






	ASSEMBLY INSTRUCTIONS		33531000701_5_1	
			COMM-ELEC-762-E	
			A	Creation of the document
			B	Front panel colour modification
			C	Additional information
			D	Battery charger
			E	Additional information
		Date: 06/09/17		M.G.

## 1- INTRODUCTION


*This option is used to replace the NEXYS control/command with the APM303 control/command*

		<p>Before carrying out any operation on the generating set, it is important to read these instructions carefully. The safety, use and maintenance instructions for the generating set must always be adhered to. Any damage caused by failure to follow the guidelines set out in these instructions will invalidate the warranty and any claims made in this regard.</p>



## 2 – PACK CONTENTS

Components	
1 front panel equipped with an adaptation wiring harness	
1 voltage reference wiring harness assembly (depending on the control unit mains power: 3P+N, 2P, 1P+N)	
1 charging alternator APM303 input inhibition wiring harness for Mitsubishi/Lombardini (KDI) engines <a href="#">KOHLER-SDMO ref: 31607717301</a>	
1 charging alternator APM303 input inhibition wiring harness for Lombardini KDW1003/1404 engines (equipped with a terminal with resistor) <a href="#">KOHLER-SDMO ref: 31607718701</a>	
1 charging alternator APM303 alarm excitation wiring harness for John DEERE engines <a href="#">KOHLER-SDMO ref: 31614335401NE</a>	



Also provided in the pack: 1 packet of stickers for the options present on the generating set  
1 set of assembly instructions in 4 languages (including wiring diagram)

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	FITTING THE KIT TO REPLACE THE NEXYS WITH THE APM303			

### 3 – SAFETY INSTRUCTIONS

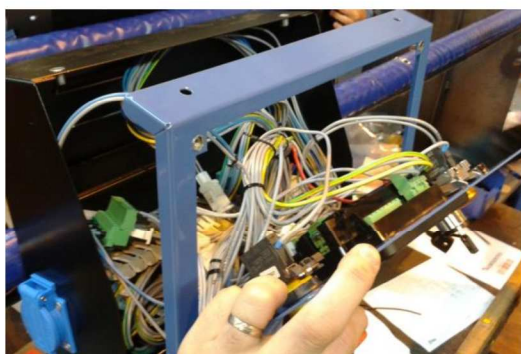
	 <b>DANGER</b>
<p>OPERATIONS SHOULD ONLY BE CARRIED OUT WHEN THE INSTALLATION OR EQUIPMENT IS SWITCHED OFF.  → DISCONNECT THE BATTERY AND/OR ANY OTHER EXTERNAL SOURCE OF ELECTRICAL POWER.</p>	

- Read the manufacturer's identification plate carefully. The values for voltage, power, current and frequency are shown. Check that these values match the supply use.  
Never accidentally touch stripped cables or loose connections.
- Never handle a generator with wet hands or feet.
- Maintain electrical wires and connections in good condition. Using equipment in poor condition can lead to electrocution and damage to equipment.
- The electrical connections must be made in accordance with current standards and regulations in the country of use.
- Do not use faulty, poorly insulated or provisionally connected wires.
- Do not invert the positive and negative terminals of batteries when connecting them. This could cause severe damage to the electrical equipment. Follow the wiring diagram supplied by the manufacturer.
- Protection against electric shocks is ensured by an assembly of specific equipment. If this needs to be replaced, only components with identical nominal values and specifications should be used.

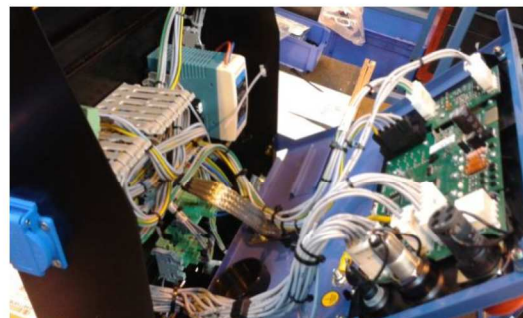
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## 4 – INSTALLING THE FRONT PANEL

