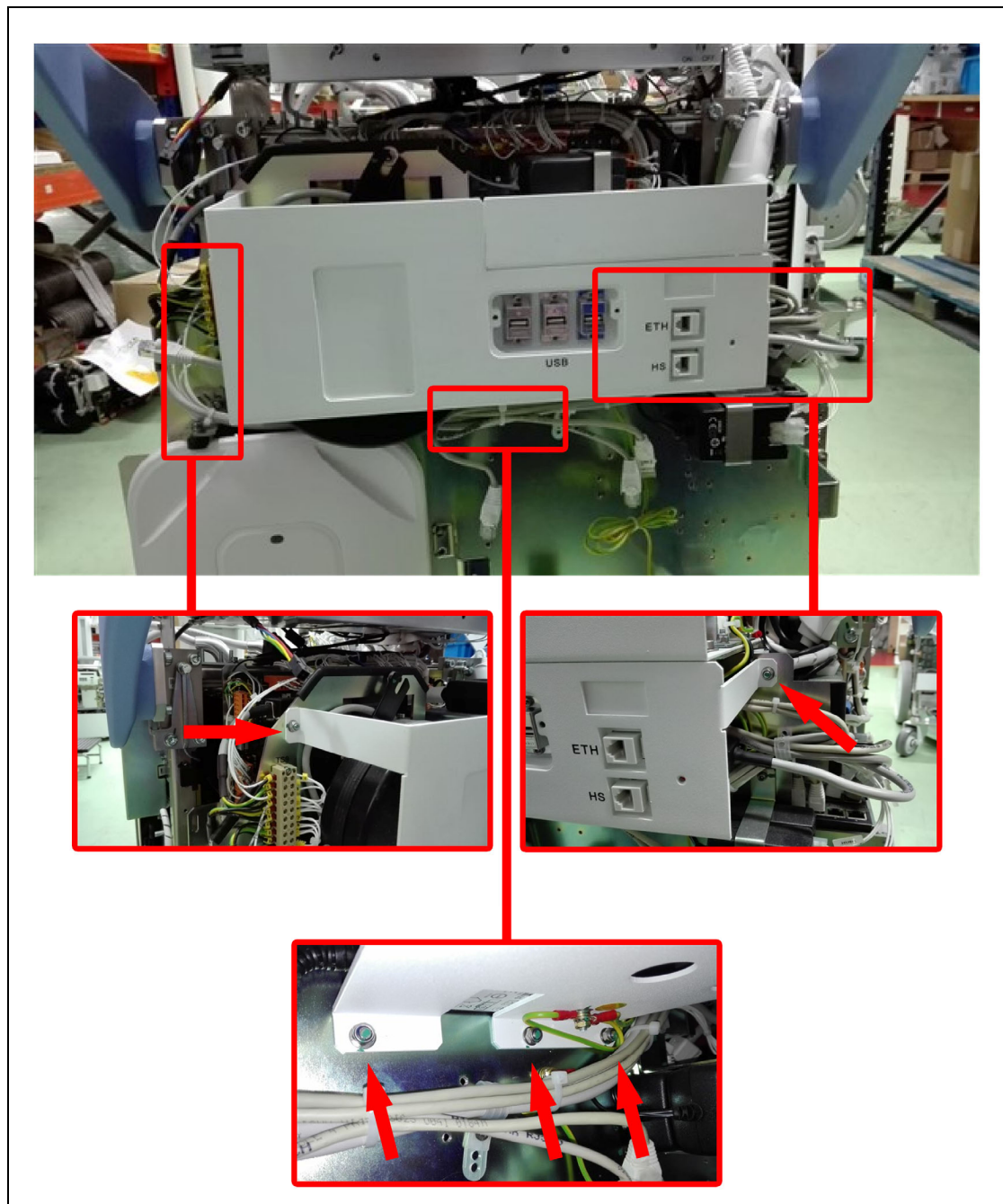


Figure 16

- (6) Disconnect the 3 USB connectors from the USB hub.



Figure 17

- (7) Remove the front panel and leave it hanging.

