

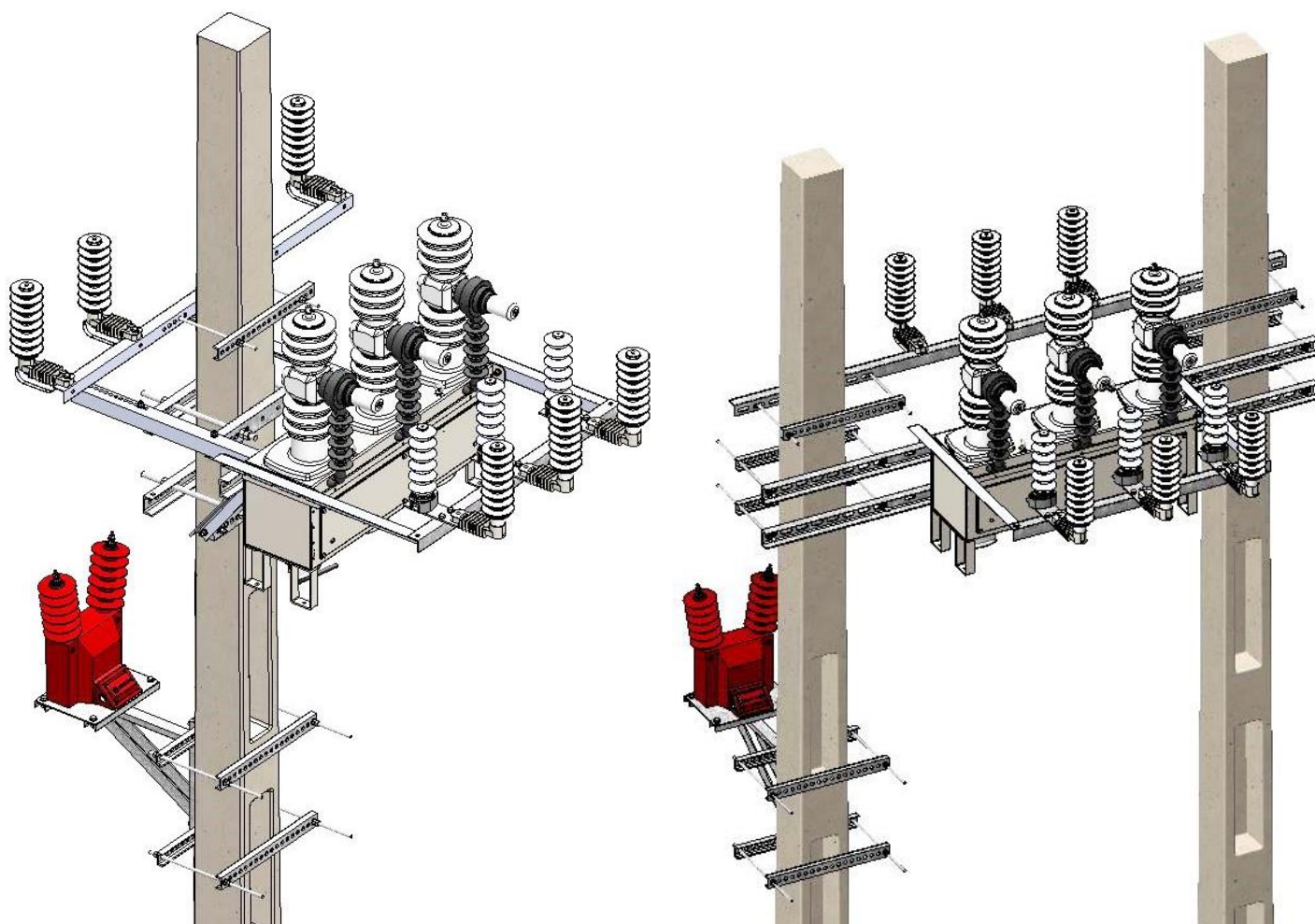


Manuel d'installation Smartcloser – poteau béton

Français

Smartcloser installation manual – concrete pole

English



4PR-F8-H

Français

Généralités

- Avant le déballage

- > Vérifier que le produit dans son emballage n'a pas été endommagé lors du transport.
- > Vérifier que le produit convient à l'installation prévue.

- Avant installation

- > Lire soigneusement la notice d'utilisation avant d'installer ou d'utiliser ce produit.
- > Procéder à l'installation de façon prudente, en vous assurant que le matériel reste propre au cours de l'opération.

- Après l'installation

- > Si vous installez ce produit pour d'autres, pensez à laisser la notice à l'utilisateur final.
- > Nettoyez le lieu de travail après l'installation.

Mentions légales

Le produit ne peut être installé que par une personne compétente ayant une formation suffisante sur les pratiques d'installation et une connaissance adéquate des bonnes pratiques de sécurité et d'installation en matière d'équipements électriques. Si la réglementation locale prévoit des dispositions relatives à cette formation ou à cette connaissance suffisante en termes d'installation d'équipements électriques, lesdites dispositions devront être respectées par cette personne.

Ensto Novexia n'assume aucune responsabilité concernant tout dommage sur les biens ou les personnes, causé par une mauvaise installation, une mauvaise manipulation ou par manque de conformité aux consignes de sécurité

AVERTISSEMENT :

Pour une exploitation en toute sécurité de ce système, il est essentiel que les installateurs, utilisateurs et techniciens suivent le déroulement et précautions décrites dans cette notice. Le non-respect de ces instructions peut provoquer un endommagement du produit et des blessures graves, voire mortelles.

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1 Présentation

1.1. Finalité du produit

Destiné aux réseaux aériens, cet appareillage 38kV/ 630A a pour but d'assurer une continuité de service du réseau. Ce disjoncteur, équipé d'un mécanisme permettant de détecter les défauts de lignes, élimine ces défauts en engageant un cycle de réenclenchement

1.2. Caractéristiques générales

- ✓ Coupure : ampoule à vide
- ✓ Isolation : Résine époxy
- ✓ Tension : 38kV
- ✓ Courant : 630A
- ✓ Pouvoir de coupure : 12.5kA
- ✓ Normes Recloser : IEEE C37-60 et CEI 62271-111
- ✓ Normes générales : CEI 62271-1 et CEI 62271-100

1.3. Liste du matériel nécessaire à l'installation (non fourni par Ensto Novexia)

- ✓ Nacelle élévatrice
- ✓ Engin de levage (ou palan installé sur poteau)
- ✓ Outillage à main
- ✓ Bride de levage 150 kg
- ✓ Outil de mesure
- ✓ Câble aluminium pour raccordement Smartcloser et Transformateur

2 Installation

2.1. Précautions avant installation

Avant toute opération d'installation, veillez à dégager au maximum la zone au pied du ou des poteaux. Les éléments à soulever sont lourds et représentent un grand danger en cas de chute.

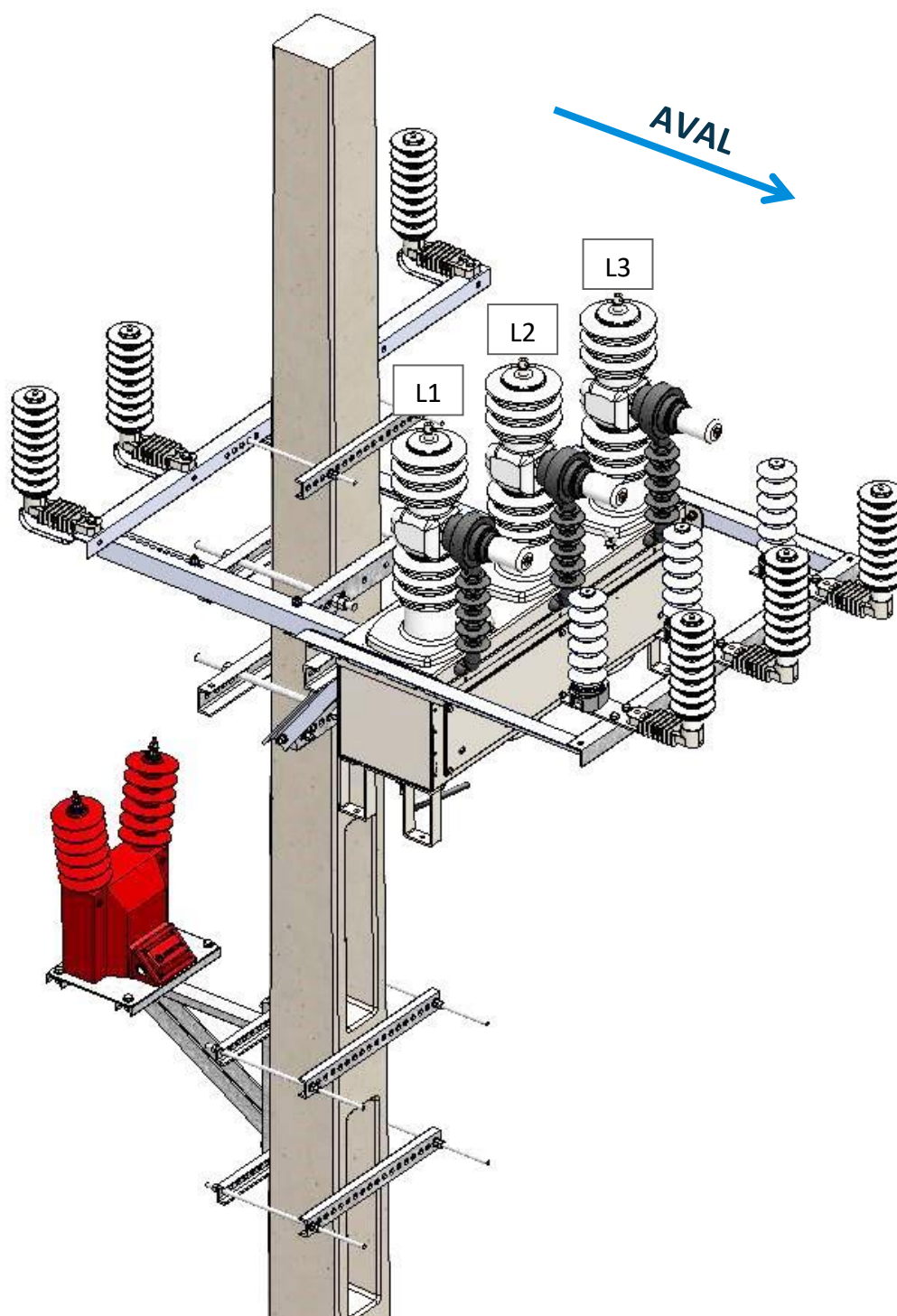
L'emballage du Smartcloser doit être positionné à l'horizontale avant d'être ouvert car il risquerait de basculer. Les vis de maintien fixées à ses pieds doivent être enlevées seulement lorsque le dispositif de levage est installé.

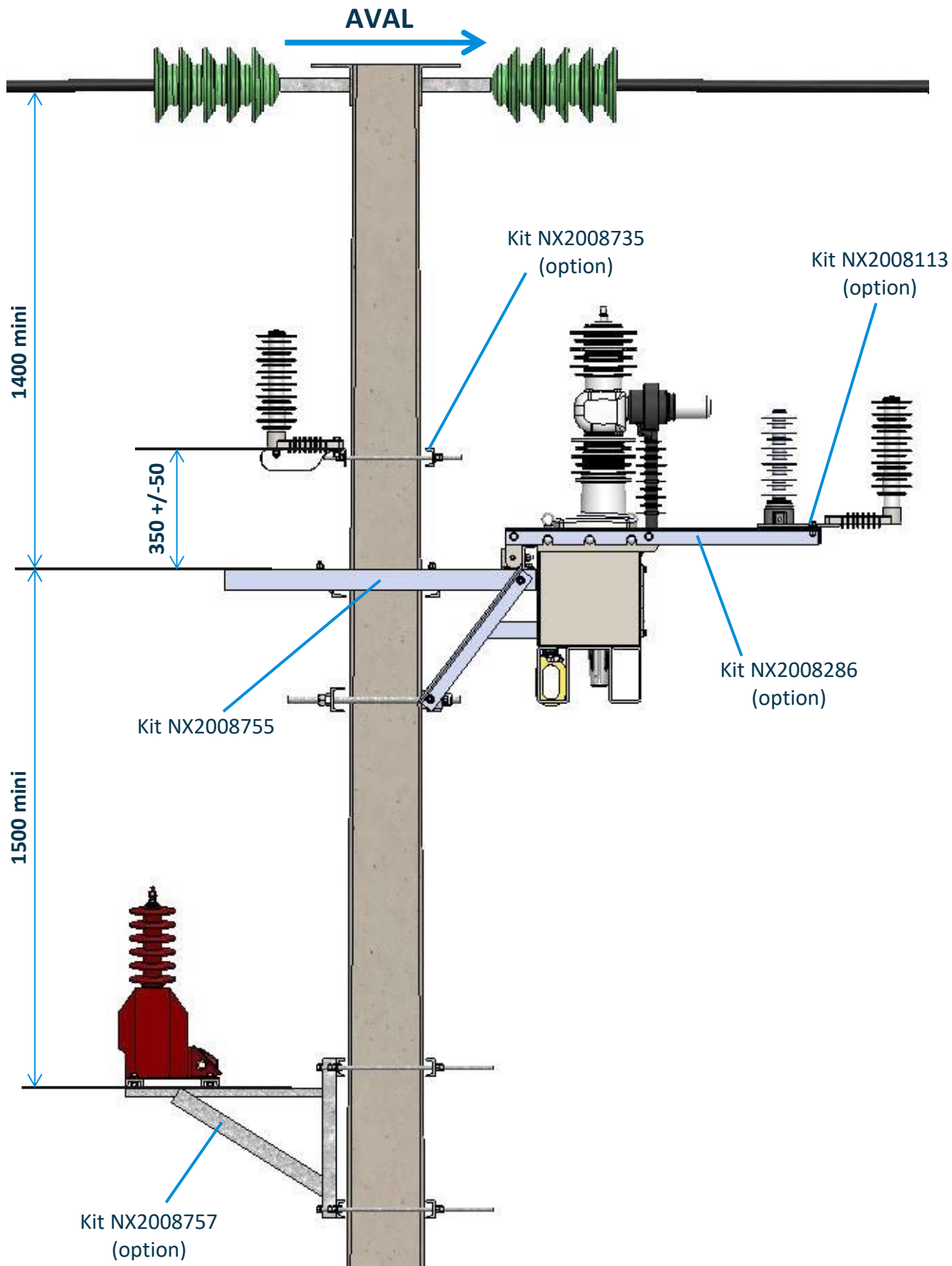
Respectez les consignes et l'ordre de montage des différents éléments pour ne pas endommager le matériel.

Respecter les distances imposées entre les éléments à installer et entre les câbles : risque de choc électrique.

2.2. Opérations d'installation

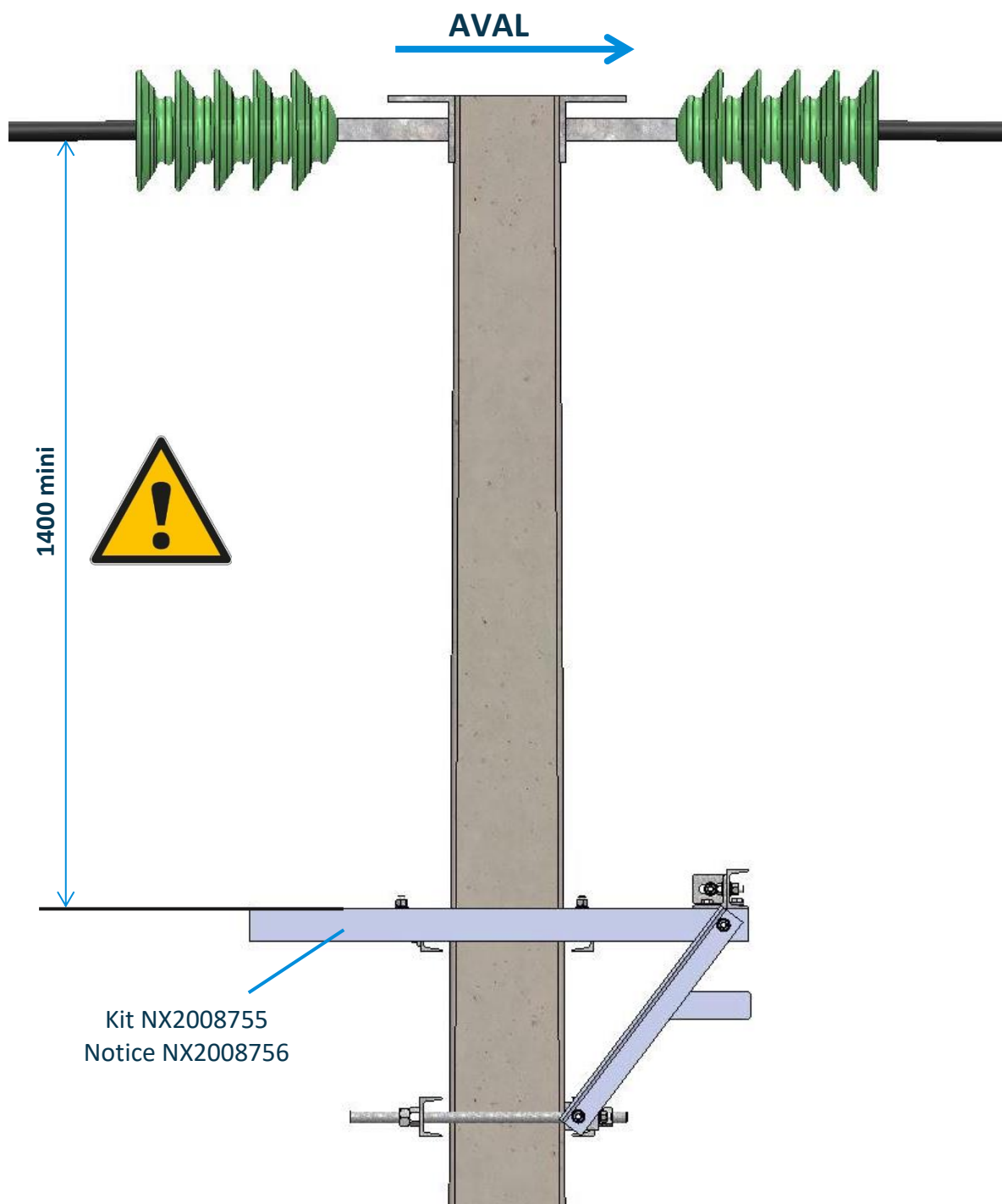
2.2.1. Installation sur simple poteau béton





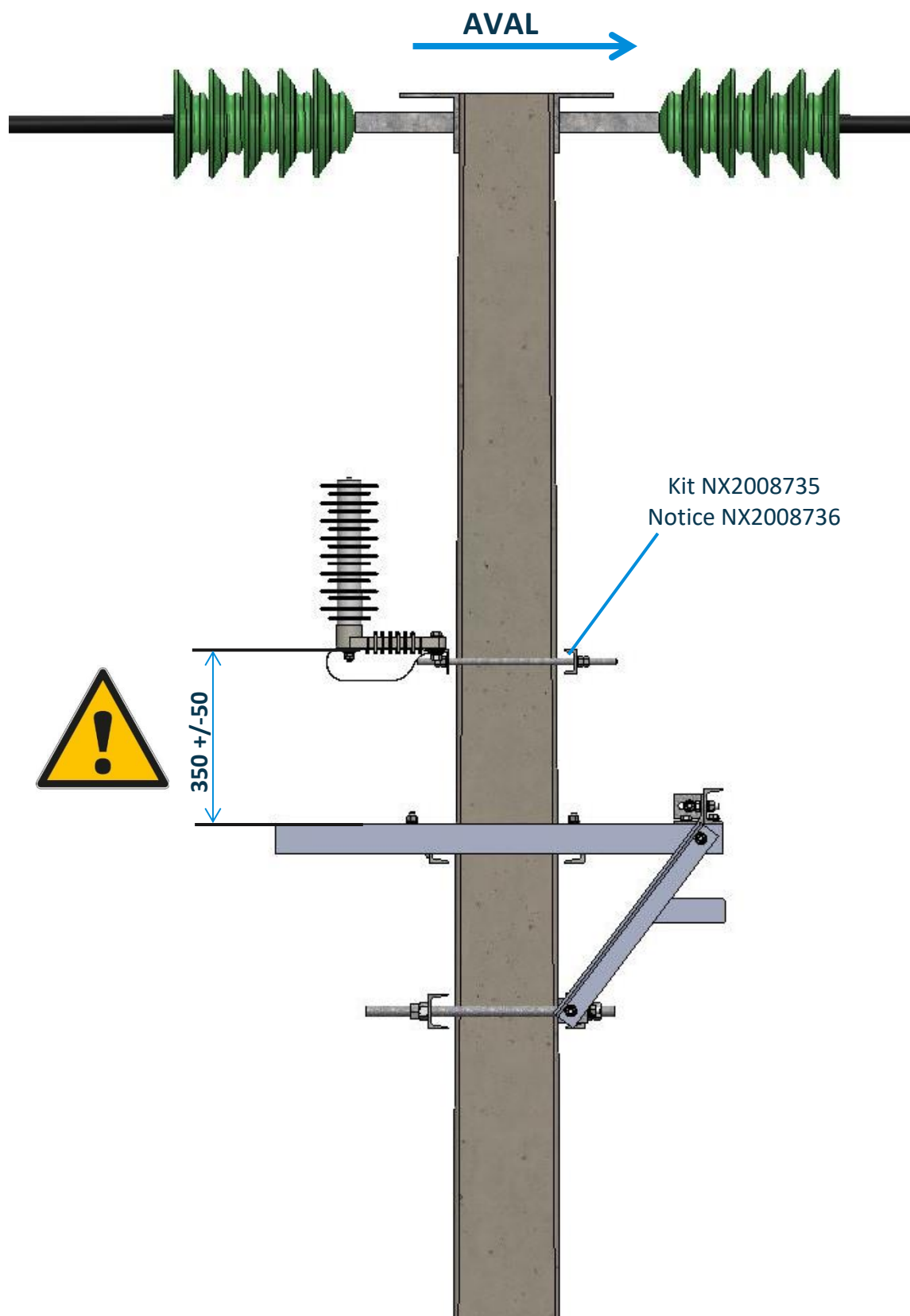
ETAPE 1 : installation du support Smartcloser NX2008755

La notice de montage de ce kit se trouve dans son emballage.



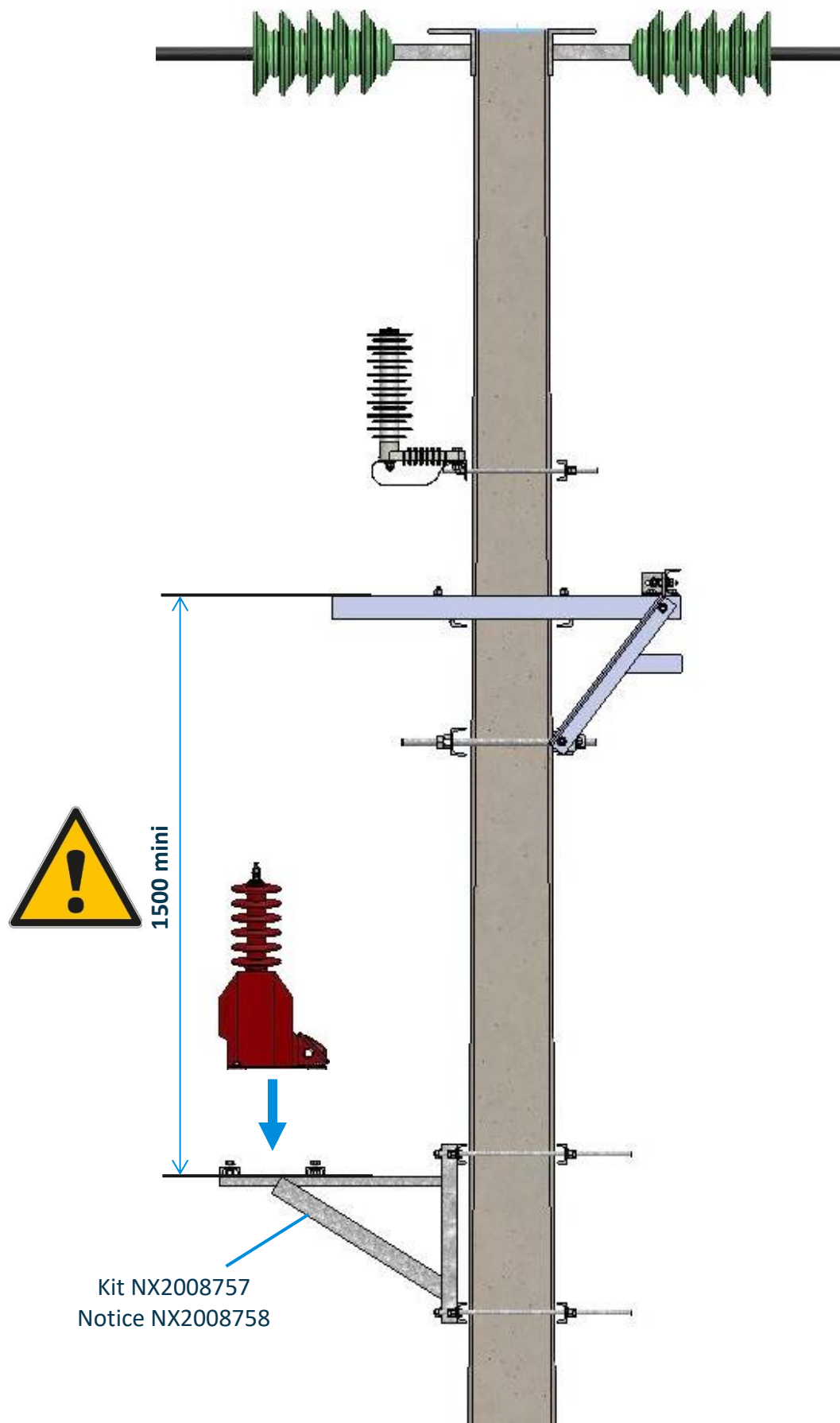
ETAPE 2 : installation du support parafooudres amont NX2008735 (option)

La notice de montage de ce kit se trouve dans son emballage.



ETAPE 3 : installation du support transformateur NX2008757 (option)

La notice de montage de ce kit se trouve dans son emballage.

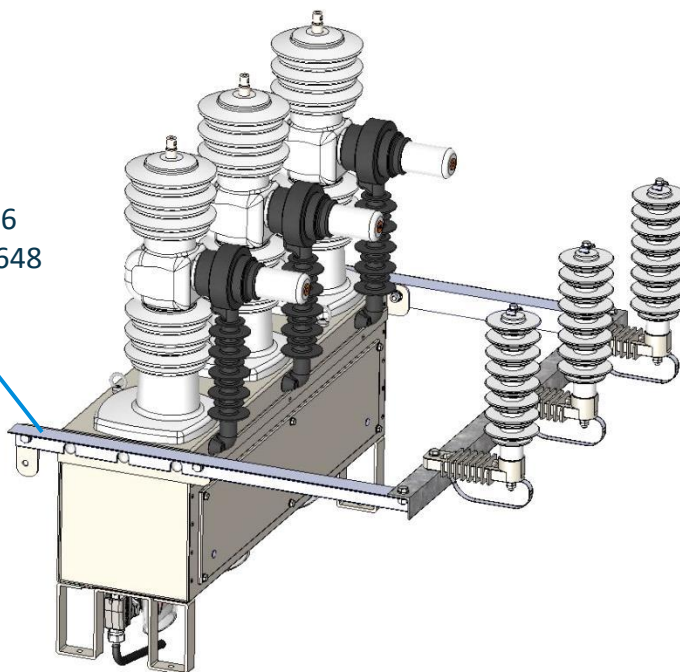


ETAPE 4 : installation du support parafoudres aval NX2008286 (option) et du support capteurs de tension NX2008113 (option)

Les notices de montage de ces kits se trouvent dans leurs emballages.

Montage des parafoudres aval sans capteur de tension

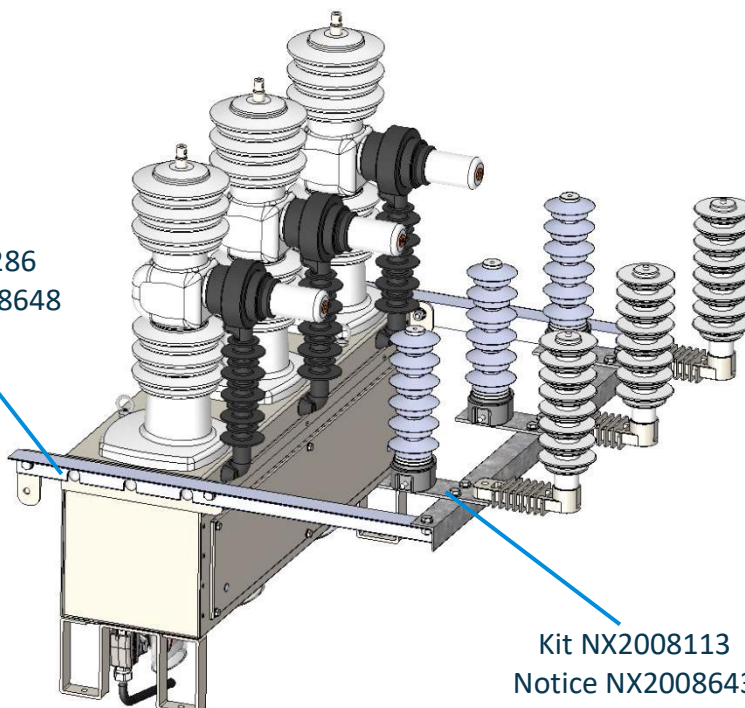
Kit NX2008286
Notice NX2008648



OU

Montage des parafoudres aval avec capteurs de tension

Kit NX2008286
Notice NX2008648

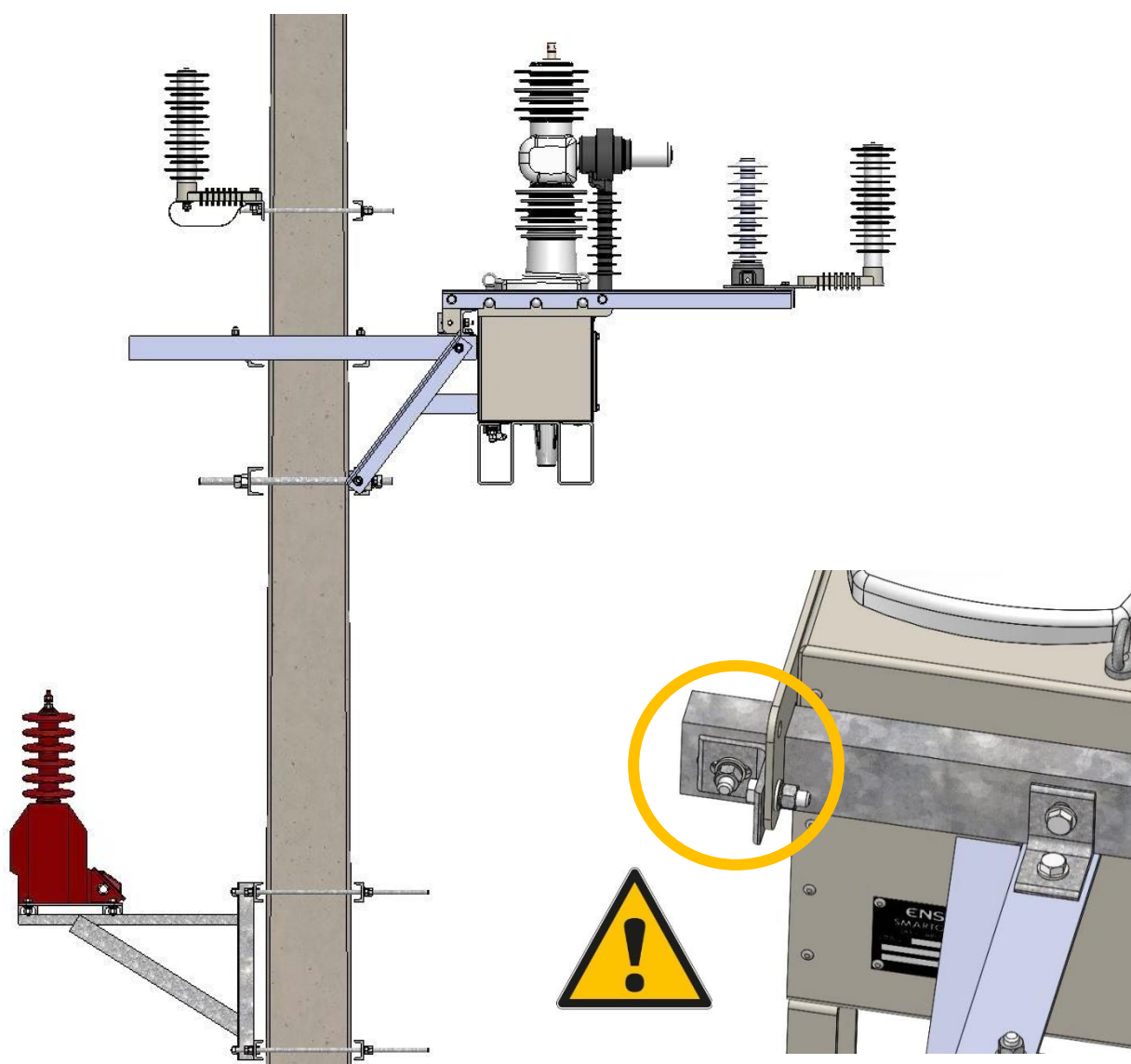
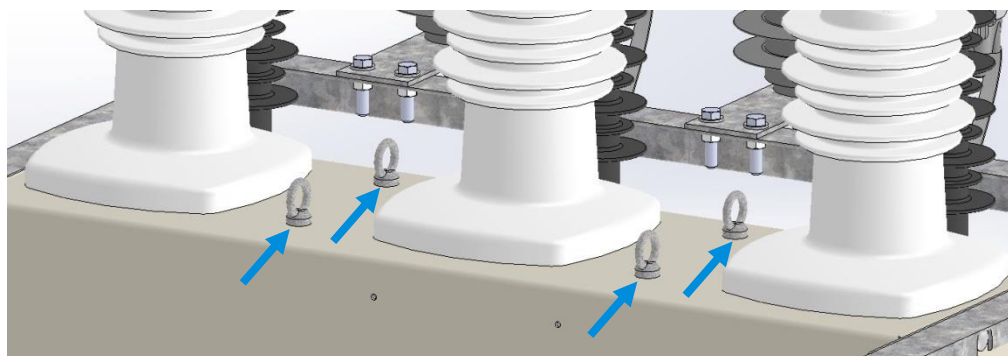


Kit NX2008113
Notice NX2008643

ETAPE 5 : installation et blocage du Smartcloser sur son support NX2008755

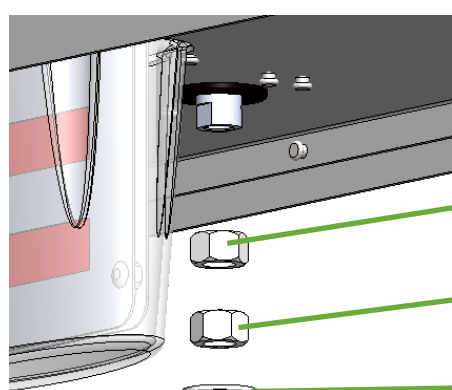
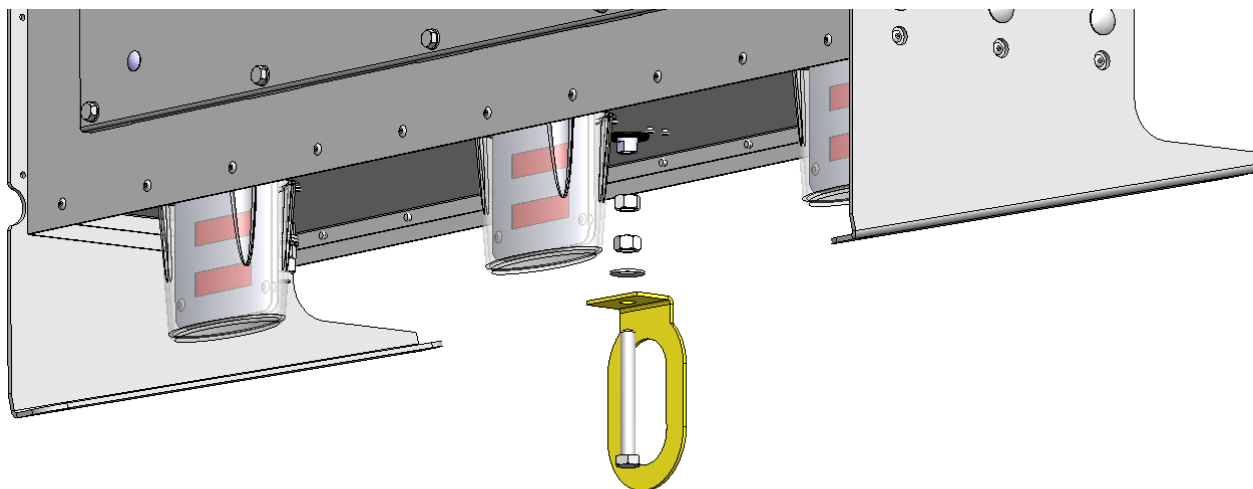
La notice de montage de ce kit se trouve dans son emballage.