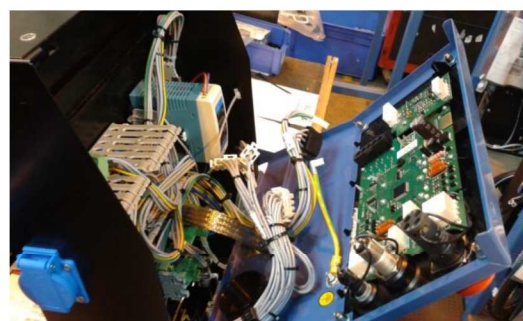
- 1- Unscrew the 2 retaining screws on the front panel.
- 2- Open up the front panel to gain access to the front panel and control unit components (*Fig.1*).
- 3- Disconnect the connectors for the NEXYS board (do not forget the Green/Yellow wire) (*Fig.2*).
- 4- Undo the 4 retaining screws on the NEXYS board and remove it (*Fig.3*).
- 5- On the assembled front panel, pass the wiring harnesses through the cutout and screw on the front panel using the 4 M6x10 screws (*Fig.4*).



*Passing the cables through the cutout*



(Fig.1) *Example shown: NT2500 control unit*



(Fig.2) *Example shown: NT2500 control unit*





(Fig.3) *Example shown: NT2500 control unit*



(Fig.4) *Example shown: NT2500 control unit*

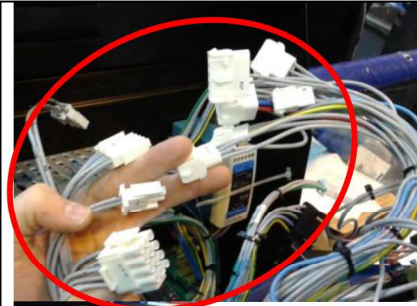
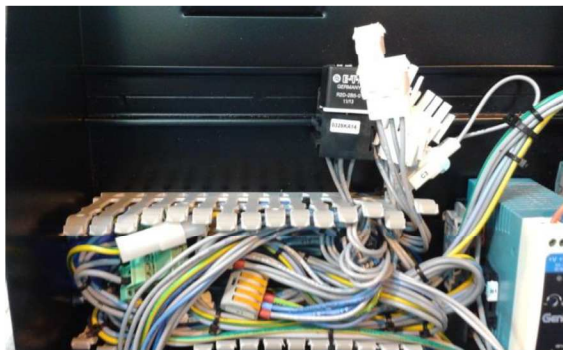


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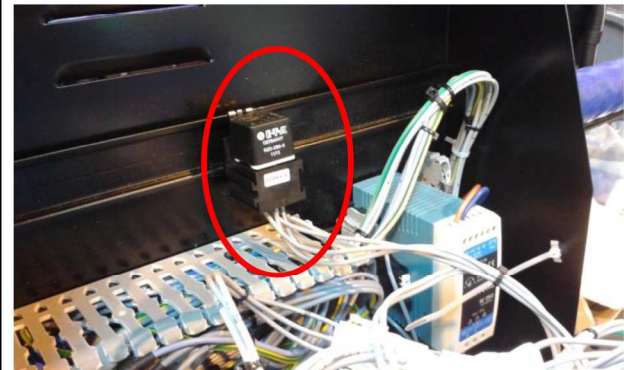
## FITTING THE KIT TO REPLACE THE NEXYS WITH THE APM303

### 5 – WIRING

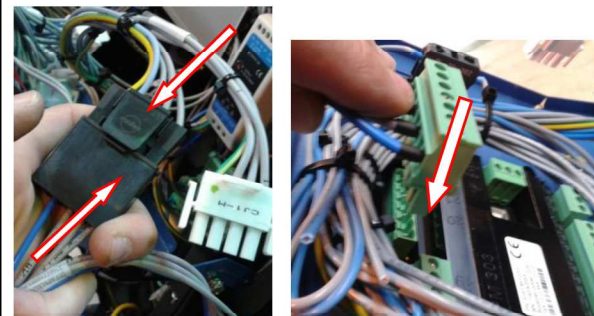
- 1- Remove the existing cable ties.
- 2- Cable the counterparts of the new wiring harness to the original connectors (Fig.5). The other wiring harnesses remain on standby.
- 3- Fit the relay base to the rail on the control unit base plate (Fig.6).
- 4- Connect the voltage reference wiring harness for the generating set wiring harness. The original connector onto the counterpart (black MOLEX connector) and the other onto the APM303 (green Phoenix contact connector) (Fig.7).
- 5- Secure all of the wires and wiring harnesses in the channel (leave the wiring harness connectors on the side of the channel) (Fig.8).