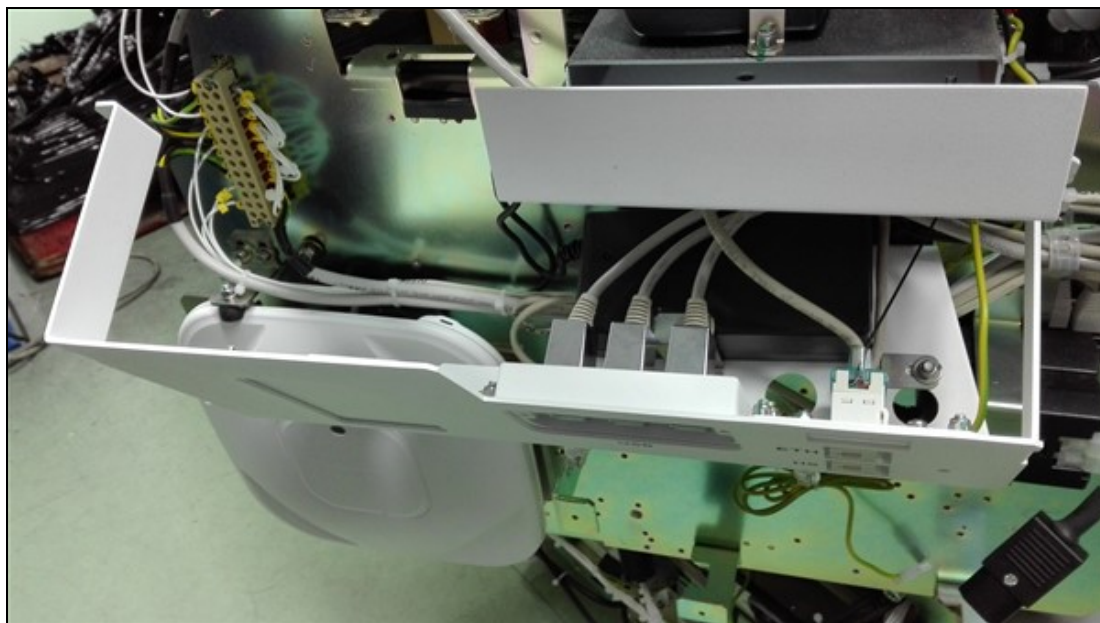


Figure 18

- (8) Unscrew 2 screws to remove the plate that is covering the window for the infrared sensor.



Figure 19

- (9) Take the Velcro strips out of the infrared eye package.
(10) Place the Velcro strips on the fixation bracket and on the infrared sensor.



Figure 20

- (11) Fix the support for the infrared sensor with the nuts and washers that are delivered with the infrared eye.
- (12) Fix the infrared sensor to its support.



Figure 21

- (13) Pass the cable through the window.



Figure 22

- (14) Connect the cable to the USB port of the PC.
- (15) Route the cable like shown in figure 23.



Figure 23

- (16) Fix the front panel with the 5 fixation nuts removed in the previous steps.
- (17) Connect the 3 USB cables to the USB hub again.
- (18) Power on the system.
- (19) Check that it is working properly.
- (20) Close the second door of the generator.
- (21) Remount the covers at the DX-D 100 Wireless unit.

4 Upgrading DX-D 100 Wireless Type 5411 / 300 / 400 with DR10s / DR14s Battery charger and grid storage holder

4.1 Prerequisites

**TOOLS:**

- Standard service tool kit

**SPARE PARTS:**

- DR10s/DR14s INTEGRATED BATTERY CHARGER with order number CM+6155060 contains power cable, charger adapter and charger
- GRID STORAGE HOLDER KIT with order number SC+A521156-01 contains charger power adapter mounting and relay

**NOTE:**

The GRID STORAGE HOLDER KIT SC+A521156-01 is not required for all DX-D 100 Wireless Type 5411 / 400 as of SN A5411003018.

4.2 Installation of the Battery charger including grid storage holder



REQUIRED TIME:
Approximately 90 min.



NOTE:

Parts of the battery charger and grid storage holder:

- Connector to the Bucky (P01)
- Front Box with DR 10s / DR 14s Charger (P02)
- Charger power adapter mounting (P03)

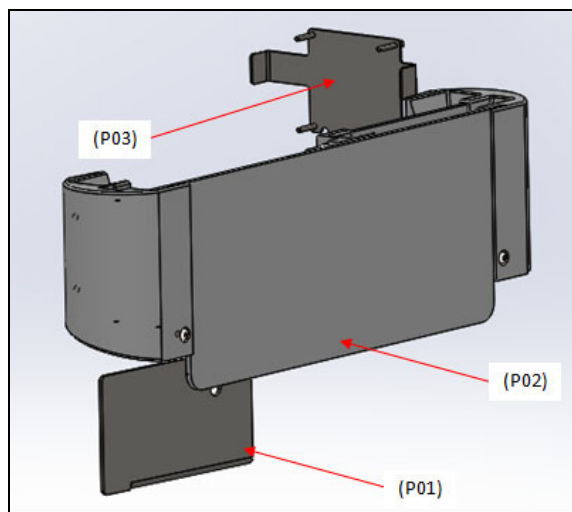


Figure 24

- (1) Power system off.
- (2) Disconnect the power connectors from the Battery Test 03 (A9504-3).



Figure 25

- (3) Remove all parts to get access to the front cover.
- (4) Remove the front cover.

- (5) Fix the front box with four screws (see figures below).