Le levage s'effectue uniquement par les 4 anneaux de levage situés sur le corps du Smartcloser.



4PR-F8-H

ETAPE 6 : installation de l'anneau de commande manuelle



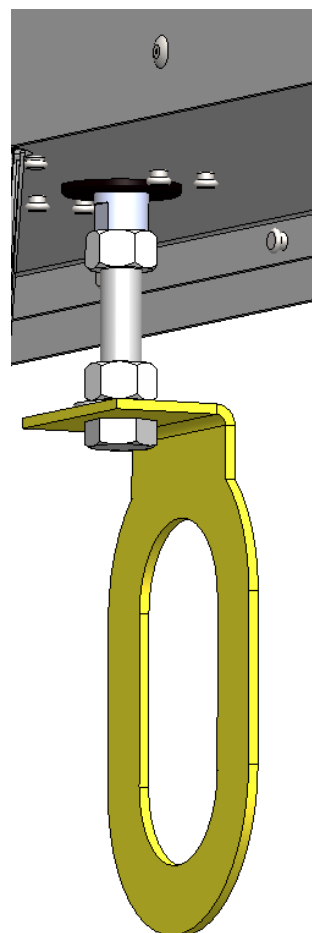
H M12

H M12

M 12

NX2006537

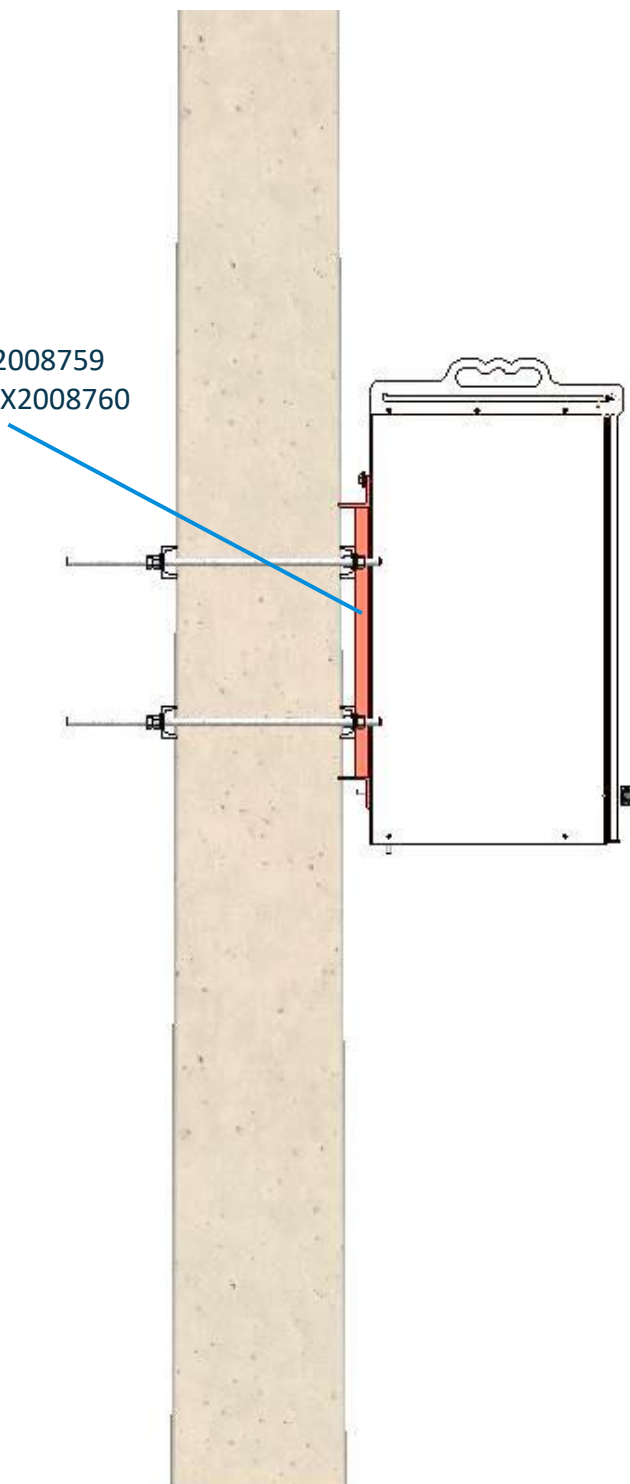
H M12 x 100



ETAPE 7 : installation du support coffret de contrôle NX2008759

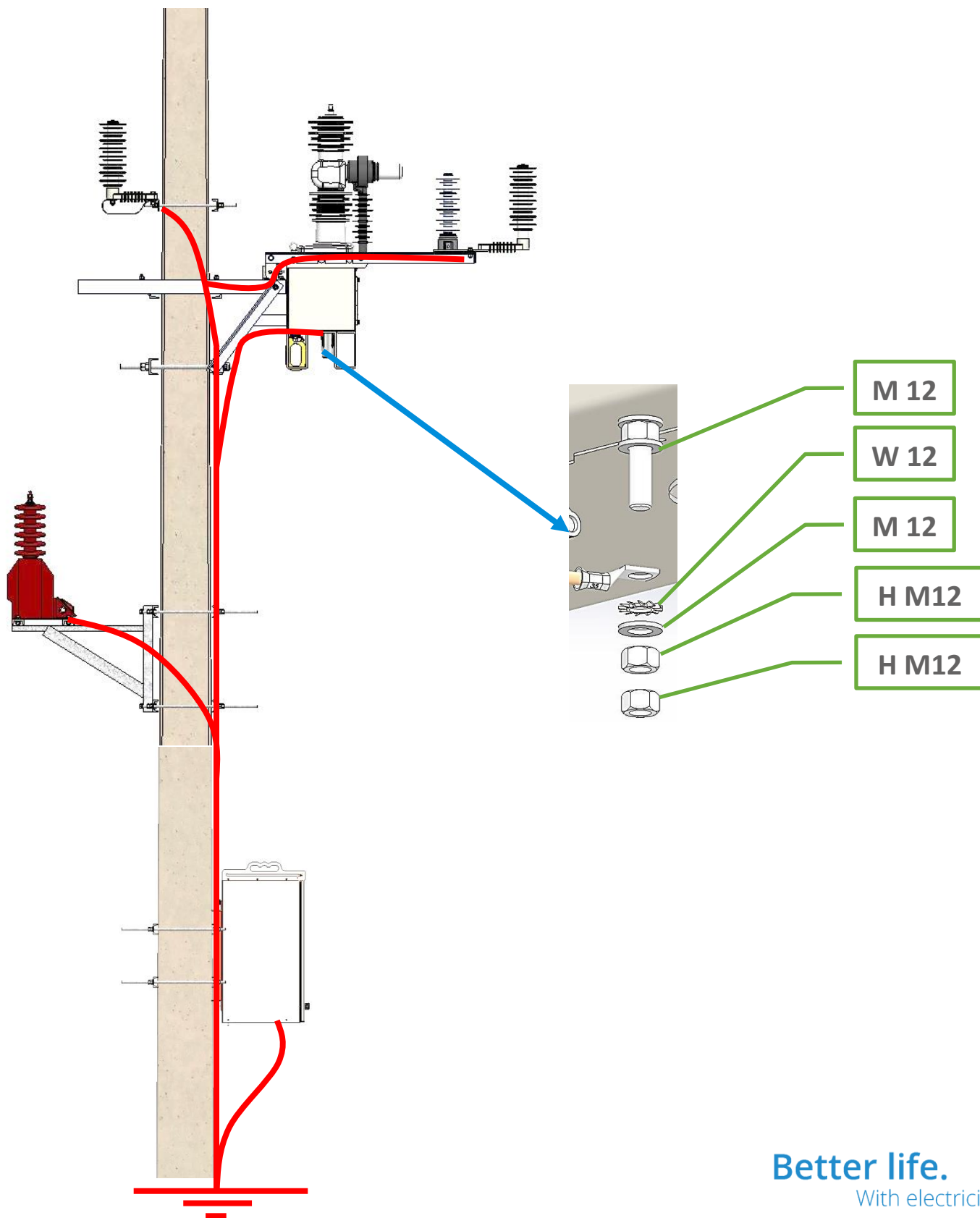
La notice de montage de ce kit se trouve dans son emballage.

Kit NX2008759
Notice NX2008760

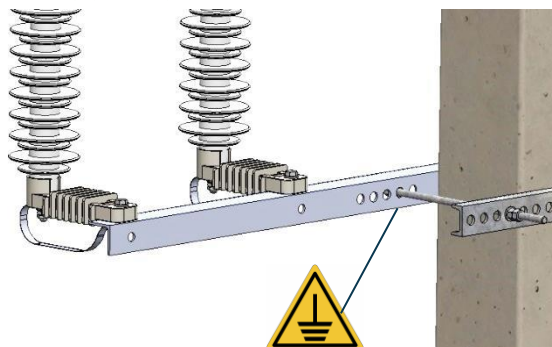


ETAPE 8 : raccordement du circuit de terre

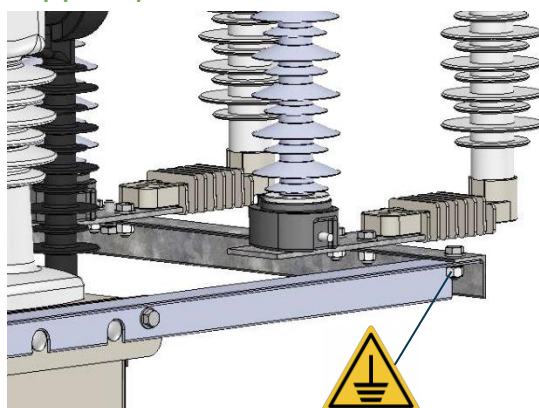
Le Smartcloser est destiné à être installé en équipotentialité. Toutes les parties métalliques doivent être raccordées au câble de mise à la terre principal. Le circuit de mise à la terre est constitué d'un câble de cuivre nu rigide de section 25mm² minimum. Il chemine le long du poteau et doit rester fixé le plus loin possible des parties sous tension.



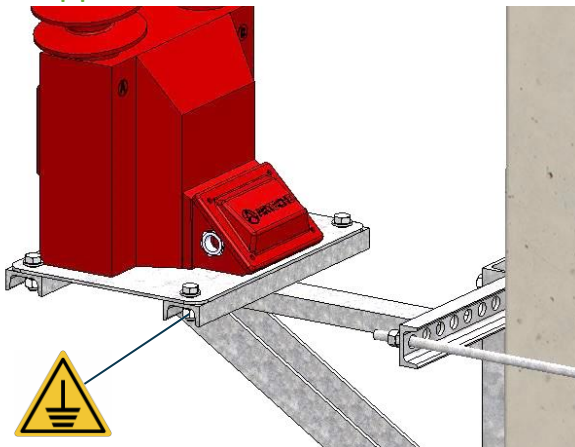
Raccordement terre sur support parafoudres amont



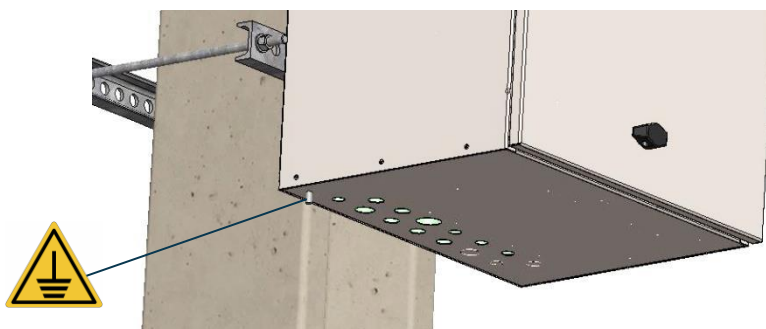
Raccordement terre sur support parafoudres aval



Raccordement terre sur support Transformateur



Raccordement terre sur coffret

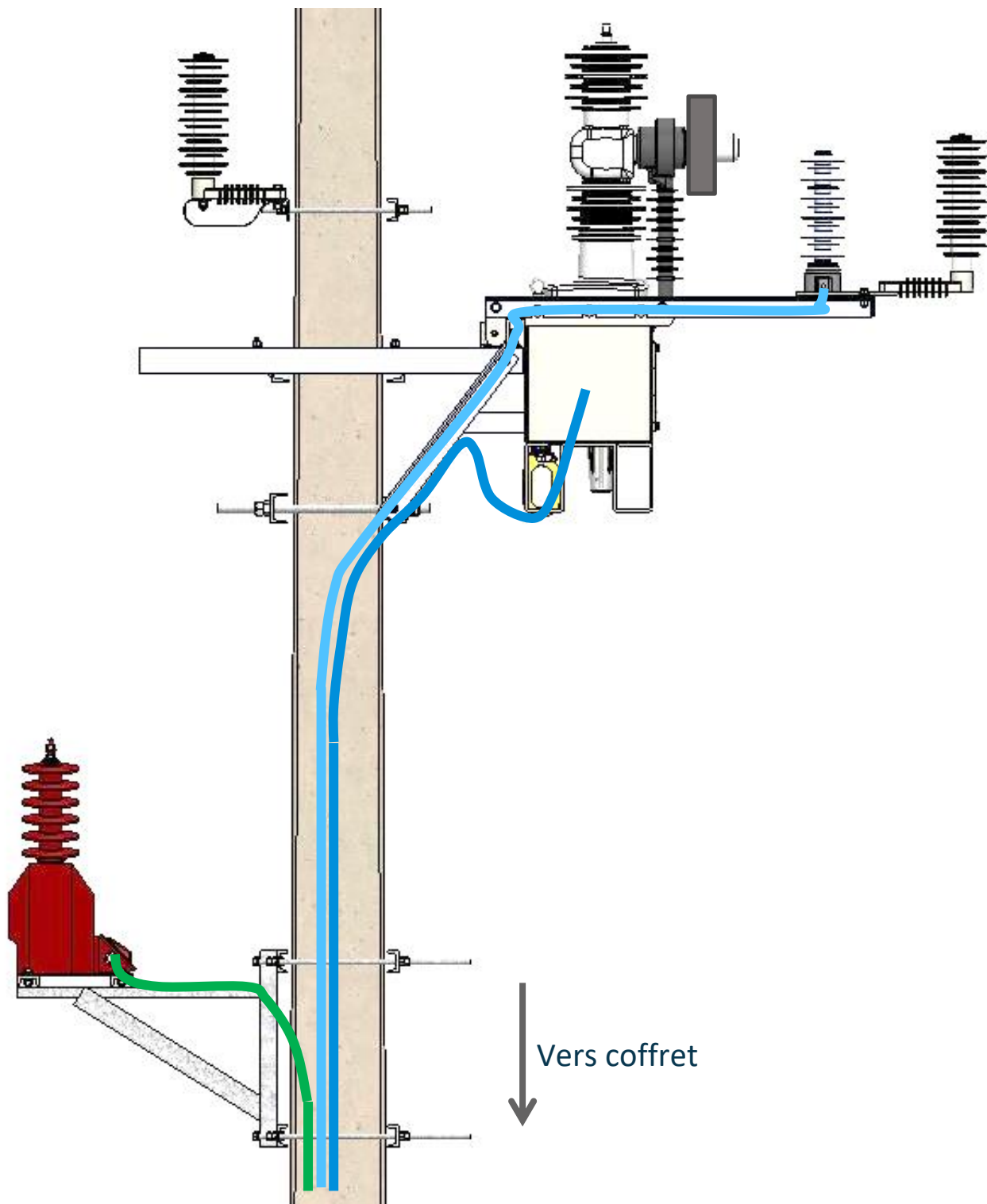


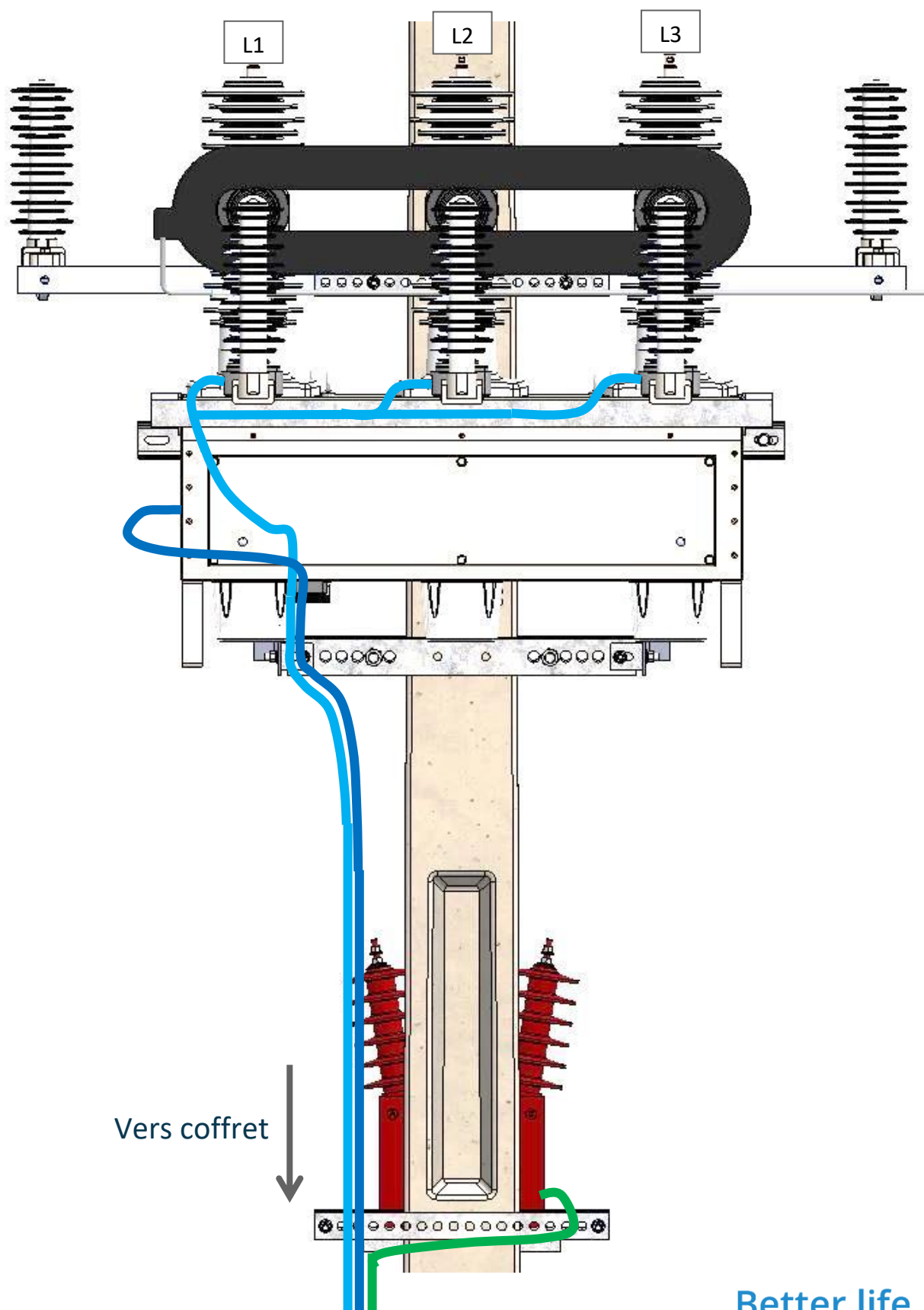
ETAPE 9 : raccordement du Smartcloser au coffret

Raccordement du Smartcloser avec câble NX2007029

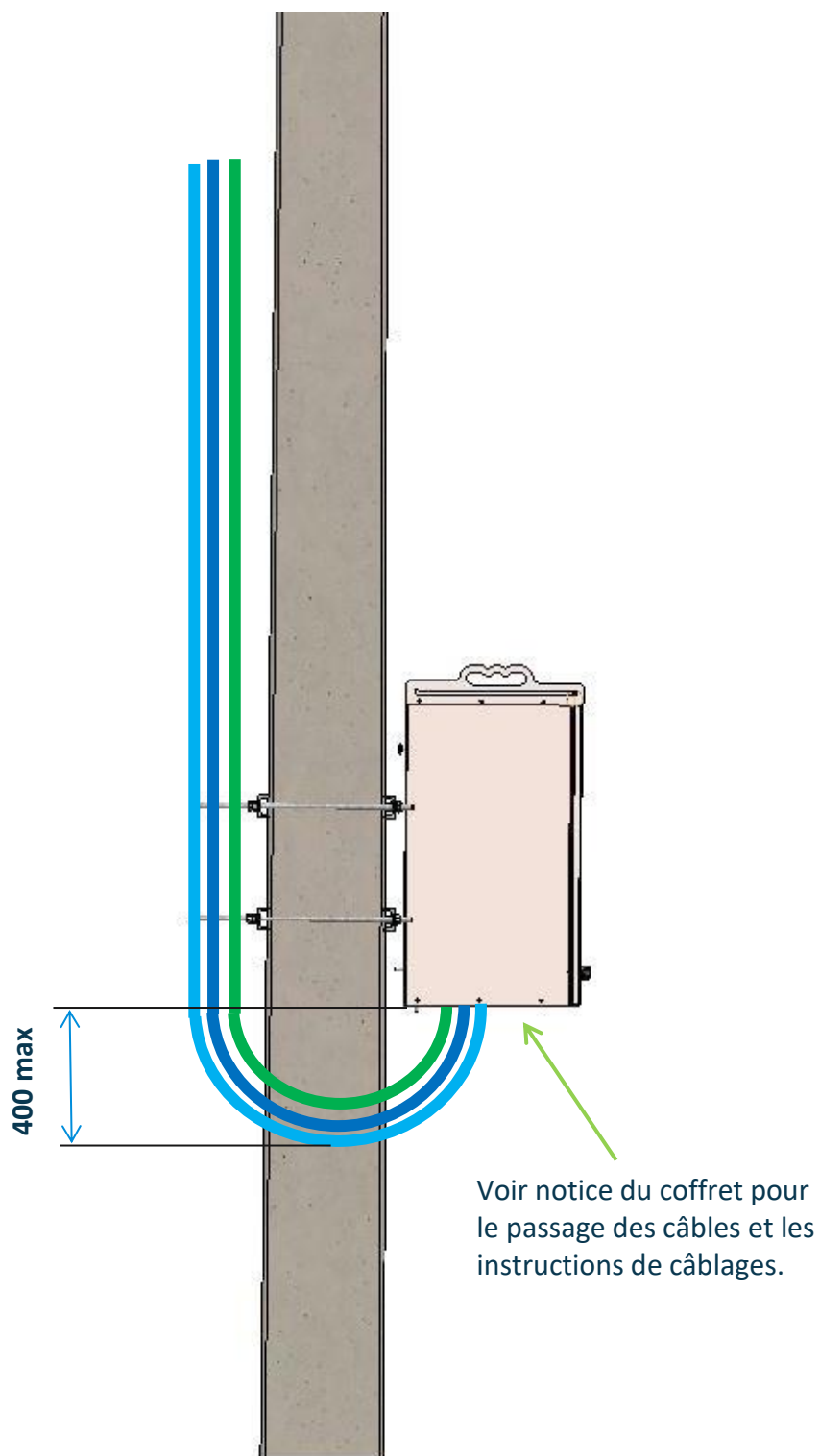
Raccordement des capteurs de tension (option) avec câbles NX2008695

Raccordement du transformateur (option) avec câble NXC320036





Vers coffret



Détail du câble Smartcloser NX2007029

Numéro de fil / couleur	Fonction
1 / noir	Commun contacts de position
2 / noir	Contact position fermé
3 / noir	Contact position ouvert
4 / noir	Mesure courant phase 1
5 / noir	Mesure courant phase 2
6 / noir	Mesure courant phase 3
7 / noir	Tore homopolaire
8 / noir	Tore homopolaire
9 / noir	Libre
10 / noir	Libre
11 / noir	Libre
Vert Jaune	Commun de mesure courant

Détail du câble du transformateur NXC320036

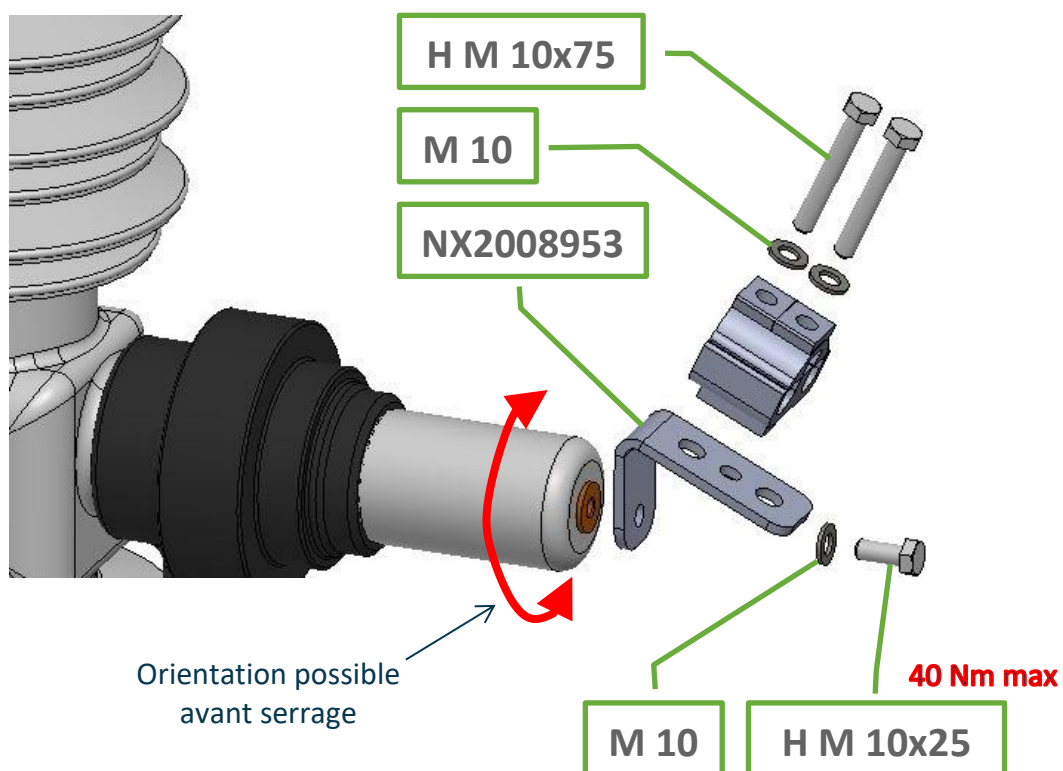
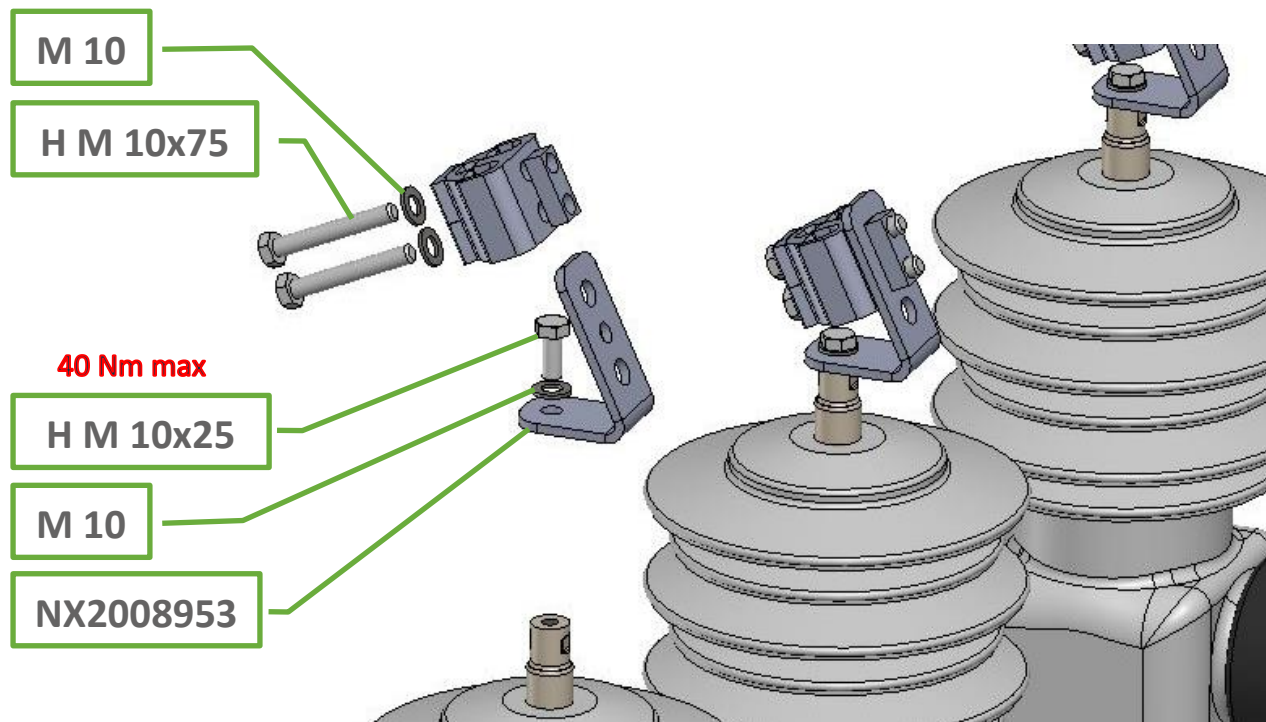
Numéro de fil / couleur	Fonction
Marron	Phase
Bleu	Neutre

Détail du câble des capteurs de tension NX2008695

Numéro de fil / couleur	Fonction
Ame cuivre	Tension de phase
Tresse de blindage	commun

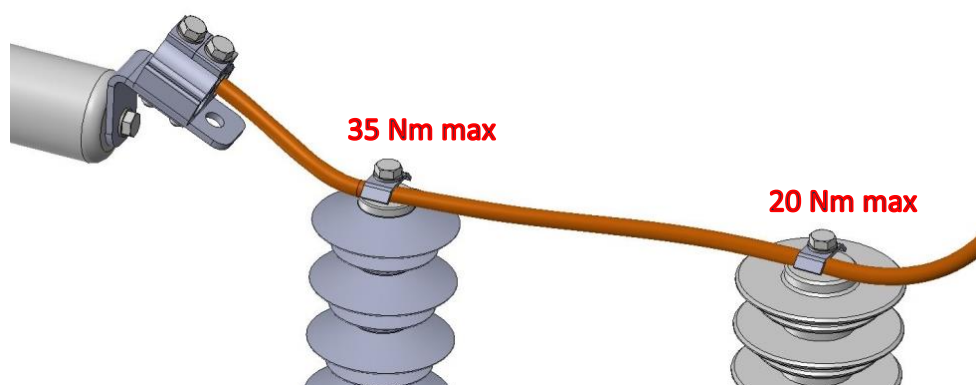
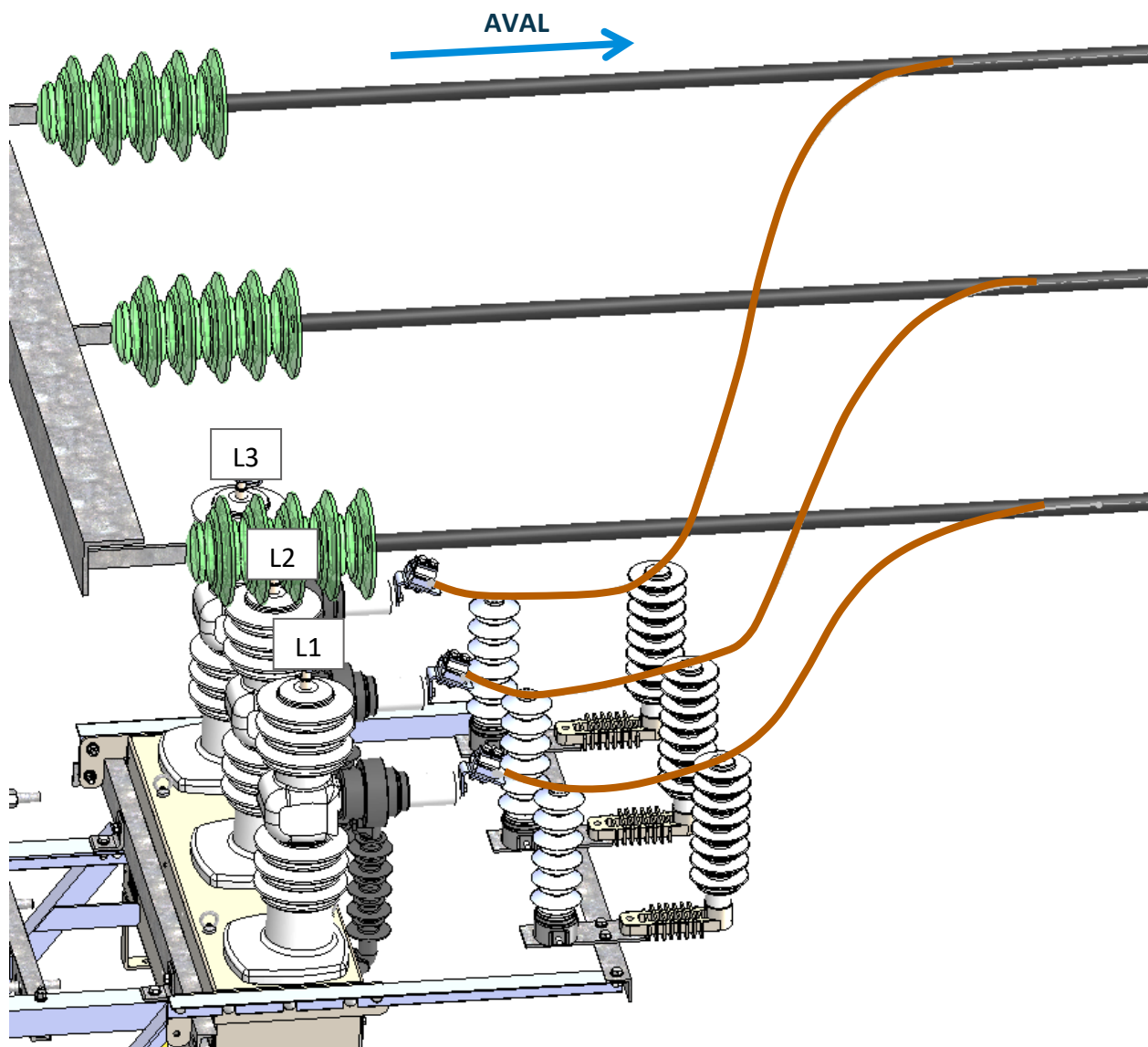
ETAPE 10 : installation des connecteurs Ensto NX2008956 sur le Smartcloser