(Fig.5) Example shown: NT2500 control unit




(Fig.6) Example shown: NT2500 control unit



(Fig.7) Example shown: NT2500 control unit



(Fig.8) Example shown: NT2500 control unit

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**6- Special case:**  
INHIBITING the charging alternator alarm

### 6.1 Mitsubishi engines & certain Lombardini (KDI) engines

→ Connect the additional wiring harness to the C3 connector, removing the shunt from it (Fig.9)

→ Cable the other end (wire 61A) to termination box B01 terminal 2 (Fig.10)

### 6.2 Lombardini engines (KDW1003 and 1404)

→ Clip the terminal with the resistor onto the upper rail on the control panel base plate (Fig.11)

→ Connect the additional wiring harness to the C3 connector, removing the shunt from it

→ Cable the other end (wire 61A) to termination box X2 terminal 4

→ Cable the other end (wire 80) to termination box K4 terminal 3 (wire 80)

### 6.3 JOHN DEERE engines

→ Clip the terminal with the resistor onto the upper rail on the control panel base plate + the relay

→ Connect the additional wiring harness to the C3 connector, removing the shunt from it (Fig.12)

⚠ The following wires must be stripped before connection.

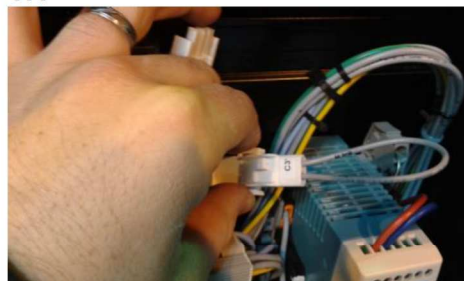
→ Cable the wire 31 to the distributor X1 (Fig.13)

→ Cable the wire 201 to the connector K4 on the APM 303 / terminal 08 (Fig.14)

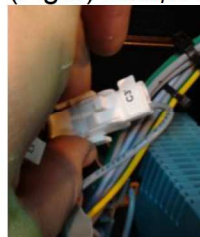
→ Cable the wire 80 to the connector K4 on the APM 303 / terminal 06 (Fig.15)

In all cases, refer to the diagram

#### 6.1

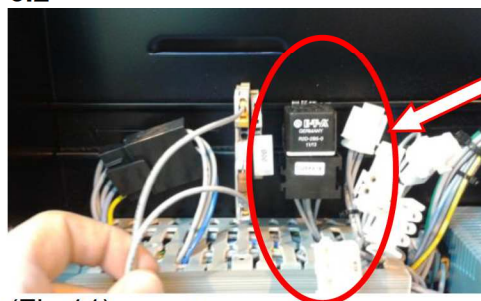


(Fig.9) Example shown: NT2500 control unit



(Fig.10) Example shown: NT2500 control unit

#### 6.2

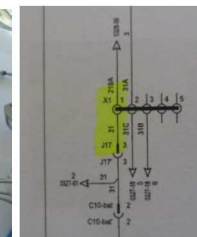


(Fig.11) Example shown: NT2500 control unit

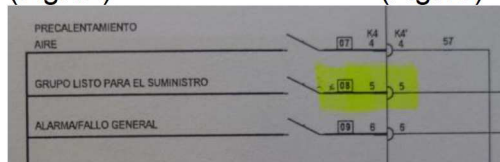
#### 6.3



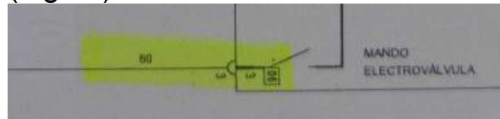
(Fig.12)





(Fig.13)



(Fig.14)



(Fig.15)

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#### 6.4 Applying the stickers

→If there is a voltage potentiometer on the generating set (Fig.16)

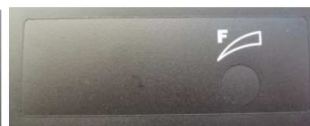
→If there is a frequency potentiometer on the generating set (Fig.17)