Figure 26

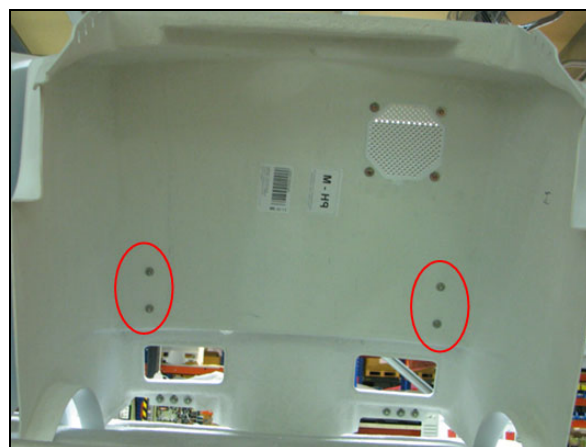


Figure 27

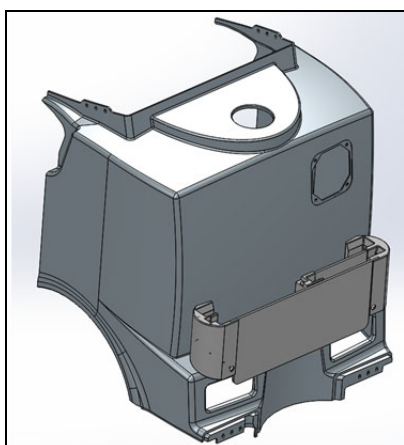


Figure 28

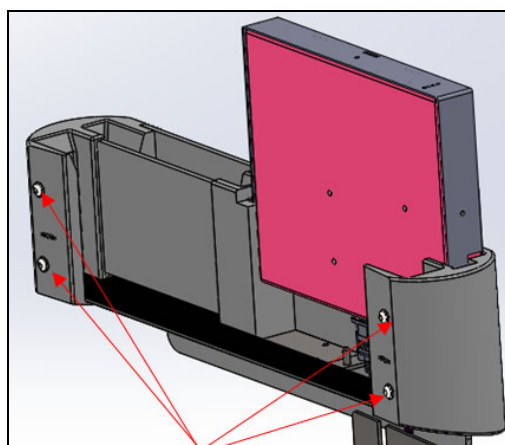


Figure 29

- (6) Replace the current “Chapa Conector Bucky” with the new “Chapa Conector Bucky”.



Figure 30 - old connector

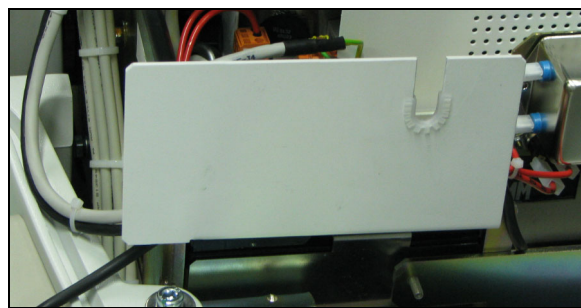


Figure 31 - revised connector

Assembly electrical parts and other mechanical parts on the left side of the DX-D 100 Wireless depending on the DX-D 100 Wireless system that should be upgraded.

Two relay configuration (all DX-D 100 Wireless Type 5411 / 300):

- Replace the part (P04) with the new part (P03) Charger power adapter mounting.
- Replace the power supply (P05) by the new power supply for the DR 10s / DR 14s detectors.

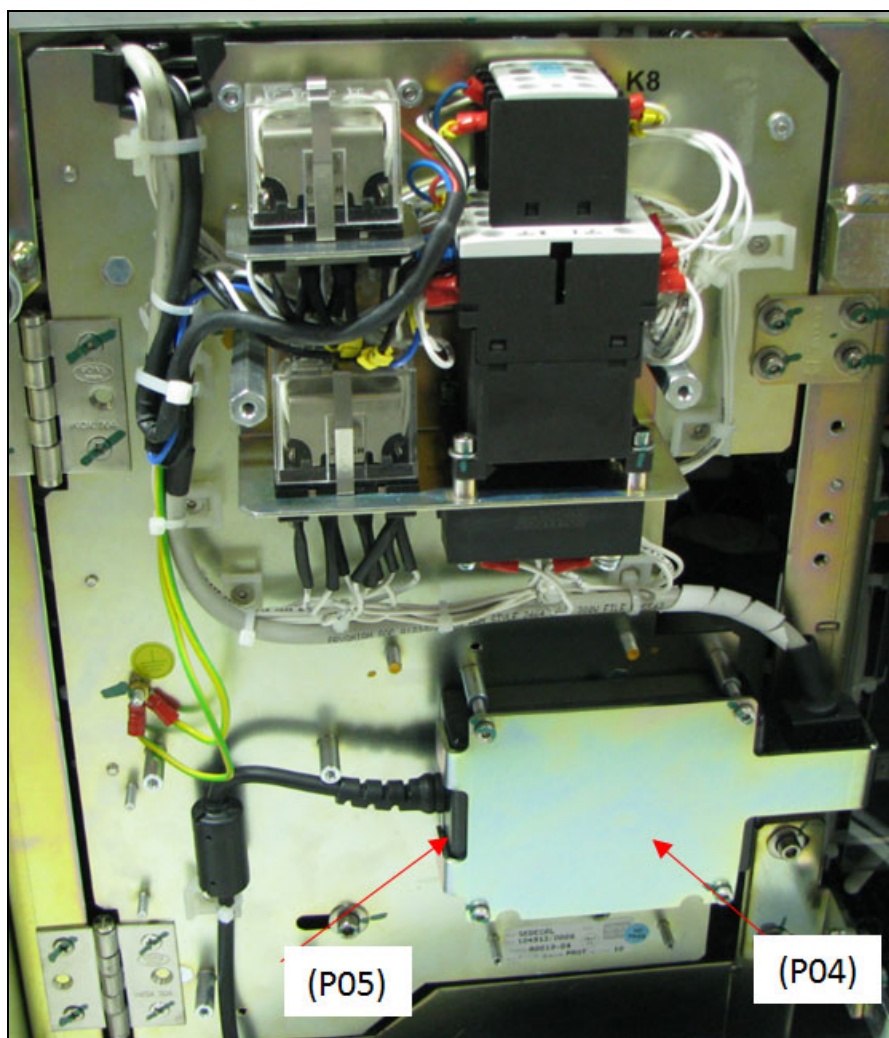


Figure 32

- Mount the power supply cable.