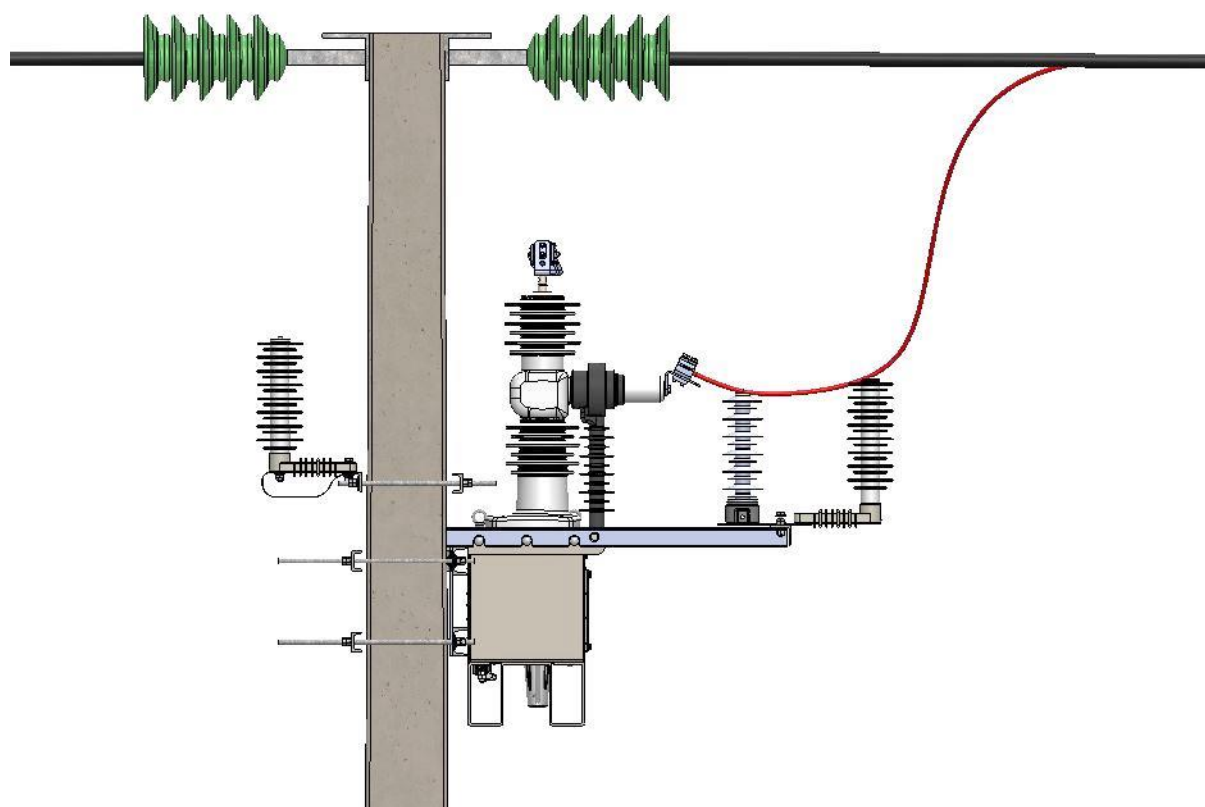
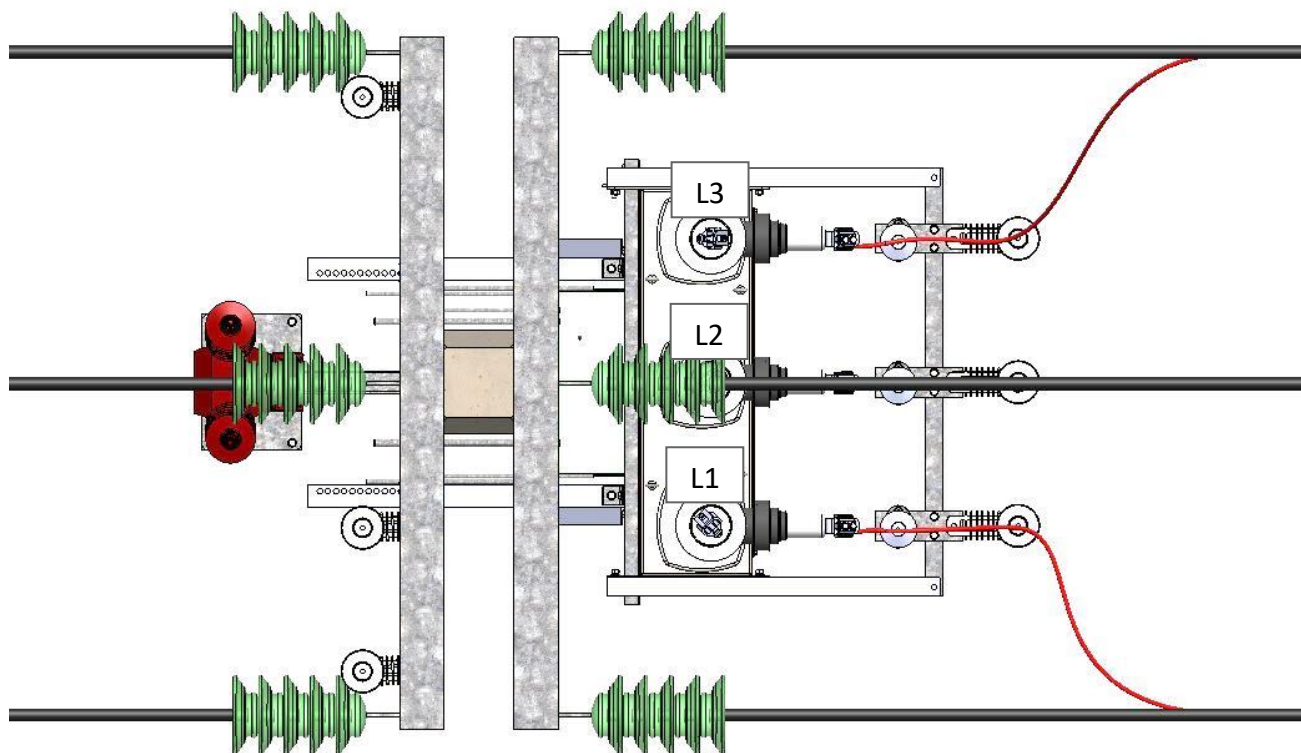
Il est possible d'orienter les connecteurs en rotation avant serrage.



ETAPE 11 : raccordement du Smartcloser aux lignes

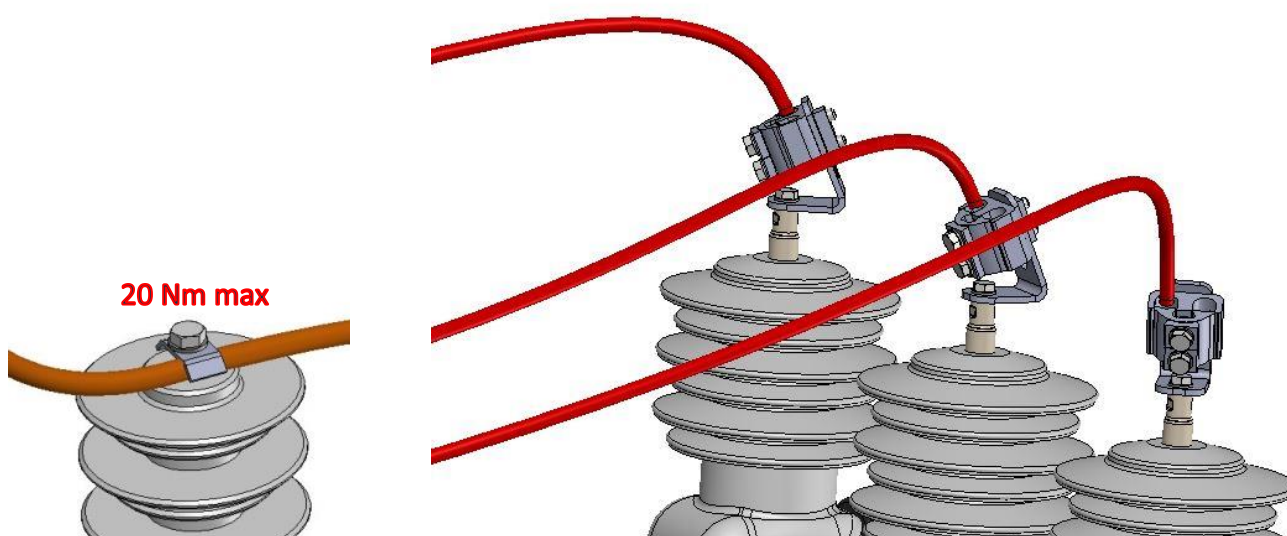
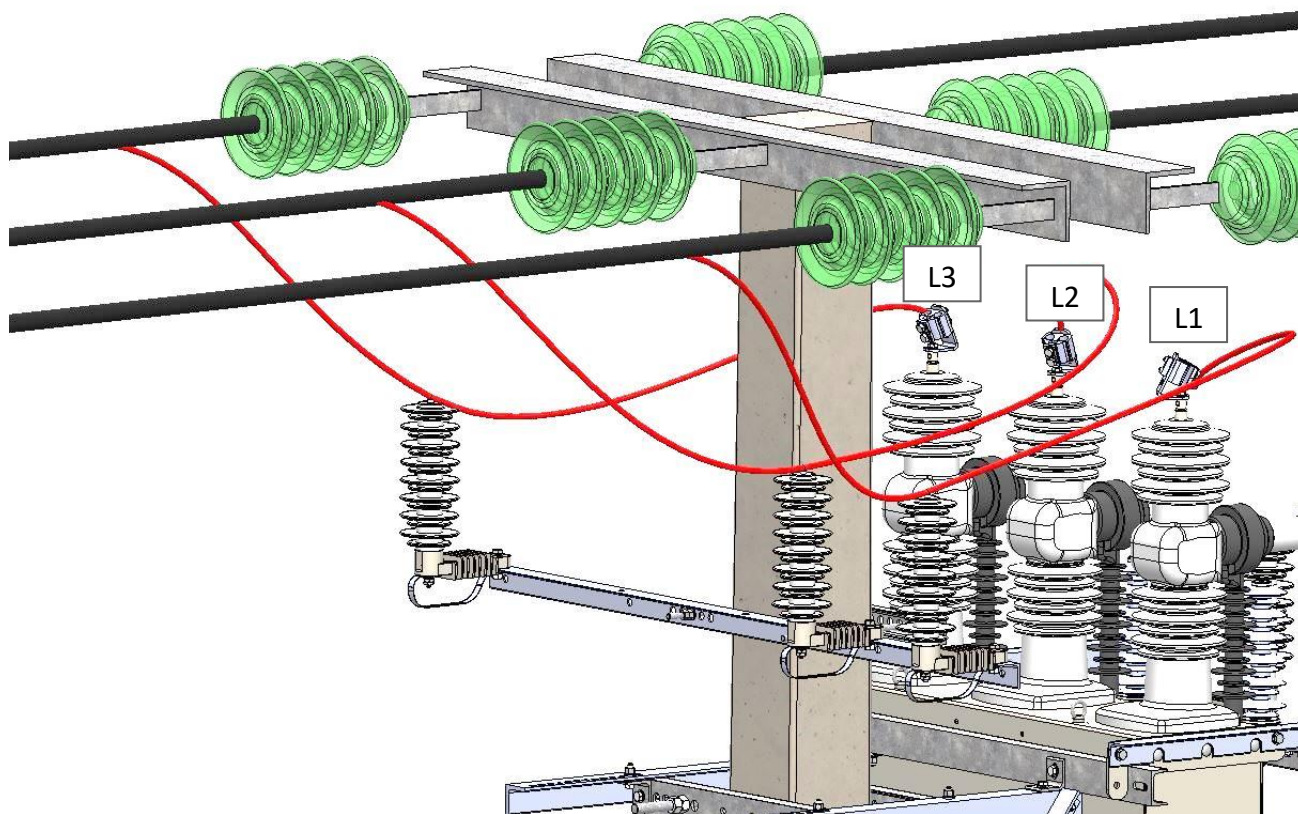
Pour orienter les câbles, il est possible de faire tourner les connecteurs Ensto autour de leur point de fixation.

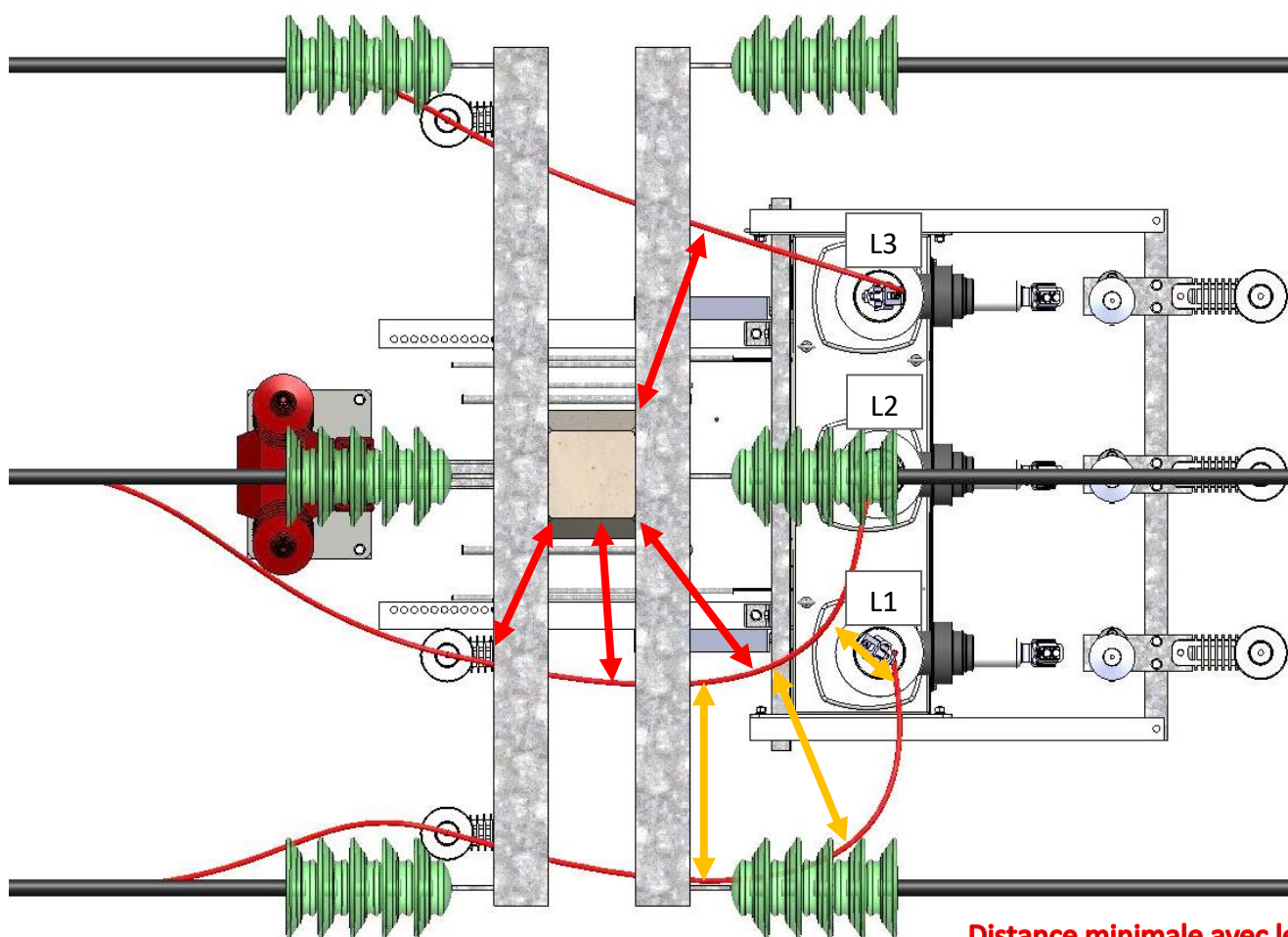




ETAPE 12 : raccordement amont du Smartcloser

Pour orienter les câbles, il est possible de faire tourner les connecteurs Ensto autour de leur point de fixation.

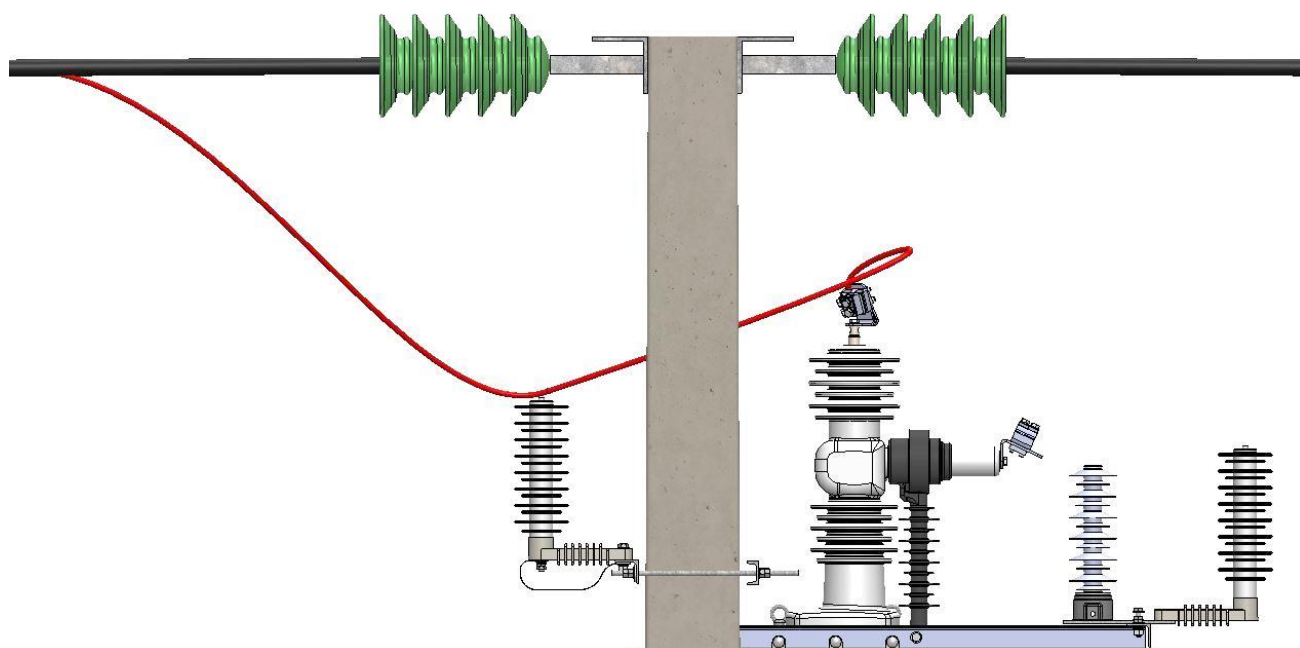


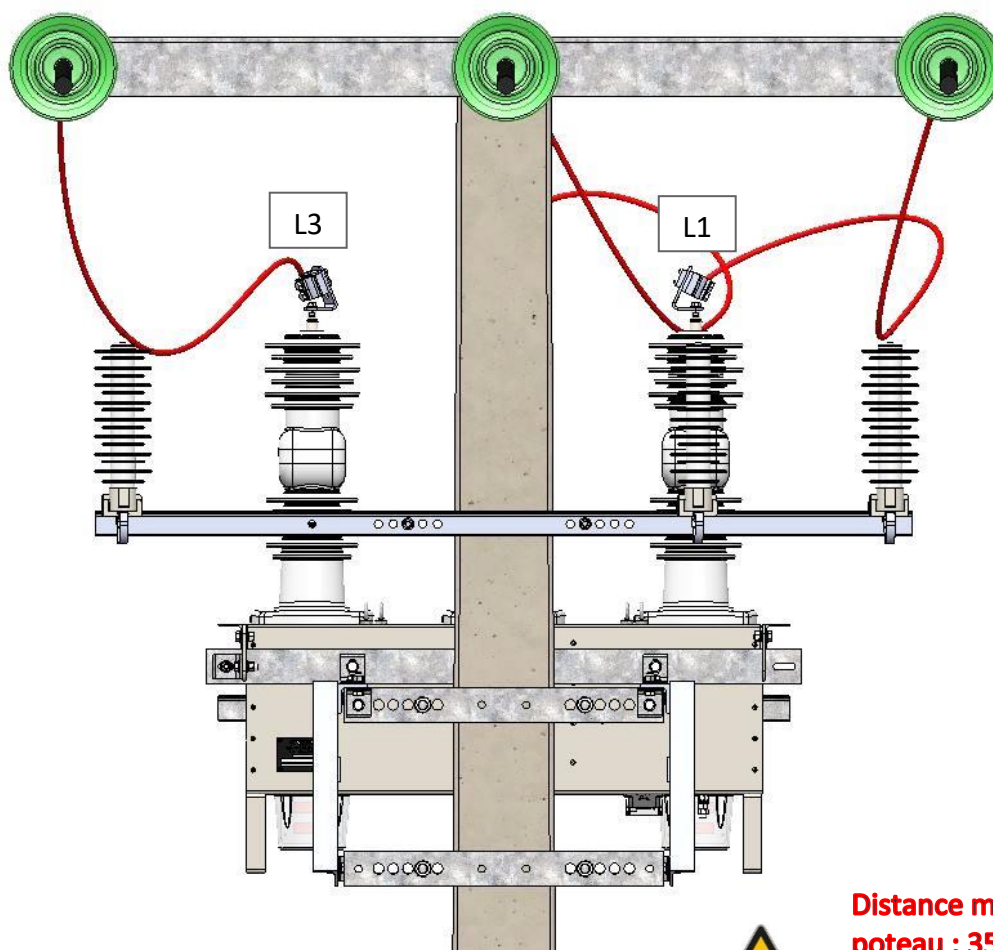


Distance minimale avec le poteau : 350 mm



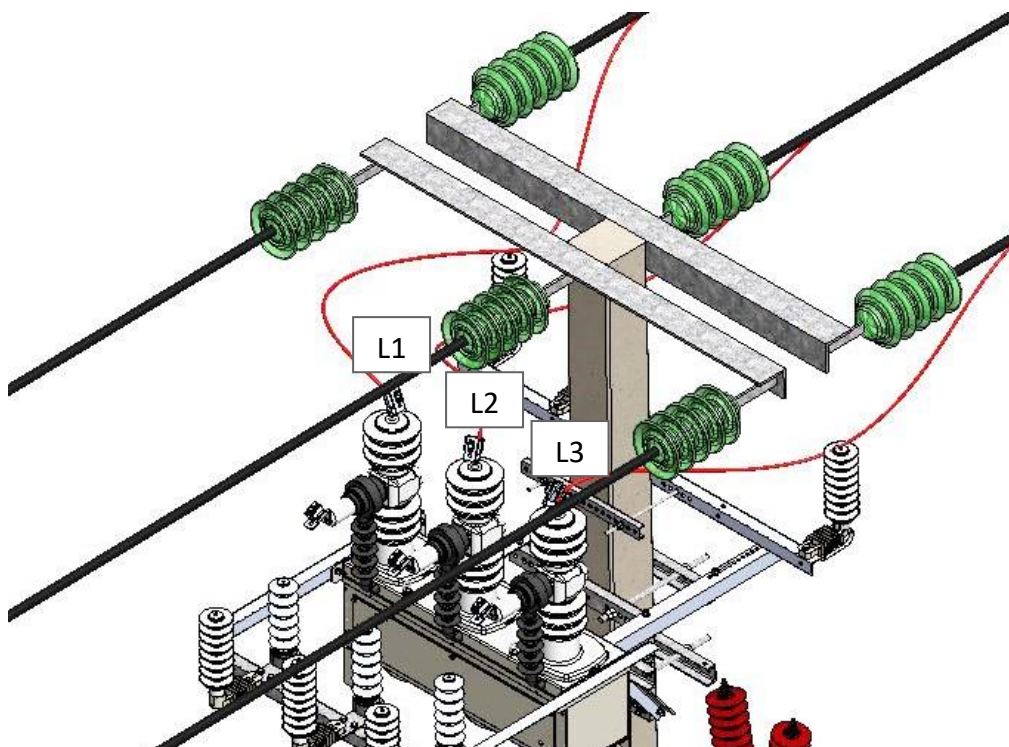
Distance minimale entre câbles : 380 mm





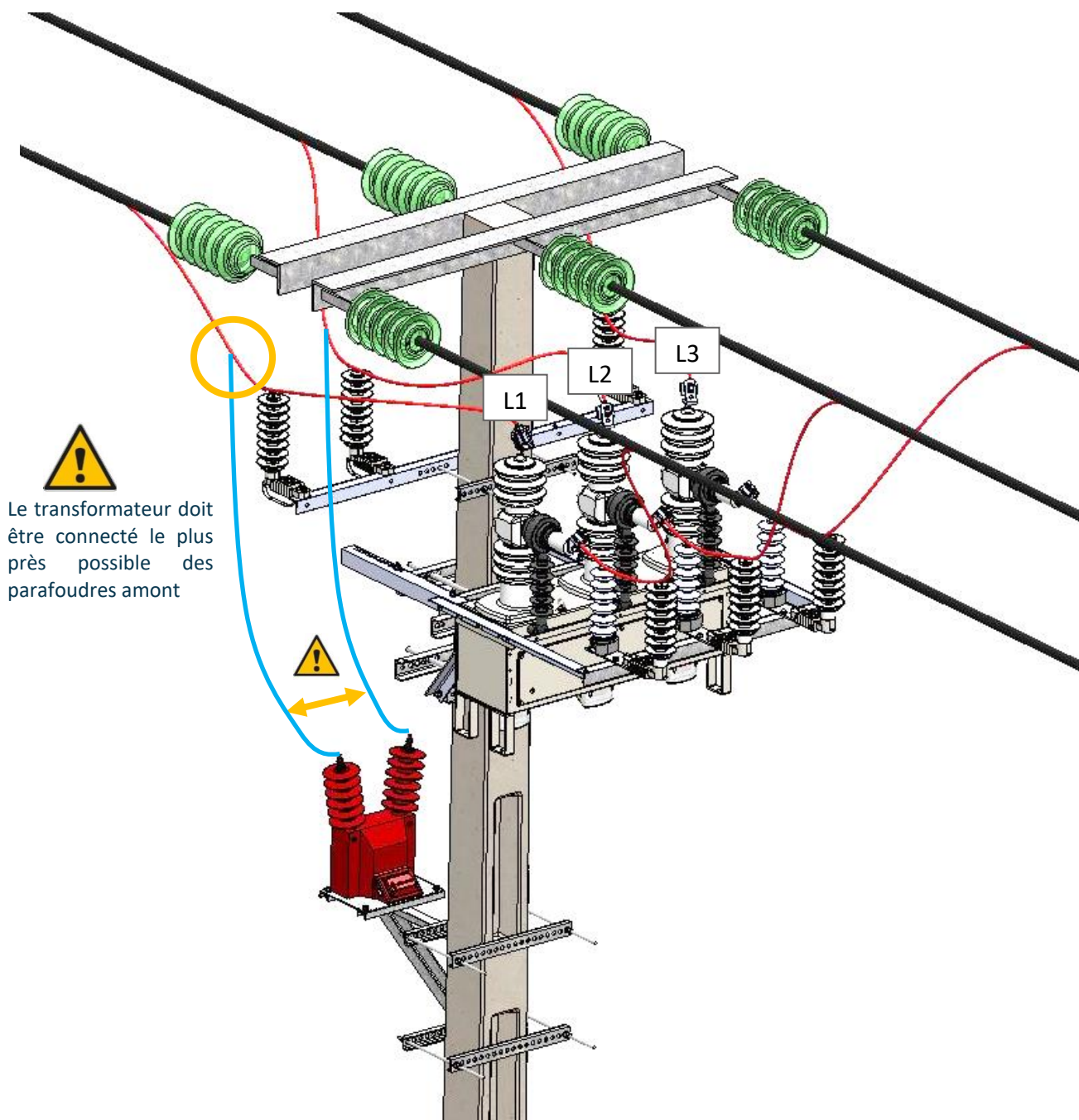
Distance minimale avec le poteau : 350 mm

Distance minimale entre câbles : 380 mm

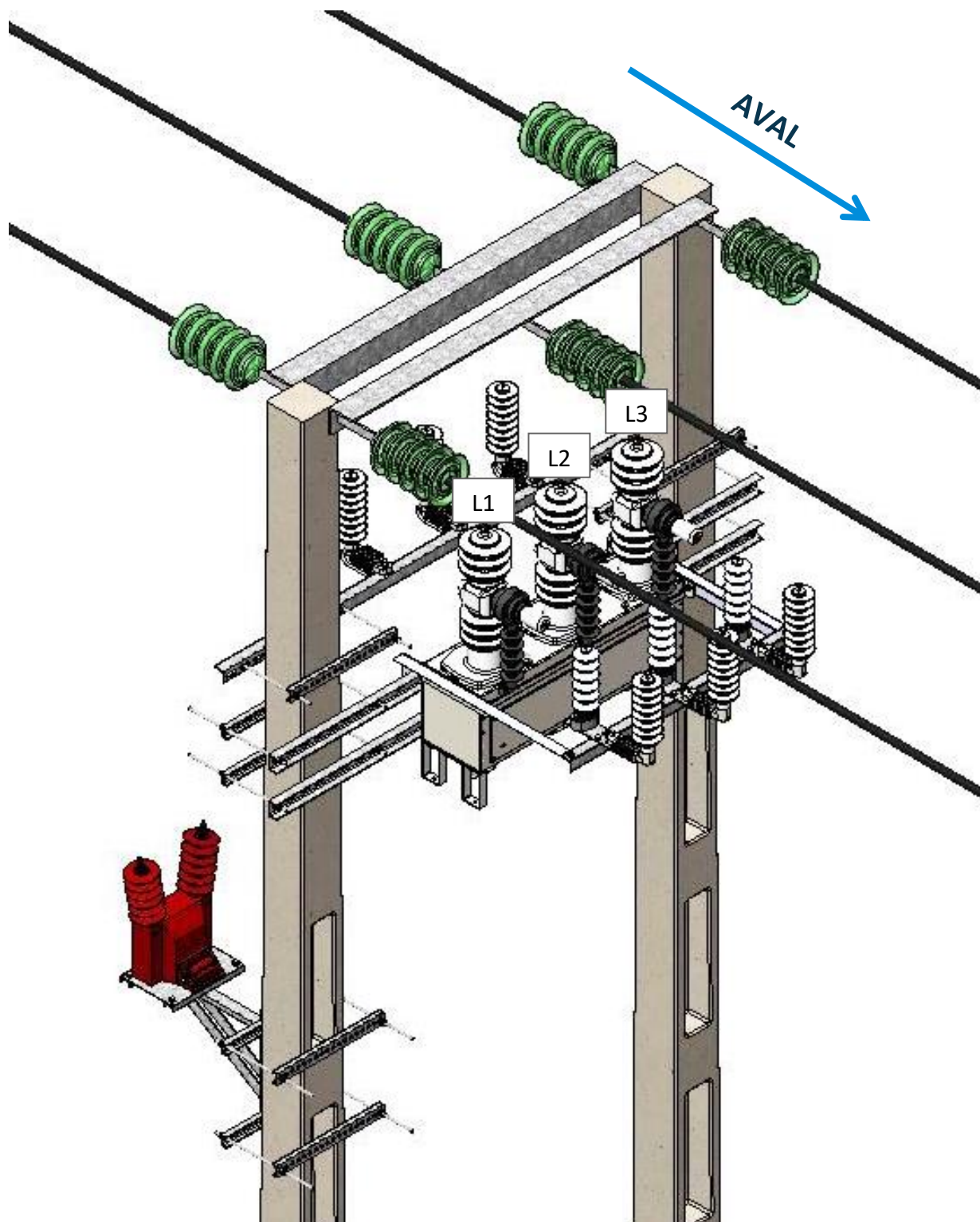


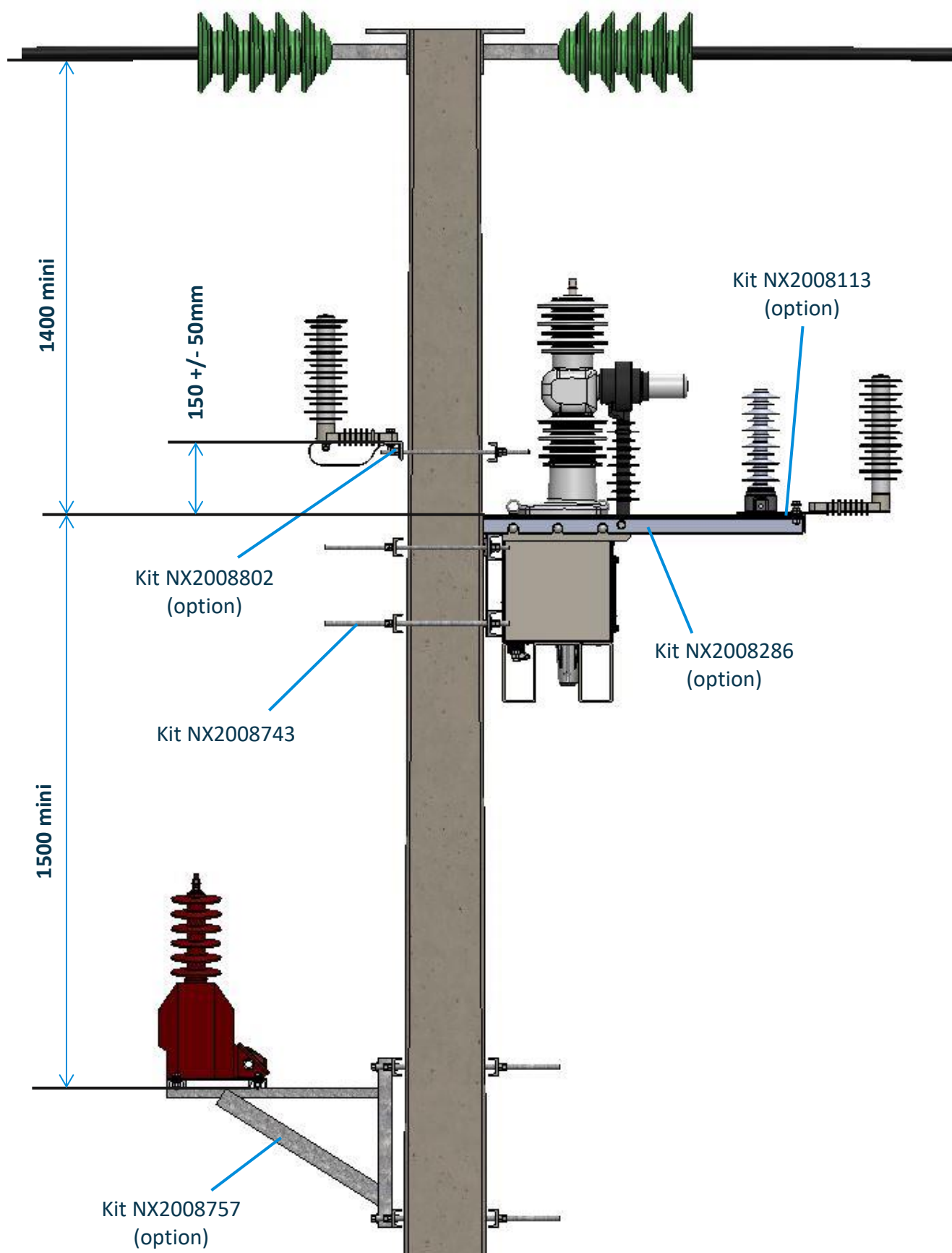
ETAPE 13 : raccordement du transformateur

Raccorder le transformateur aux phases 2 et 3 (câbles non fournis).



