DETECTLINE
Fire Engine Version
Installation, Maintenance & Test

AN OPERATIONAL AID

Detection of powered overhead lines
from 20000Volts~.

For low voltage electric lines (380V) the system does not function.
The system does not function for Direct Current lines.

Attention : The operator must use maximum VIGILANCE and ATTENTION when near powered electric lines.

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CONTENTS

1 DOCUMENT OBJECTIVE

This document is the guide to installation and use of the Fire Engine version of DETECTLINE.
Within it are given the details specific to the Fire Engine version,
In particulier, those concerning the installation, maintenance and testing of the system.

- Wiring diagrams,
- Component Nomenclature,
- Replacement parts nomenclature,
- A maintenance & repair manual for all electrical parts, within the framework of technical training for personnel to perform first level maintenance,

For the user, the specific file « FS_detectline_pompier_V_1_02_SDIS__.pdf » is more appropriate

1 SAFETY INFORMATION

1.1 Safety recommendations:

Please read this manual carefully before unpacking, configuring or using this equipment. Note all indications of danger and other warnings. The failure to observe these recommendations could result in serious injury to the operator or could damage the equipment. To ensure that the protection provided by this equipment is appropriate, do not use or install it other than in accordance with the conditions indicated in this manual.
Dismantling the cases is forbidden. This operation is limited exclusively to personnel qualified by MADE.

1.2 Following the safety recommendations:

DANGER **:** Indicates a dangerous or potentially dangerous situation which, if not avoided, could cause serious or deadly injuries.

NOTE **:** potentially situation cause moderate		Symbol requiring reference to the instruction manual for instructions concerning operation or safety recommendations
Remark *:* that merits		

Indicates a dangerous which could superficial to injuries.

Information mention.

1.3 Warning Labels

Read all labels and wordings shown on the instrument. Bodily injury or equipment damage could occur if these instructions are not respected.

⚡	Dangerous Voltage
~	AC current
IP 22	IP standard – Protection against dust and water : TRANSMITTER
IP 65	IP standard – Protection against dust and water : RECEIVER

2 TERMINOLOGY

The Fire Engine version of DETECTLINE is an adaptation of the DETECTLINE product.

2 OVERVIEW

The Fire Engine version of DETECTLINE equips long-ladder vehicles, fitted with a ladder having combined or automatic movement from 20 meters to more than 52 meters depending on the model.
MADE SA proposes a simple and quick-to-use system in view of the urgent nature of fire interventions.

The adaptation of DETECTLINE to this environment takes into account in particular the constraints associated with the ladder : this is laid on the roof of the vehicule and overhangs by about 80 cm, which constitutes a large metallic mass in the middle of the carriers roof.
The chosen solution consists of equiping the DETECTLINE with a second sensor so that there is a sensor either side of the ladder so as to optimise the zone of coverage of the detector and avoid any perturbations which may be caused by the ladder.
Another constraint taken into account is to not exceed 3.3m overall height.

The Control Module is placed in the cabin and a remote control box in front of the equipment operator's seat is used to operate the system. The system turns on automatically in silent mode at vehicule start-up.
By means of the ON-OFF button, on ariving at the intervention site, the equipment operator can activate the audible alarm. A safety start-up system can also be coupled to the power take-off control (or the hand brake lever).
The presence of the Control Module or the remote control box close to the equipment operator's seat enables him to be aware of the system state before getting down to operate the fire engine equipment.

2.1 Dangerous Environments

DANGER :

Even though some of the systems supplied by MADE are designed and certified for installation in dangerous environments, several MADE systems are not intended for use in such environments. It is incumbent upon those who install these systems in dangerous environments to determine the acceptability of the system for its environment. Additionally, to guarantee safety, the installation of systems in dangerous environments must be compliant to the order specification of the manufacturer. Any modification of systems or their installation is not recommended and could cause deadly injuries and/or damage to facilities.

2.2 Reminder

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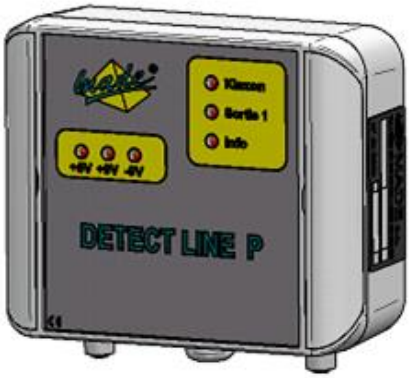
3 SYSTEM COMPONENTS

The system COMPRISES :

- 1 DETECTLINE Central Control Module
- 1 Remote Control and Display box
- 2 DETECTLINE sensors
- 2 extension cables (Lumberg connector) of 10m each
- 1 interconnection cable between the CCM & the Remote box (Lumberg connector)



4 INSTALLATION

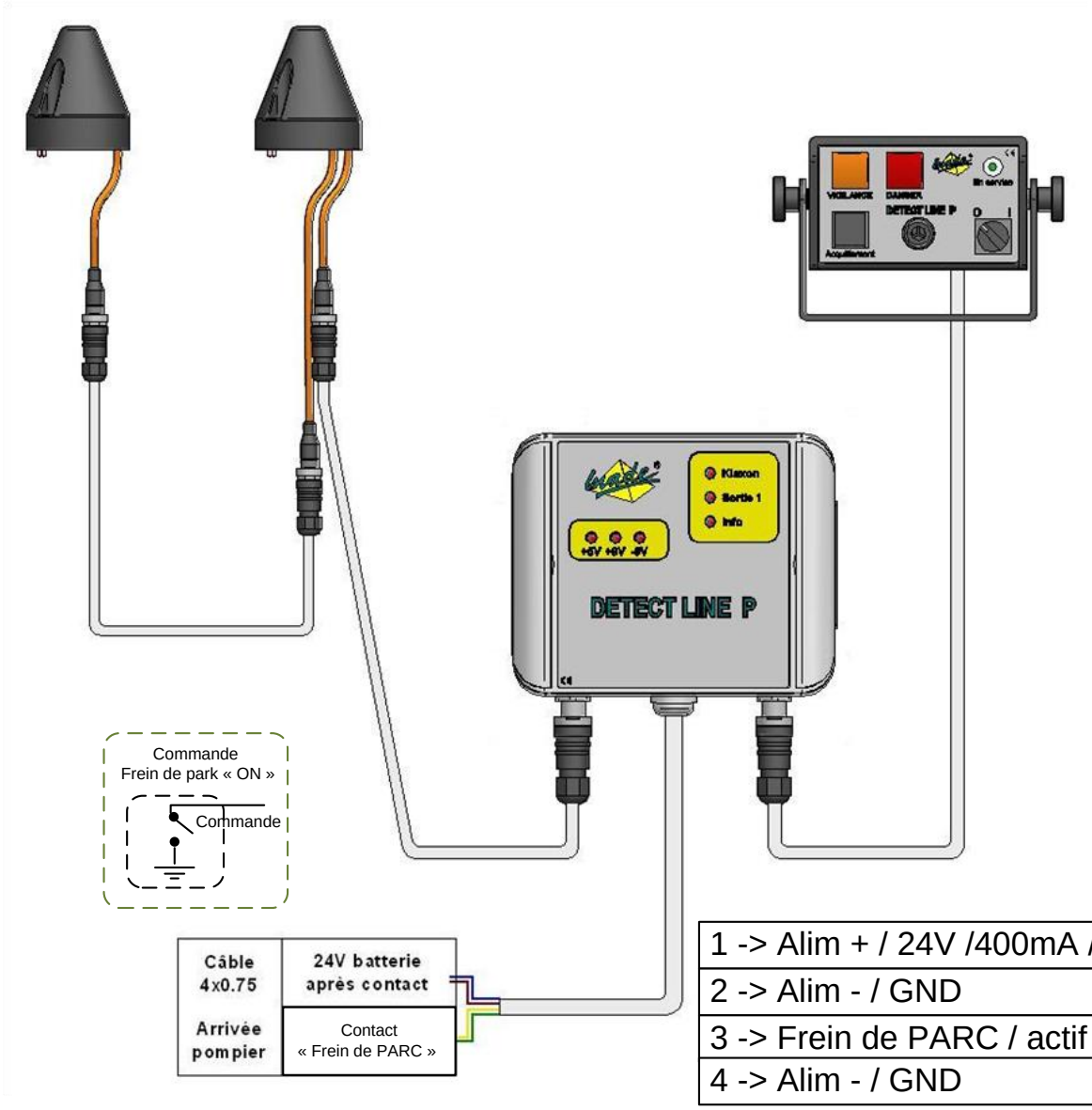
4.1 Installation of the Central Control Module

The CCM is installed in the cabin, the remote box is fited in front of the vehicle equipment operator.
Carry out the following connections (Cf. photo and layout scheme § 5.2.1, parts framed in red) :

- Bring an externe 24V power supply to the pins 3-4 of the plug P4
- Connect an « activation to earth» command to Pin 3 of P5 (power take-off active and activation button)
- Plug in the connecting leads of the 2 sensors to the « Female Lumberg » connector
- Plug-in the lead from the remote box.