→If there are voltage and frequency potentiometers on the generating set (Fig.18)

→If there is a retention container on the generating set: remove the indicator + apply the sticker and its indicator (Fig.19)



(Fig.16)



(Fig.17)



(Fig.18)



(Fig.19)

## 7 – BATTERY CHARGER:

### **For the first generation ACP4 (water preheating control integrated into the charger)**

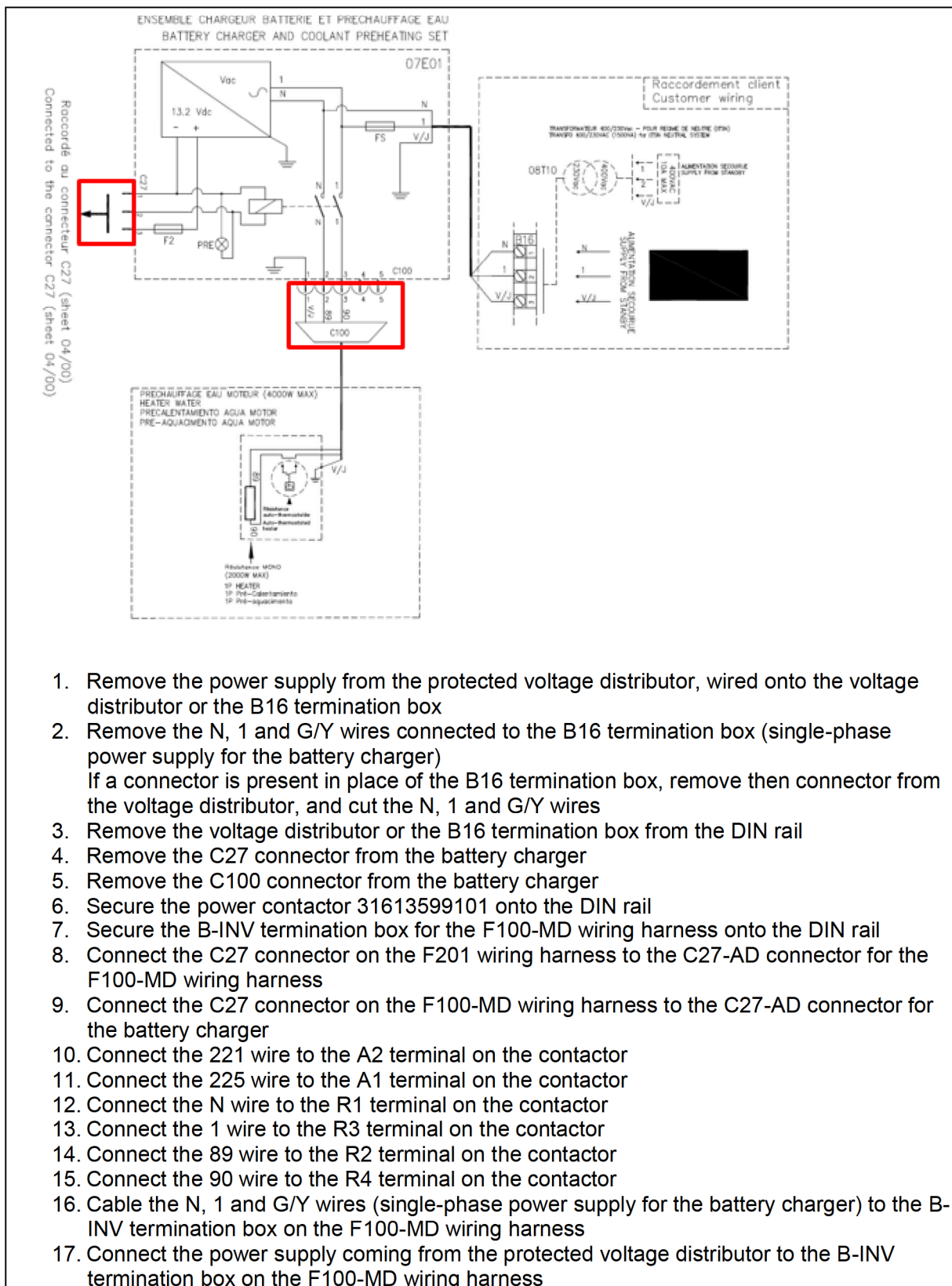
Equipment required:

A F100-MD wiring harness, reference 31607591801

A 4P power contactor (2O+2C), reference 31613599101



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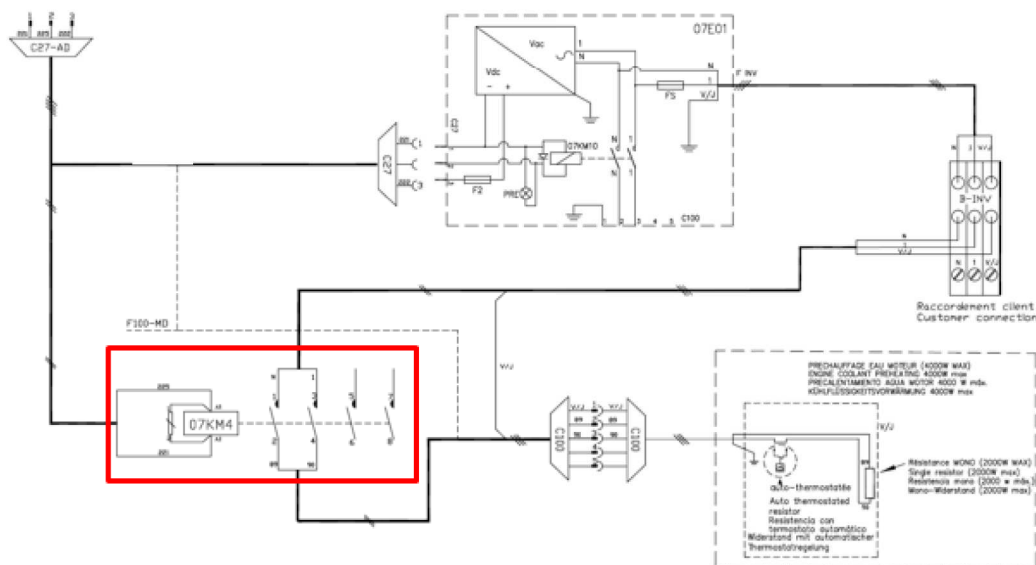
### For the second generation ACP4 (water preheating control integrated into the charger)

Equipment required:

A 4P power contactor (2O+2C), reference 31613599101

Raccordé au connecteur C27 - Feuille 14  
(Sheet 04/00)  
Connected to harness 14 C27 connector  
(Sheet 04/00)  
Conectado al conector C27 cableado 14  
(Sheet 04/00)  
An Stecker C27 von Kabelstrang 14 angeschlossen  
(Sheet 04/00)

ENSEMBLE CHARGEUR BATTERIE ET PRECHAUFFAGE EAU  
BATTERY CHARGER AND COOLANT PREHEATING ASSEMBLY  
CONJUNTO CARGADOR DE BATERIA Y PRECALENTAMIENTO DE AGUA  
EINHEIT BATTERIELADEGERÄT UND KÜHLFLÜSSIGKEITSVORWÄRMUNG



1. Remove the 221, 225, N, 1, 89 and 90 wires from the 07KM4 power contactor
2. Remove the 07KM4 power contactor from the DIN rail
3. Secure the new power contactor 31613599101 onto the DIN rail
4. Connect the 221 wire to the A2 terminal on the contactor
5. Connect the 225 wire to the A1 terminal on the contactor
6. Connect the N wire to the R1 terminal on the contactor
7. Connect the 1 wire to the R3 terminal on the contactor
8. Connect the 89 wire to the R2 terminal on the contactor
9. Connect the 90 wire to the R4 terminal on the contactor