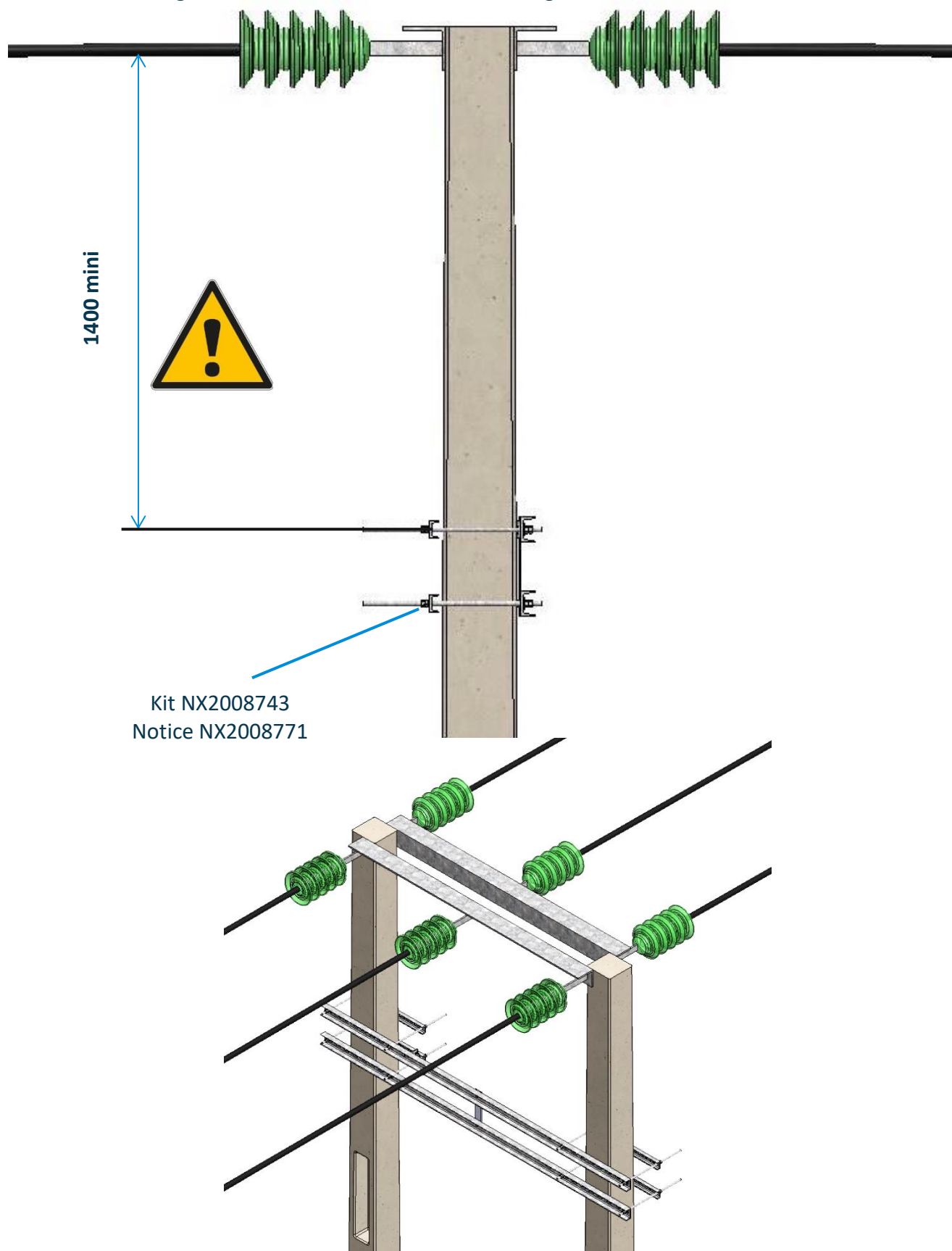
2.2.2. Installation sur double poteau béton





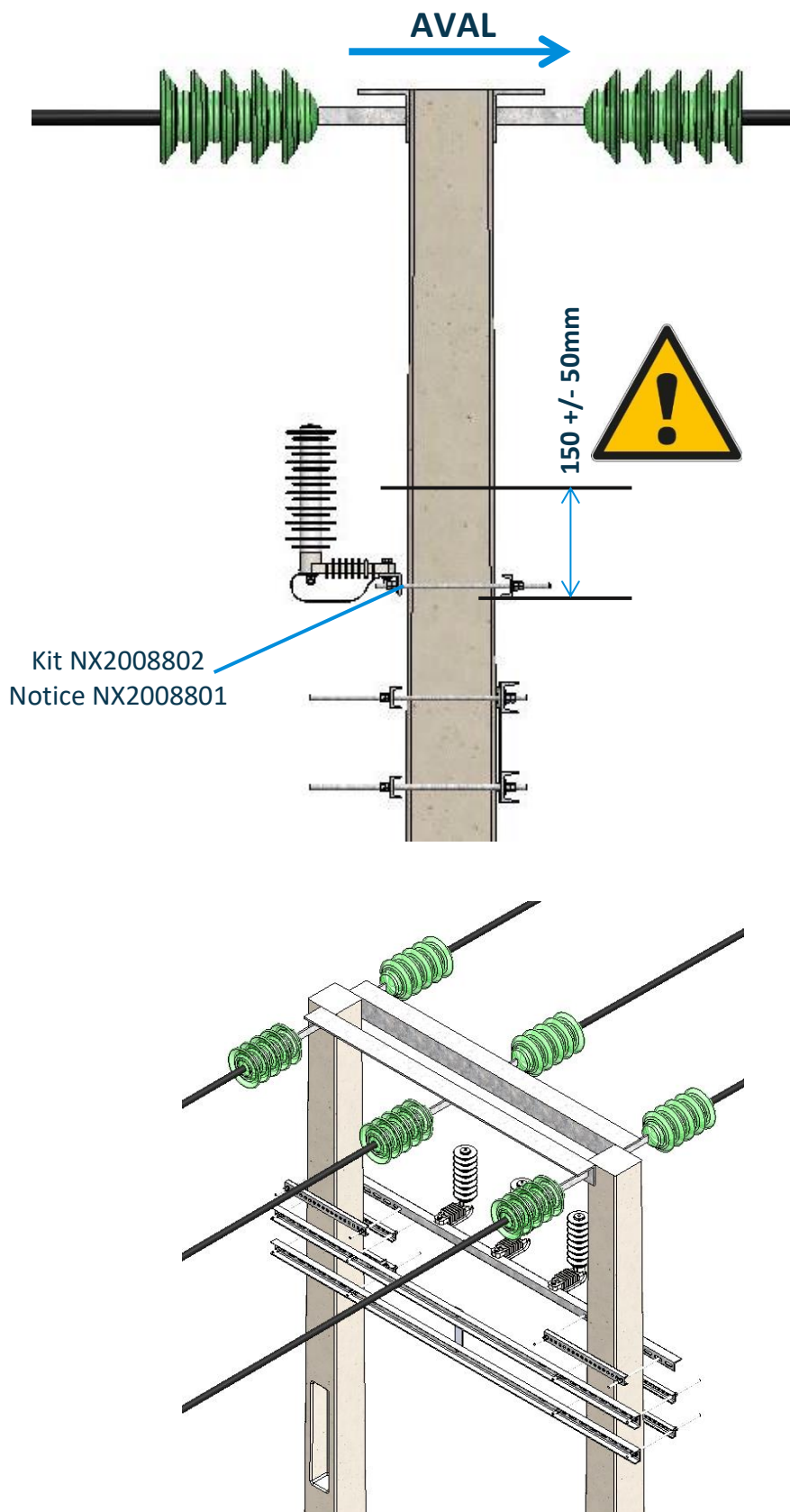
ETAPE 1 : installation du support Smartcloser NX2008743

La notice de montage de ce kit se trouve dans son emballage.



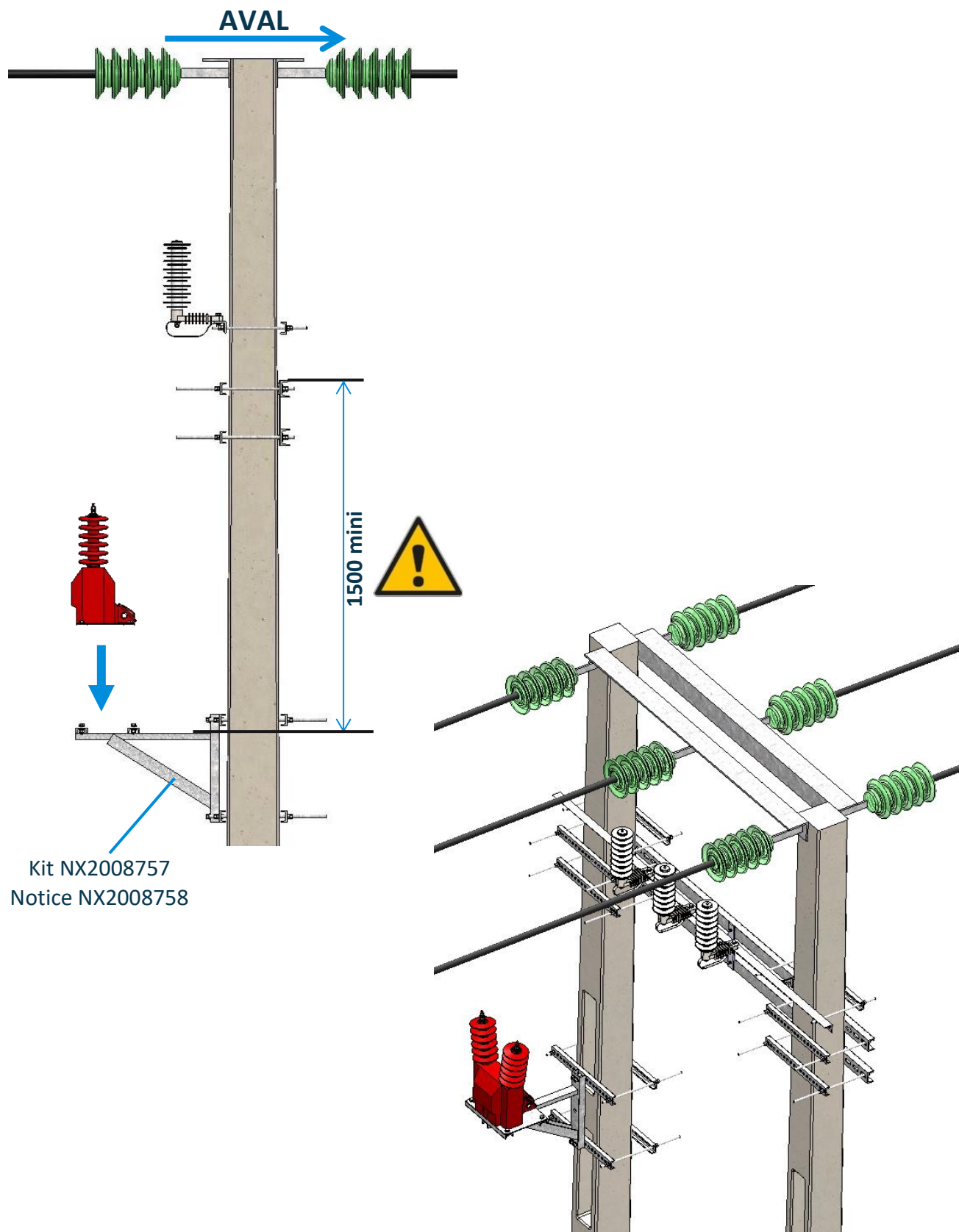
ETAPE 2 : installation du support parafoudres amont NX2008802 (option)

La notice de montage de ce kit se trouve dans son emballage.



ETAPE 3 : installation du support transformateur NX2008757 (option)

La notice de montage de ce kit se trouve dans son emballage.

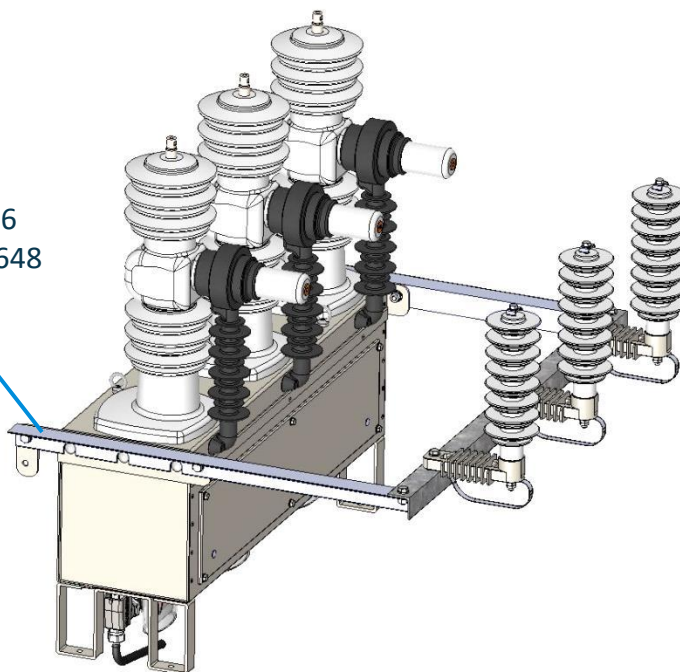


ETAPE 4 : installation du support parafooudres aval NX2008286 (option) et du support capteurs de tension NX2008113 (option)

Les notices de montage de ces kits se trouvent dans leurs emballages.

Montage des parafooudres aval sans capteur de tension

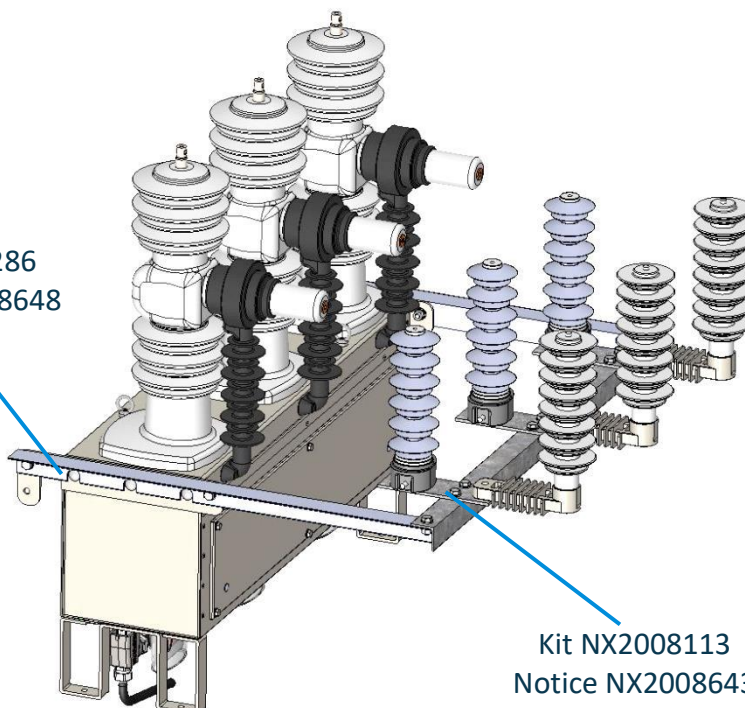
Kit NX2008286
Notice NX2008648



OU

Montage des parafooudres aval avec capteurs de tension

Kit NX2008286
Notice NX2008648

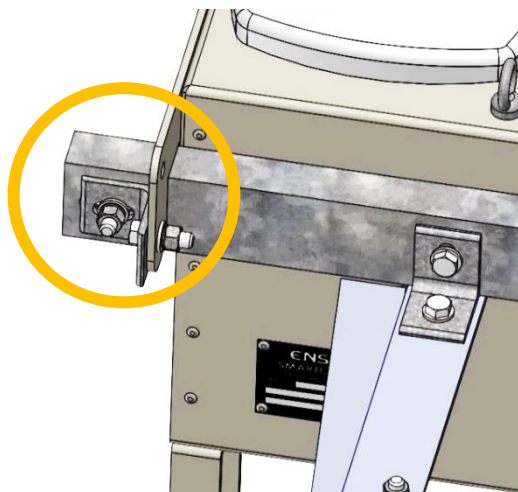
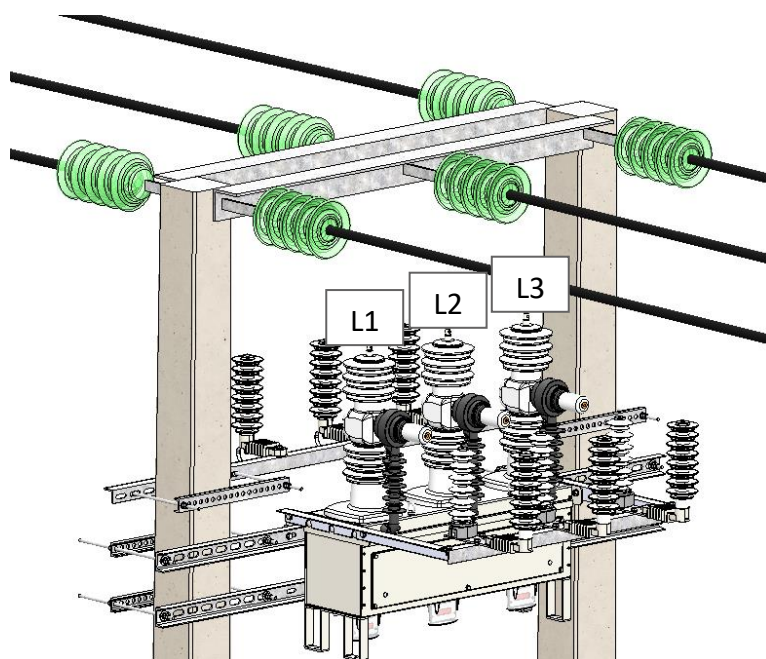
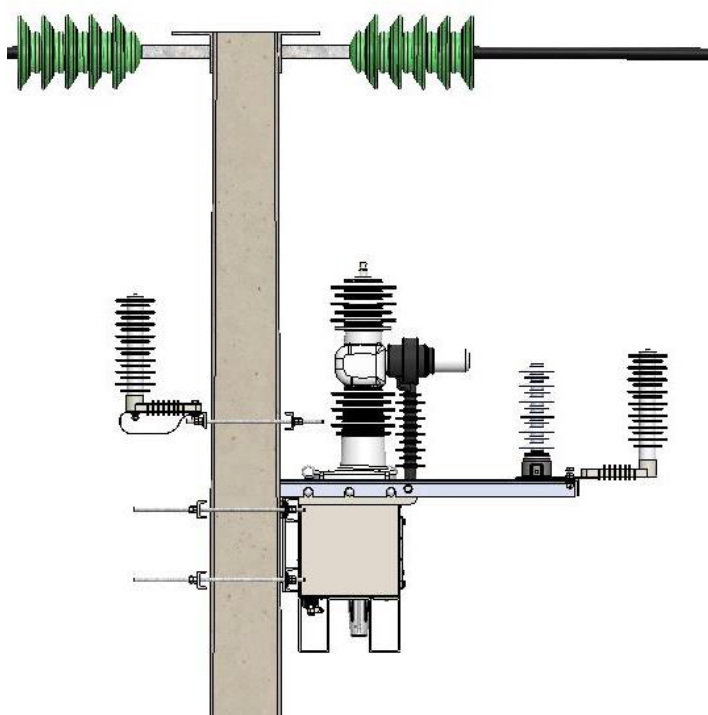
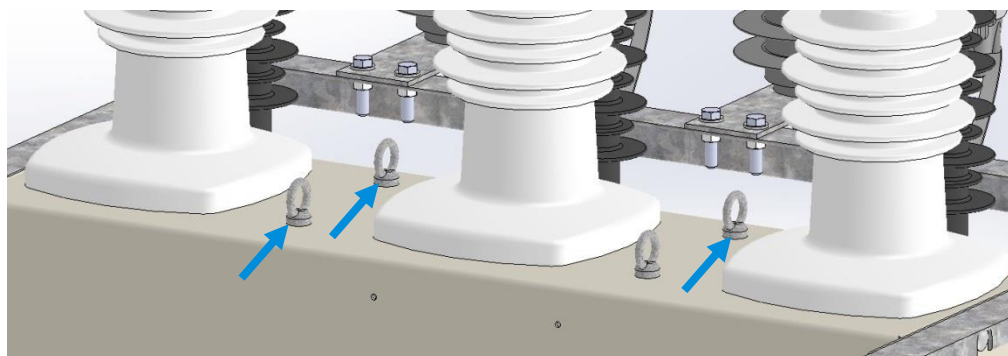


Kit NX2008113
Notice NX2008643

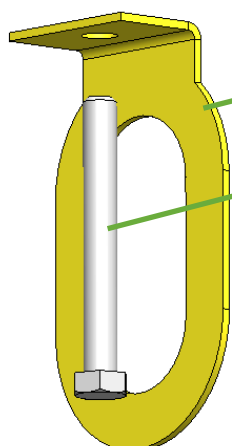
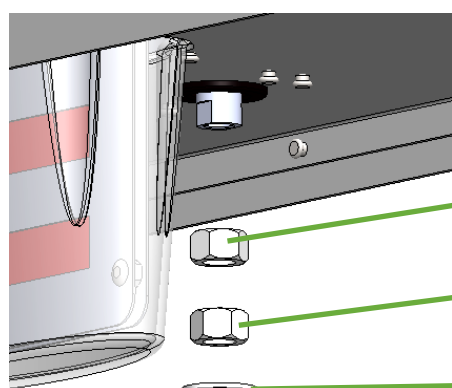
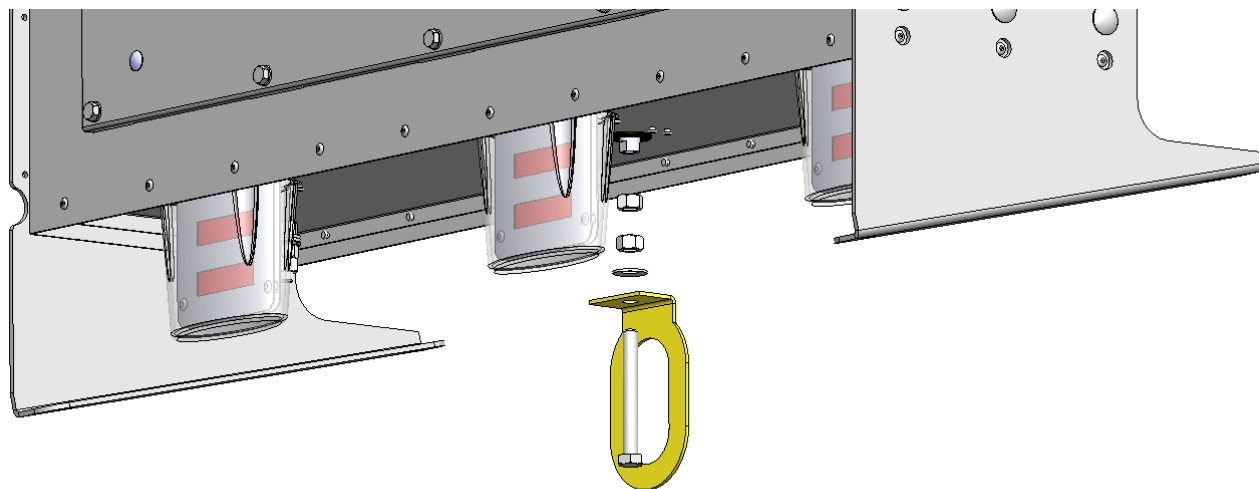
ETAPE 5 : installation et blocage du Smartcloser sur son support NX2008743

La notice de montage de ce kit se trouve dans son emballage.

Le levage s'effectue uniquement par les 4 anneaux de levage situés sur le corps du Smartcloser.



ETAPE 6 : installation de l'anneau de commande manuelle



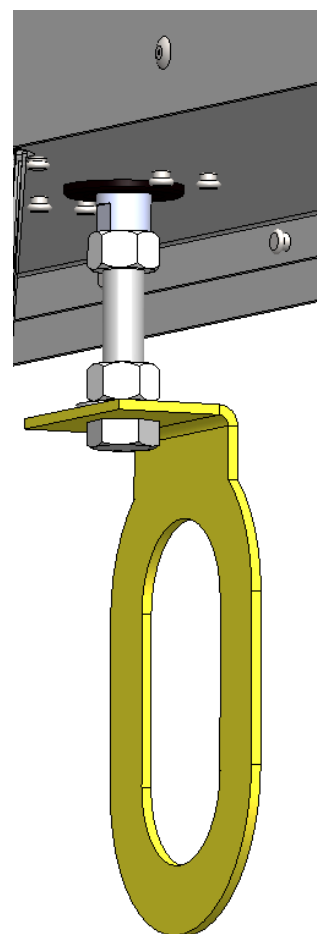
H M12

H M12

M 12

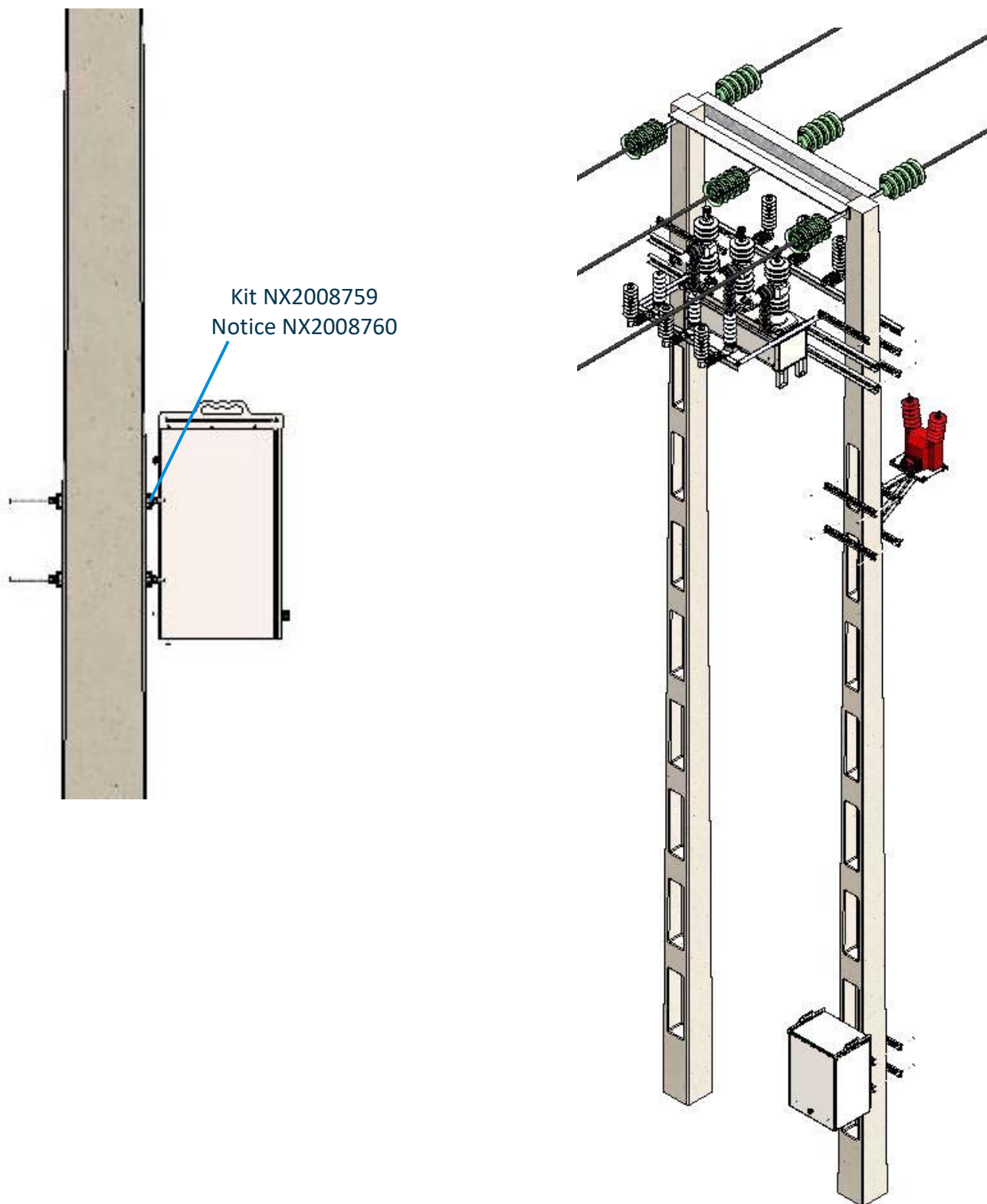
NX2006537

H M12 x 100



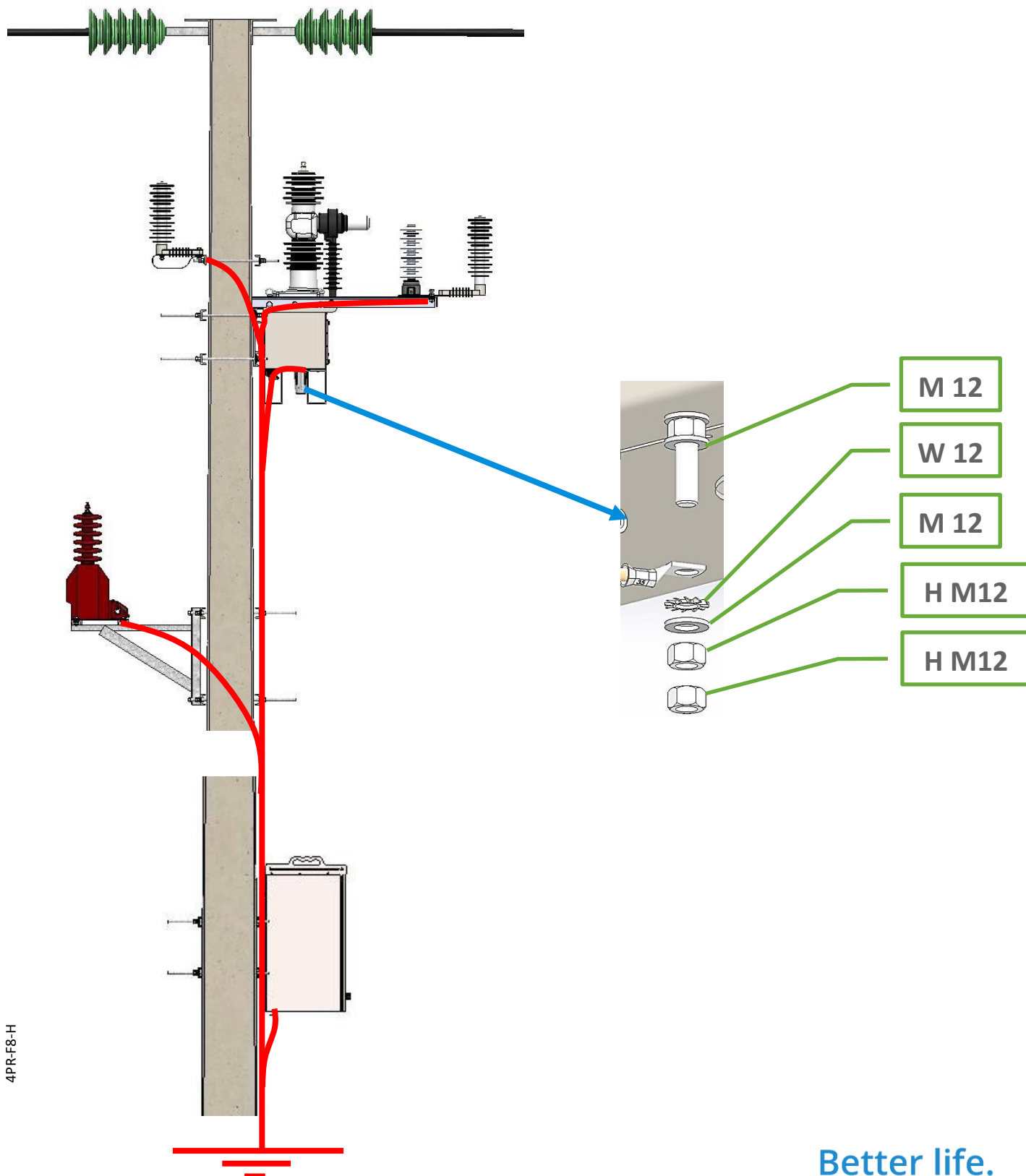
ETAPE 7 : installation du support coffret de contrôle NX2008759

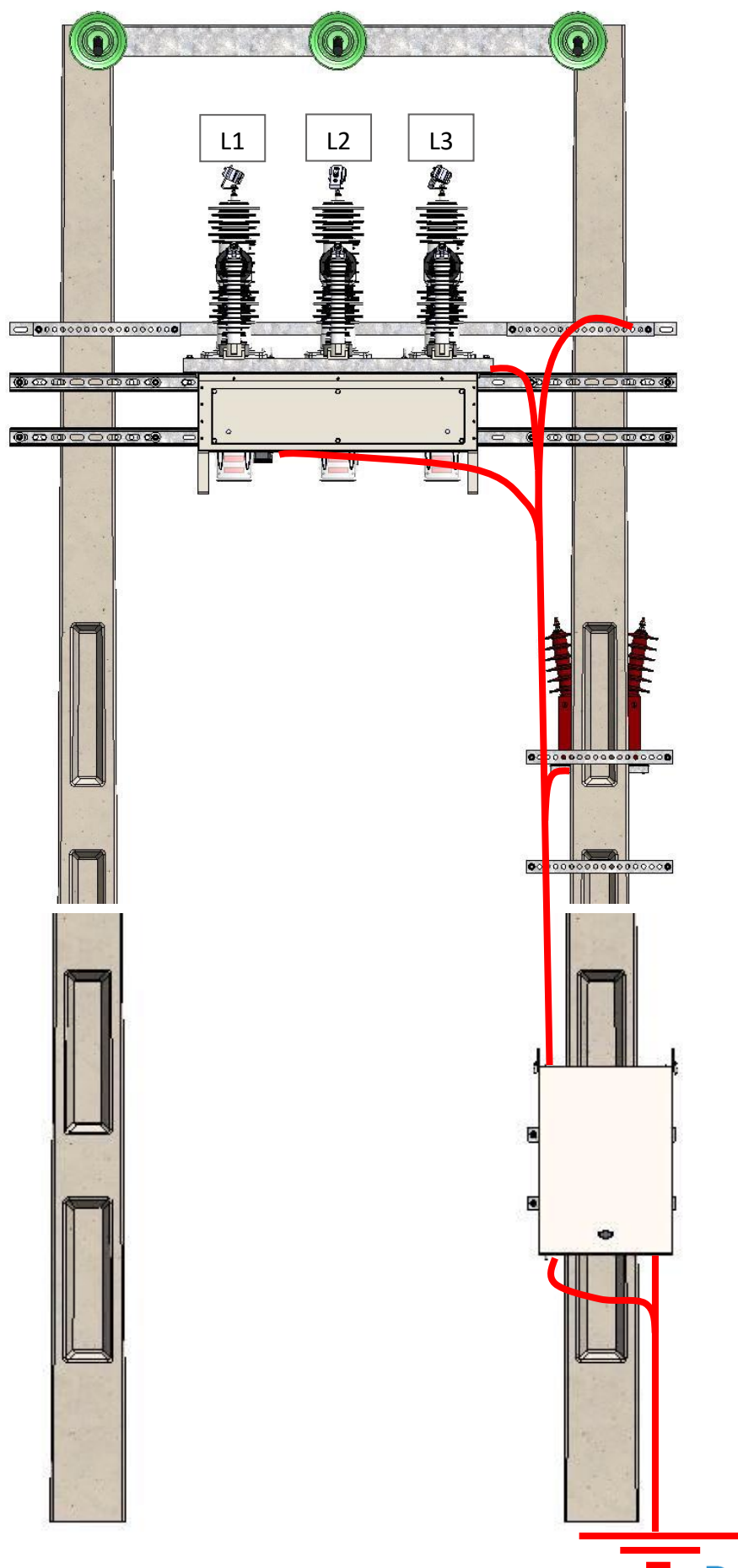
La notice de montage de ce kit se trouve dans son emballage.