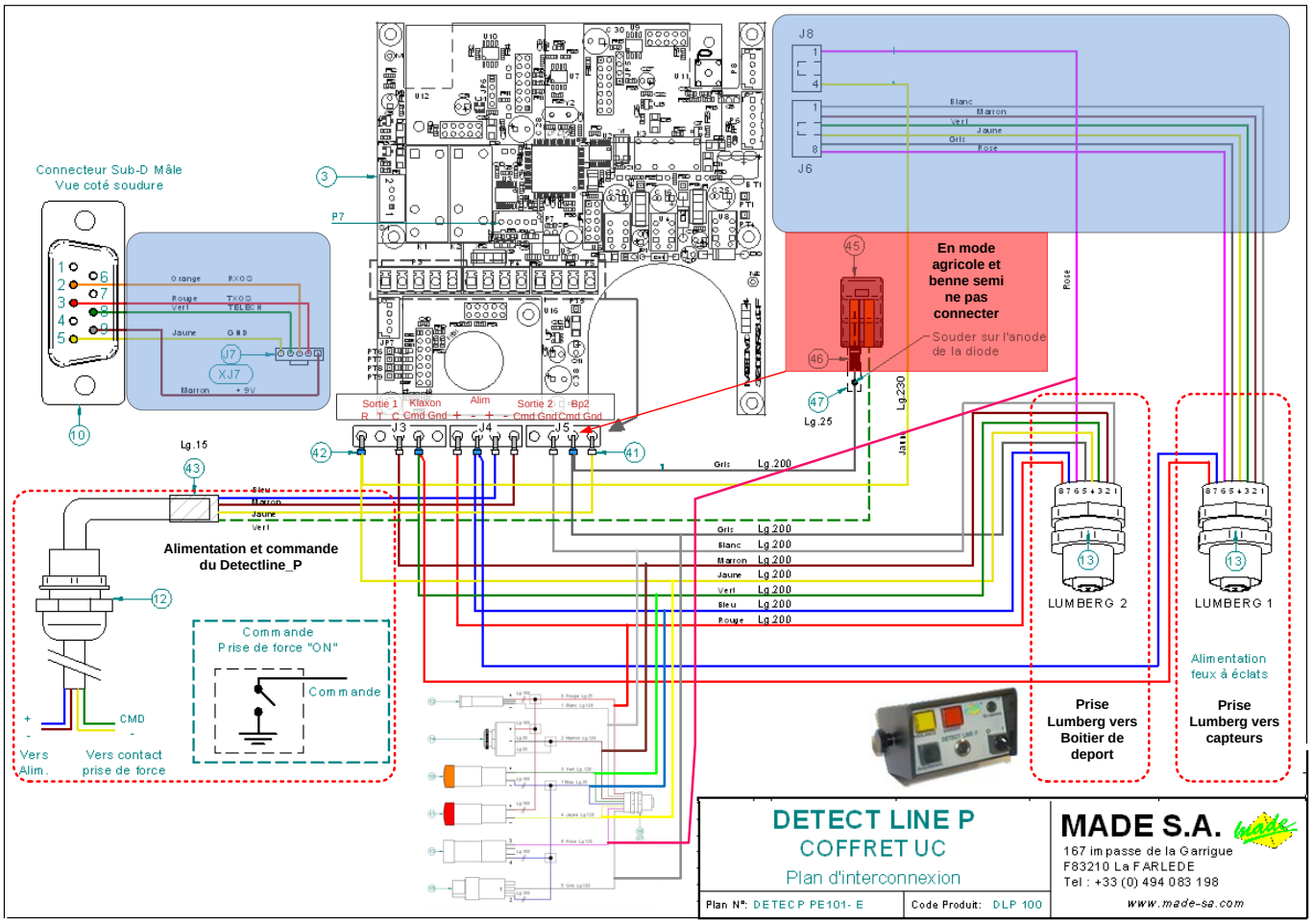
4.2 Layout Diagram

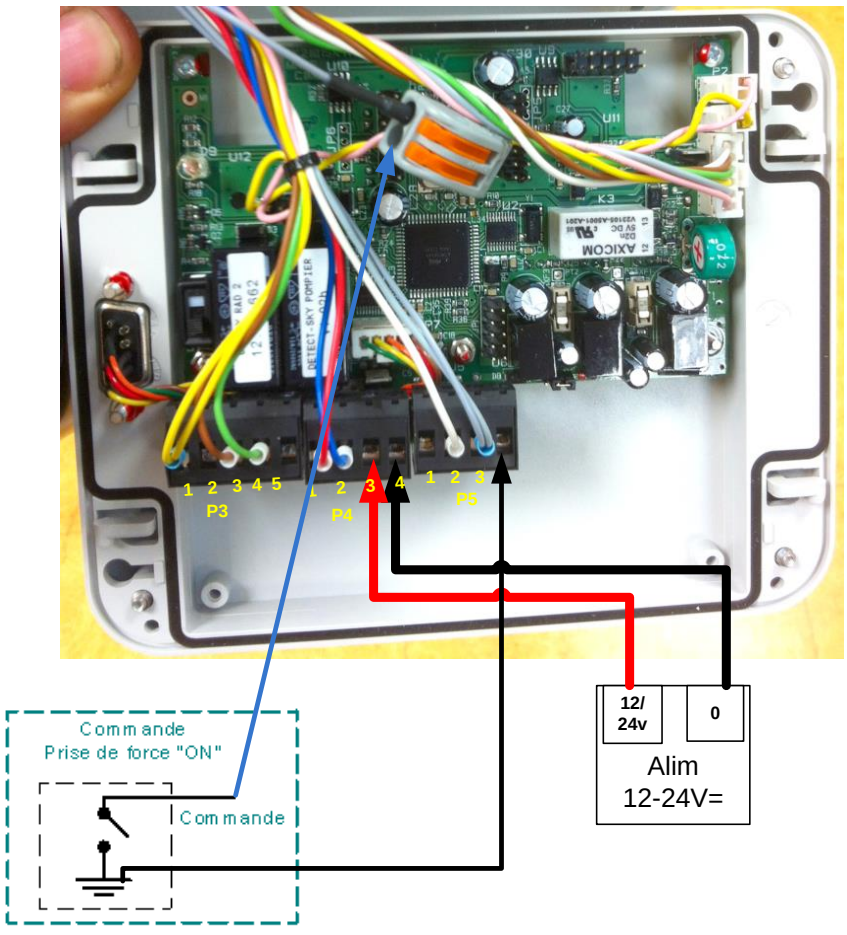
4.2.1 Module Interconnections



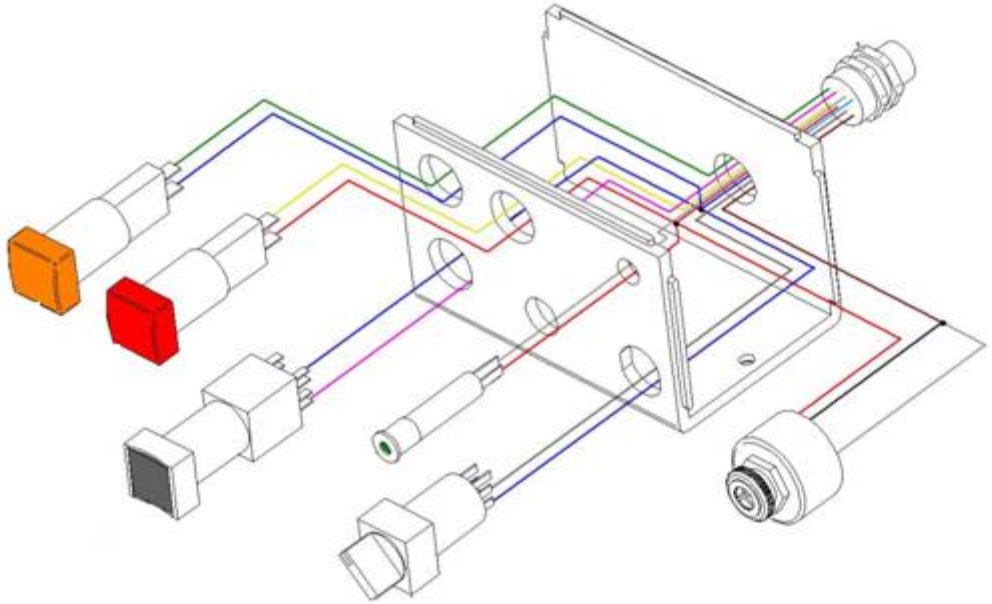
1 -> Alim + / 24V /400mA / aprés contact
2 -> Alim - / GND
3 -> Frein de PARC / actif 0V
4 -> Alim - / GND