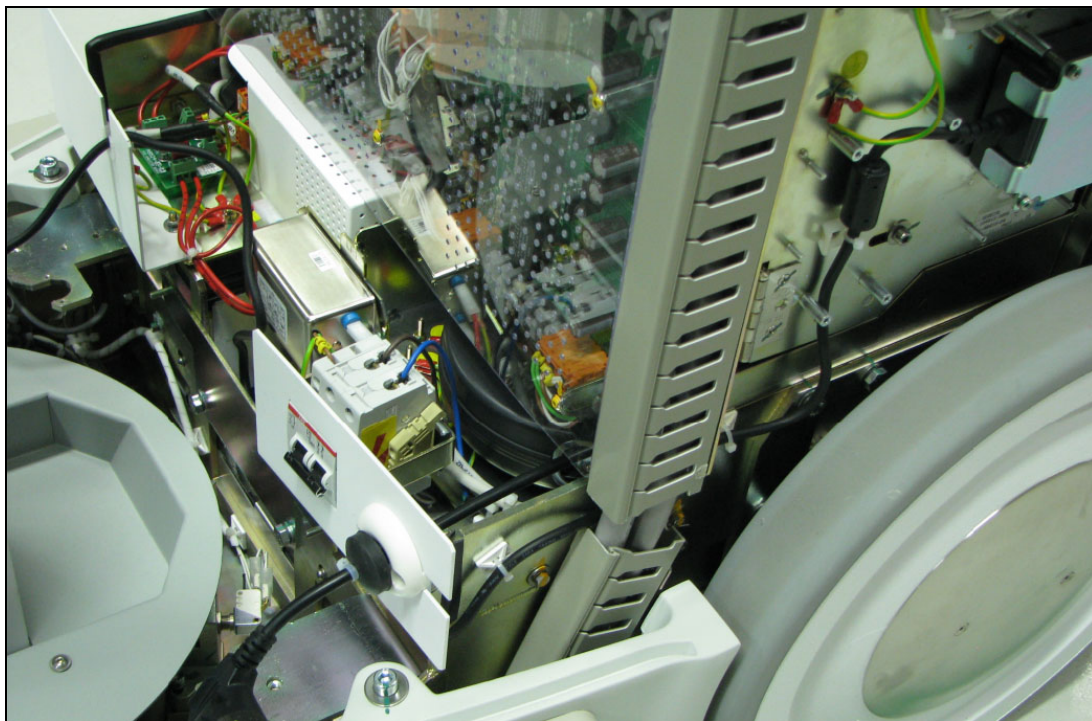


Figure 33

One relay configuration:

The one relay configuration must be changed to a two relay configuration.

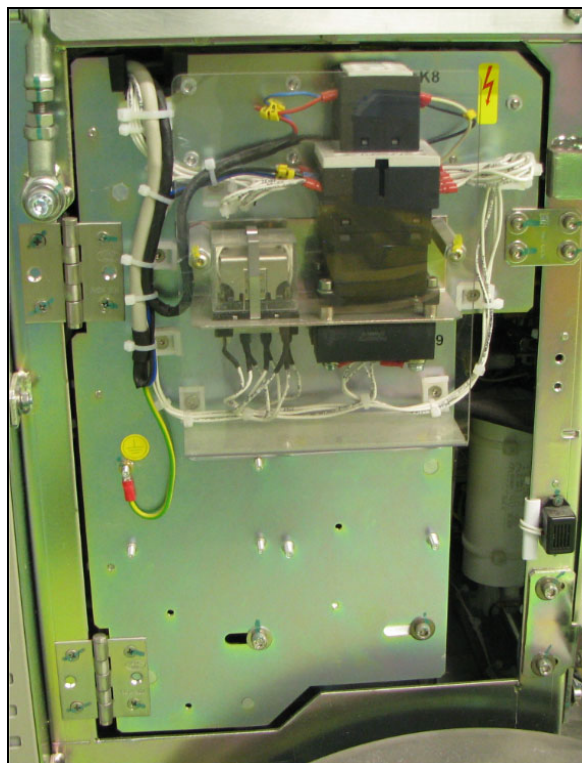


Figure 34

Change one relay to two relays:

- Remove the plastic cover (P07).
- Remove the two spacers (P08).
- Remove the relay (P09) from the part (P13).
- Remove the part (P13) from the part (P12).
- Remove the differential (P10) from the part (P12).
- Remove the relay K9 (P11) from the part (P12).

When all parts are disassembled from the part (P12):

Remount all parts (P07-P12) in the same position on part (P13).