ETAPE 8 : raccordement du circuit de terre

Le Smartcloser est destiné à être installé en équipotentialité. Toutes les parties métalliques doivent être raccordées au câble de mise à la terre principal. Le circuit de mise à la terre est constitué d'un câble de cuivre nu rigide de section 25mm² minimum. Il chemine le long du poteau et doit rester fixé le plus loin possible des parties sous tension.

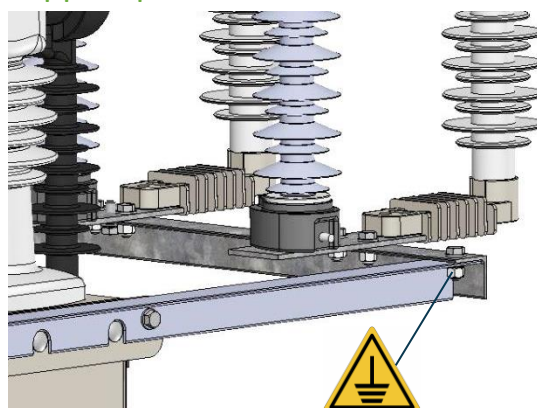




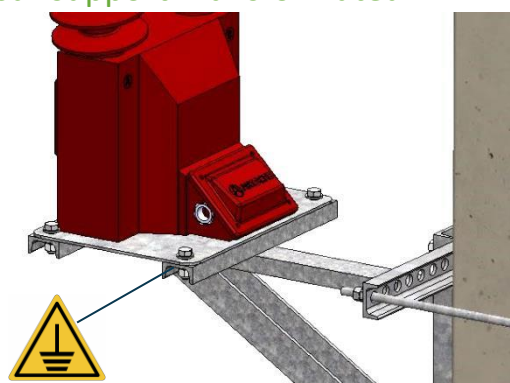
Raccordement terre sur support parafoudres amont



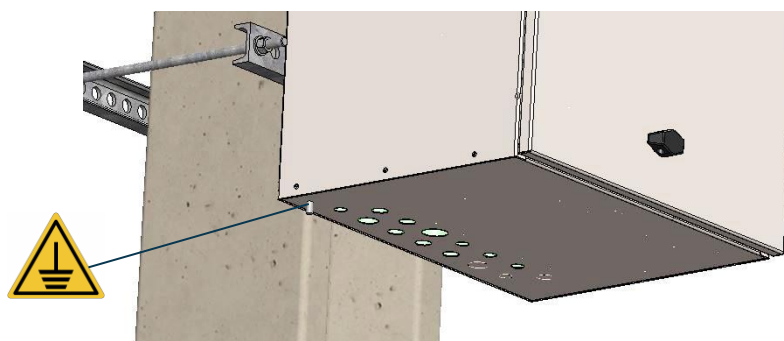
Raccordement terre sur support parafoudres aval



Raccordement terre sur support Transformateur



Raccordement terre sur coffret

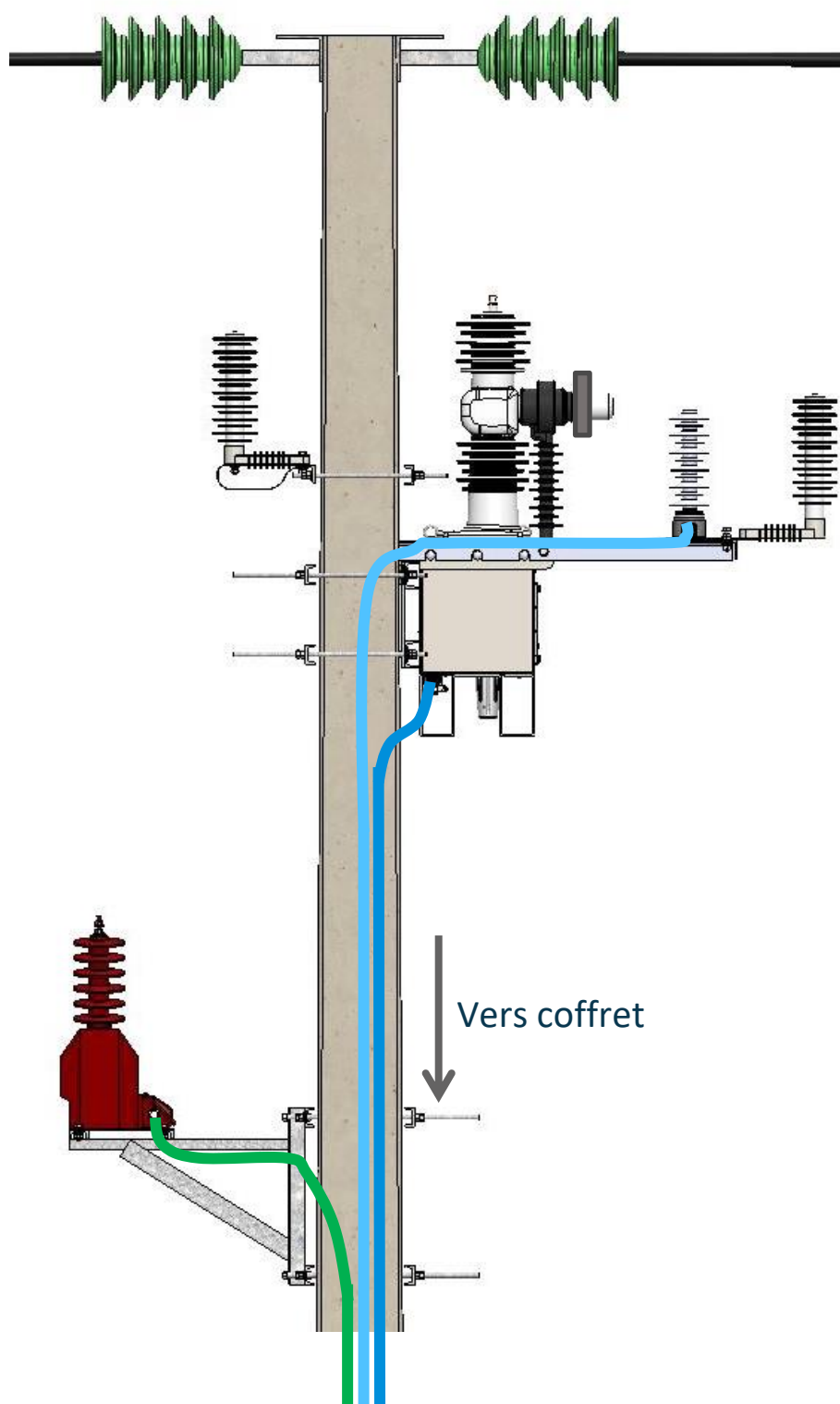


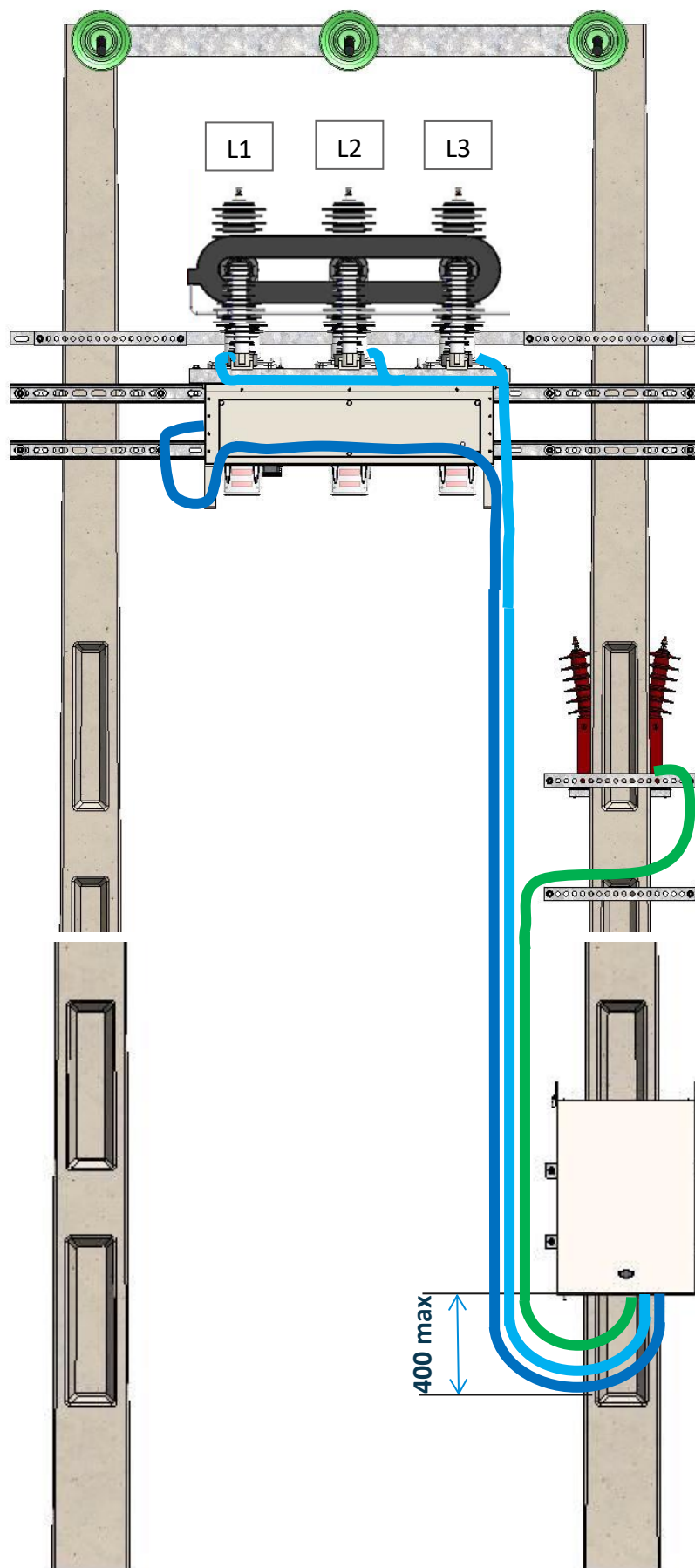
ETAPE 9 : raccordement du Smartcloser au coffret

Raccordement du Smartcloser avec câble NX2007029

Raccordement des capteurs de tension (option) avec câbles NX2008695

Raccordement du transformateur (option) avec câble NXC320036





400 max

Voir notice du coffret pour le passage des câbles et les instructions de câblages.

Détail du câble Smartcloser NX2007029

Numéro de fil / couleur	Fonction
1 / noir	Commun contacts de position
2 / noir	Contact position fermé
3 / noir	Contact position ouvert
4 / noir	Mesure courant phase 1
5 / noir	Mesure courant phase 2
6 / noir	Mesure courant phase 3
7 / noir	Tore homopolaire
8 / noir	Tore homopolaire
9 / noir	Libre
10 / noir	Libre
11 / noir	Libre
Vert Jaune	Commun de mesure courant

Détail du câble du transformateur NXC320036

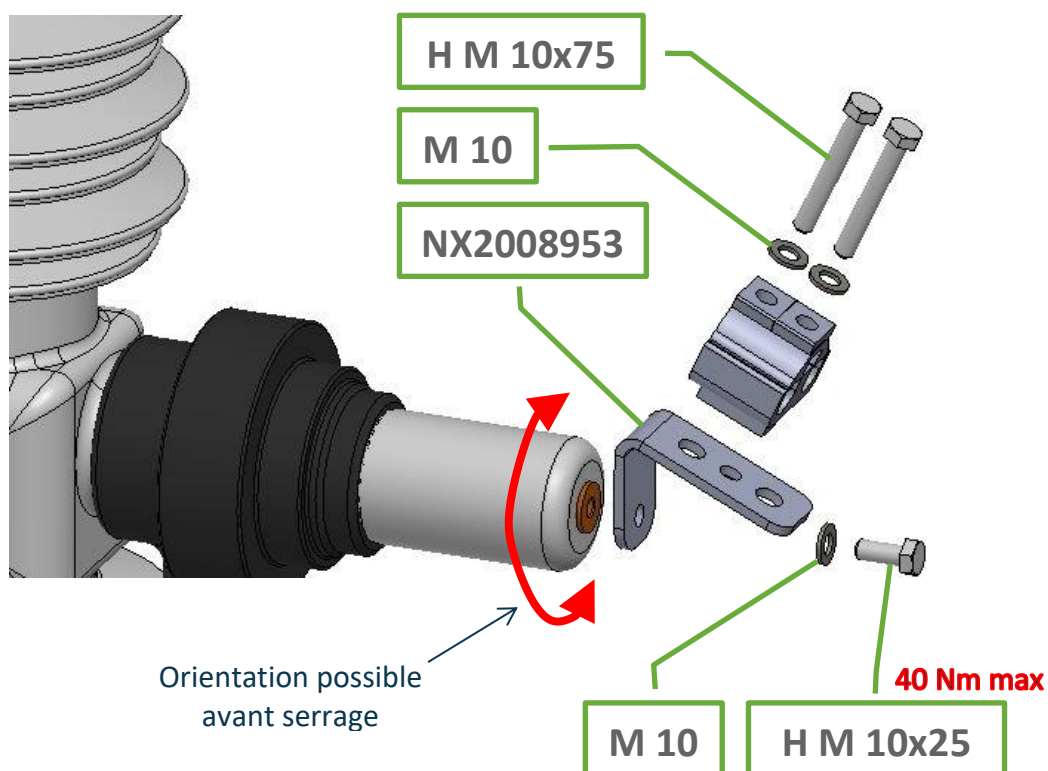
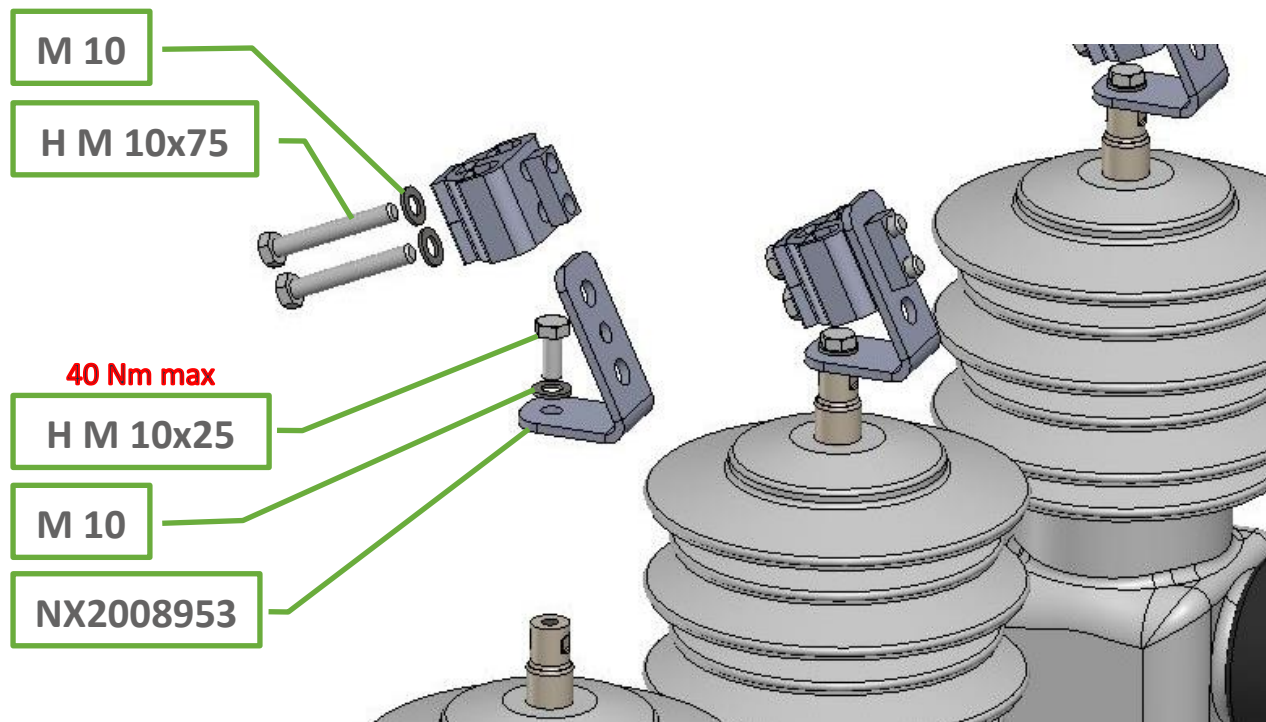
Numéro de fil / couleur	Fonction
Marron	Phase
Bleu	Neutre

Détail du câble des capteurs de tension NX2008695

Numéro de fil / couleur	Fonction
Ame cuivre	Tension de phase
Tresse de blindage	commun

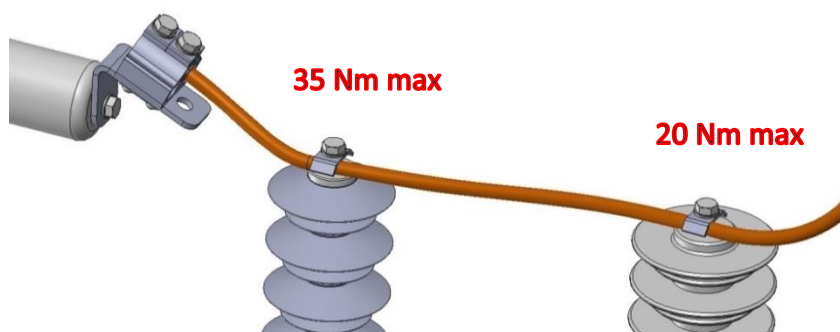
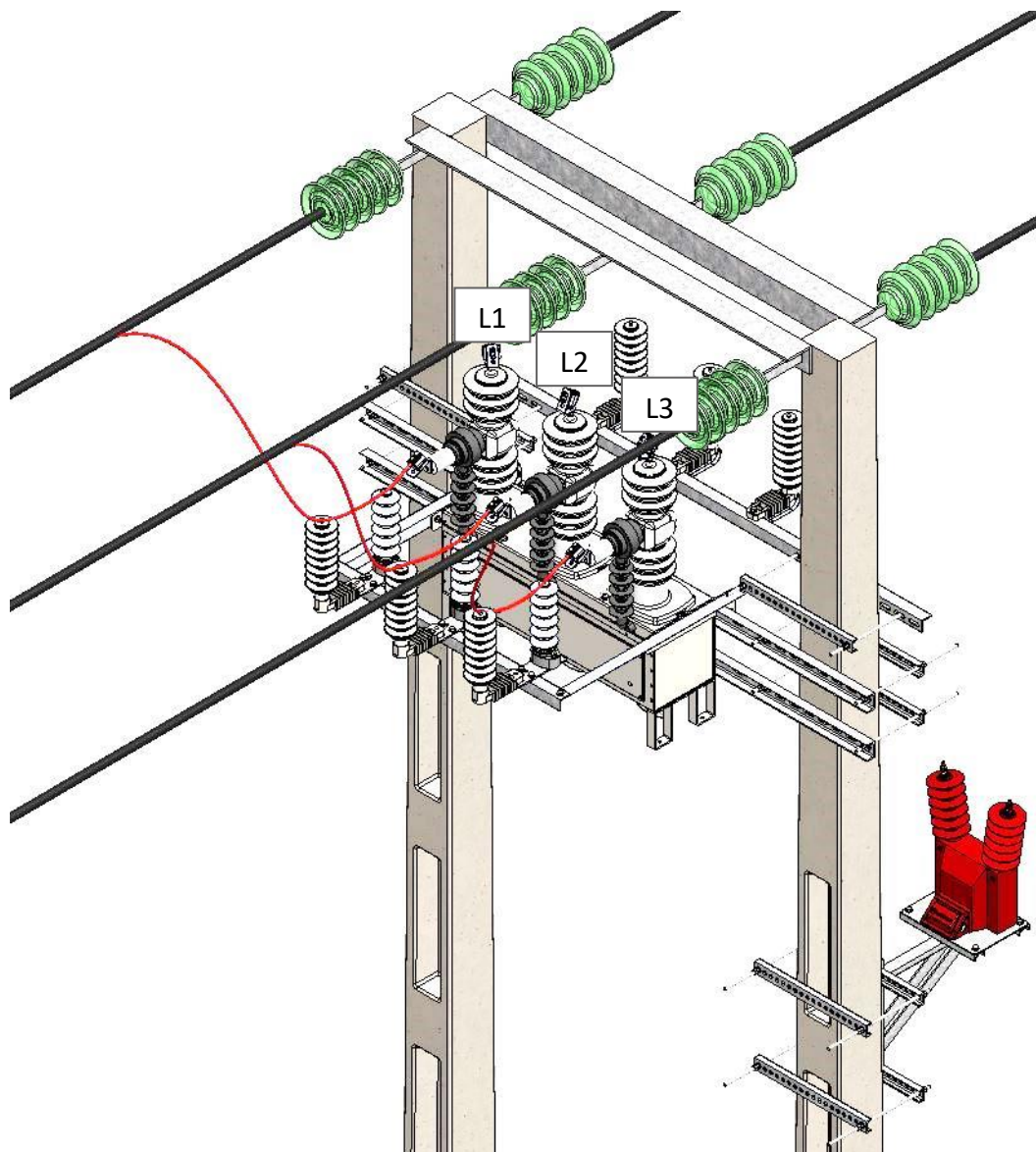
ETAPE 10 : installation des connecteurs Ensto NX2008956 sur le Smartcloser

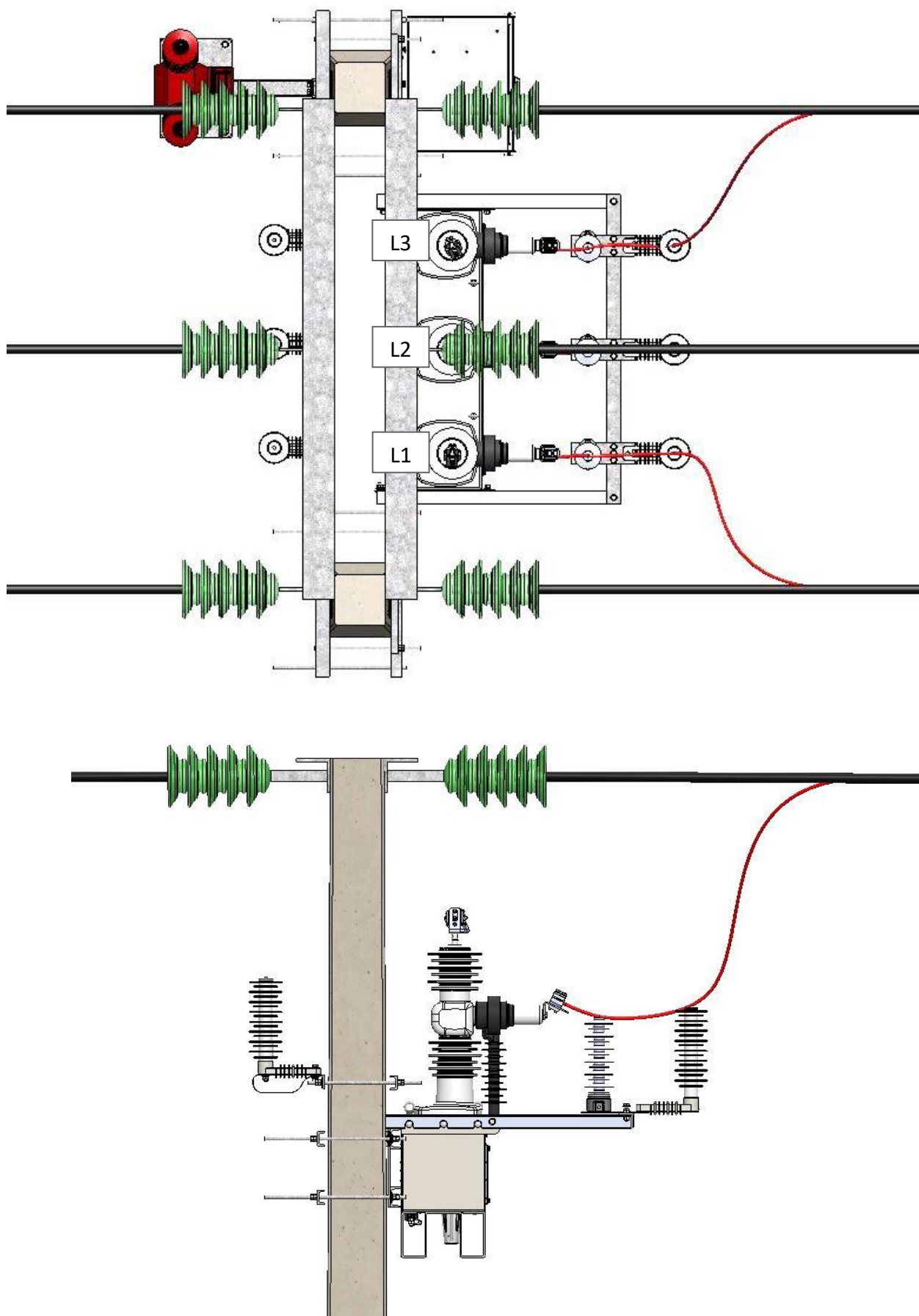
Il est possible d'orienter les connecteurs en rotation avant serrage.



ETAPE 11 : raccordement aval du Smartcloser

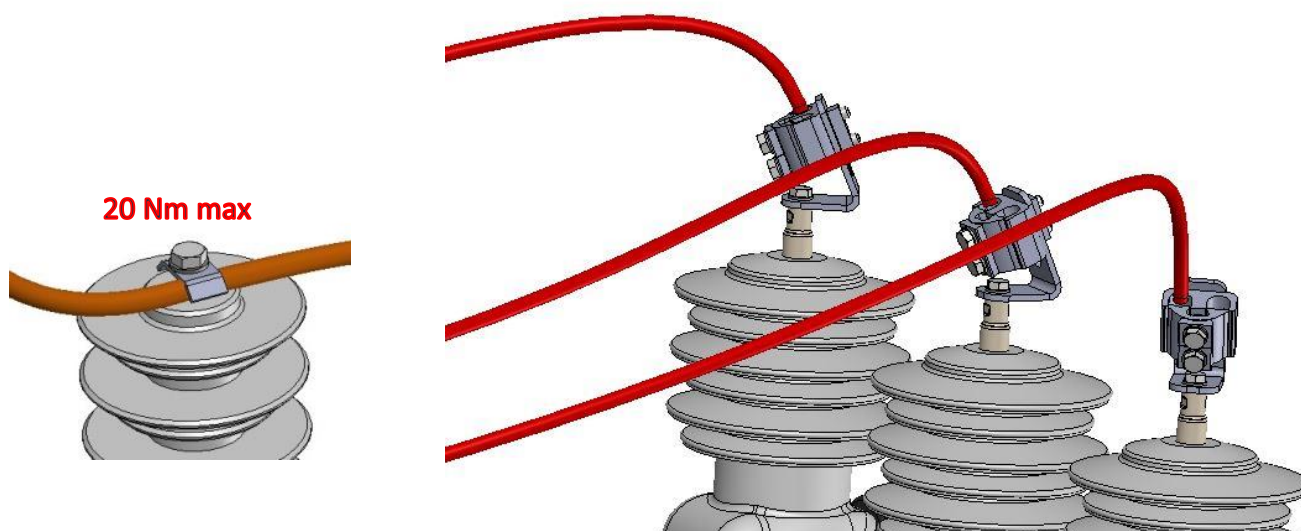
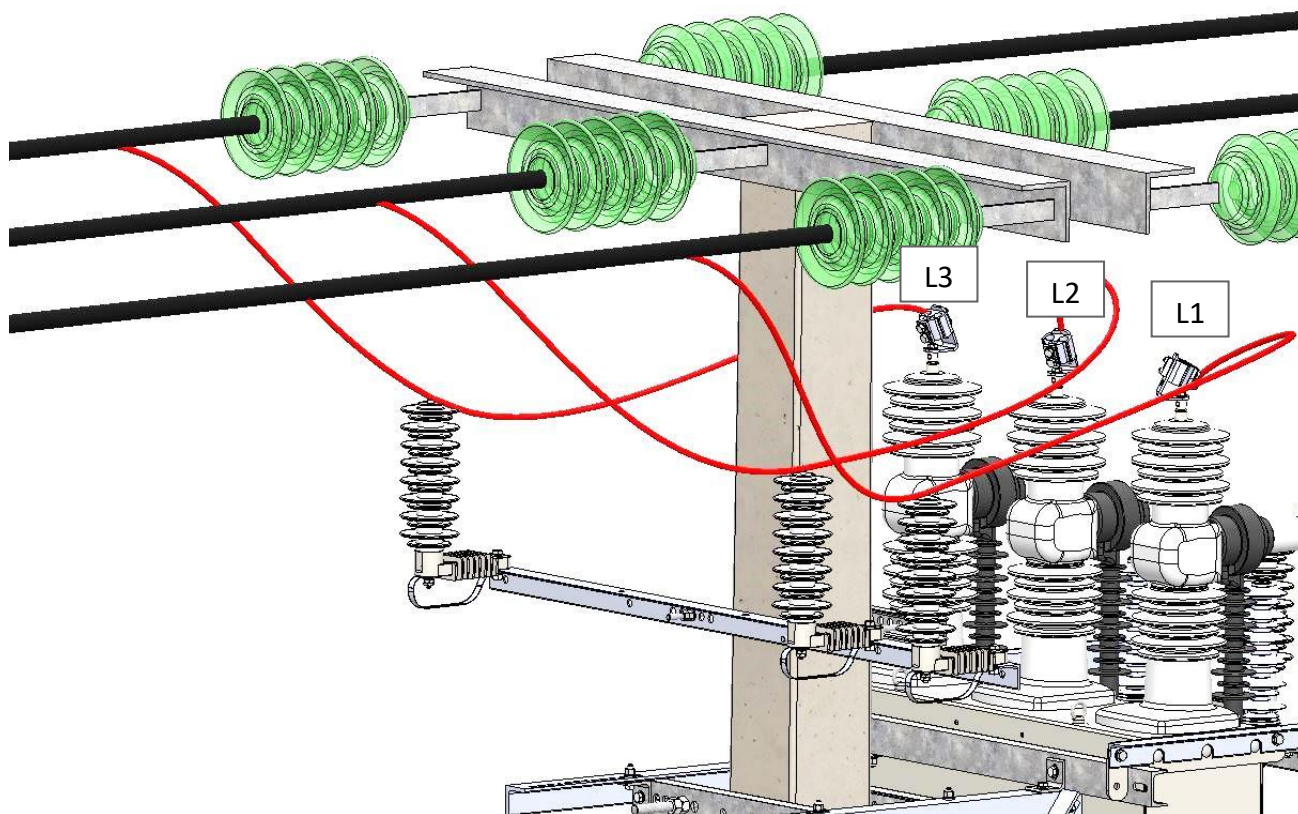
Pour orienter les câbles, il est possible de faire tourner les connecteurs Ensto autour de leur point de fixation.

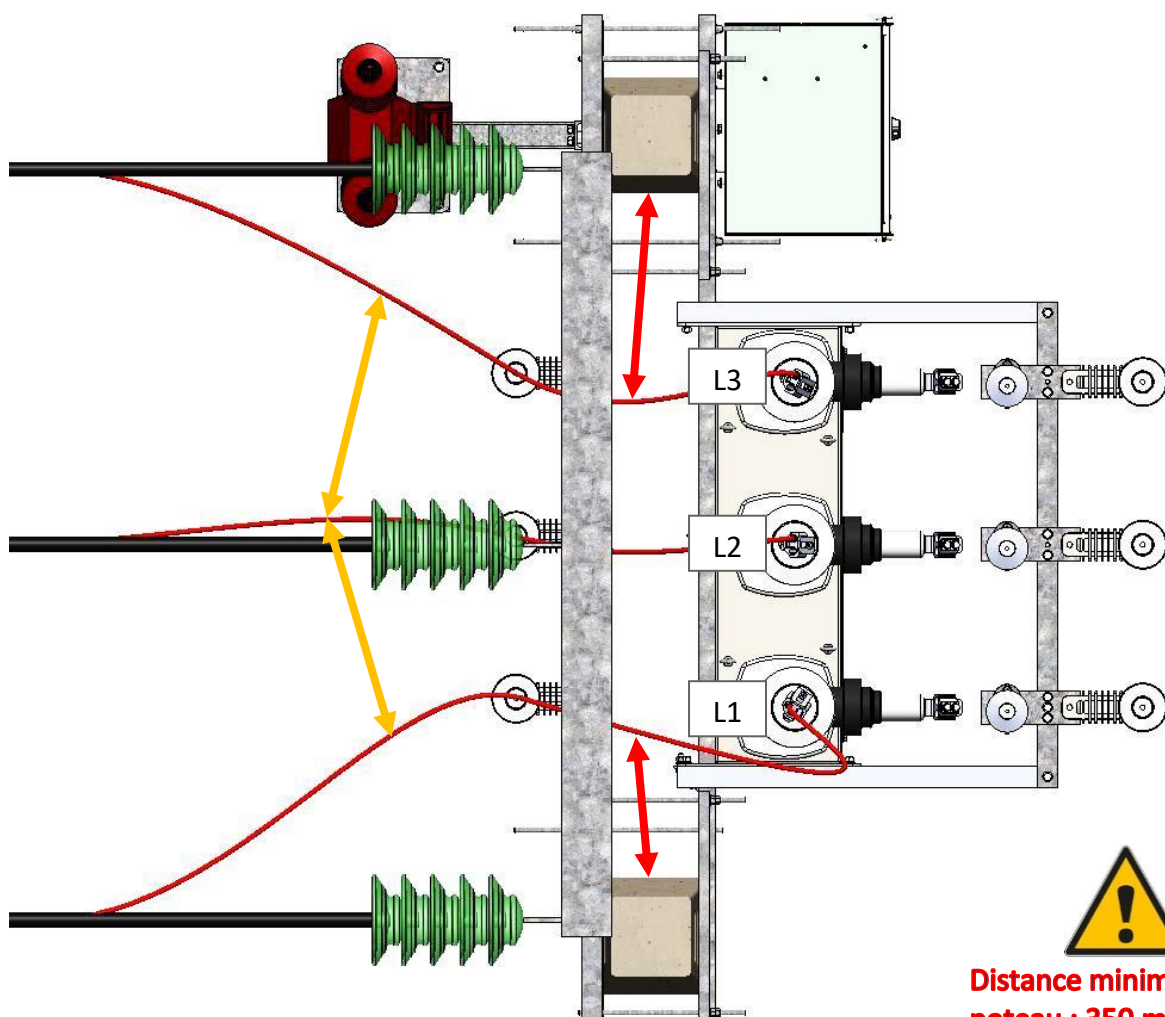




ETAPE 12 : raccordement amont du Smartcloser

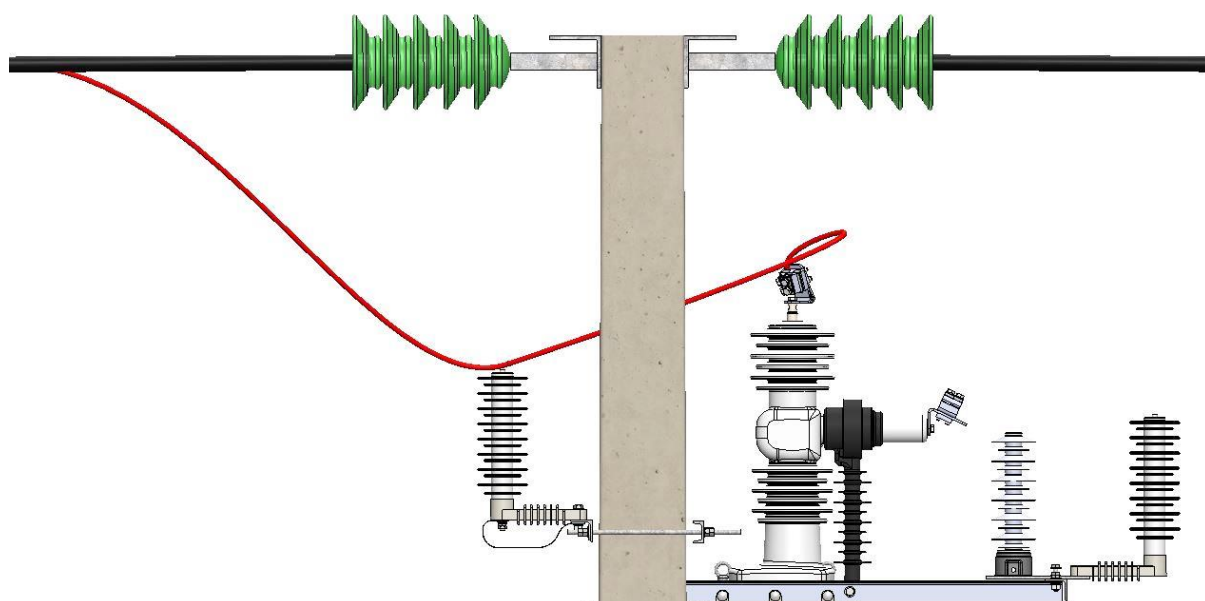
Pour orienter les câbles, il est possible de faire tourner les connecteurs Ensto autour de leur point de fixation.