4.2.2 Central Control Module electrical layout

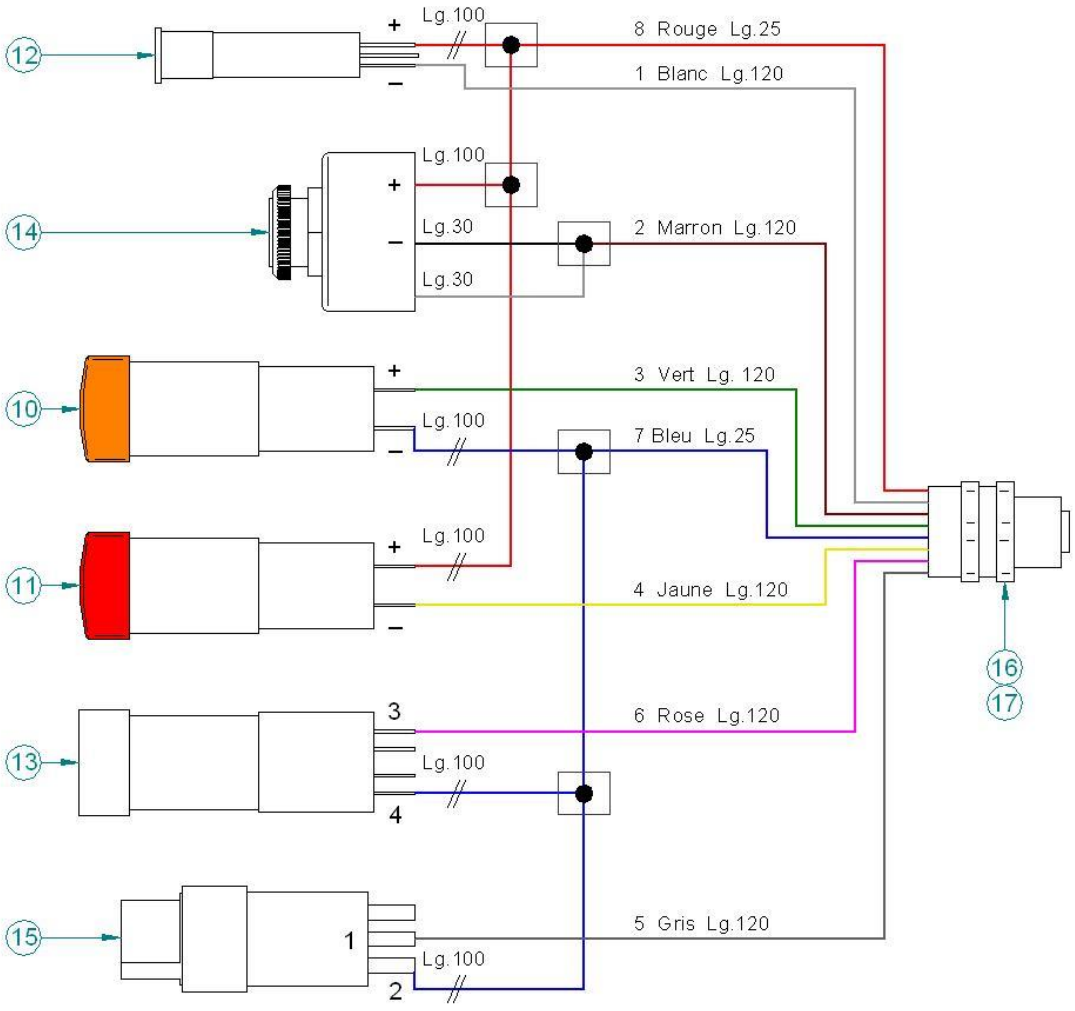




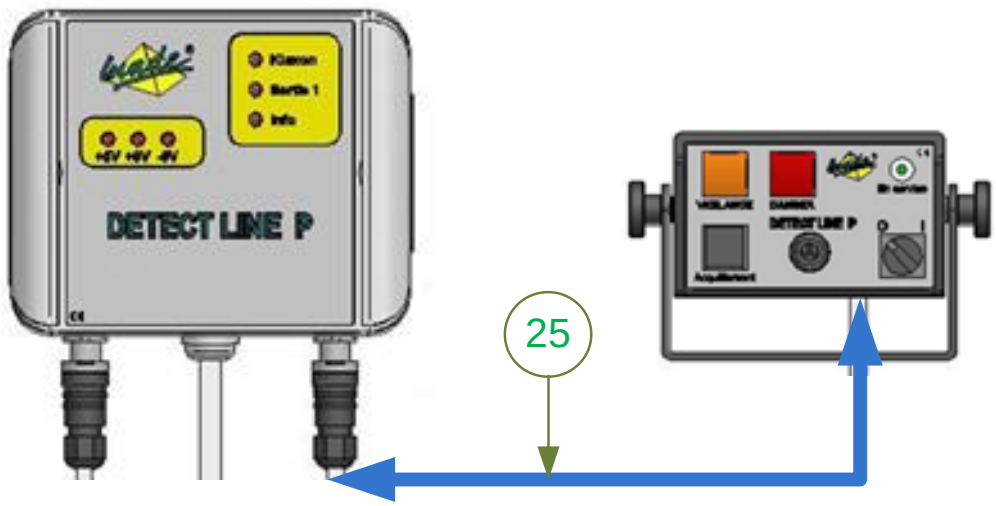
4.2.3 Internal Cabling - remote box

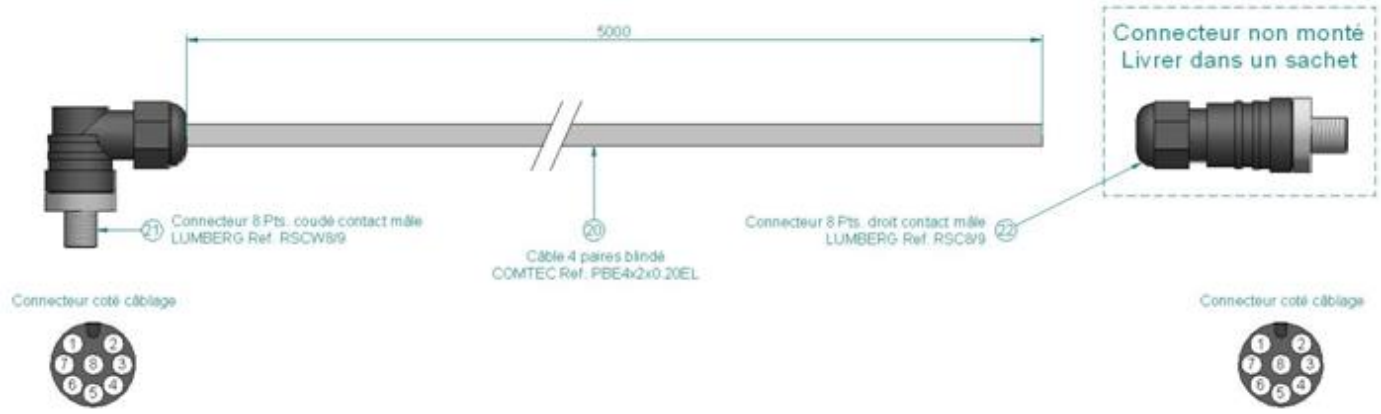


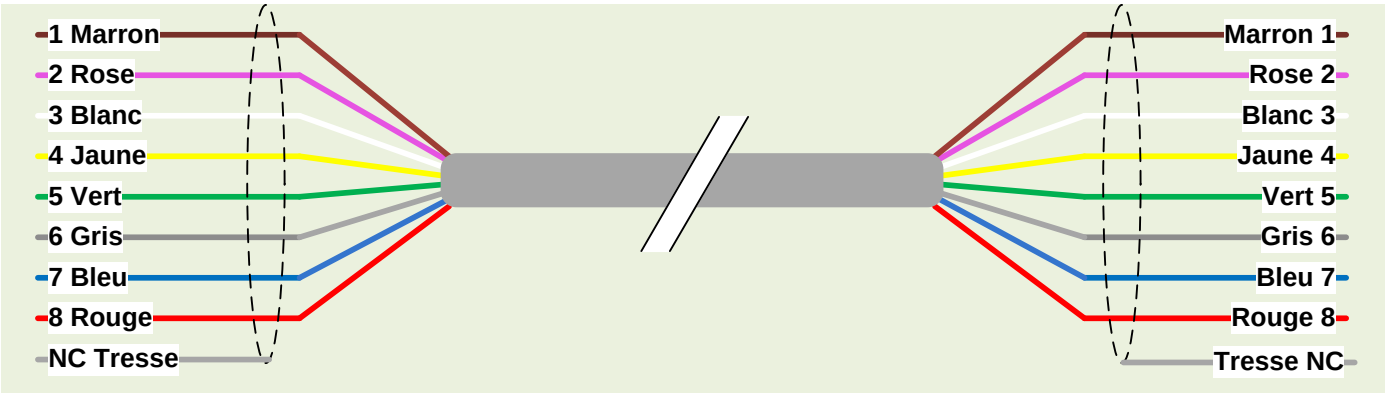
4.2.4 Remote box electrical Layout



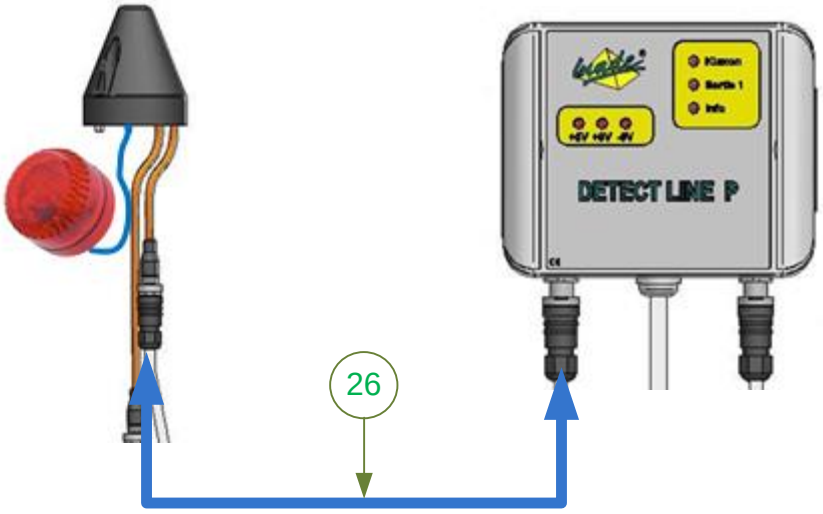
4.2.5 Cable CCM to remote box

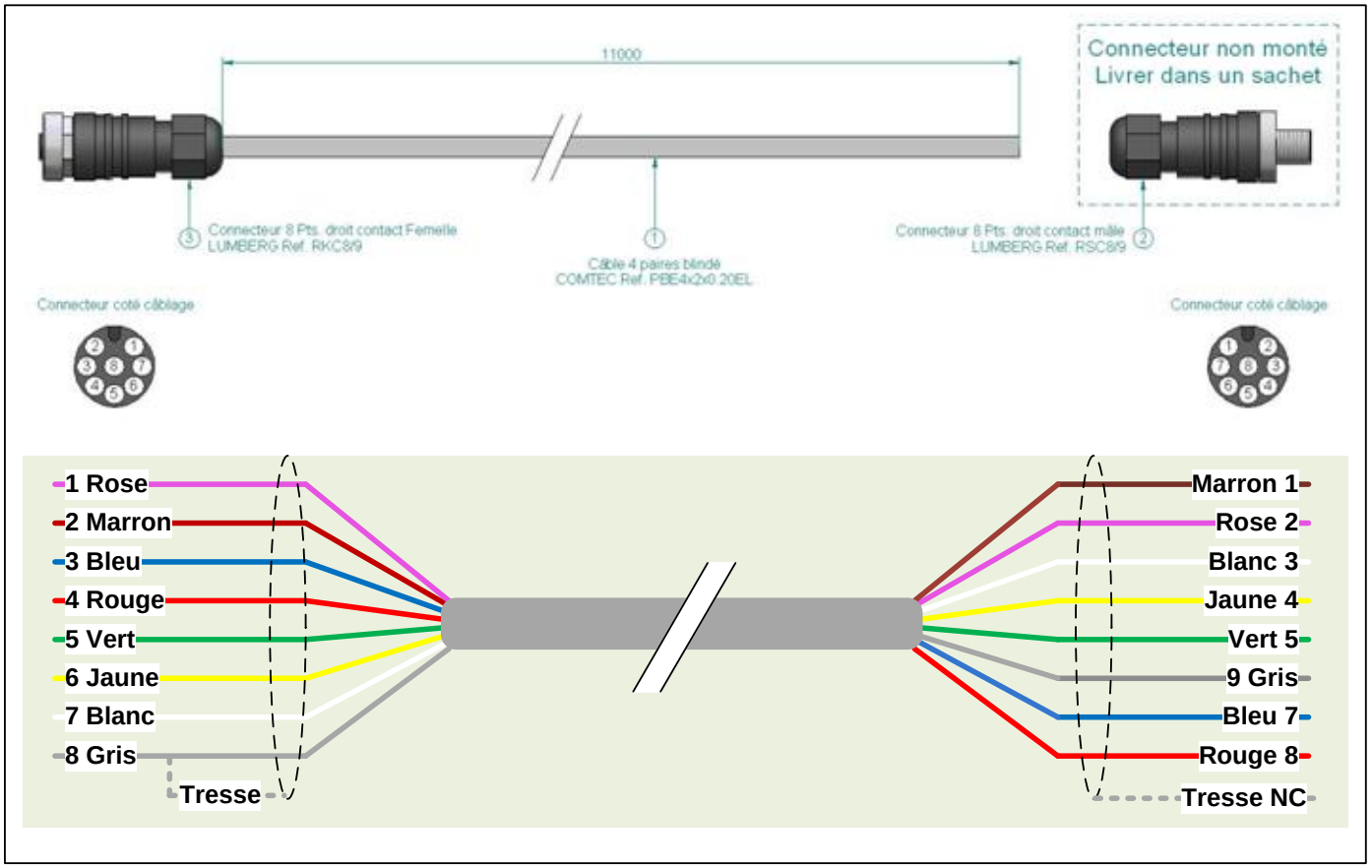




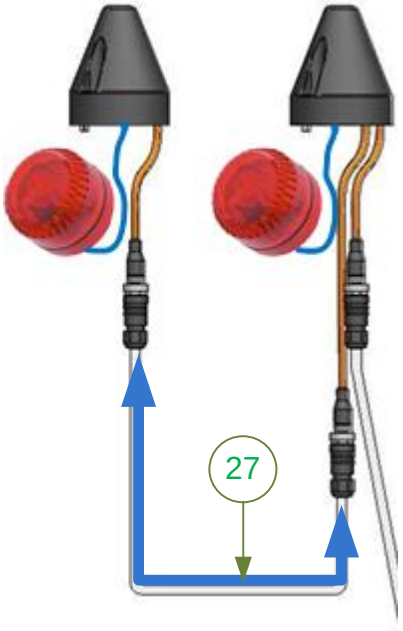


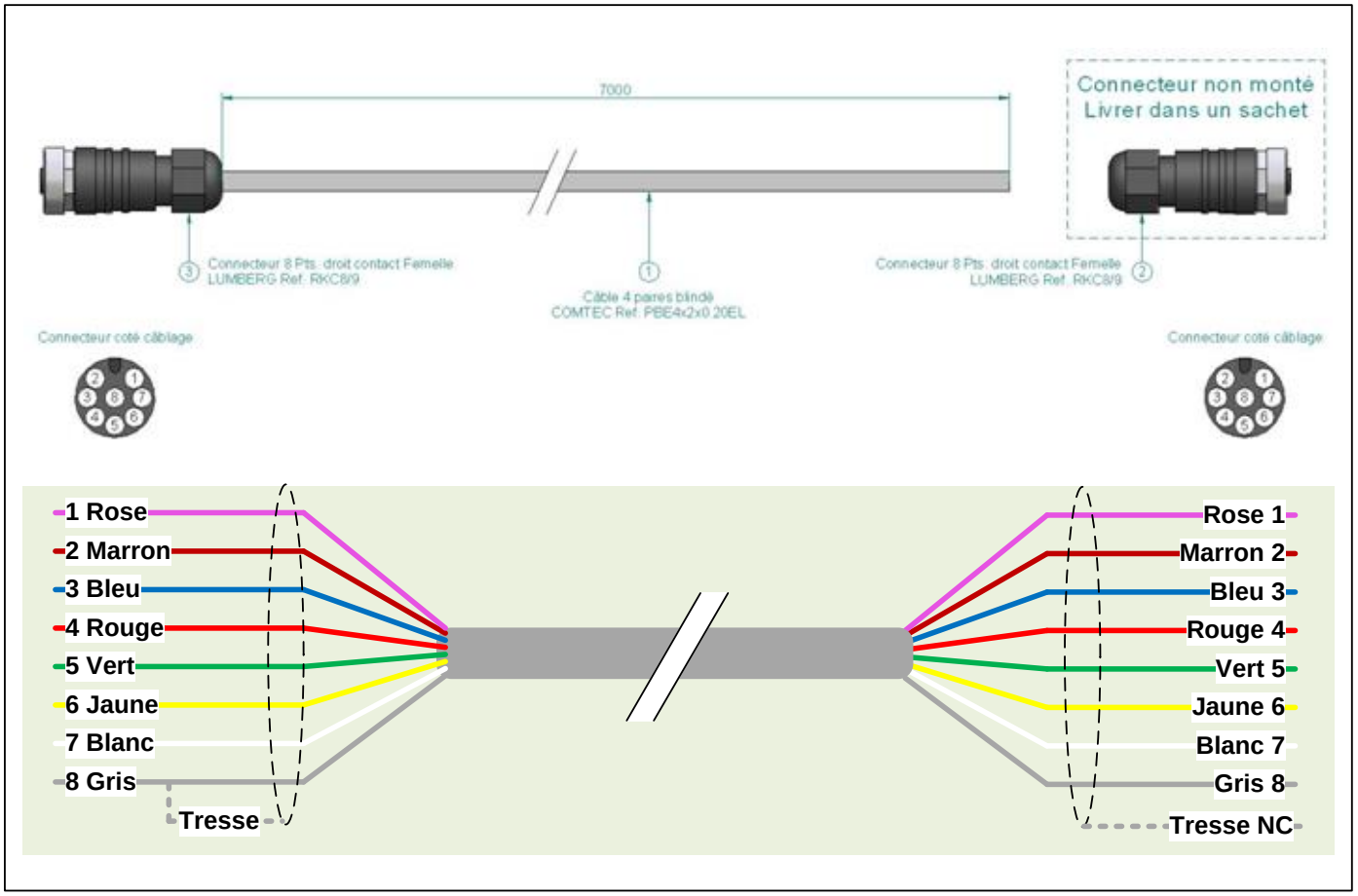
4.2.6 Cable CCM to sensor





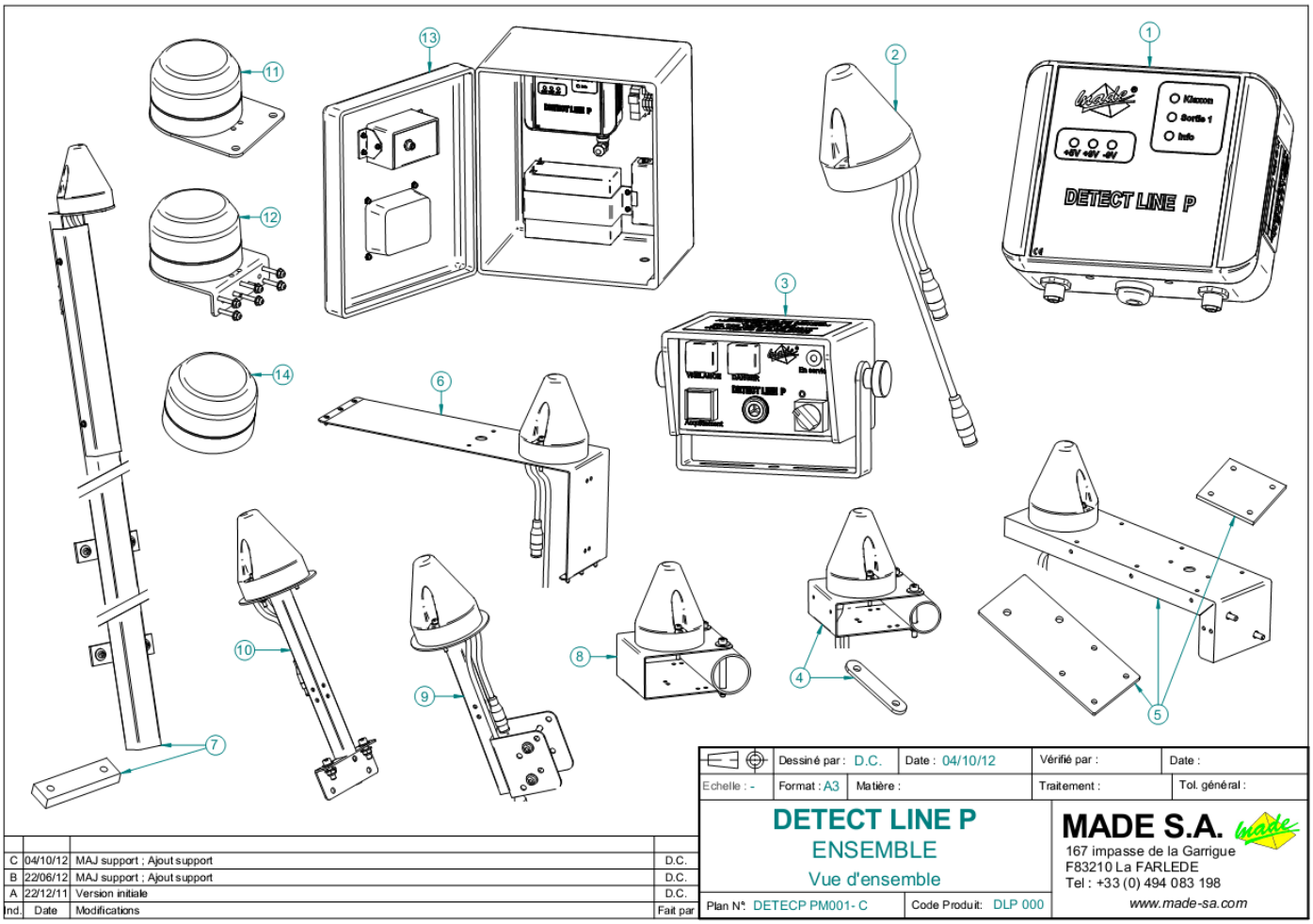
4.2.7 Cable sensor to sensor





5 MODULE IDENTIFICATION

5.1 The various modules



Ind.	Date	Modifications	Fait par
C	04/10/12	MAJ support ; Ajout support	D.C.
B	22/06/12	MAJ support ; Ajout support	D.C.
A	22/12/11	Version initiale	D.C.

Dessiné par : D.C.	Date : 04/10/12	Vérifié par :	Date :	
Echelle : -	Format : A3	Matière :	Traitement :	Tol. général :

DETECT LINE P
ENSEMBLE
Vue d'ensemble

Plan N°: DETECP PM001- C | Code Produit: DLP 000