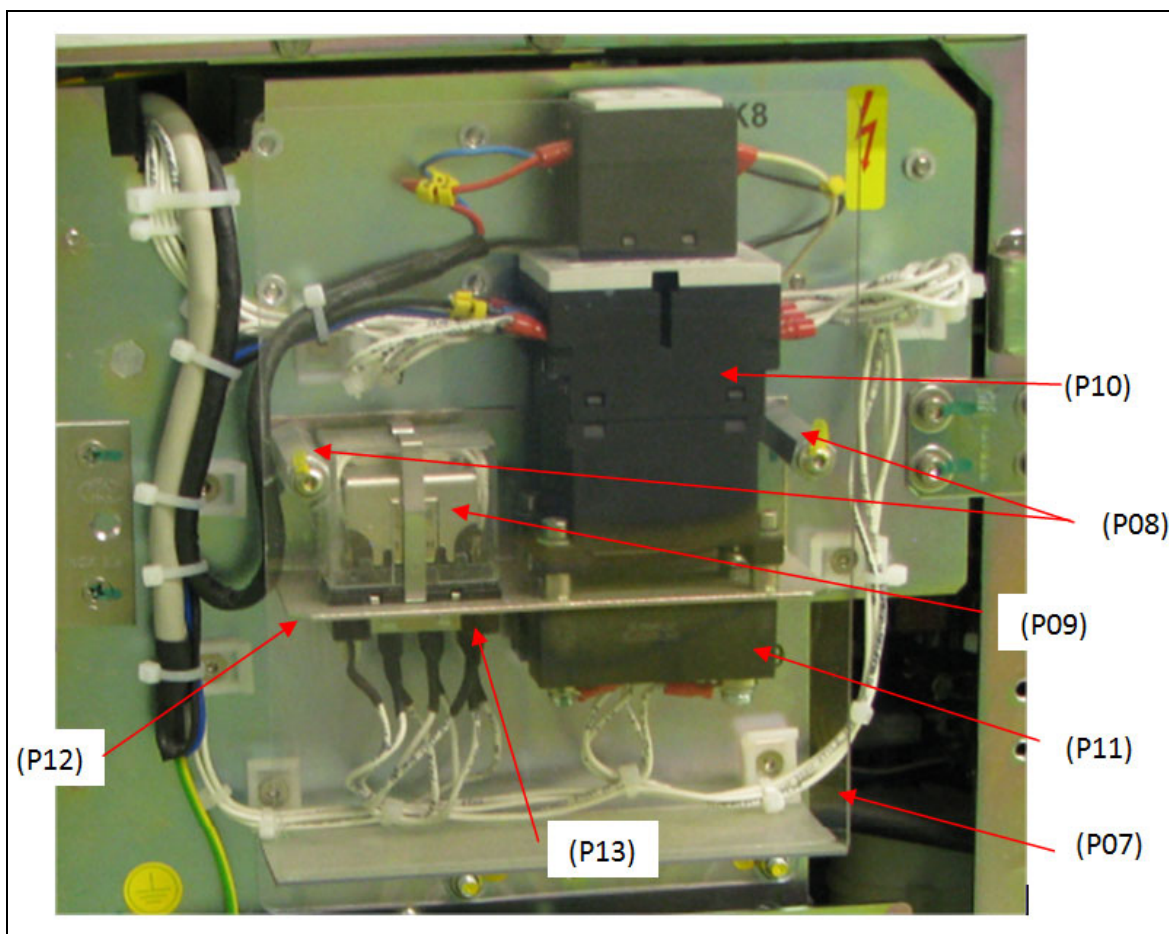


Figure 35

Additionally add the following components:

- Relay (P14)
- Socket relay (P15)
- Base relay (P16)
- Cable (P17). This part is soldered to base relay and must be connected to the DR10s / DR14s power supply.