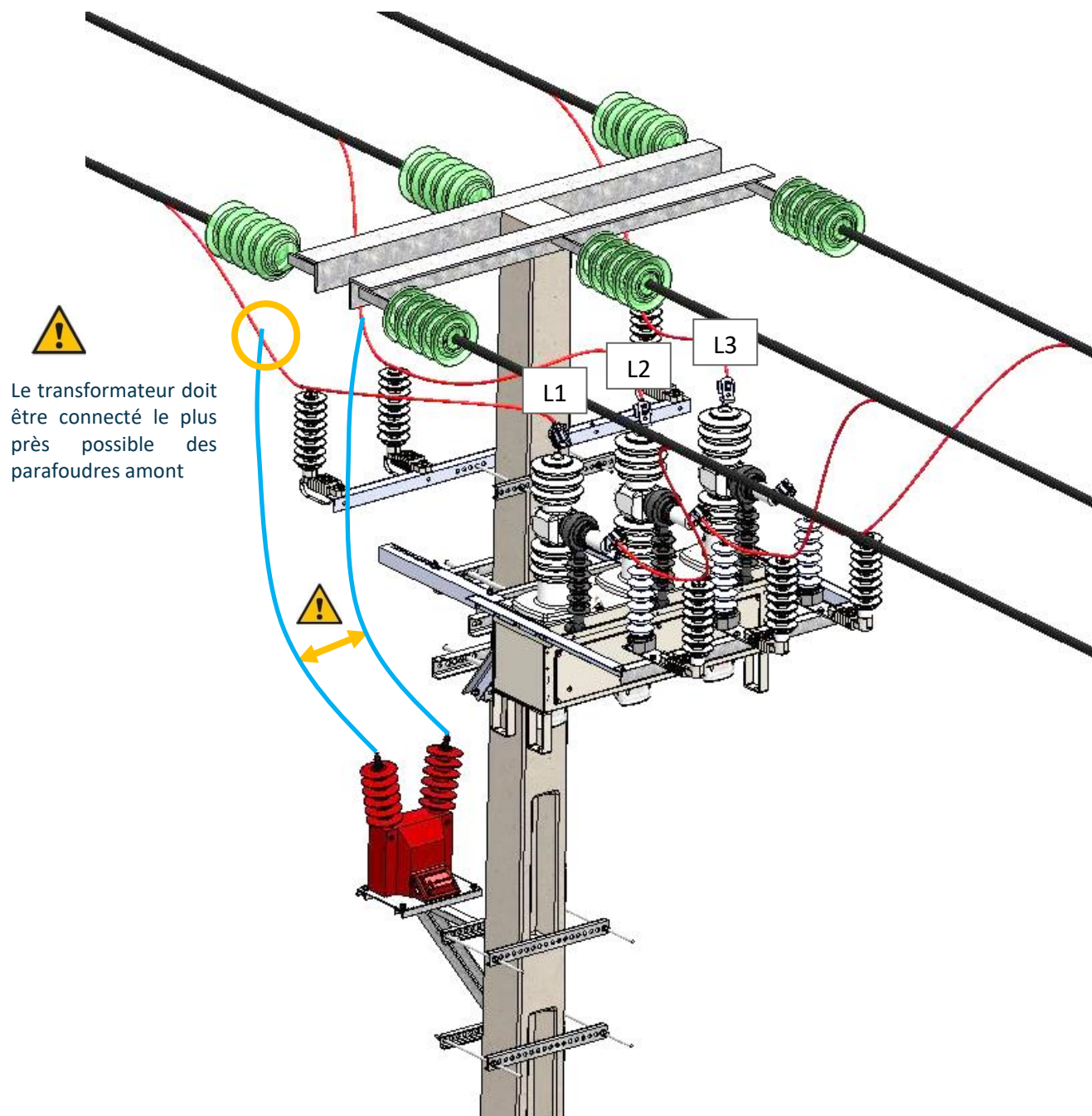
Distance minimale avec le poteau : 350 mm

Distance minimale entre câbles : 380 mm



ETAPE 13 : raccordement du transformateur

Raccorder le transformateur aux phases 2 et 3 (câbles non fournis).



3 Mise en service

3.1. Mise en service du coffret

Mise en service du coffret de commande selon les instructions contenues dans le manuel d'utilisation du coffret.

3.2. Liste des opérations de mise en service

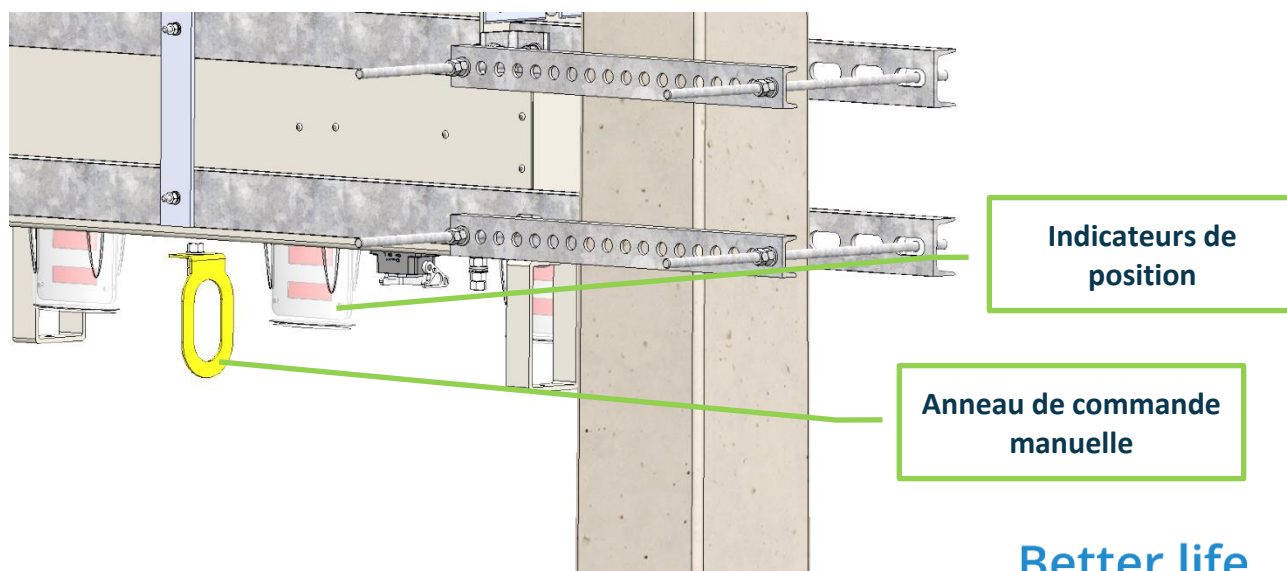
Vérifier le bon fonctionnement mécanique du Smartcloser. Pour cela, il doit être alimenté depuis 30 minutes minimum et en position ouverte, position dans laquelle il est livré.

A l'aide du coffret de contrôle (alimenté depuis plus de 30 minutes) effectuer :

- Une commande électrique de fermeture.
Vérifier que les trois indicateurs de positions (sous le Smartcloser) affichent l'état fermé : **Couleur rouge.**
- Effectuer une commande électrique d'ouverture.
Vérifier que les trois indicateurs de positions (sous le Smartcloser) affichent l'état ouvert : **Couleur verte.**
- Effectuer une commande électrique de fermeture afin de remettre l'appareil en position fermé

A l'aide d'une perche, réaliser ensuite une ouverture manuelle de secours en actionnant l'anneau jaune situé sous l'appareil, par un mouvement de traction vertical bref et énergique.

- Vérifier à nouveau que les trois indicateurs de positions affichent l'état ouvert : **Couleur verte.**



3.3. Essais de fonctionnement

Après avoir mis en service le coffret de commande :

- Effectuer des manœuvres électriques d'ouverture et fermeture de l'appareil en local et à distance.
- Condamner l'appareil à l'aide de l'interrupteur de neutralisation situé dans le coffret et vérifier, que les commandes électriques en local ou à distance sont impossibles.

4 Maintenance

4.1. Préventive

Le Smartcloser et ses composants ne demandent aucun entretien régulier.

4.2. Corrective

En cas de maintenance corrective nécessaire et établie par un expert Ensto, contacter le service après-vente Ensto.

5 Fin de vie du Produit

Pour toute demande sur la gestion de fin de vie du produit de référence, contactez le service SAV avec les éléments techniques des sous-ensembles et/ou des produits à recycler.

English

General

- Before unpacking

- > Verify that the product in its packaging has not been damaged during transport.
- > Verify that the product is suitable for the intended installation.

- Before installation

- > Carefully read the operation guide before installing or using this product.
- > Perform the installation carefully, ensuring that the equipment remains clean throughout the operation.

- After installation

- > If you are installing this product for someone else, leave the guide for the end user.
- > Clean the work area after installation.

Legal notices

The product may only be installed by a competent person with adequate training in the installation practices and with adequate knowledge of proper safety and installation practices for electrical equipment. If local regulations have requirements relating to this training or adequate knowledge in terms of the installation of electrical equipment, the aforementioned requirements must be complied with by this person.

Ensto Novexia will not be held responsible in any way for damage to property or persons caused by an incorrect installation, incorrect operation or lack of compliance with the safety instructions.

WARNING :

For the operation of this system in complete safety, it is essential that the installers, users and technicians follow the procedures and precautions described in this guide. Non-compliance with these instructions may cause damage to the products and/or serious or even mortal injury.

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1 Presentation

1.1. Product overview

Dedicated to aerial networks, this 38kV/630A circuit breaker can ensure networks service continuity. Equipped with a mechanism capable of detecting line faults, this device can eliminate them by engaging Reclosing cycles.

1.2. General characteristics

- ✓ Core : vacuum bottles
- ✓ Insulation : solid with epoxy resin
- ✓ Voltage : 38kV
- ✓ Current : 630A
- ✓ Breaking power : 12.5kA
- ✓ Related standards : IEEE C37-60 et CEI 62271-111
- ✓ General standards : CEI 62271-1 et CEI 62271-100

1.3. Requested equipments for installation (not provided by Ensto)

- ✓ Cherry picker or equivalent to rise loads
- ✓ Manual common tools
- ✓ Lifting belt
- ✓ Dimensions measuring tool
- ✓ Aluminium cable for Smartcloser and transformer connecting

2 Installation

2.1. Precautions before installation

Before installation operations, make sure to clear the area at the bottom of the pole. Heavy elements must be raised during installation and may result in severe injuries in case of fall.

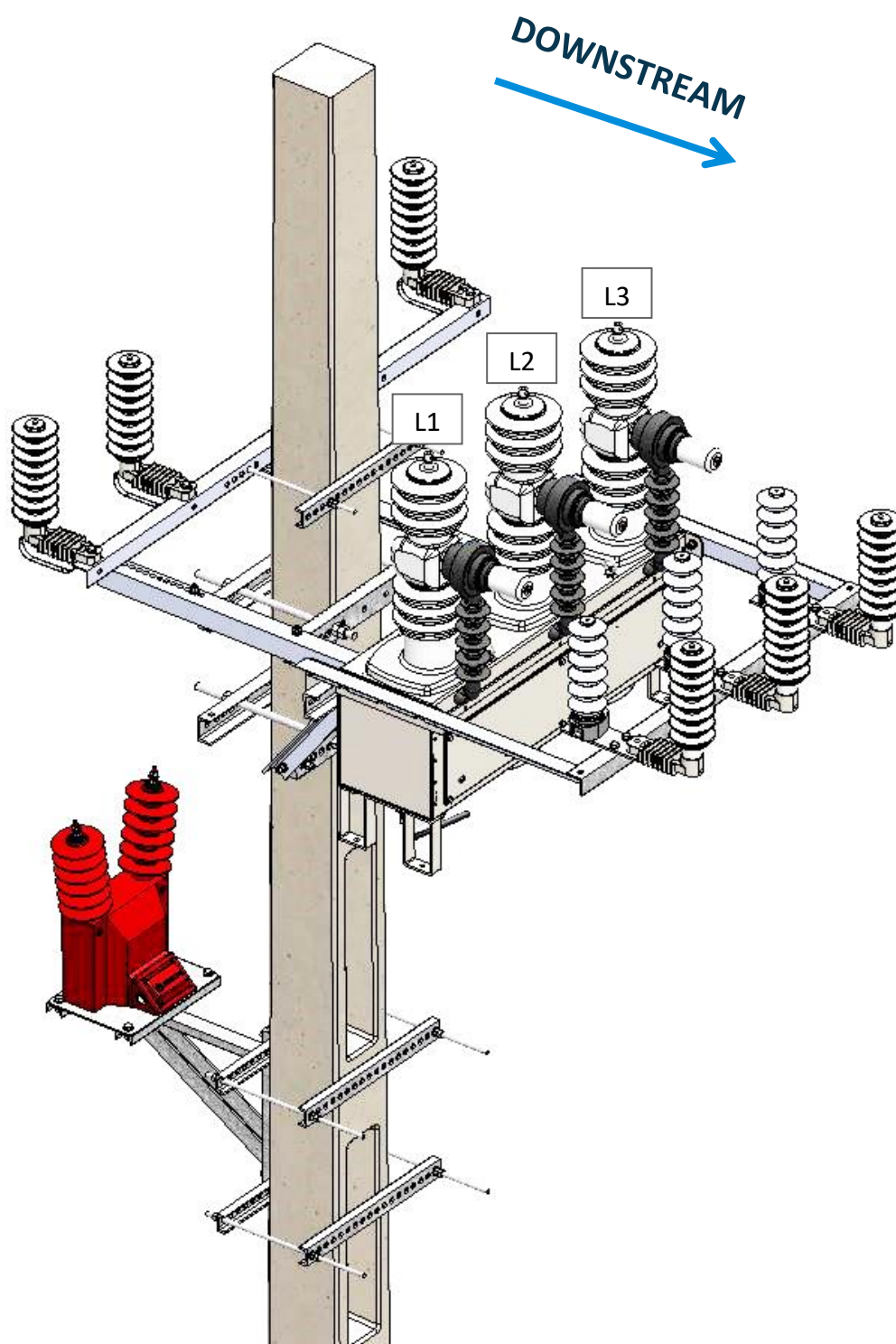
The Smartcloser Packaging must be positioned horizontally before being opened as it may tip over. Fixation screws on its feet must be released only once the lifting device is attached to the Smartcloser.

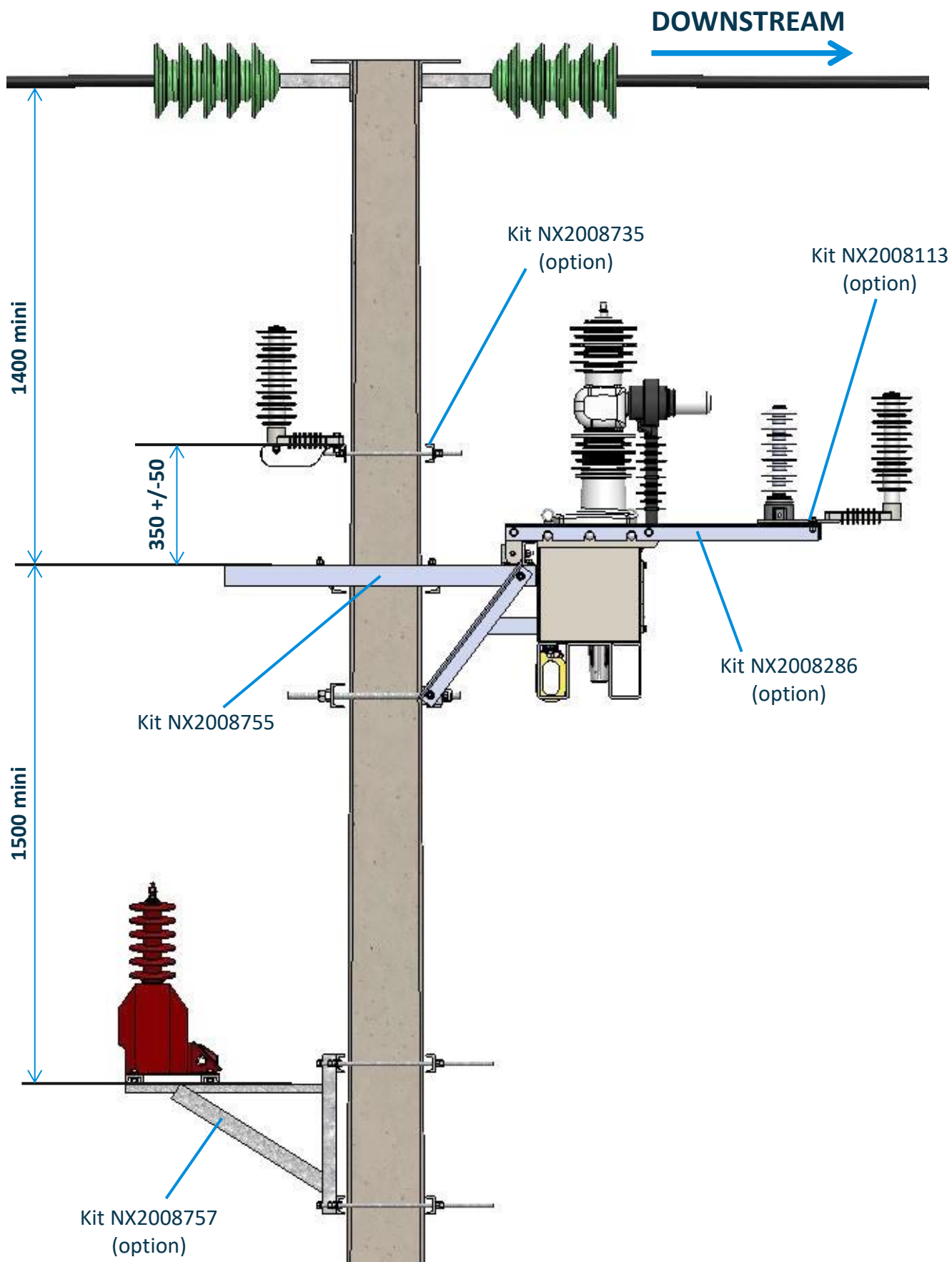
Respect this procedure and assembly steps carefully so not to damage any part of the material.

Respect given distances between elements and cables because of the risk of electric choc.

2.2. Installation operations

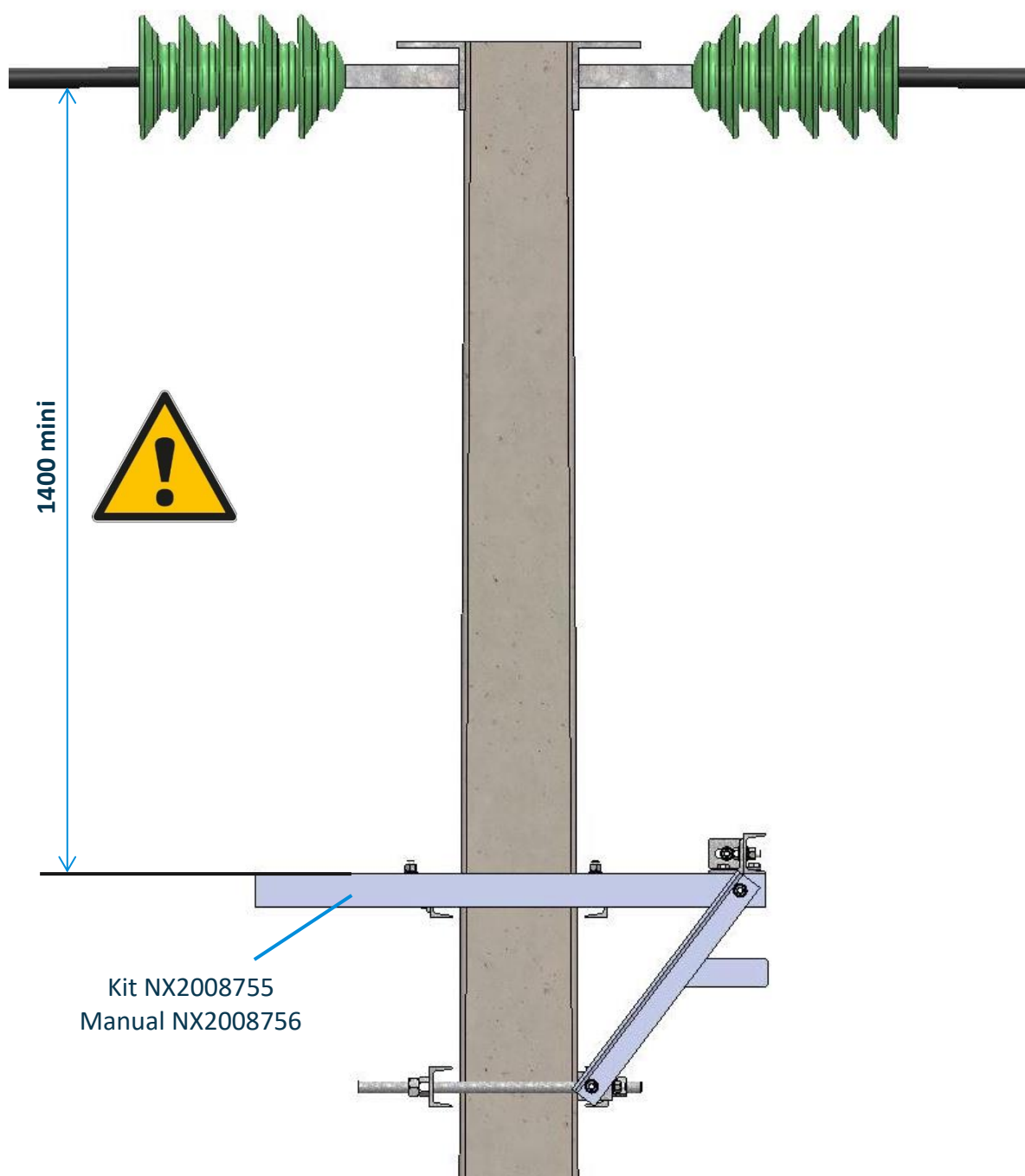
2.2.1. Installation on single concrete pole





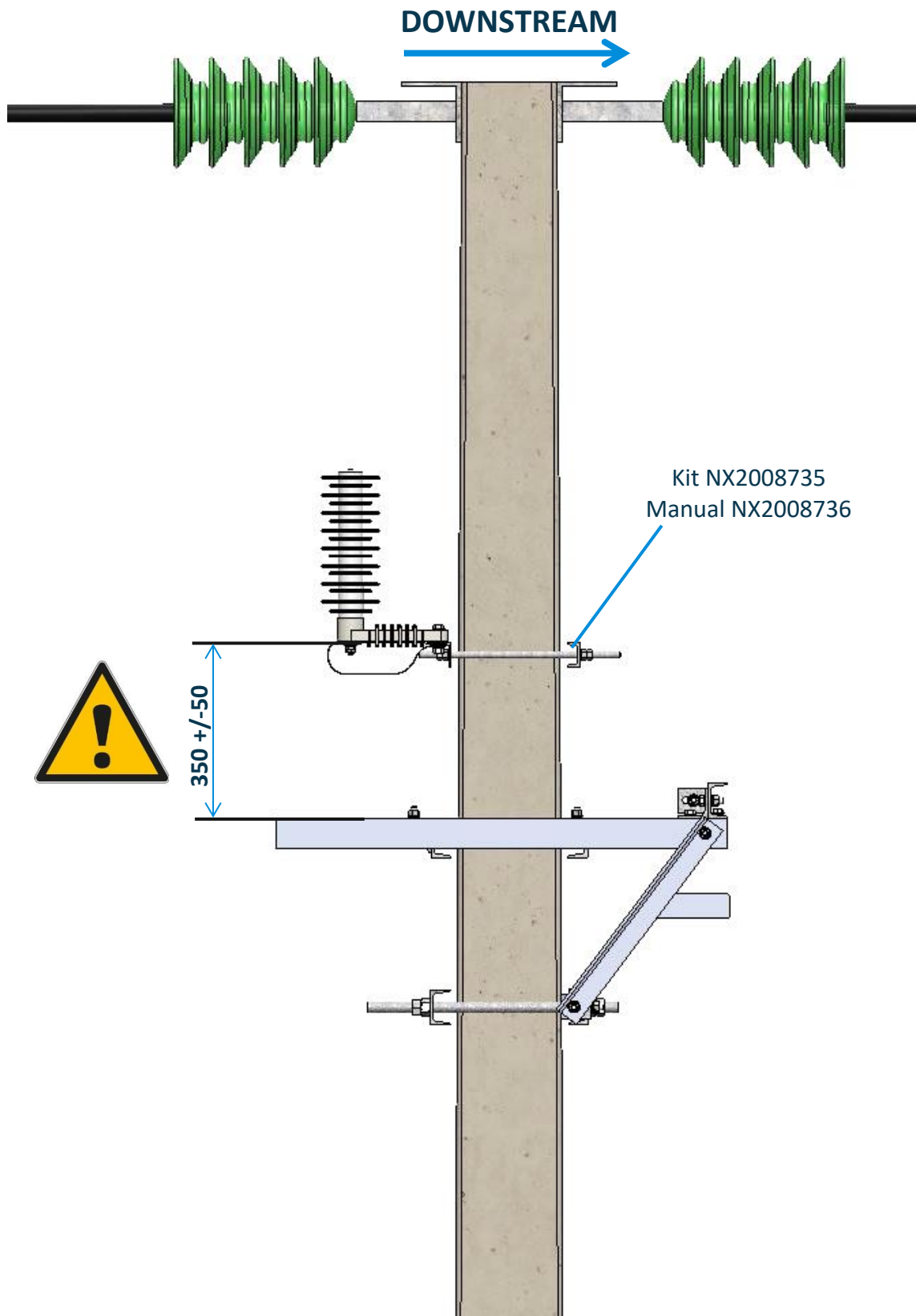
STEP 1: installation of Smartcloser fixation device NX2008755

The assembly manual for this kit is located in its packaging.



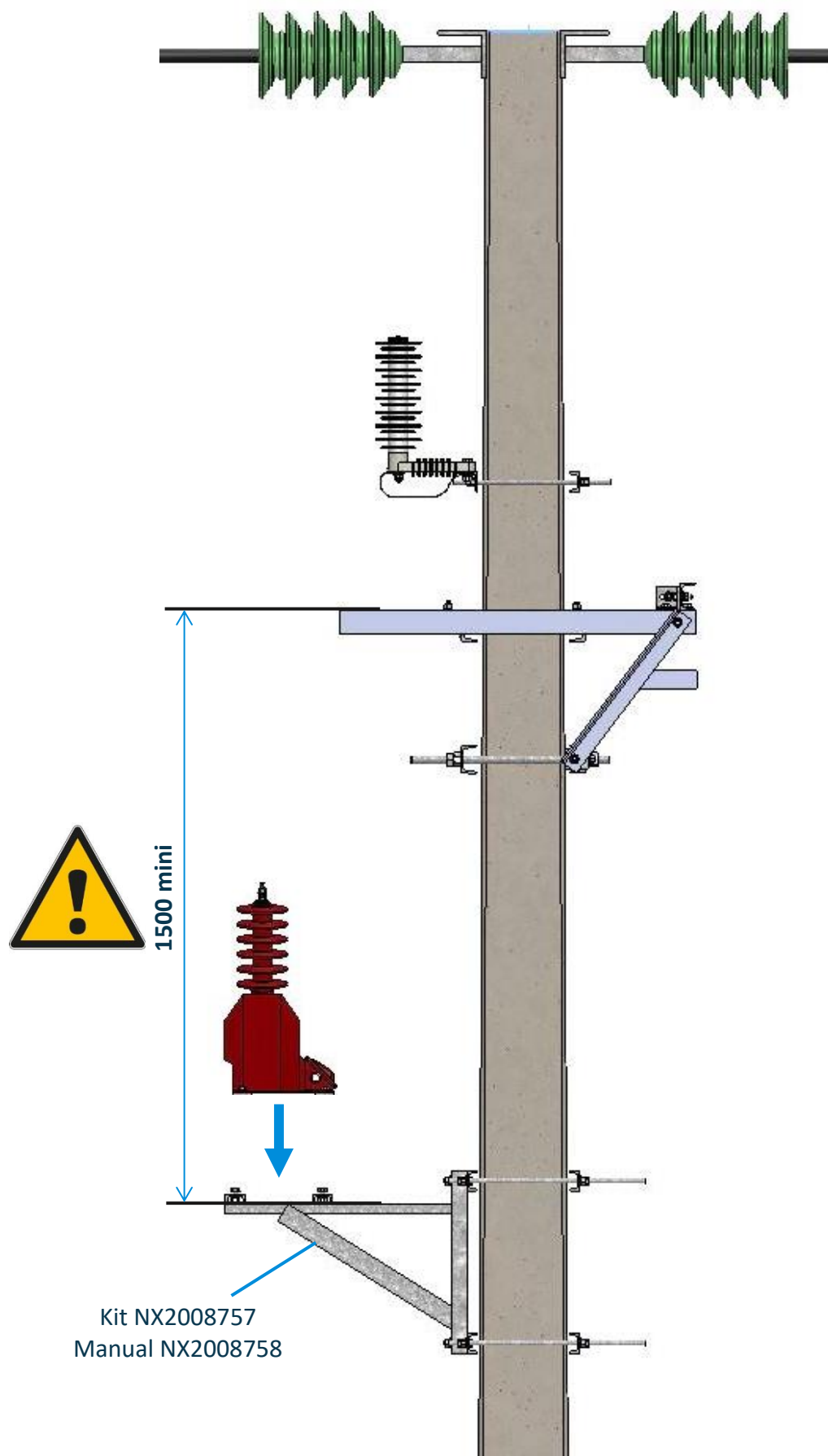
STEP 2: installation of upstream surge-arresters NX2008735 (option)

The assembly manual for this kit is located in its packaging.



STEP 3: installation of transformer fixation kit NX2008757 (option)

The assembly manual for this kit is located in its packaging.

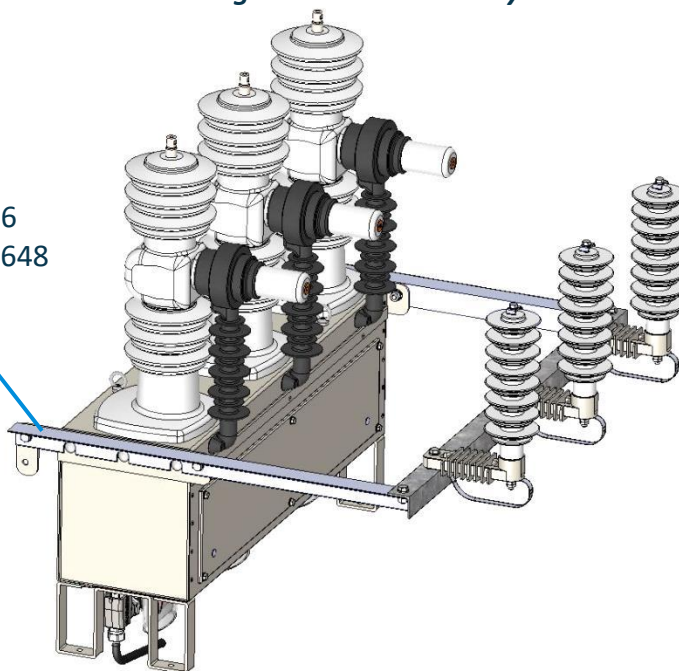


STEP 4: installation of downstream surge arresters fixation kit NX2008286 (option) and voltage sensor fixation kit NX2008113 (option)

The assembly manual for this kit is located in its packaging.