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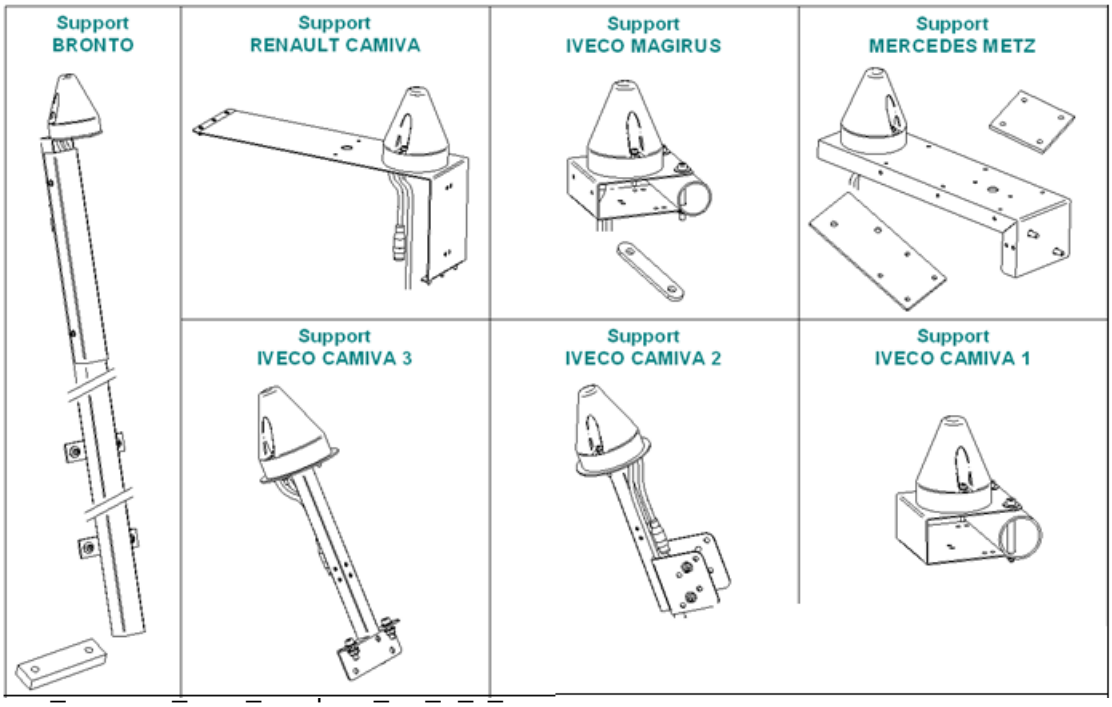


5.2 Component List for the various modules

COMPONENT L I S T			
DETECT LINE P	**Réf. : ENSEMBLE**	**Code produit : DLP 000**	**Date : 04/10/12**
MADE S.A. - 167 impasse de la Garrigue - 83 210 La FARLEDE		Référence document : DETECP PE001-C	

Repère	Désignation	
REP1	CCM Case	DLP 100
REP2	Sensor	DLP 200
REP3	Remote Box	DLP 300
REP 25	Cable CCM to remote Box	
REP 26	Cable CCM to sensor	
REP27	Cable sensor to sensor	
Options		
REP4	Sensor mounting IVECO MAGIRUS	DLP 410
REP5	Sensor mounting MERCEDES METZ	DLP 420
REP6	Sensor mounting RENAULT CAMIVA	DLP 430
REP7	Sensor mounting BRONTO	DLP 440
REP8	Sensor mounting IVECO CAMIVA 1	DLP 450
REP9	Sensor mounting IVECO CAMIVA 2	DLP 460
REP10	Sensor mounting IVECO CAMIVA 3	DLP 470
REP11	Mounting Plate for the flashing light	DLP 510
REP12	Support angle for the flashing light	DLP 520
REP13	Transportable ladder	DLP 600
REP14	Red flashing light	D93 H65 9-60Vcc