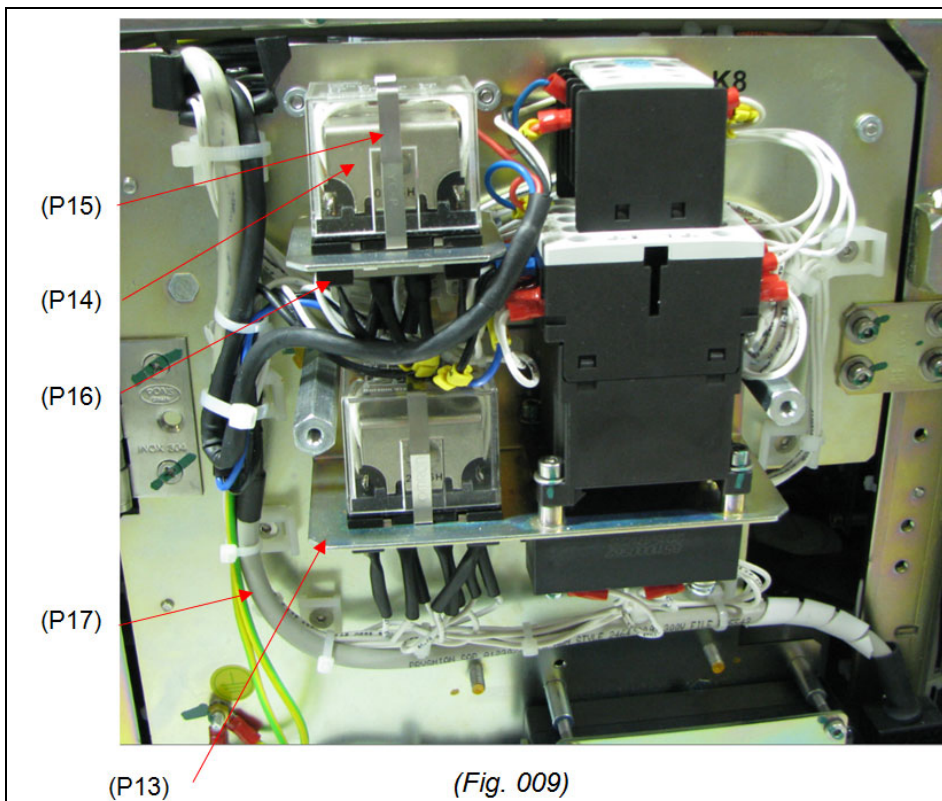


Figure 36

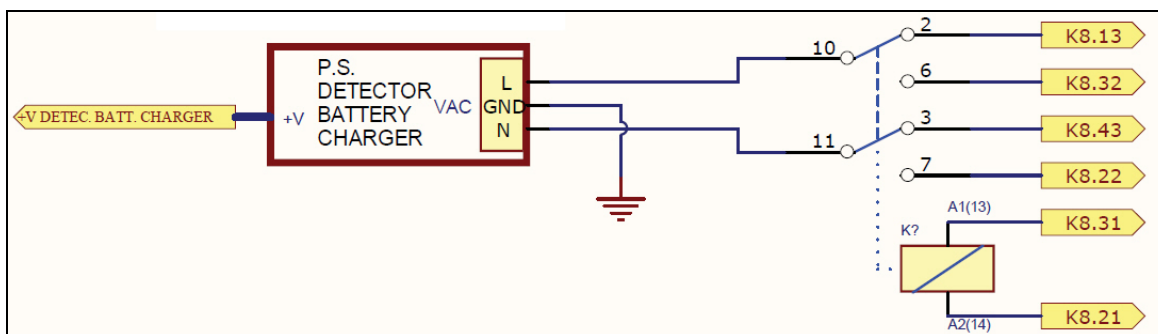


Figure 37

- (7) Mount the power supply mounting with 2 screws.
The power supply mounting must be mounted in the area shown in the figure below.

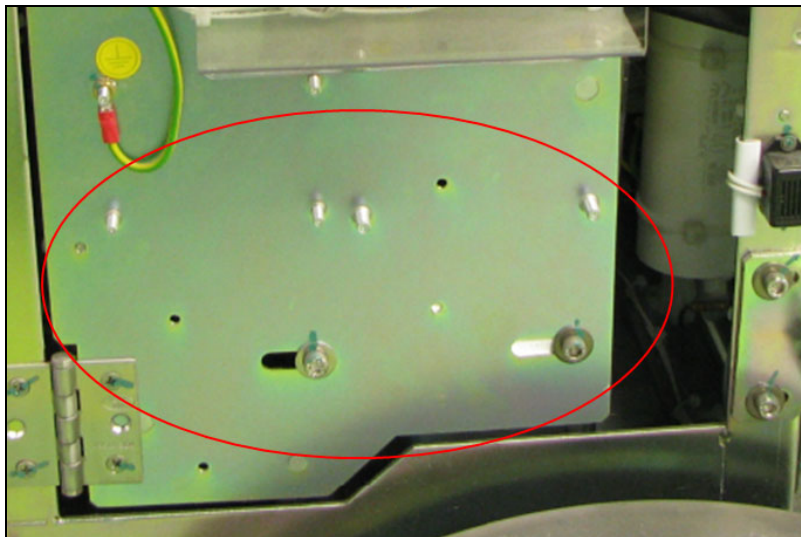


Figure 38

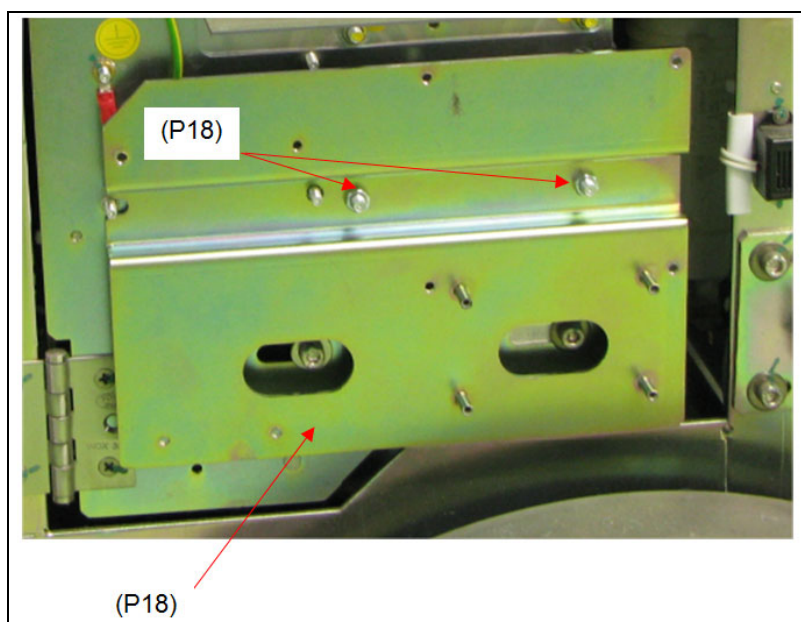


Figure 39

- (8) Mount the power supply at the power supply mounting with 4 screws and 4 washers.