Downstream surge arresters assembly without voltage sensor

Kit NX2008286
Manual NX2008648

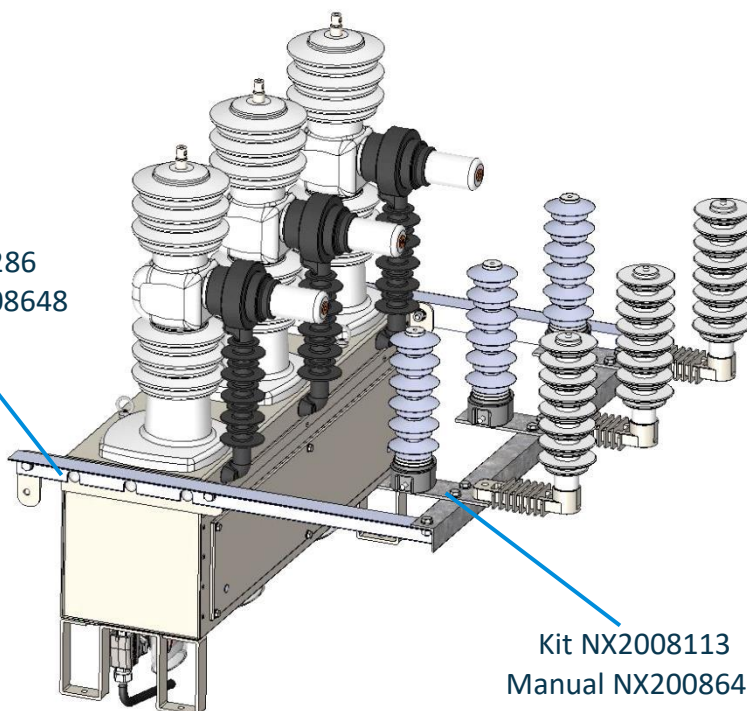


OR

Downstream surge arresters assembly with voltage sensors

Kit NX2008286
Manual NX2008648

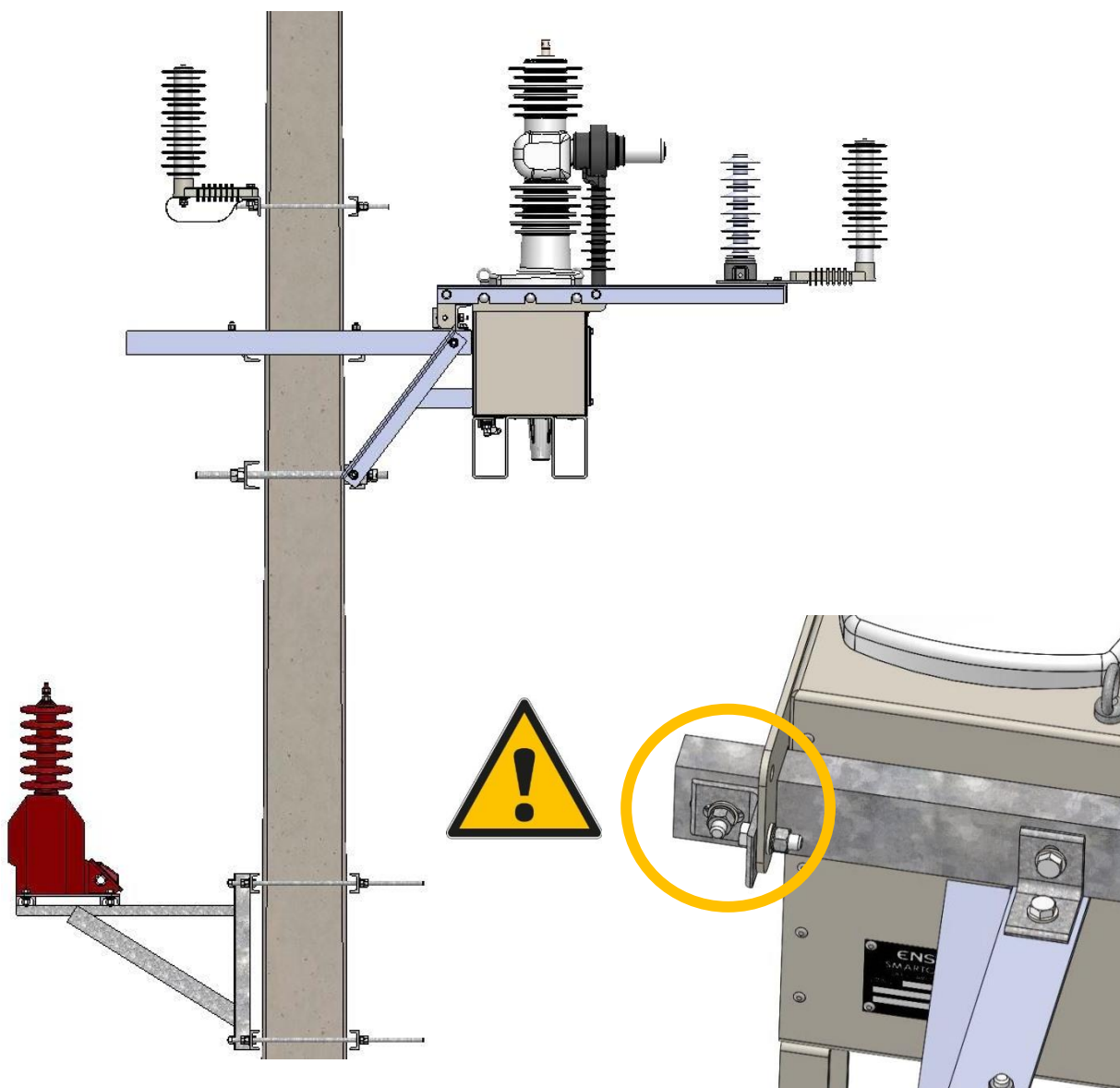
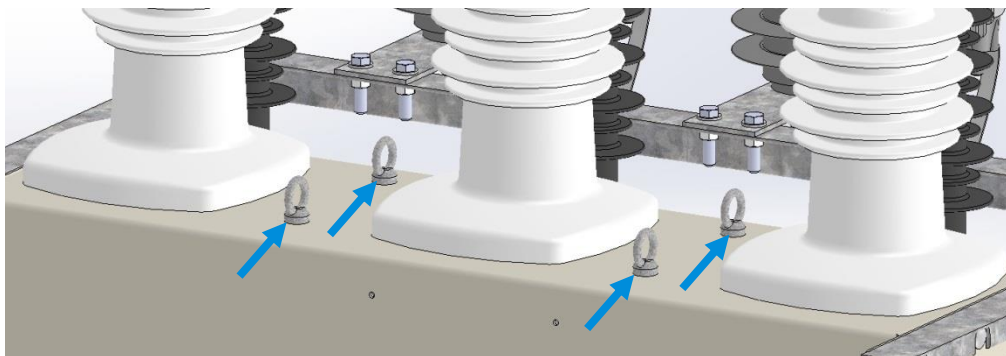
Kit NX2008113
Manual NX2008643



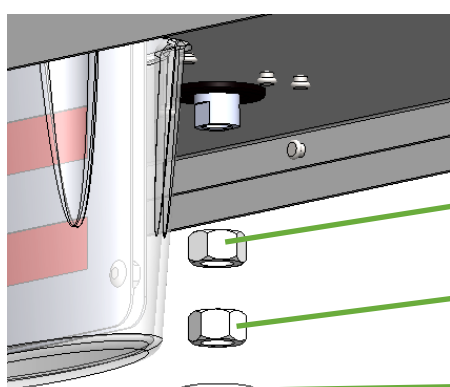
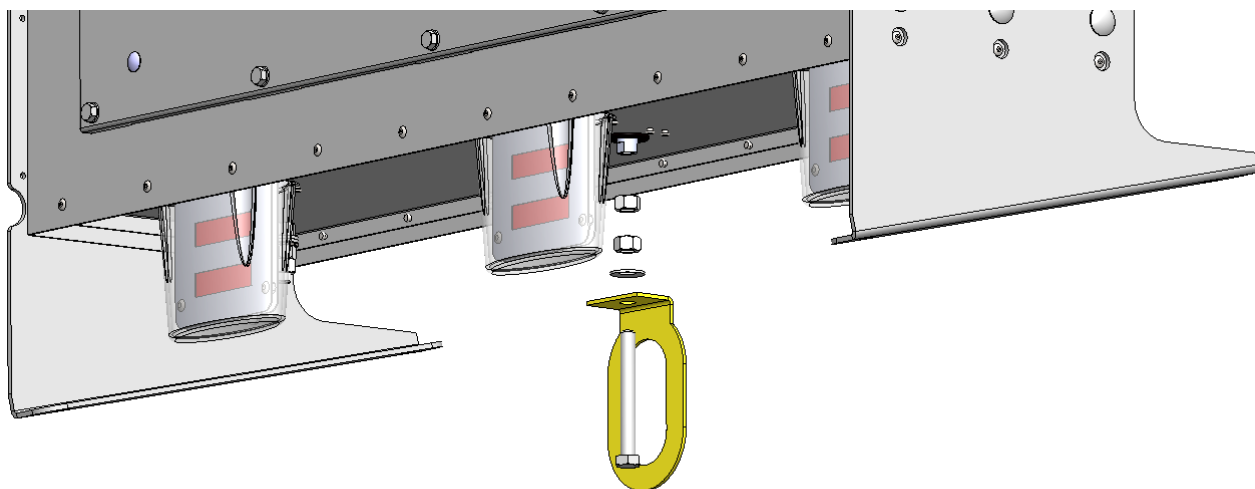
STEP 5: installation and locking of Smartcloser on its support NX2008755

The assembly manual for this kit is located in its packaging.

Lifting must be done only with the four lifting rings located on the upper side of the body.



STEP 6: installation of manual operation ring



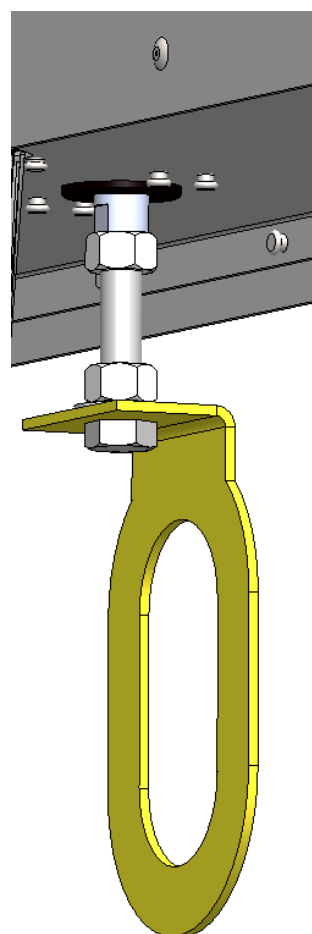
H M12

H M12

M 12

NX2006537

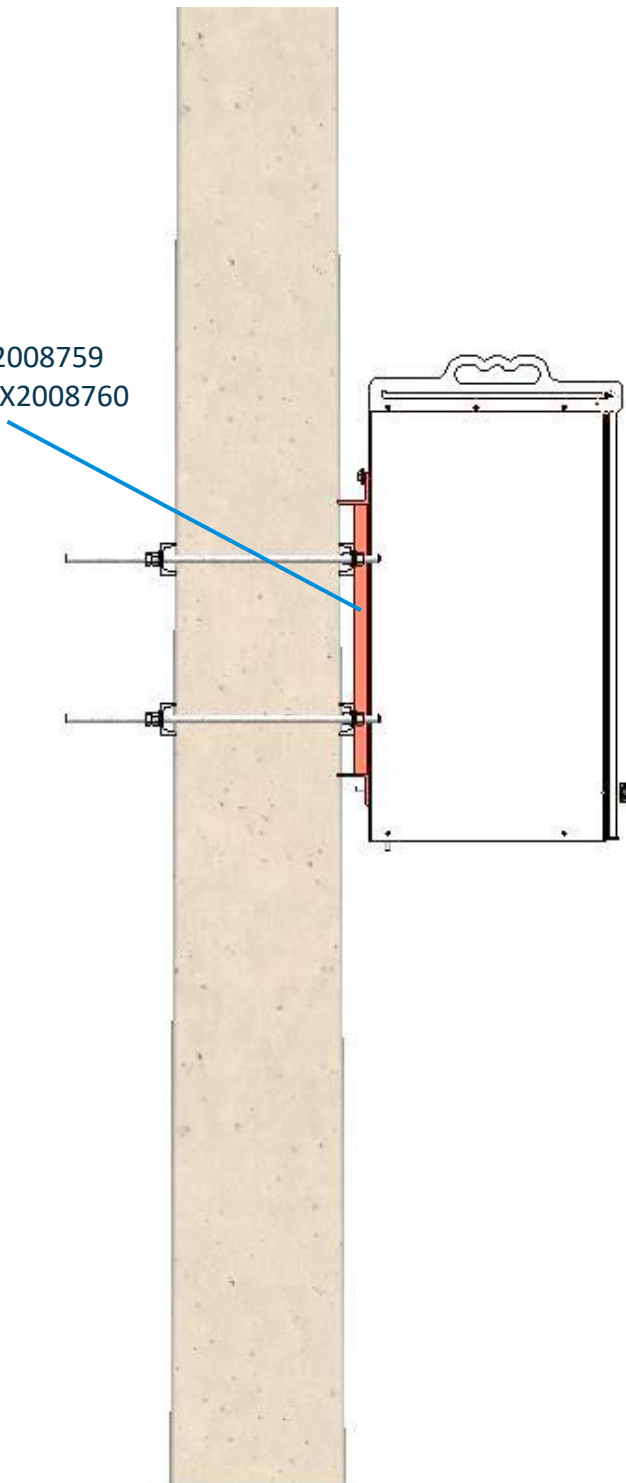
H M12 x 100



STEP 7: installation of control box fixation kit NX2008759

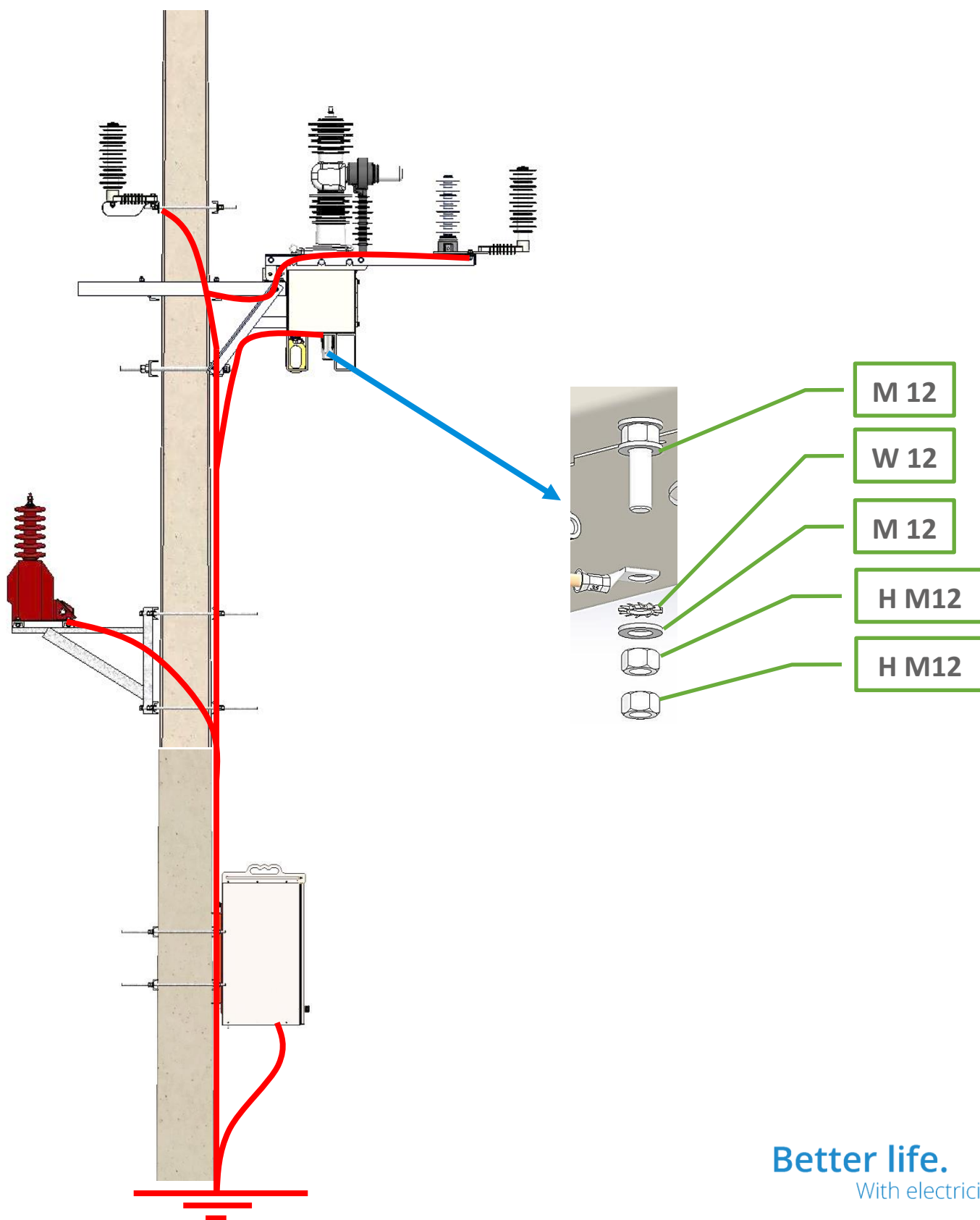
The assembly manual for this kit is located in its packaging.

Kit NX2008759
Notice NX2008760

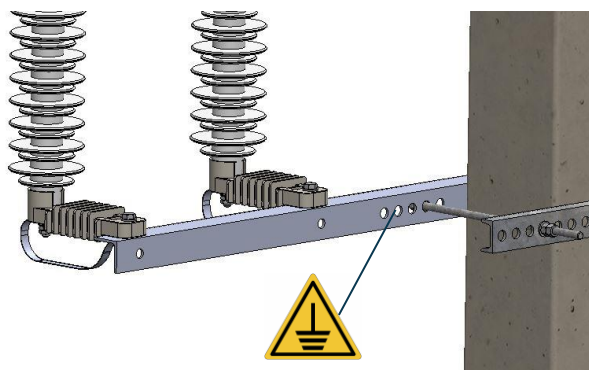


STEP 8: earthing connexion

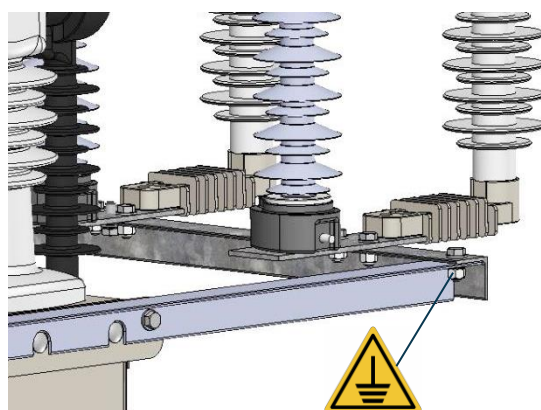
The Smartcloser is intended to be installed in equipotentiality. All metal parts must be connected to the main grounding cable. The earthing circuit consists of a 25 mm² minimum copper cable that goes down along the pole and must remain fixed as far as possible from parts under tension.



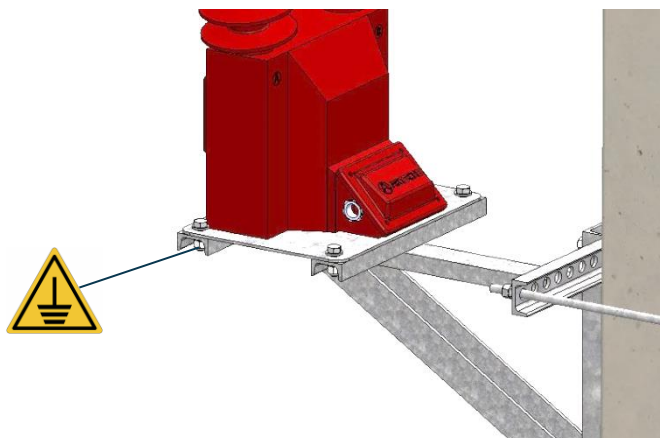
Earthing of upstream surge arresters frame



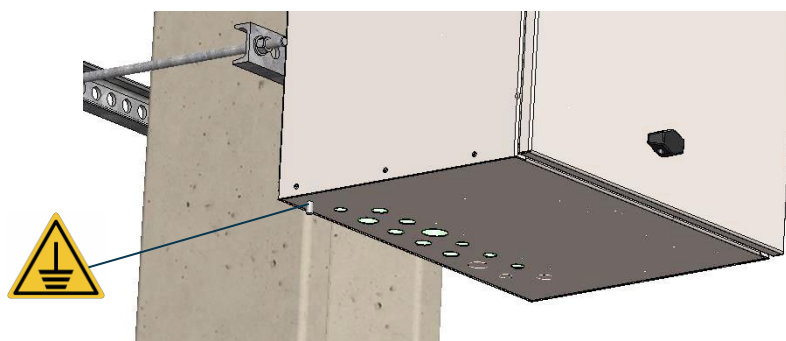
Earthing of downstream surge arresters frame



Earthing of transformer frame



Earthing of control box

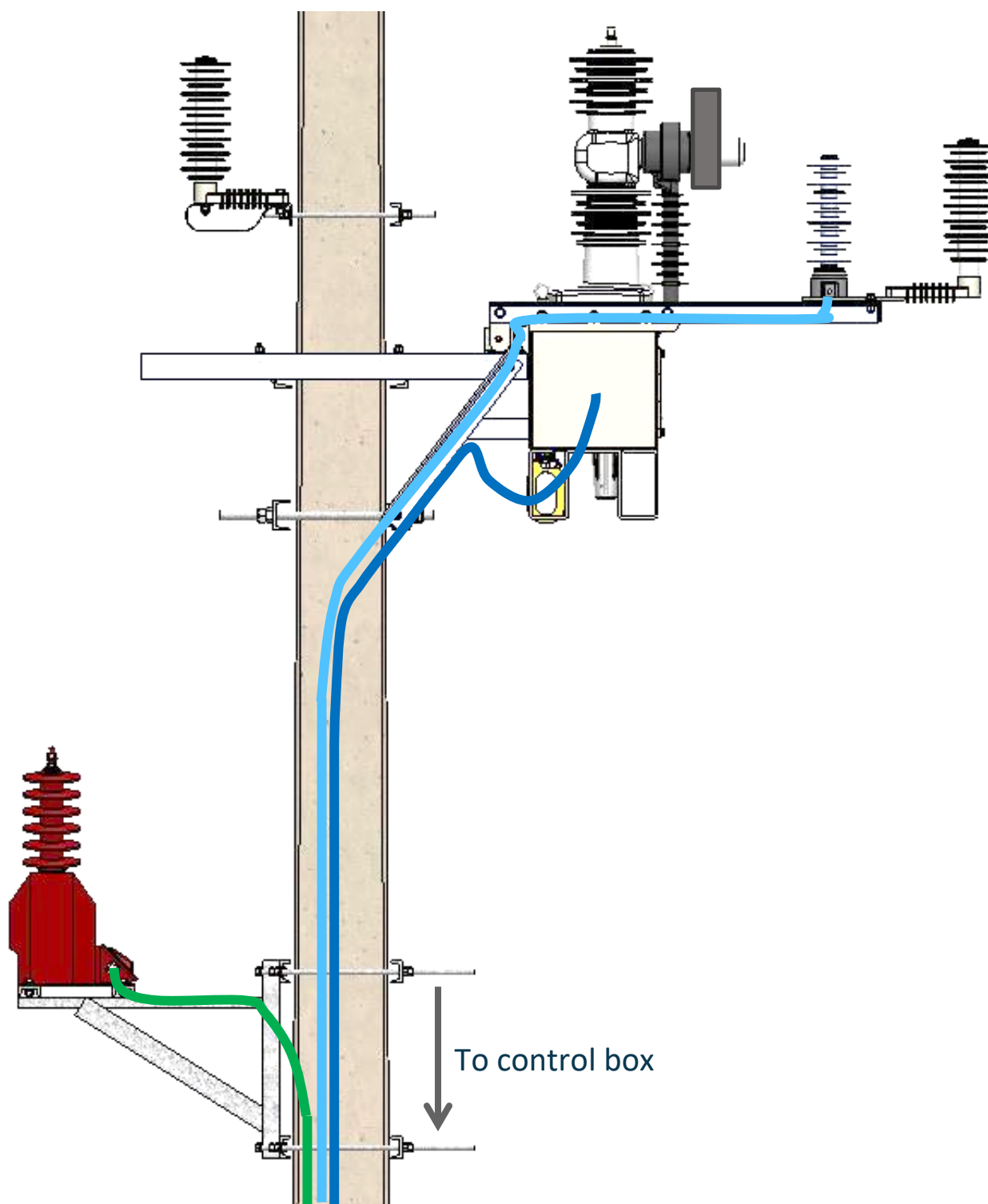


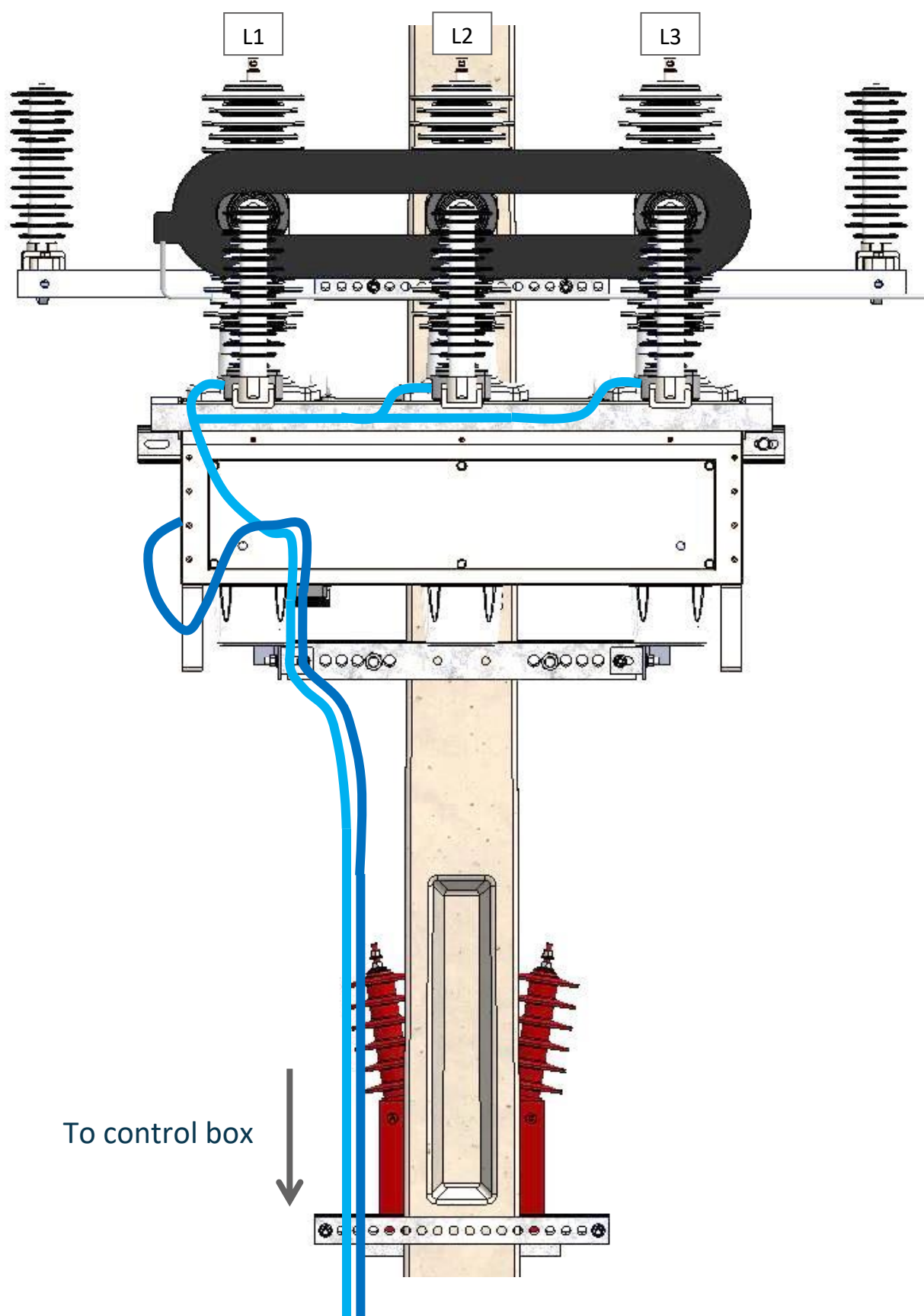
STEP 9: Connexion between Smartcloser and control box

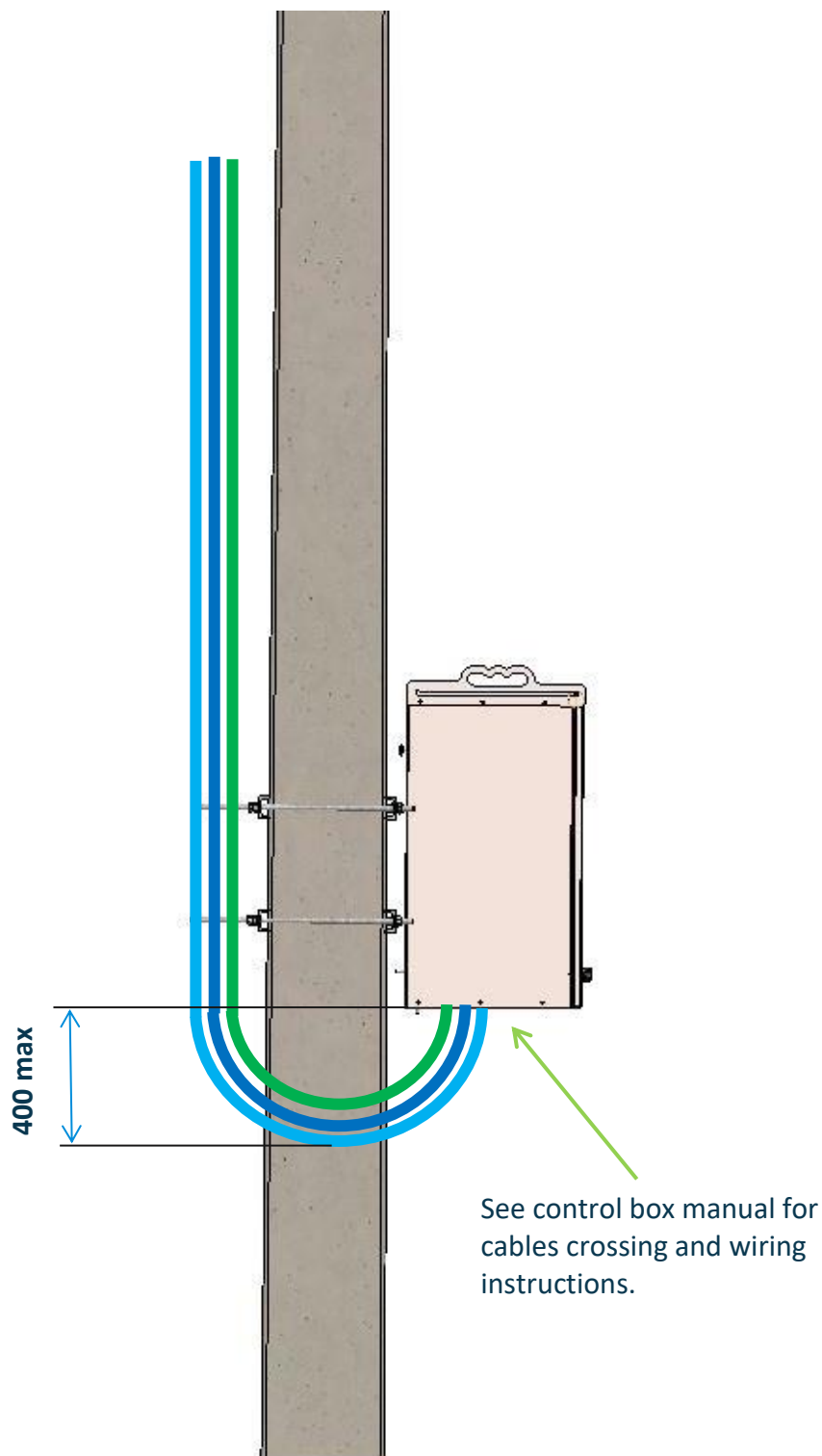
Smartcloser connexion with cable NX2007029

Voltage sensors connexion (option) with cables NX2008695

Transformer connexion (option) with cable NXC320036







Details of Smartcloser cable NX2007029

Wire number / colour	Fonction
1 / black	Common for position contacts
2 / black	Closed position contact
3 / black	Open position contact
4 / black	Current sensor line 1
5 / black	Current sensor line 2
6 / black	Current sensor line 3
7 / black	Homopolar sensor
8 / black	Homopolar sensor
9 / black	Free
10 / black	Free
11 / black	Free
Green Yellow	Common for current sensors

Details of transformer cable NXC320036

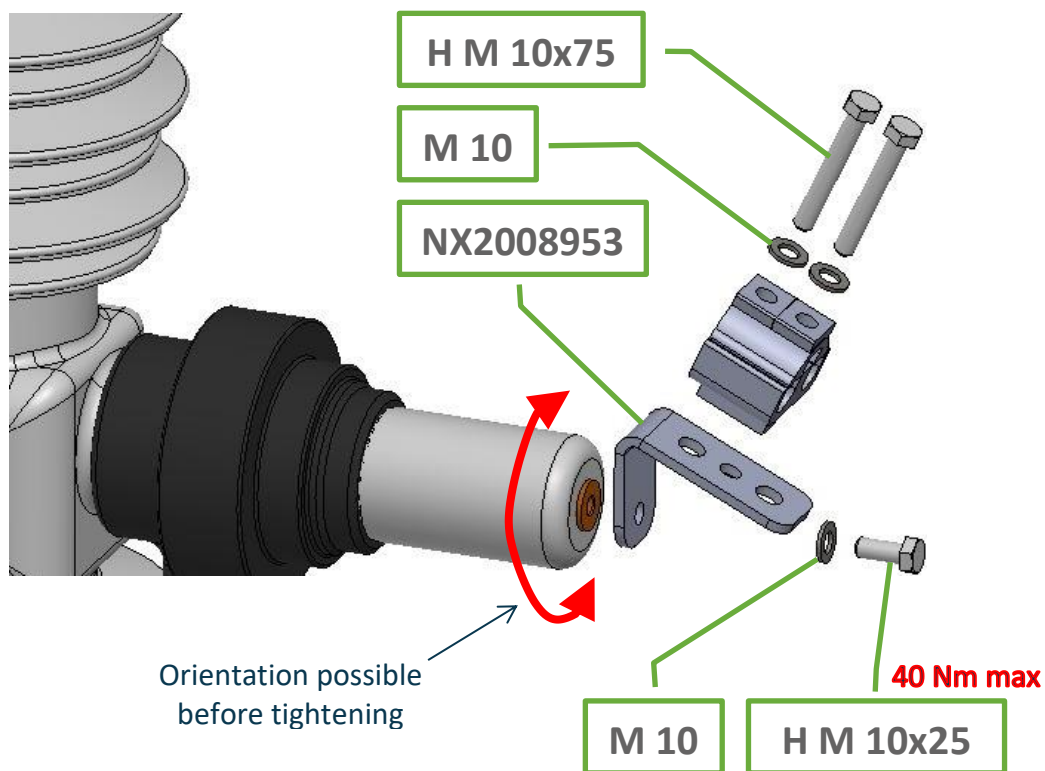
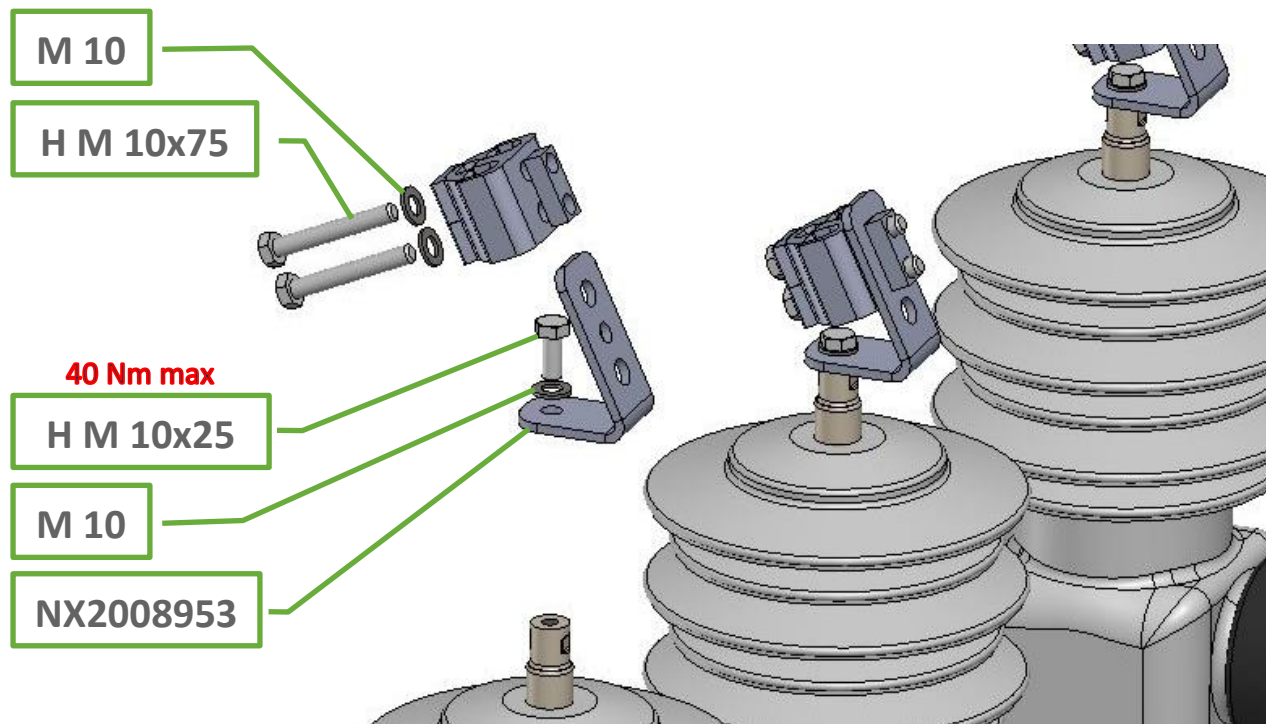
Wire number / colour	Fonction
Brown	Phase
Blue	Neutral