RKC / RKCW 8-Pole

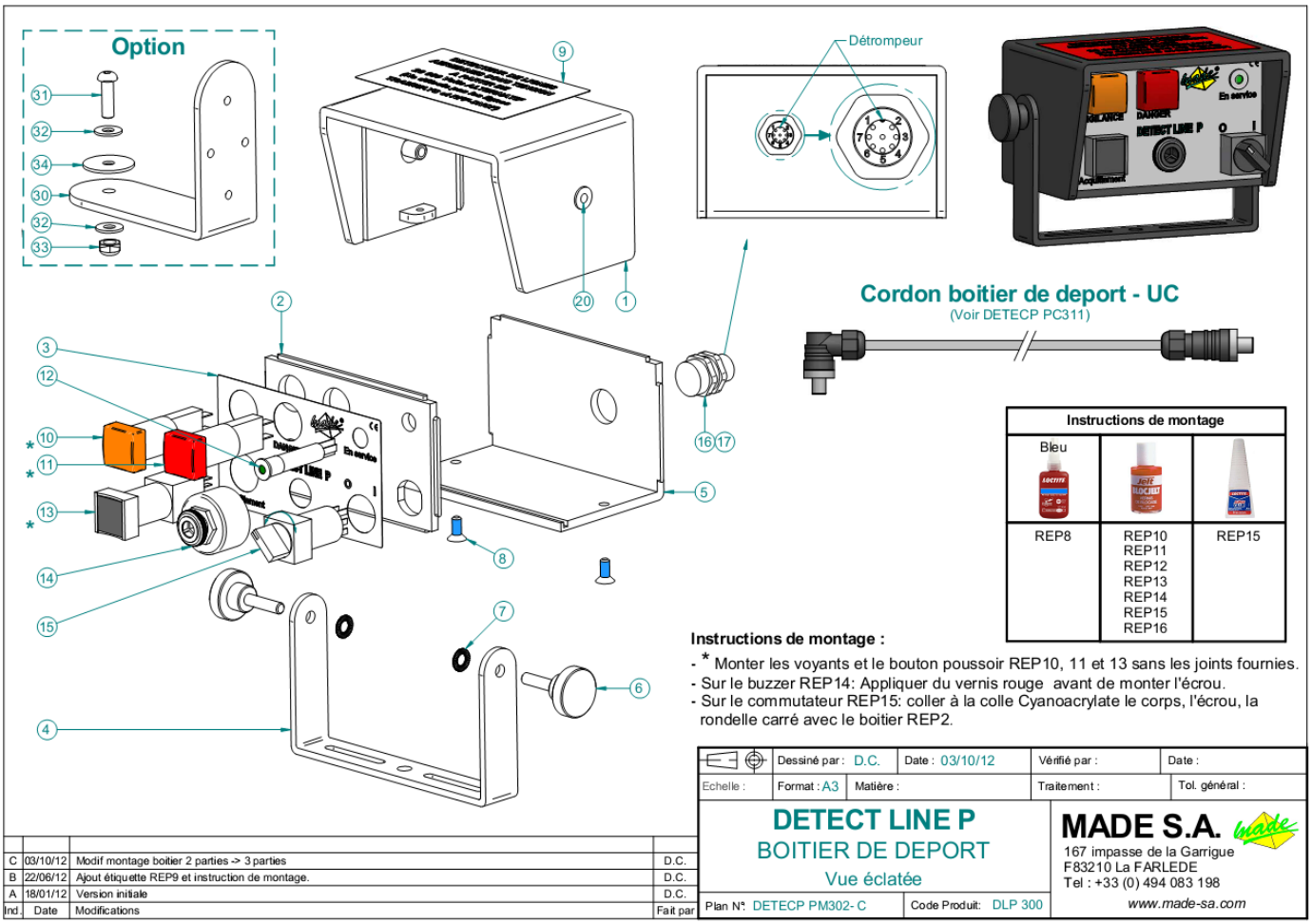
RSC / RSCW 8-Pole

câble 8 conducteurs, multi brins, blindé, fils de masse 0.22 blanc avec écran

Spare Parts Schedule

Repère	Désignation
REP30	Connector Lumberg femal straight
REP31	Connector Lumberg femal elbowed
REP32	Connector Lumberg male straight
REP33	Connector Lumberg male elbowed
REP34	Cable 4*0.22 - 50m coil

5.3 Remote Box



5.4 Remote Box - List of materials

PARTS L I S T			
DETECT LINE P	**Réf. : BOITIER DE DEPORT**	**Code produit : DLP 300**	**Date : 29/08/12**
MADE S.A. - 167 impasse de la Garrigue - 83 210 La FARLEDE		Référence document : DETECP PE302-C :	

Repère	Désignation	
REP1	Box Upper part	DLP 301
REP2	Box front face	DLP 302
REP3	Front face polycarbonate	DLP 303
REP4	Box support stirrup	DLP 304
REP5	Box rear face	DLP 307
REP6	Grooved Male Button	M5 D22 Lg.20
REP7	Toothed Washer ExterChevauch. Stainless A2	AZ D5mm
REP8	Stainless screw A2	TFHC M4x10
REP9	Descriptive Label	DLP 306
REP10	Square LED red	30V 15mA IP65
REP11	Square LED yellow	30V 15mA IP65
REP12	Round LED green	24V 20mA D9.5
REP13	Square Push Button NO/NF black	250V 3A IP65
REP14	Electronic Alarm mounting panel black	50/115dB D27
REP15	2 position Selector square headed	250V 0.5A
REP16	Panel base wire outlet 0.5m	
REP17	Screw for LUMBERG base	M12
REP18	Heat Shrink sleeve black 2:1 (L1.2m)	D3.2 (Lg.mm)
REP19	Heat Shrink sleeve black 2:1 (L1.2m)	D2.4 (Lg.mm)
REP20 (Mounted by sub-contractor)	Tightening Srew, large head	M5 D10 Lg.13
Options		
REP30	Angle Box support	DLP 305
REP31	Stainless Screw inox A2	TCBHC M6x16
REP32	Flat stainless washer A2	D6mm
REP33	Hexagonal Stainless Nylon Locknut A2	NYLSTOP M6
REP34	Flat, large stainless washer A2	LL Ø6mm

5.5 Sensor Installation

The two sensors are fitted in an open space each side of the ladder

The ideal position is 20cm lower than the upper level of the large ladder.

5.6 Cabling of the sensor plugs

The plugs used have 8 contacts each, male and female. Ref. LUMBERG RSC 8/9 and LUMBERG RKC 8/9

See the cabling schemes chapters § 5.2.1 to ; § 5.2.5

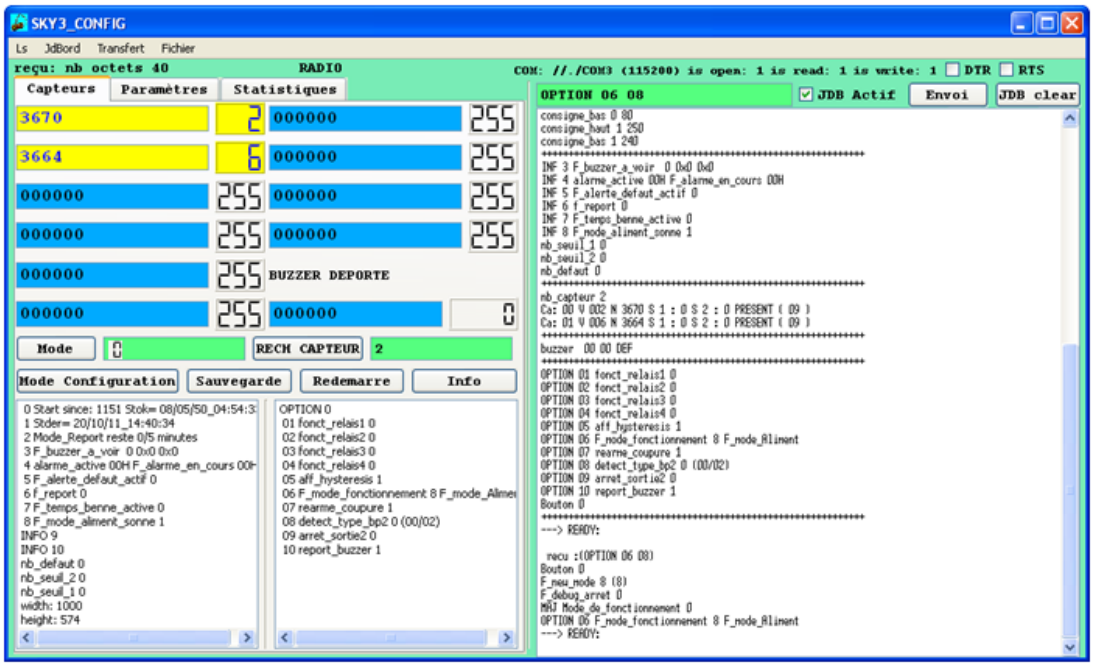
Use type ACZ 2.*75 screwdriver to tighten the connectors.
Each wire can be crimped on a « Télémécanique » D0.25 connector element.

6 INITIALISATION and SETUP SOFTWARE

Remark : the Central control Module must be configured with the SKY3_CONFIG.exe . software
This configuration software runs on a PC with: Win 98/2000/XP/SEVEN, with a séries connector (ex COM1). It is available on the site www.made-sa.com, with the link : http://www.made-sa.com/expertise-reseaux/pompiers.htm in **detect-line -> logiciel de configuration du DETECLINE-SKY NACELLE**

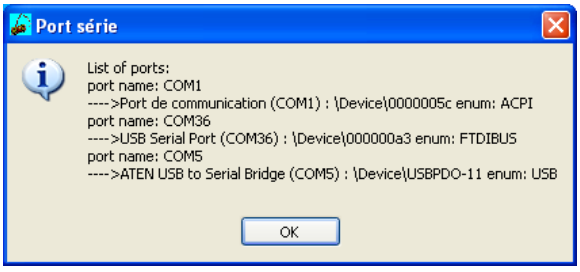
It installs automatically by executing the file «Detect_SKy_P_instal.exe»

The connection cable is RS232 - female-female crossed.

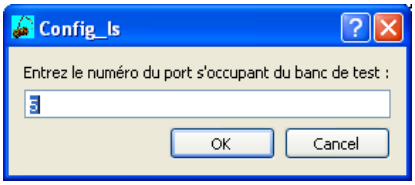


First select the corresponding series port in the « ls config » menu

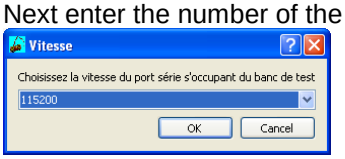
A first screen indicates the series ports available



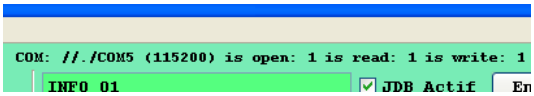
Next enter the number of the port



and validate the speed

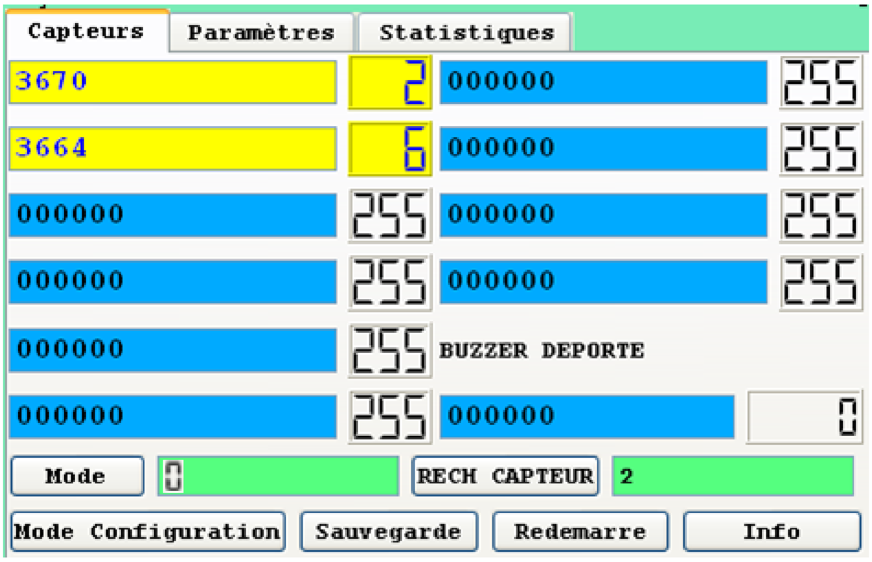


the result is in the main window



(open read and write must be at 1)

Once the series connection established, click on the « info » button.