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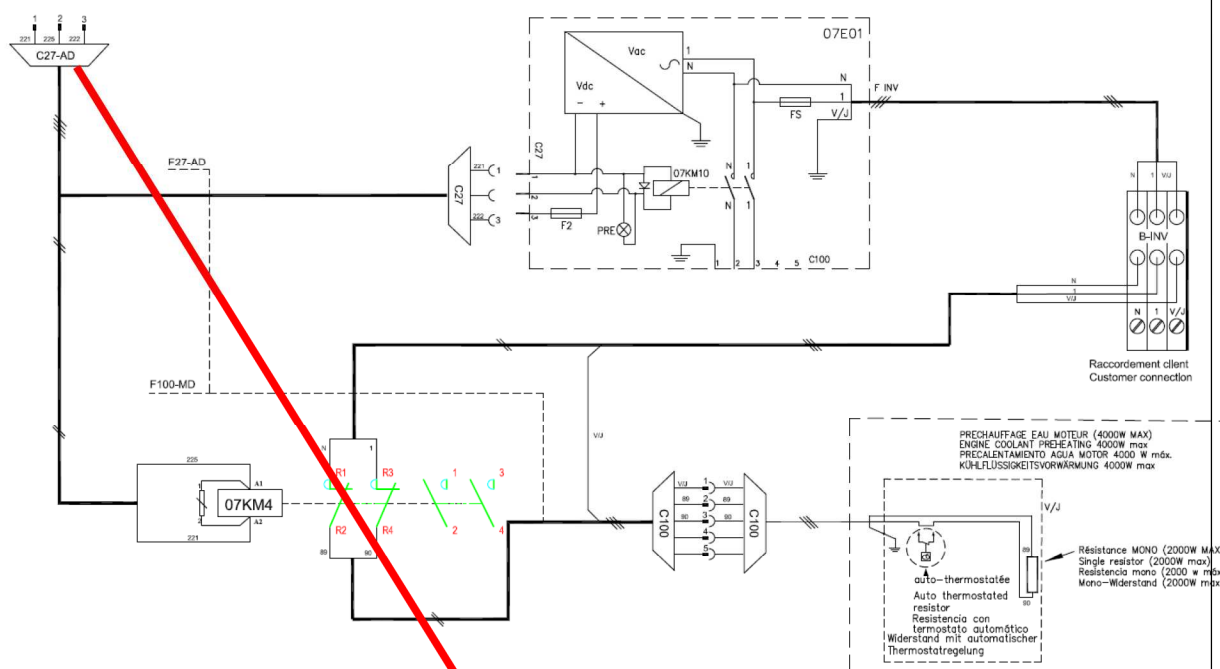
Date: 06/09/17

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## Diagram after modification of the first and second generation ACP4:

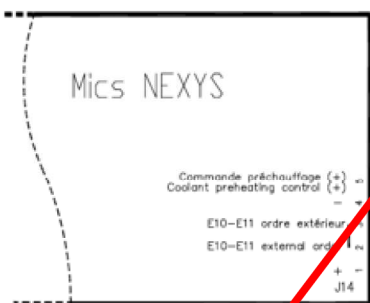
Raccordé au connecteur C27 - Faisceau 14  
(Sheet 04/00)  
Connected to harness 14 C27 connector  
(Sheet 04/00)  
Conectado al conector C27 cableado 14  
(Sheet 04/00)  
An Stecker C27 von Kabelstrang 14 angeschlossen  
(Sheet 04/00)

ENSEMBLE CHARGEUR BATTERIE ET PRECHAUFFAGE EAU  
BATTERY CHARGER AND COOLANT PREHEATING ASSEMBLY  
CONJUNTO CARGADOR DE BATERIA Y PRECALENTAMIENTO DE AGUA  
EINHEIT BATTERIELADEGERÄT UND KÜHLFLÜSSIGKEITSVORWÄRMUNG

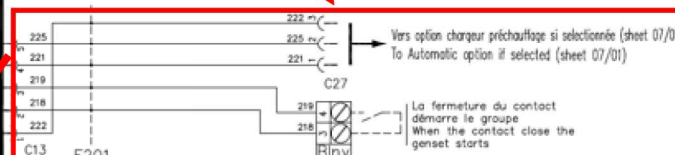


## NEXYS wiring harness

1. Remove the C13 connector from the NEXYS controller
2. Cut the 221/222 and 225 wires connected to the C13 connector on the F201 wiring harness
3. Remove the BINV termination box secured to the DIN rail and the C13 connector (the remote order function is already present in the NEXYS replacement kit)