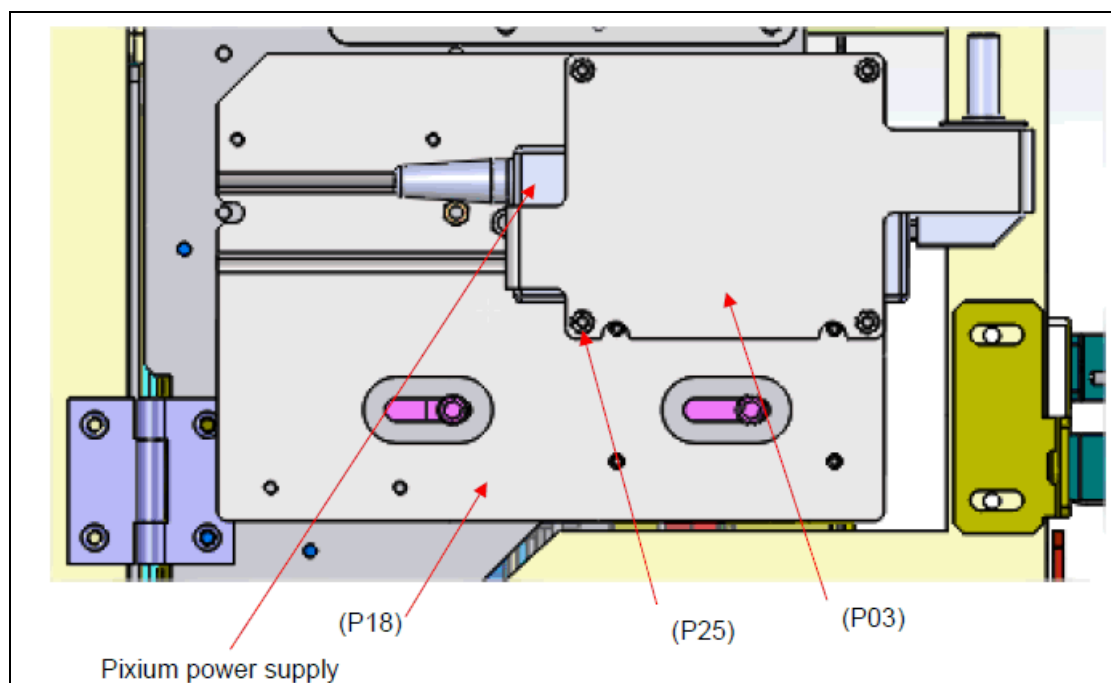


Figure 40

- (9) Mount the cover of the power supply and two relay with the screws of the cover.

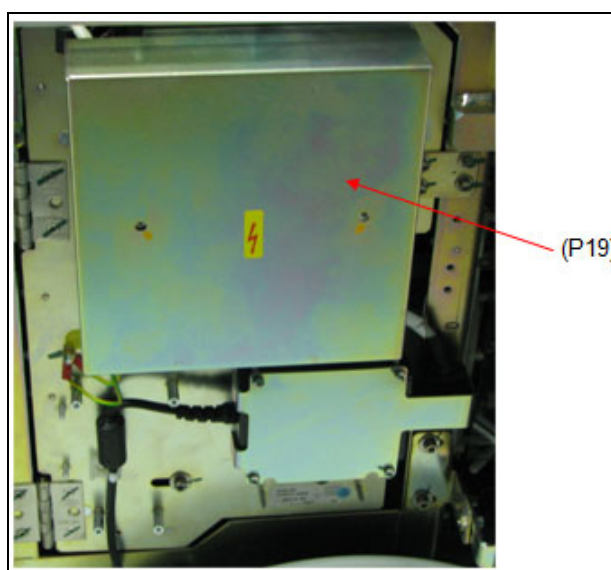


Figure 41

- (10) Mount the front cover and all other parts that were disassembled to remove the cover.
- (11) Remove two screws (P20).
- (12) Remove the cover part (P21).