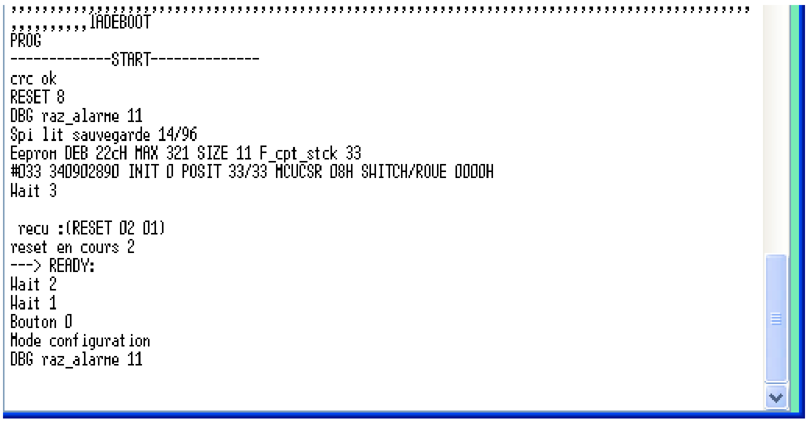


The program refreshes the information

6.1 System Configuration

6.1.5 Changing to configuration mode

Click on the « Mode configuration » button.

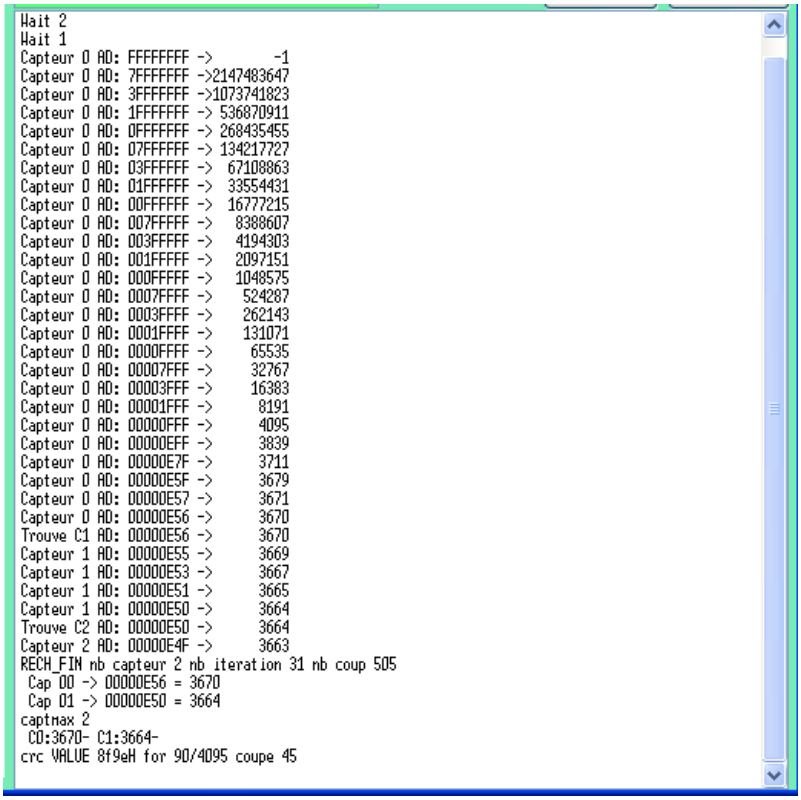


Specify the mode : Type « 1 » in the window and validate with the « MODE » button.
Reminder : the software is identical to that for the DETECTLINE POMPIER and the SKY NACELLE POMPIER, Only the choice of mode gives one or other type of function.
Mode 0 for DETECTLINE
Mode 1 for the SKY NACELLE
Mode 2 for the SKY NACELLE type CAMIVA and SKY UC equipped with a tilt sensor.

Specify the number of the sensor : 2 (3 or 4) and validate with the « RECH CAPTEUR » button.

6.1.2 Locating the sensors

click on the « RECH CAPTEUR » button.



Onc the sensors are located, click on the « info » button.

6.1.3 System backup

Click on the « Sauvegarde » button.

Once the report is completed, the system is operational.

6.1.4 Re-starting the system

Click on the « Redémarre » button.

The system re-starts and the « info » led flashes.
A report is displayed with the following form :