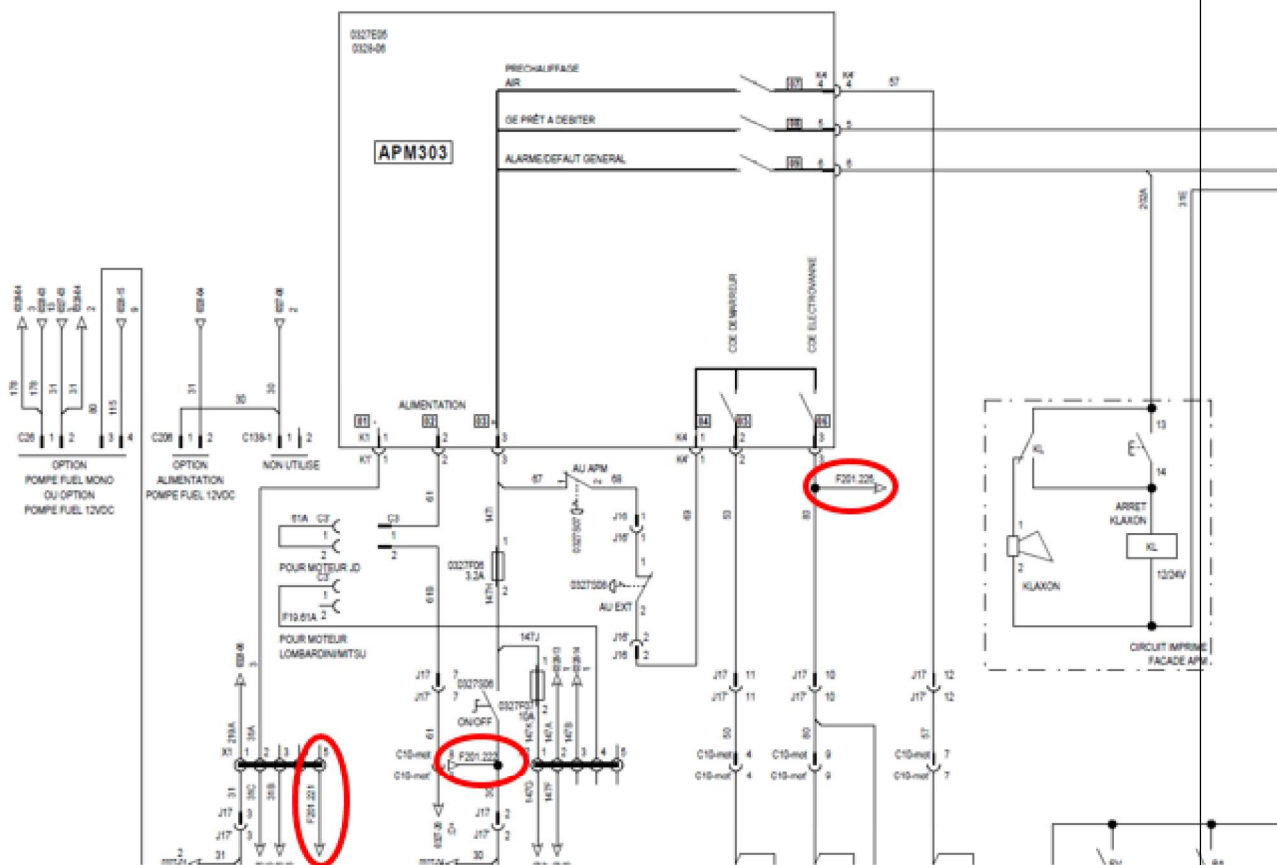


## NEXYS replacement kit



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1. Cable the 225 wire (water preheating control) onto the connector marked K4, pin 3, on the APM303. Add a terminal if there are more than two wires on this connection point. The contactor is actuated via the 80.
2. Cable the 222 wire onto the OFF/ON switch, battery side, (+ for the battery charge)
3. Cable the 221 wire onto the WAGO distributor marked X1 (- for the battery charge)



## 8 – OLD JEAGER GAUGE:

If the old JEAGER gauge (0/380Ω) is fitted on the daily service tank:

- Replace it with a new one with the reference (31101105901)
- Upload the corresponding curve for the new gauge which is available on GAÏA (APM303 JEAGER gauge 31101105901); open the file in CRV format

*If it is non-operational, contact the KOHLER-SDMO after-sales service representative for your area.*