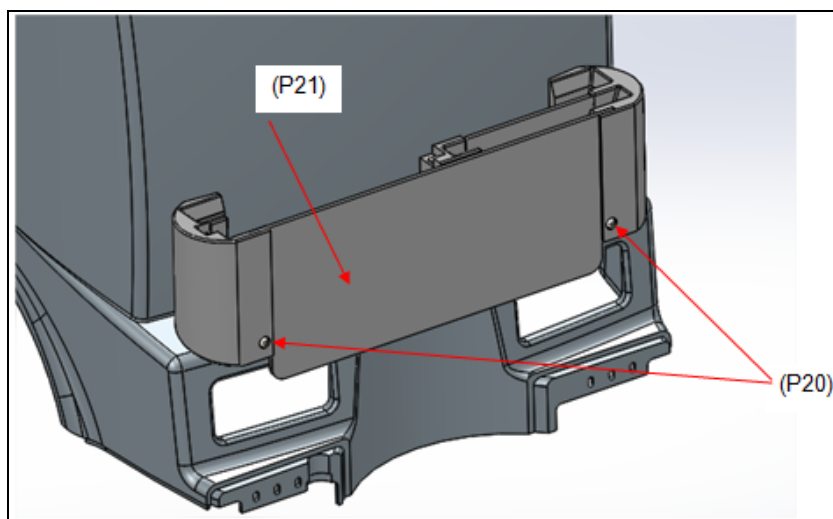


Figure 42

- (13) Connect the cable (P25) to the DR10s / DR14s charger (P22).
- (14) Fix the DR10s / DR14s charger to the front box with two screws (P23).

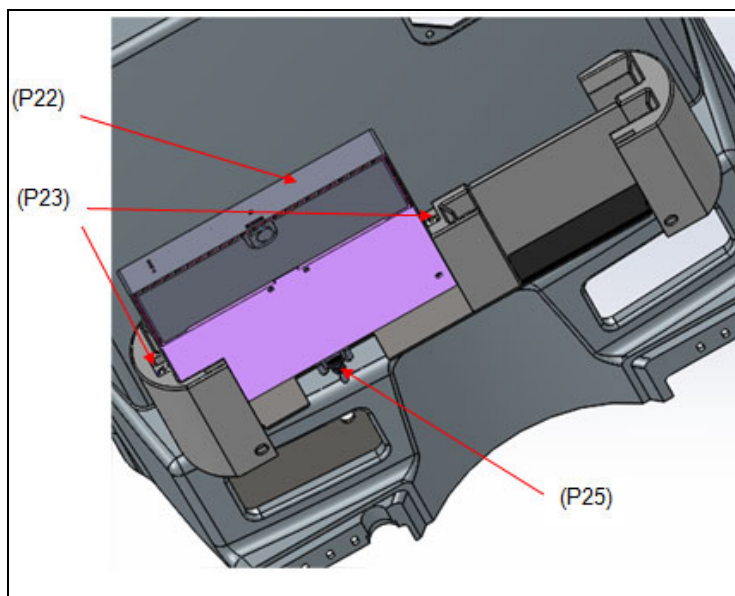


Figure 43

- (15) Mount the cover part (P21) and fix it with two screws (P20). Also refer to figures on the previous page.

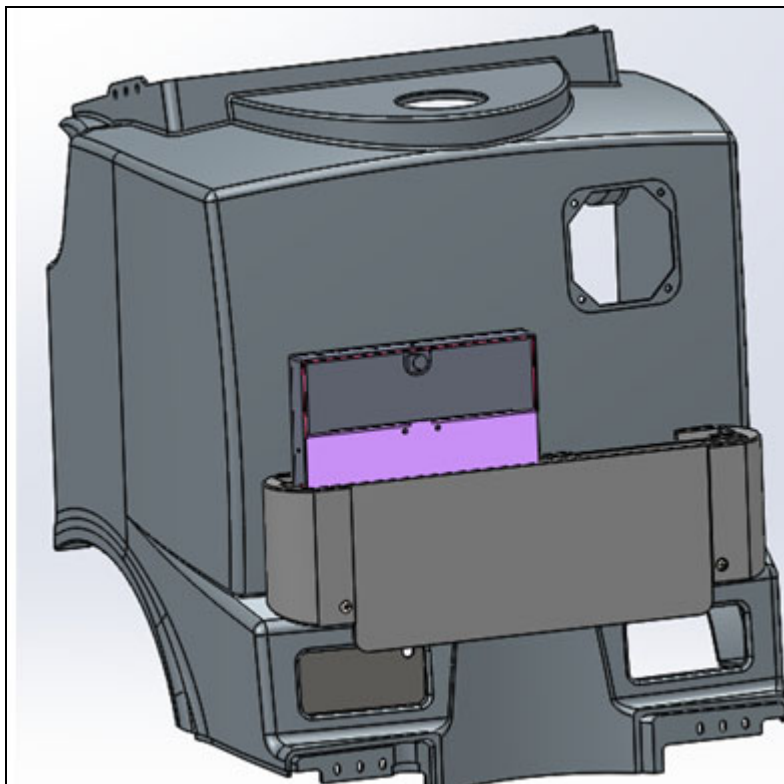


Figure 44

4.3 Verification

- (1) Switch the system on.
- (2) Insert the Detector in the battery charger grid storage holder.
- (3) Check that at least one LED must be on to show that the Battery is charging correctly when the DX-D 100 is running on batteries and when the DX-D 100 is connected to wall socket.

5 Keywords

Battery loader, numeric keycode

6 Version history

Version	Change	Date
1.0	Initial version	03-2017