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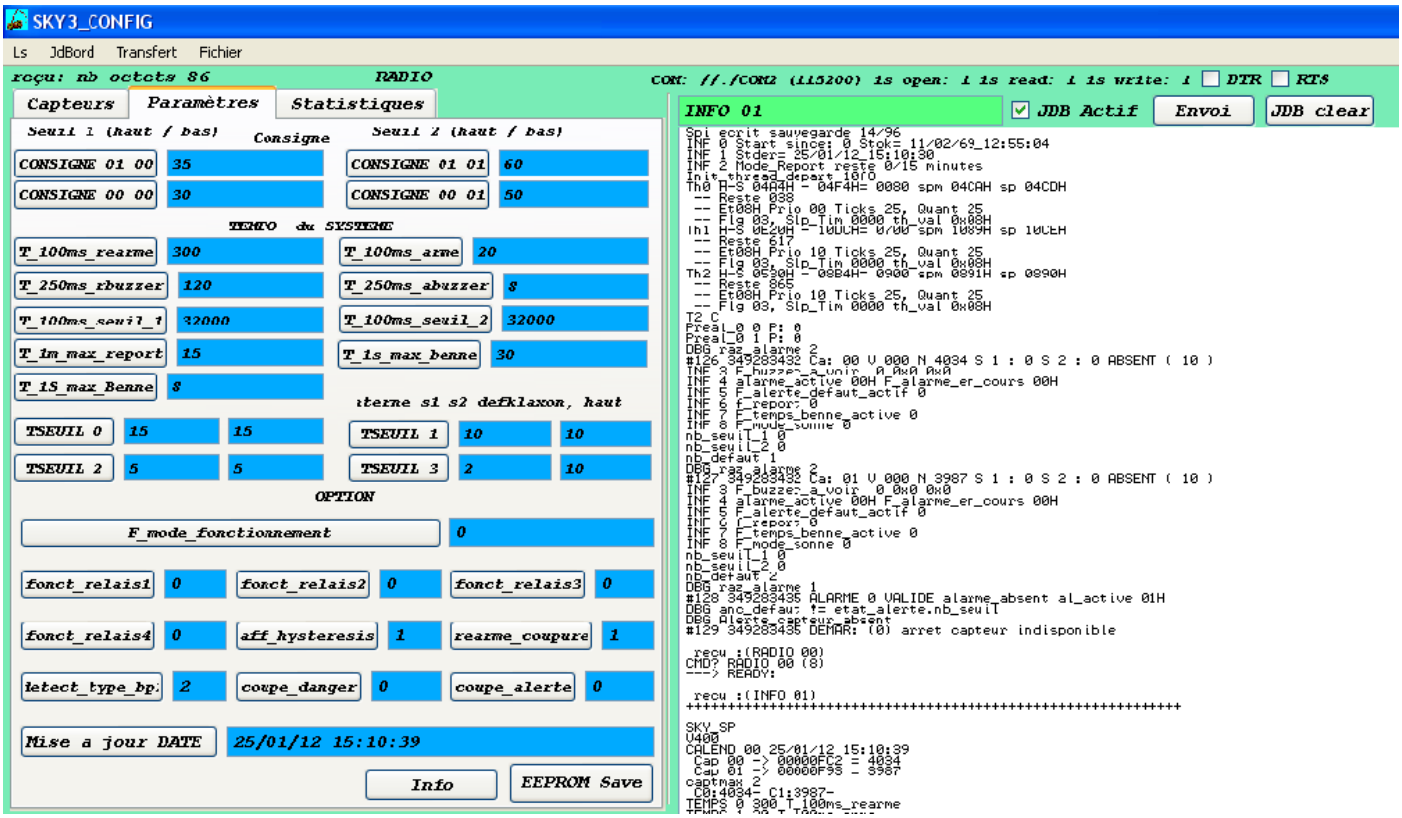
,,,,,,,,,,BADEBOOT
PROG
-------------START--------------
crc ok
RESET 8
DBG raz_alarme 11
Spi lit sauvegarde 14/96
Eeprom DEB 22cH MAX 321 SIZE 11 F_cpt_stck 31
#031 340902764 INIT 0 POSIT 31/31 MCUCSR 08H SWITCH/ROUE 0000H
Wait 3
Wait 2
Wait 1
#032 340902767 DEMAR: (0) reinit pour demarrage
Spi ecrit sauvegarde 14/96
INF 0 Start since: 1 Stok= 08/05/50_04:54:33
INF 1 Stder= 20/10/11_15:12:47
INF 2 Mode_Report reste 0/5 minutes
Init_thread_depart 10f8
Th0 H-S 04A4H - 04F4H= 0080 spm 04CAH sp 04CDH
 -- Reste 038
 -- Et08H Prio 00 Ticks 25, Quant 25
 -- Flg 03, Slp_Tim 0000 th_val 0x08H
Th1 H-S 0E20H - 10DCH= 0700 spm 1089H sp 10CEH
 -- Reste 617
 -- Et08H Prio 10 Ticks 25, Quant 25
 -- Flg 03, Slp_Tim 0000 th_val 0x08H
Th2 H-S 0530H - 08B4H= 0900 spm 0891H sp 0890H
 -- Reste 865
 -- Et08H Prio 10 Ticks 25, Quant 25
 -- Flg 03, Slp_Tim 0000 th_val 0x08H
DBG raz_alarme 11
T2 C
Ca: 00 V 002 N 3670 S 1 : 0 S 2 : 0 PRESENT ( 09 )
Ca: 01 V 006 N 3664 S 1 : 0 S 2 : 0 PRESENT ( 09 )
DBG raz_alarme 5
#033 340902769 DEMAR: (0) ok
```

NOTE : The « Paramètres » page gives access to the modification of the factory settings (detection thresholds, duration of the alarms, etc..) which are not normally changed.
Any modification can only be carried out by a qualified person. Contact us.



7 TEST

7.1 Proceedure

Start the system.

Connect a computer to the CCM using the RD232 series connection; then open the SKY3_config.exe. software
Check the various points :

7.1.1 Visual check

A visual inspection must be made of the sensors, the Central Control Module and the cabling.

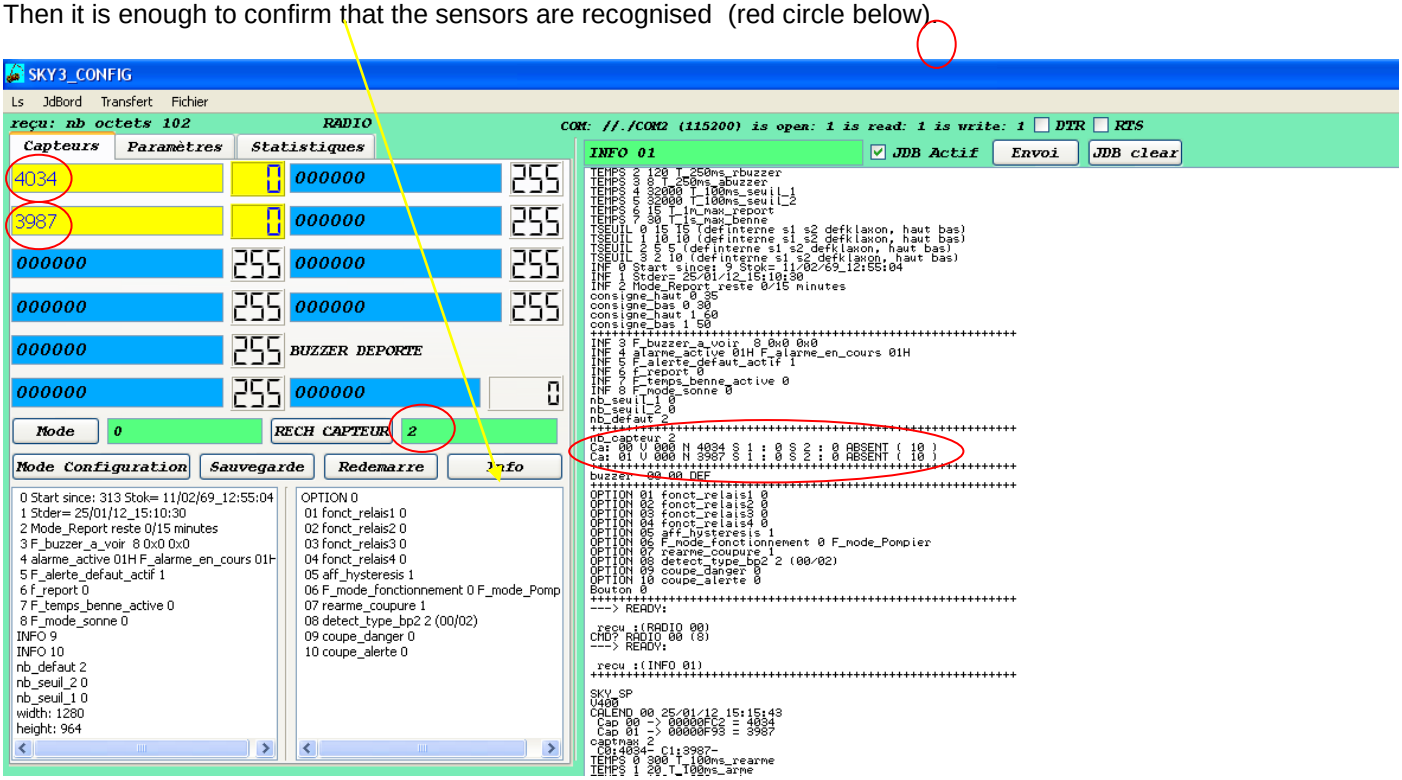
The sensors are molded. They should not show shocks or splits.

The Central Control Module and the remote box in the cabin should not show shocks or splits.

The « info » lamp should flqsh regularly.
The lamps +5V+9V-9V should be lit.

7.1.2 Verification by the Software

Connect a computer to the CCM using the RD232 series connection, open the SKY3_config.exe. software
Onc the software is started and the CCM recognised click on the « INFO" button.
Then it is enough to confirm that the sensors are recognised (red circle below).



7.1.3 Sensor Verification

To check the sensitivity of the sensor, a simple method is to bring a 230V live mains lead close to the sensor.

The sensors are sufficiently sensitive tor detect the field around this cable.

Check that the system is operating by causing each sensor to set off the alarm.

8 MAINTENANCE

Dismantling the components is forbidden. This operation is limited exclusively to personnel qualified by MADE.

An annual inspection can be carried out in our premises..

Use a dry cloth to clean the components.

Never use solvents or solvent-based products to for cleaning or maintenance.

9 MAINTENANCE

The system itself does not require re-calibration, Stricktly speaking there are no wearing parts.

Nevertheless,regular checks of the whole system enable verification of the operational function.

If the CCM or the sensors are changed, the « Configuration du système » proceedure must be followed.

The maintenance proceedure consists of running the test proceedure.

9.1 Recommendations

In case of failure :

Check that the Central Control Module is running :

- Green lamps lit.

Check the sensors

Beneath the sensors, 2 leds indiqcate the function :

- One led lit continuously indicates the presence of sensor supply.
- The second led flashes to indicate the presence of dialogue with the CCM.

If the output one is lit, this indicates the presence of an electric field around one of the sensors.

From experience, 80% of failures come from the cabling between the CCM and the sensors.

10 OPERATIONAL RESTRICTIONS

The **DETECT LINE** system is ***an operational aid***.

The operator must use maximum VIGILANCE and ATTENTION when near powered electric lines.

The principle applied is the measurement of the electric field radiated from the conductors.

DETECT LINE has been validated for utilisation in a FREE FIELD : with no physical obstacles between the sensor and the electric line.

DETECT LINE detects powered electric lines from 20000 volts.

Low voltage lines (380V) are not detected.

Certain cases (intersecting or parallel lines) can modify the strength of the electric field.
In this case, greater care is necessary.

The **MADE** company declines all responsibility in the case of use of this system other than in conformance with the manufacturers instructions. The **MADE** company cannot be held responsible for an accident due to contact with electric lines, considering the multitude of specific cases met in the field.

11 RECYCLAGE

In accordance with the decree n° 2005-829 of July 20, 2005 relating to the waste disposal of electrical equipment and electronic (WEEE), the user ensures and takes responsibility for the collection and the elimination of the WEEE under the conditions of the articles 21 and 22 of this decree.

12 GUARANTEE

MADE guarantees this product, to the initial purchaser, against all material or functional failure during a period of one year from the date of delivery, unless otherwise indicated in the product manual. If a defect is discovered during the period of the guarantee, MADE agrees, at its choice, to either repair or replace the deficient part, excluding the expenses of handling and of initial delivery. All parts repaired or replaced under the terms of this agreement will be guaranteed only for the remainder of the period of initial guarantee of the system.

12.1 Limitations

This guarantee does not cover:

• Damage caused by a "cause beyond control", natural disasters, strikes, wars (declared or not), terrorism, social conflicts or any acts under governmental jurisdiction
• Damage due to misuse, to carelessness, to any accident or an unsuitable application or installation
• Damage caused by a repair or an attempted repair not authorized by MADE
• Any product that is not used in accordance with the instructions provided by MADE
• Cost of transport back to MADE
• Cost of transport by express delivery of parts or products under guarantee
• Cost travel for a repair on site under guarantee

This guarantee constitutes the unique explicit guarantee established by MADE for its products. All implied guarantees, including, but not limited to, guarantees on the commercial value of the product and its suitability for a particular use are positively rejected.
The present guarantee confers certain rights : the legislation of the country or jurisdiction can grant others. This guarantee constitutes the final declaration, complete and exclusive, of the terms of the guarantee and no body is allowed to give other guarantees or promises on MADE's account.

12.2 Claims Limitations

Claims having for object repair or replacement are the only allowable claims in case of the breaking of this guarantee. The MADE Company cannot be held responsible, whether on the basis of strict responsibility or any other legal basis, of any incidental or consecutive damage resulting from a violation of the guarantee or from carelessness.

13 COPYRIGHT

14 APPENDIX

14.1 Declaration of Conformity CE

MADE
S.A. au capital de 270 130 €
167, Impasse de la garrigue
F 83210 LA FARLEDE
Tél:+ 33 (0) 494 083 198 – FAX : + 33 (0) 494 082 879
E-mail: contact@made-sa.com - Web : www.made-sa.com

ISO 9001

Déclaration CE de conformité

Déclaration n : **CE_DLP_01/2013**

Le fabricant soussigné :

MADE SA
167, Impasse de la Garrigue
F 83210 LA FARLEDE

Déclare que le produit

Nom du produit : **Détecteur de lignes à hautes tensions HTA, HTB**
Référence du modèle : **DETECLINE P**

Est conforme aux dispositions réglementaires définies par :

Les directives européennes :

- CEM 2004/108/CE relative au « Marquage CE»
- 2006/95/CE relative à la sécurité des matériels électriques destinés à être employés dans certaines limites de tension.
- Directive 2004/104/CE relative aux sous-ensembles électroniques (ESAs) et les équipements électroniques de seconde monte dans les véhicules à moteur et leurs remorques.

Suite aux essais effectués par le laboratoire, EMITECH (Ref rapport d'essai: R041-12-105298-1), l'équipement référencé ci-dessus est conforme à la Directive 2004/104/CE.

Par ailleurs, le produit désigné ci-dessus a été conçu, fabriqué et contrôlé, dans le cadre d'un Système d'Assurance Qualité certifié conforme à la norme : ISO 9001/2008, par l'Association Française pour l'Assurance Qualité – AFAQ, certificat : QUAL / 2005 / 24473B du : 05 / 05 / 2011.

Fait à La Farlède, le 11 janvier 2013

Directeur Général	Directeur Technique	Responsable Qualité
Erick Papillon	Philippe Picon	Jean Yves Creste

R.C. TOULON 381 537 604 (91 B 00 341) – SIRET 381 537 604 (00021) – CODE NAF 6202A
N° TVA Intra communautaire FR 20 381537604

14.2 Déclaration de conformité CEM automobile

MADE
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AFAQ ISO 9001

Déclaration de CE conformité
CEM Automobile

Déclaration n : **CE_DLP_03/2013**

CEM Automobile

Le fabricant soussigné :
MADE SA

167, Impasse de la Garrigue
F 83210 LA FARLEDE

CE

Déclare que le produit

Nom du produit : **Détecteur de lignes à hautes tensions HTA, HTB**
Référence du modèle : **DETECLINE P**

Est conforme aux dispositions réglementaires définies par :
Les directives européennes :

- CEM 2004/108/CE relative au « Marquage CE»
- 2006/95/CE relative à la sécurité des matériels électriques destinés à être employés dans certaines limites de tension.
- Directive 2004/104/CE relative aux sous-ensembles électroniques (ESAs) et les équipements électroniques de seconde monte dans les véhicules à moteur et leurs remorques.
    - Emission rayonnée électrique - CISPR 25
      Immunité conduite aux impulsions - ISO 7637-2
      Mesures temporelles - ISO 7637-2

Suite aux essais effectués par le laboratoire, EMITECH (Ref rapport d'essai: R041-12-105298-1), l'équipement référencé ci-dessus est conforme à la Directive 2004/104/CE.

Par ailleurs, le produit désigné ci-dessus a été conçu, fabriqué et contrôlé, dans le cadre d'un Système d'Assurance Qualité certifié conforme à la norme : ISO 9001/2008, par l'Association Française pour l'Assurance Qualité – AFAQ, certificat : QUAL / 2005 / 24473B du : 05 / 05 / 2011.

Fait à La Farlède, le 22 janvier 2013

Directeur Général	Directeur Technique	Responsable Qualité
Erick Papillon	Philippe Picon	Jean Yves Creste

R.C. TOULON 381 537 604 (91 B 00 341) – SIRET 381 537 604 (00021) – CODE NAF 6202A
N° TVA Intra communautaire FR 20 381 537 604

DETECT LINE POMPIER (Detection of overhead high Voltage lines > 20 000V)

1- Overview:
This system is installed permanently on the vehicle.
It is calibrated to detect overhead High voltage power lines 20,000 V alternating current, at a distance of approximately 40 meters. Note that a voltage higher than 20 000 V will set off a warning at a greater distance than 10 meters.
Important : The system does not detect direct current overhead lines (eg : Rail or Tramway Catenarys)

The detection of high voltage overhead lines does not relieve the obligation of drivers and equipment operators to be vigilant and to carefully observe the precautionary rules relating to the operation of overhead equipment, particularly with regard to the provision of ample space to maneuver in 3 dimensions, and the resistance of the soil to subsidence.

2. System elements :

- 1 Central Control Module (placed behind the seat of the nacelle operator)
- 1 Remote Control Box (placed close to the the nacelle operator's position)
- 2 Sensors (placed on each side of the cab roof)

3. Start-up :
The system starts automatically as soon as the vehicule is powered up. After having carried out an « Autotest » taking about 5 s, durng which time the « VIGILANCE » and « DANGER » lamps are lit, the system gives 2 audible "bips". The lamp « En service » flashes continuously during use. Note: If the system cannot communicate with the sensors, the lamp remains lit and the audible « bip » continues.

4. Operation :
At the approach to the 40 m zone around a 20 000 V line, the yellow « VIGILANCE » lamp lights. If the « vigilance » zone is penetrated, the red lamp lights in turn and flashes, and the audible alarm begins.

1: Audible Alarm Buzzer
2 Lamp « En service » (flashing when all is OK, continuous if there is a problem of communication with the sensors)
3 Lamp « VIGILANCE »
4 Lamp « DANGER »
5 Button « Acquittement » for the audible alarm alone
6 Switches for activating the alarm manuallly.

5. In transit:
The system is rerady to operate but the audible and visual alarms are off.
The use as desired by the equipment operator of the switch 6 (manual alarm negation) enables the activation / negation of the alarm in transit mode.

6. During intervention:
whatever the position of the switch (6), the audible alarm sounds in the "danger" zone according to the mode chosen at installation, as soon as the parking brake or the power take-off are activated.
Push-Button « Acquittement » (5) : Pressing this button stops the audible alarm (with a reminder each 30 seconds).
The alarm is reactivated if the parking brake lever or the power take-off command are moved.

7. Maintenance :
The system requires no specific maintenance. Nevertheless, it is up to the users to report all failures or anomalies that are observed.

In the presence of HV overhead lines: the system warns for a 20 000V line in a 40 meter zone.
If the voltage is higher, for example 63 000V, the vigilance zone will be approximatively 60 meters .
Conversely, for a line of 15 000V, the vigilance zone will only be 30 meters.

The detection of a power line does not stop the movement of the high-lift equipment, but merely informs the operator(s) of the presence of the HV line.

14.4 Fiche produit DETECT_LINE POMPIER

DETECT LINE
SKY NACELLE

Détecteur
de lignes
Haute
Tension
pour moyens
aériens

L'EXPERTISE DES RESEAUX

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DETECT LINE POMPIER

DETECTEUR DE LIGNES HAUTE TENSION

DETECT LINE a été développé en 2002 pour répondre à un besoin des bétonniers.
Huit ans après, la famille de détecteurs de lignes hautes tensions développée par MADE est expressément recommandée par le syndicat du béton et équipe 80% des pompes à bétons.
Toujours à l'écoute de ses partenaires, MADE a adapté ses systèmes de détection aux pompiers.

APPLICATION

DETECT LINE est un dispositif de détection de champ électrique des lignes Haute Tension : HTA (>=20000 V) et HTB (>=50000 V) en champ libre.
DETECT LINE est une aide à la conduite permettant d'identifier la proximité d'une zone à risques , à une distance configurable jusqu'à 40 m d'une ligne HTA selon le type de véhicule.

PRESENTATION

DETECT LINE est composé de deux capteurs positionnés de chaque côté du parc.
Les capteurs sont reliés par un câble à l'unité centrale (UC) placée dans la cabine et communiquent en permanence avec cette dernière. Un boitier de déport permet de reporter les informations sur le tableau de bord du camion, devant le chef d'agrès.

FONCTIONNEMENT

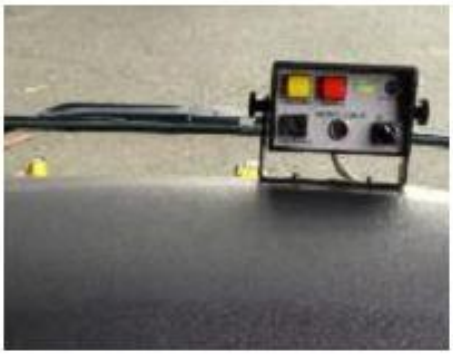
DETECT LINE mesure le champ électrique environnant d'une ligne HTA (>= 20000 V) et HTB (>= 50000V).
Lorsque l'engin arrive sur une zone d'intervention, l'utilisateur active le DETECT LINE via un interrupteur. Si le véhicule pénètre dans une zone à risque (distance de 40m d'une ligne HTA), une alarme sonore et un voyant lumineux se déclenchent. L'enclenchement de la prise de force active le système automatiquement au cas où le chef d'agrès ne l'aurait pas mis en service manuellement. Au final, avant que les occupants quittent la cabine pour intervention, ils auront eu au préalable l'information de la présence ou non d'une ligne Haute Tension dans la zone d'évolution de leurs moyens aériens.

CARACTERISTIQUES TECHNIQUES

	Boîtier de traitement UC	Capteur moulé
Alimentation	12V / 24V sur l'alimentation du véhicule	Via UC, par connexion étanche et fil blindé
Dimension	160 x 130 x 60 mm	70 x 120 mm
Température d'utilisation	-20° C + 60° C	
Etanchéité	IP 65	
Précision de la mesure	± 4 m en dynamique, pour une vitesse d'engin de 1 m/s	
Seuils de détection	20 m à 40 m d'une ligne HTA	

DETECT LINE – SKY NACELLE

DETECTEUR DE LIGNES HAUTE TENSION



Normalisation :Respect des normes NF EN 50082-1 : CEM et NF EN 61010-1 : Sécurité électrique. Nos détecteurs de lignes à haute tension aériennes bénéficie de marquage CE

La société MADE ne pourra être tenue responsable de quelques dommages qu'ils soient, directs ou indirects, et rappelle que les systèmes sont des moyens de préventions qui ne soustraient pas l'utilisateur à la réglementation en vigueur, telle que définie dans les articles 172 et 173 du décret du 8 janvier 1965 et modifiés par décret du 6 mai 1995.

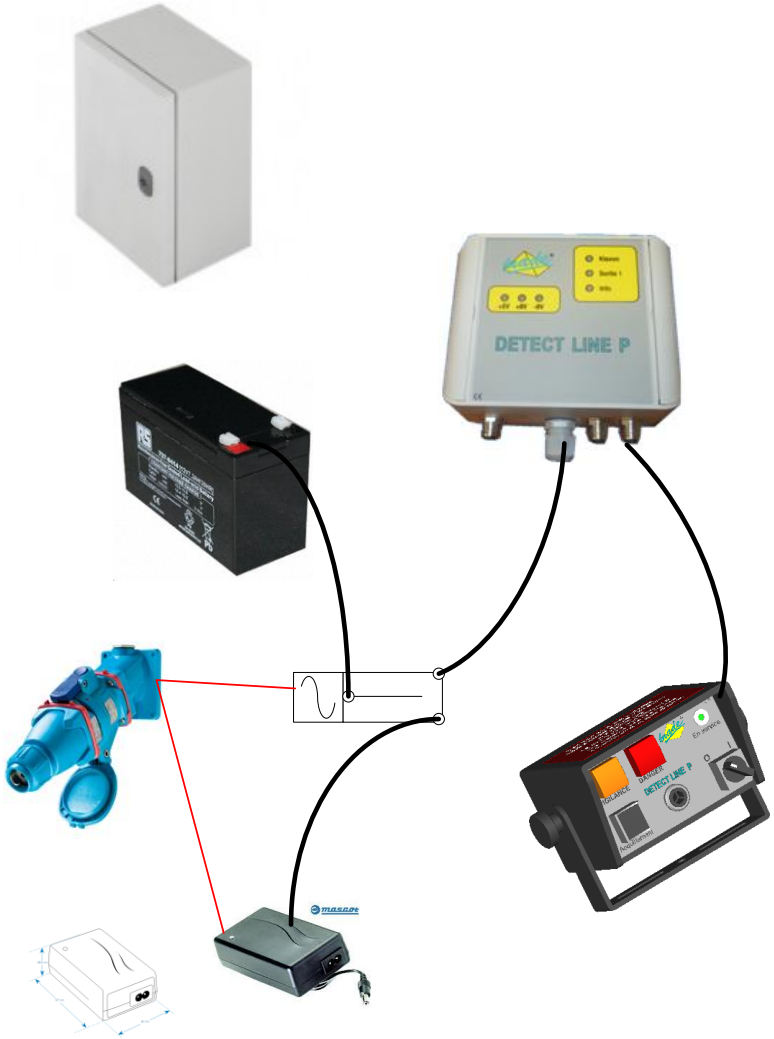
Afin d'améliorer ses produits la société MADE se réserve le droit de modifier, à tout moment et sans aucun préavis, les produits décrits dans cette documentation.

FP_DETECT_LINE_POMPIER_V_3_00_FR_FEV2012

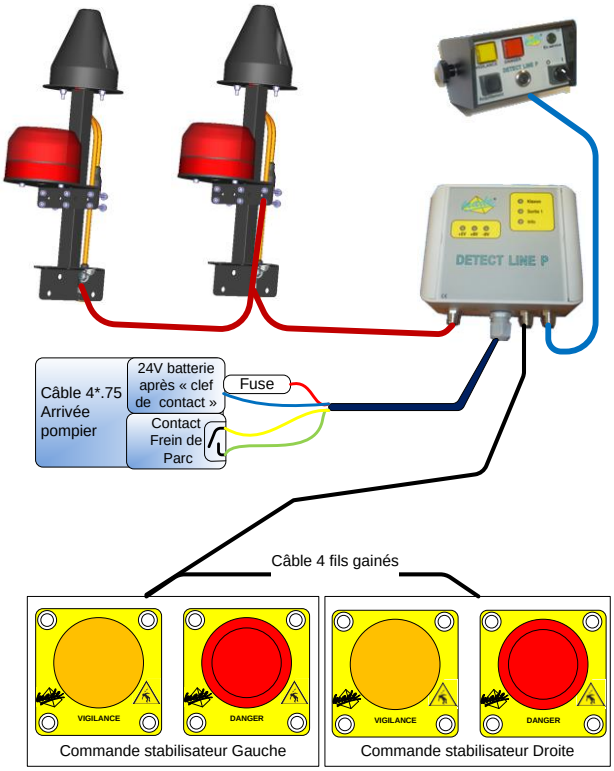
14.5 Self-contained system for independant ladders

This single-case system is offered for transportable ladders, so as to render the system autonomous for any intervention and to automatically manage the battery charge during storage.

14.5.5 Interconnexion of the modules in the case



14.6 Optional remote Lamp on the stabilisation controllers



The CCM is ready to receive the cable. It is equipped with a wago 2pts connector, the lamps are mounted with the label, on the chassis at the rear

Connecteur UC	Fil	Voyant zone 1	Fil	Voyant Zone 2
Wago 2 pts blue	Blue	Yellow 1	Blue	Yellow 1
Wago 2 pts Green	Green	Yellow 2	Green	Yellow 2
Wago 2 pts Red	Brown	Red 1	Brown	Red 1
Wago 2 pts Yellow	Yellow	Red 2	Yellow	Red 2