Detail of voltage sensors cable NX2008695

Wire number / colour	Fonction
Center conductor	Phase voltage
Braided shield	Common

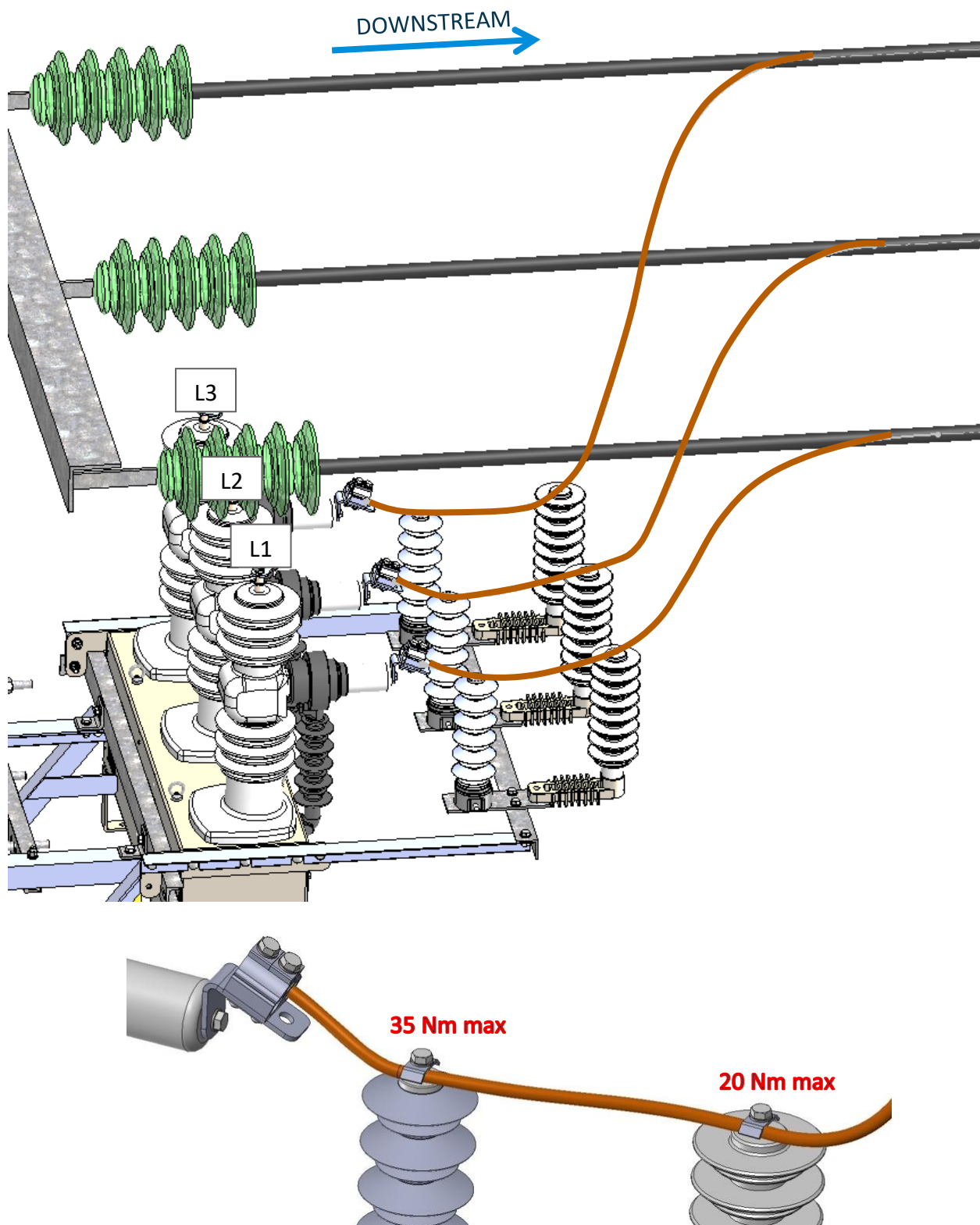
STEP 10: installation of Ensto connectors NX2008956 on the Smartcloser

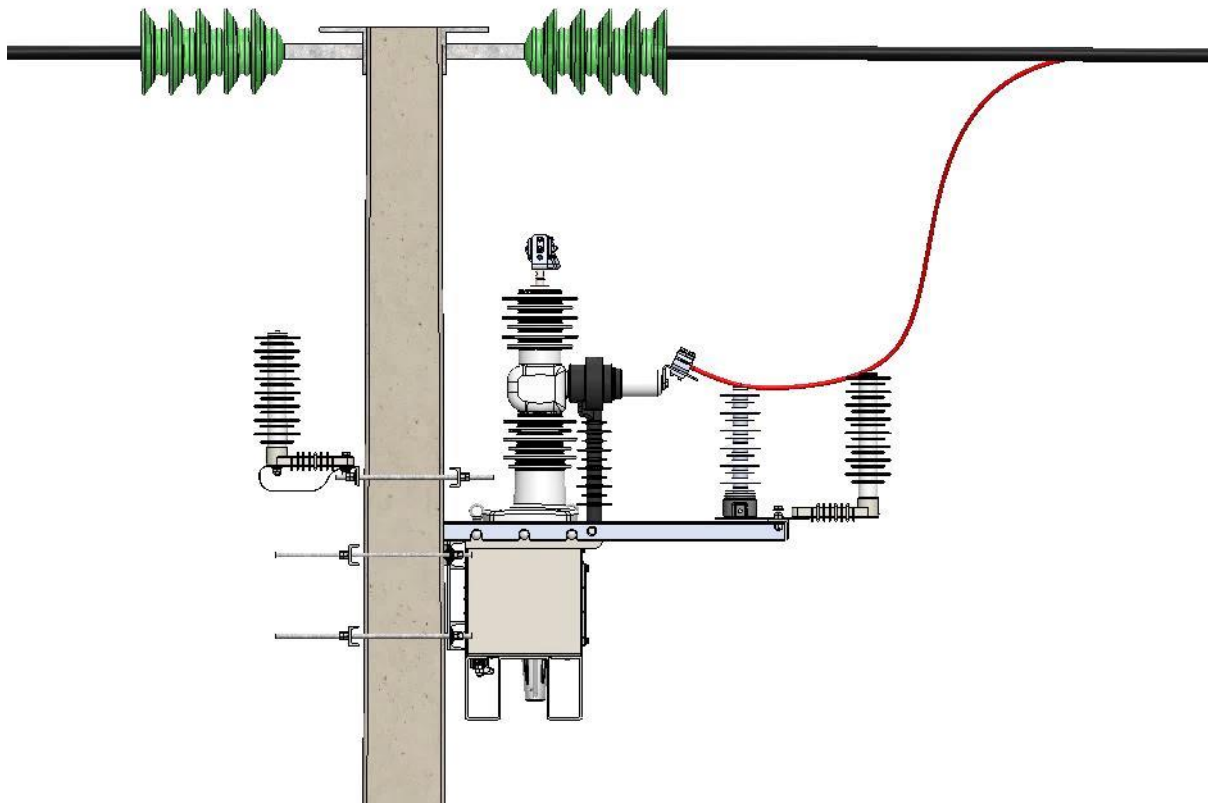
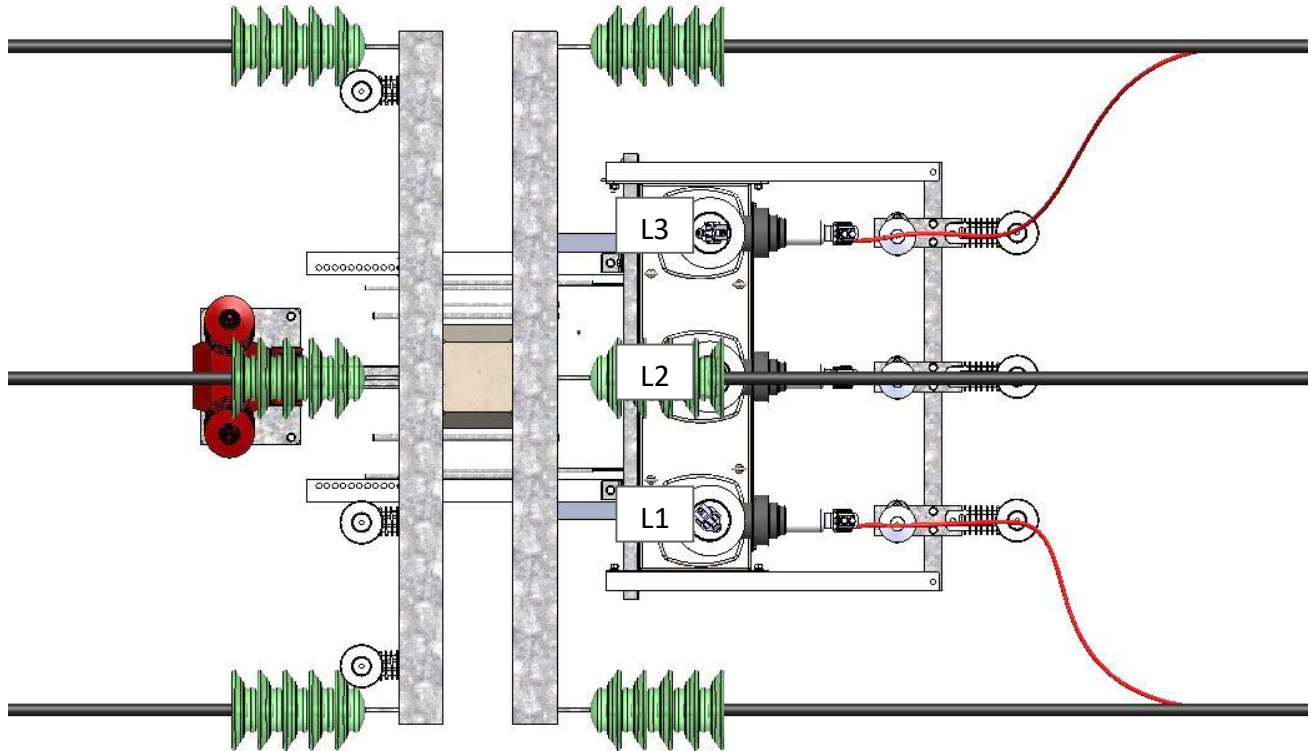
Cables orientation can be obtained by rotation of Ensto connectors before tightening.



STEP 11: Smartcloser downstream connexion

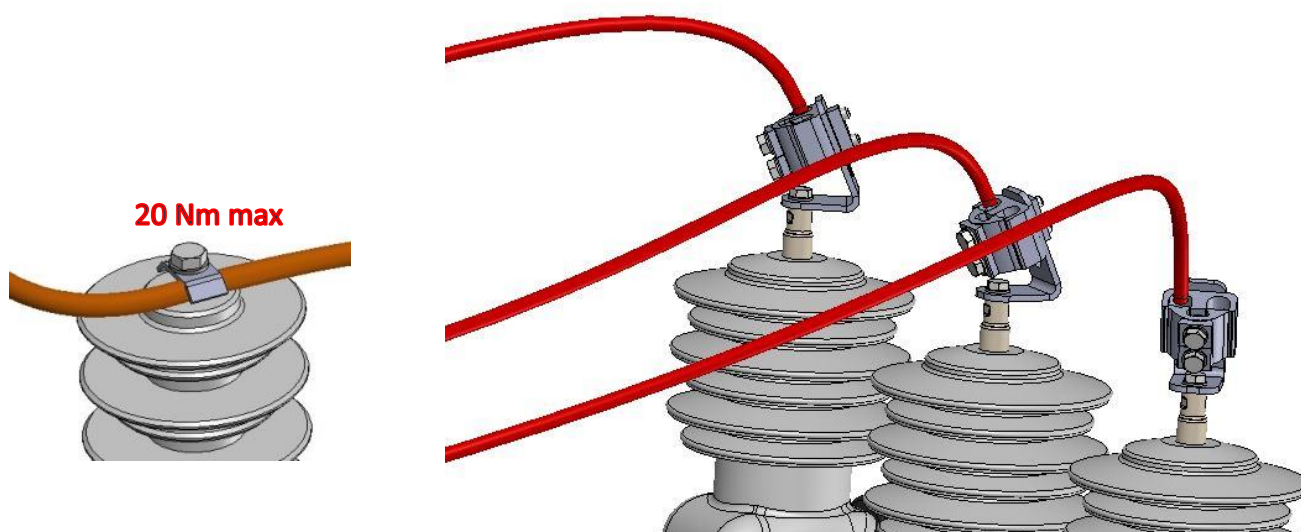
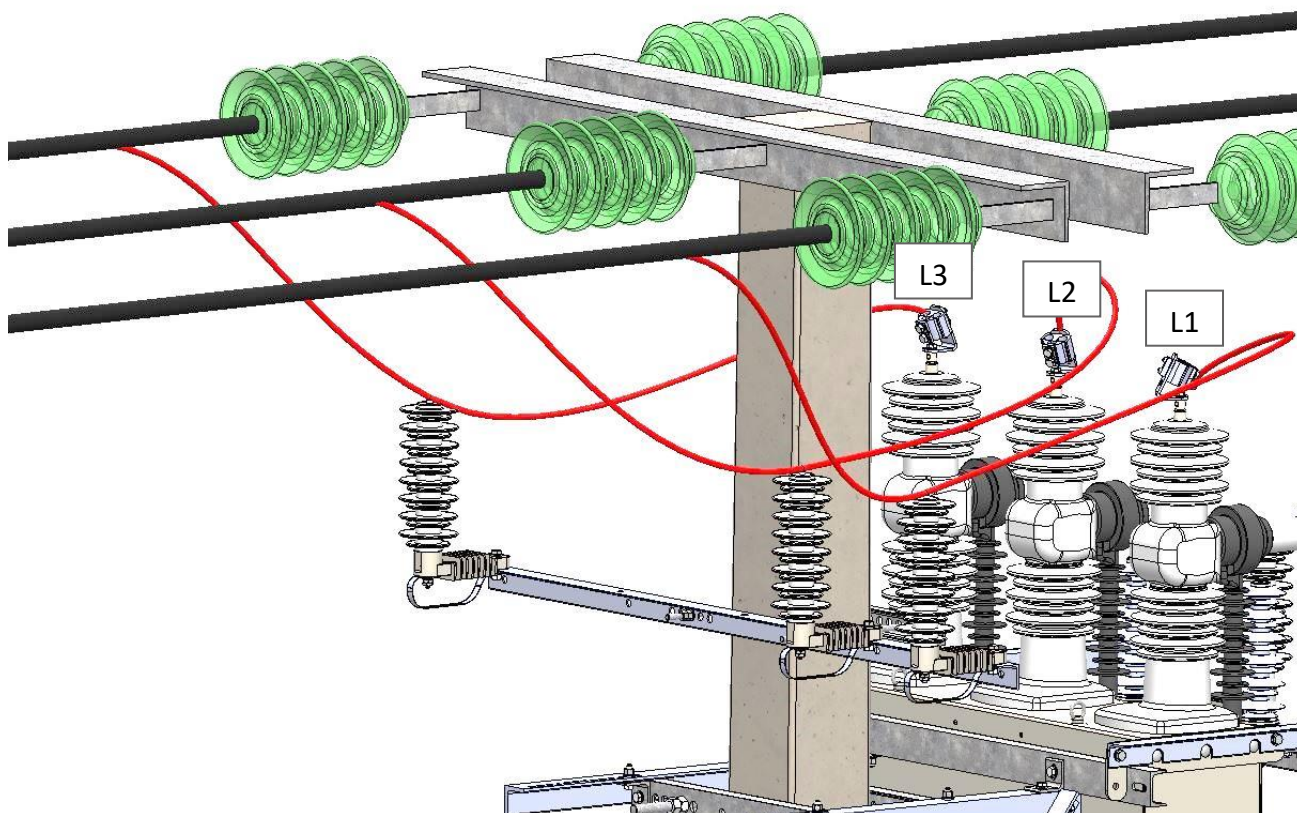
Cables orientation can be obtained by rotation of Ensto connectors before tightening.

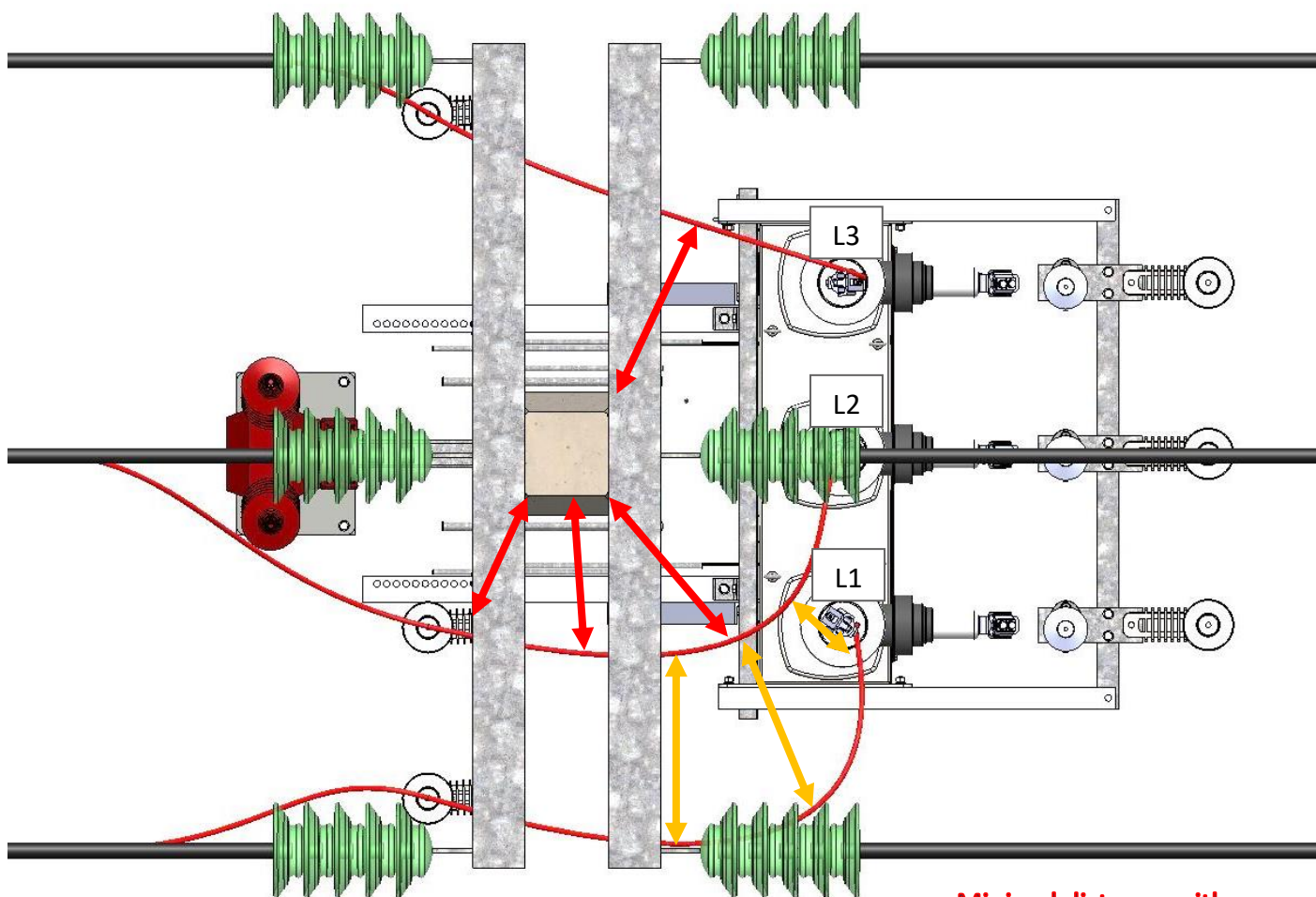




STEP 12: Smartcloser upstream connexion

Cables orientation can be obtained by rotation of Ensto connectors before tightening.

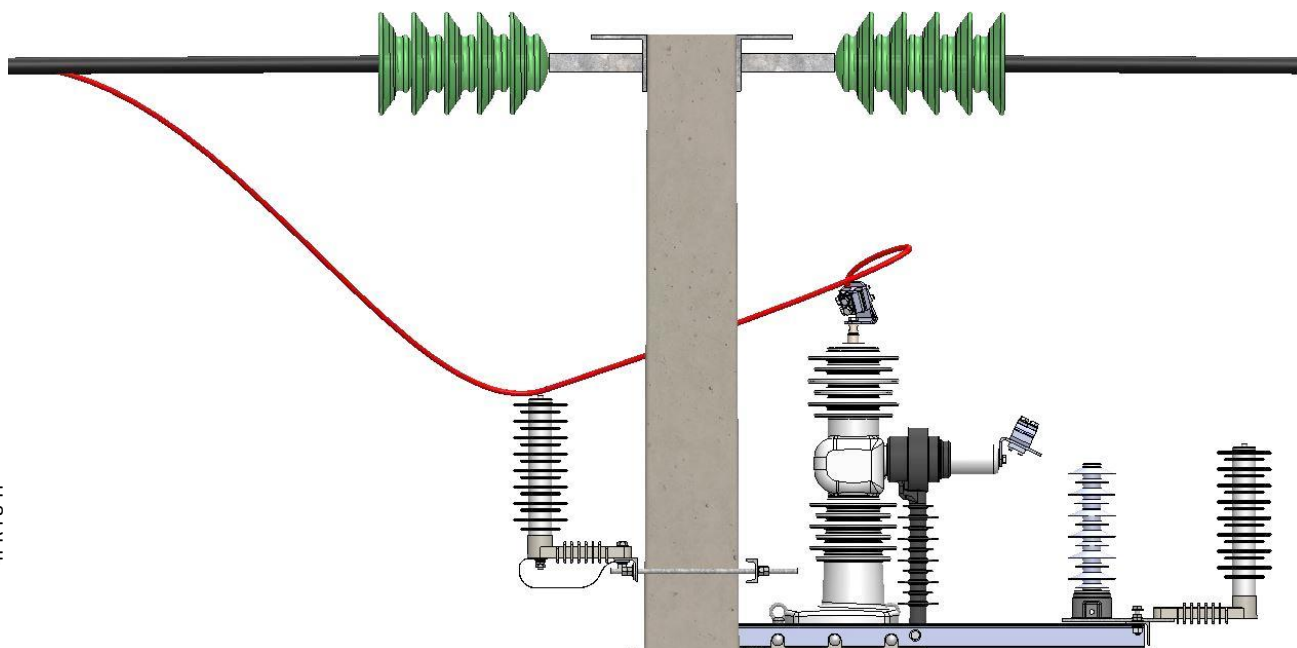


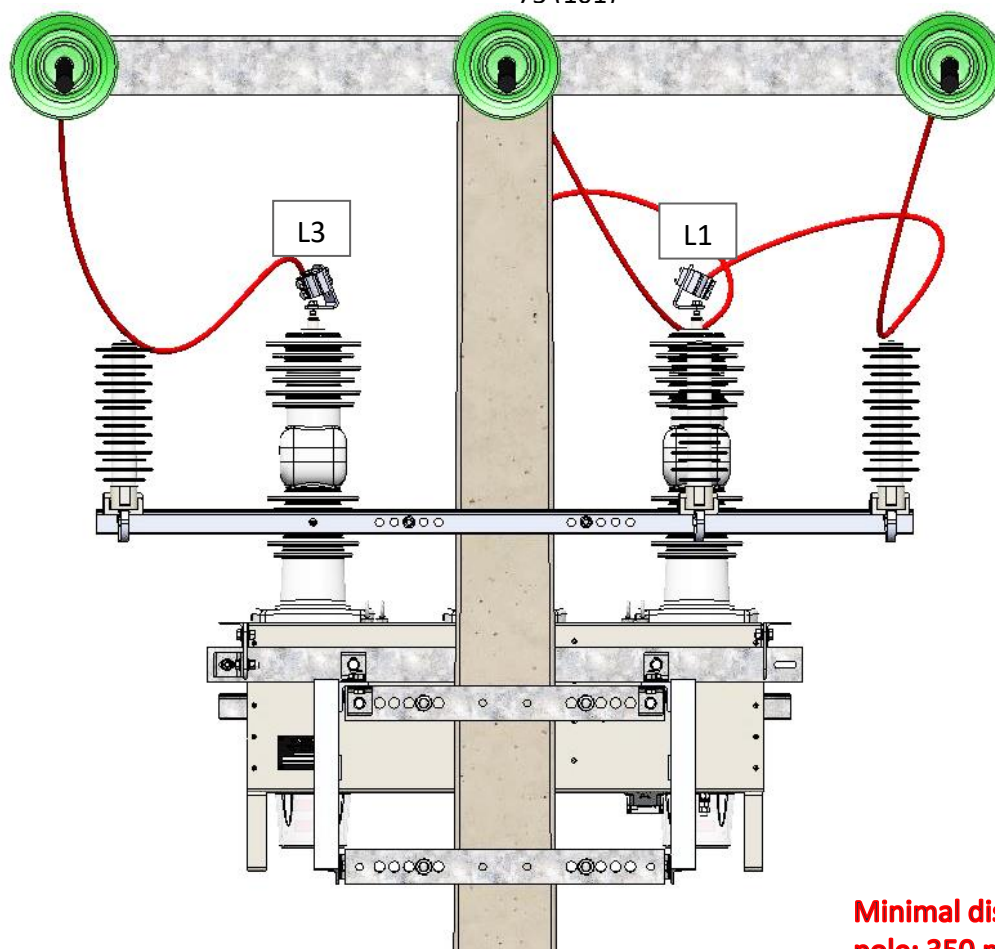


Minimal distance with pole : 350 mm



Minimal distance between cables : 380 mm

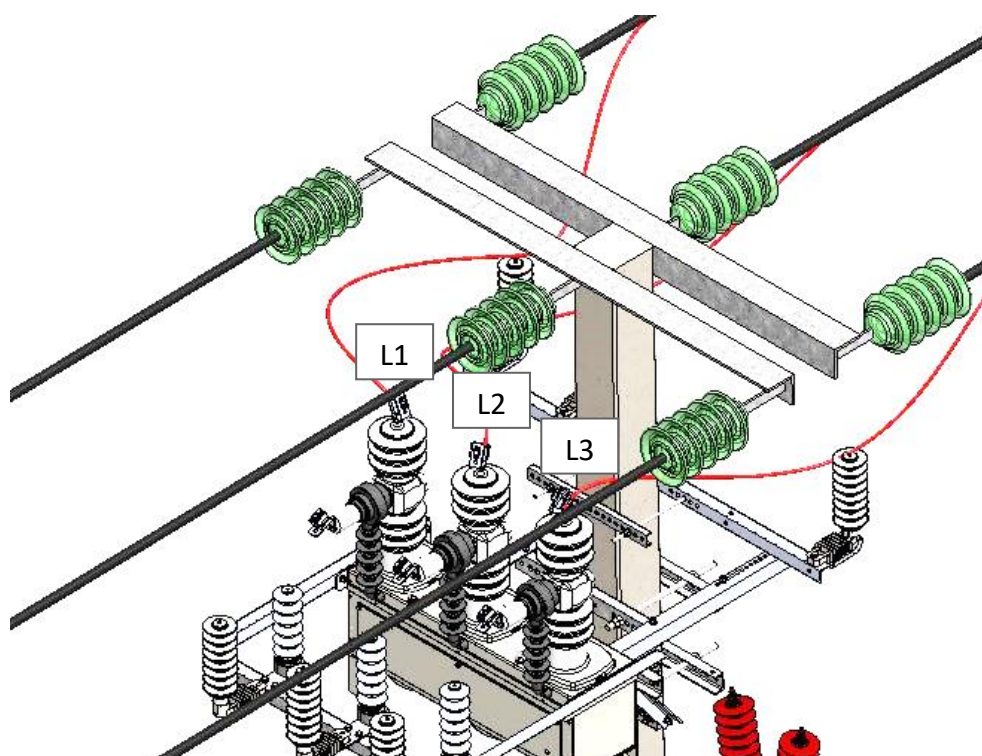




**Minimal distance with
pole: 350 mm**

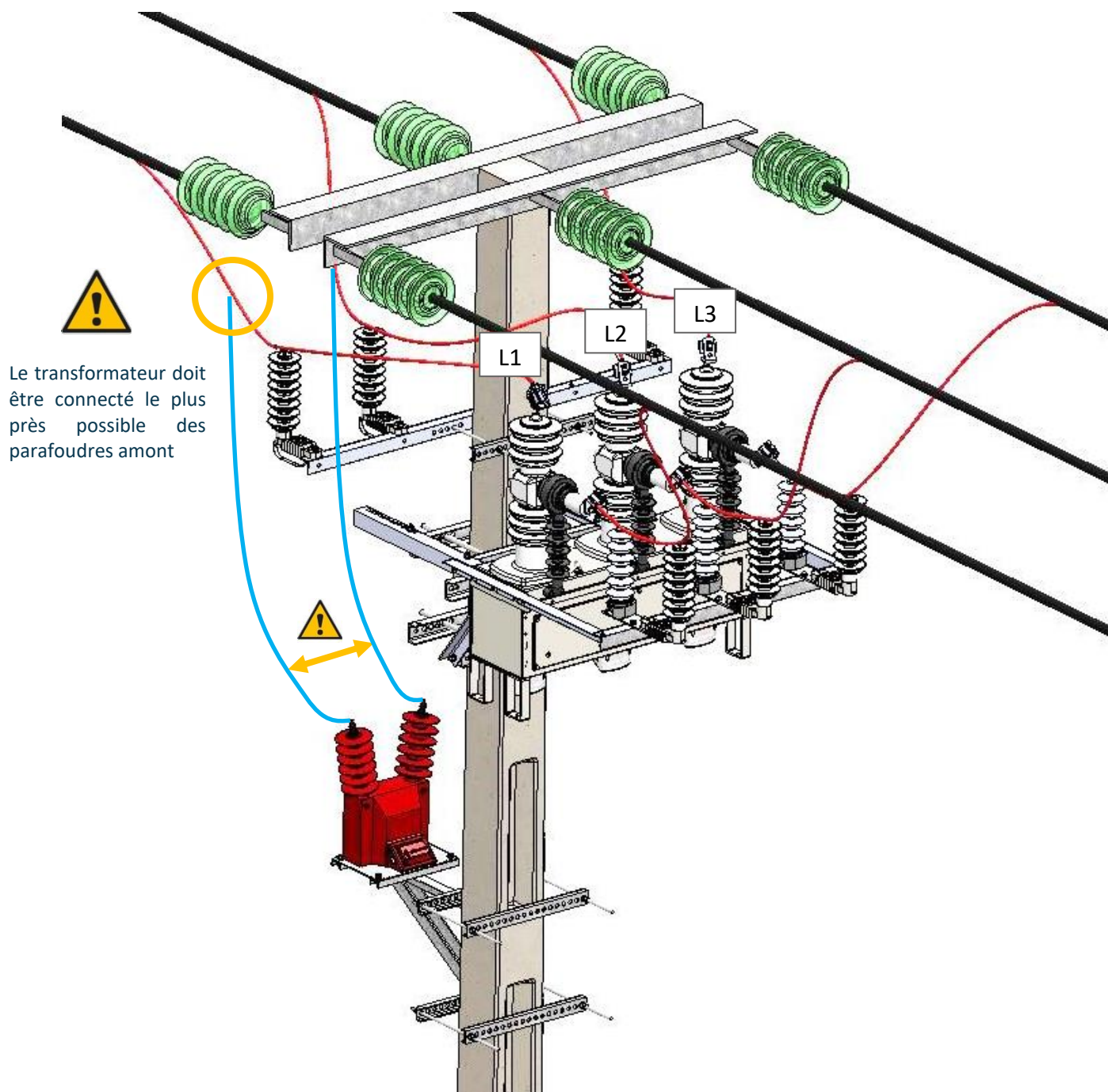


**Minimal distance
Between cables: 380 mm**

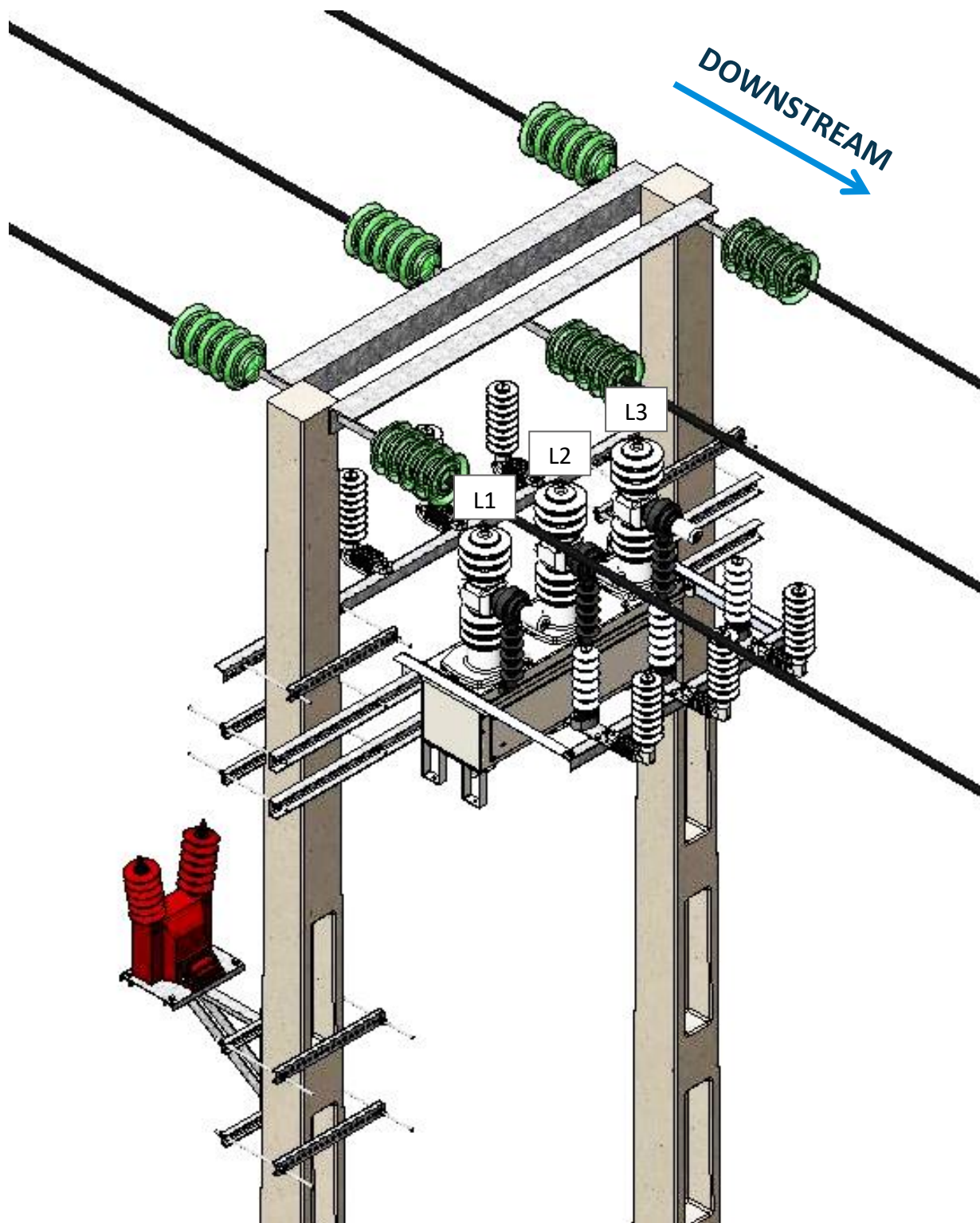


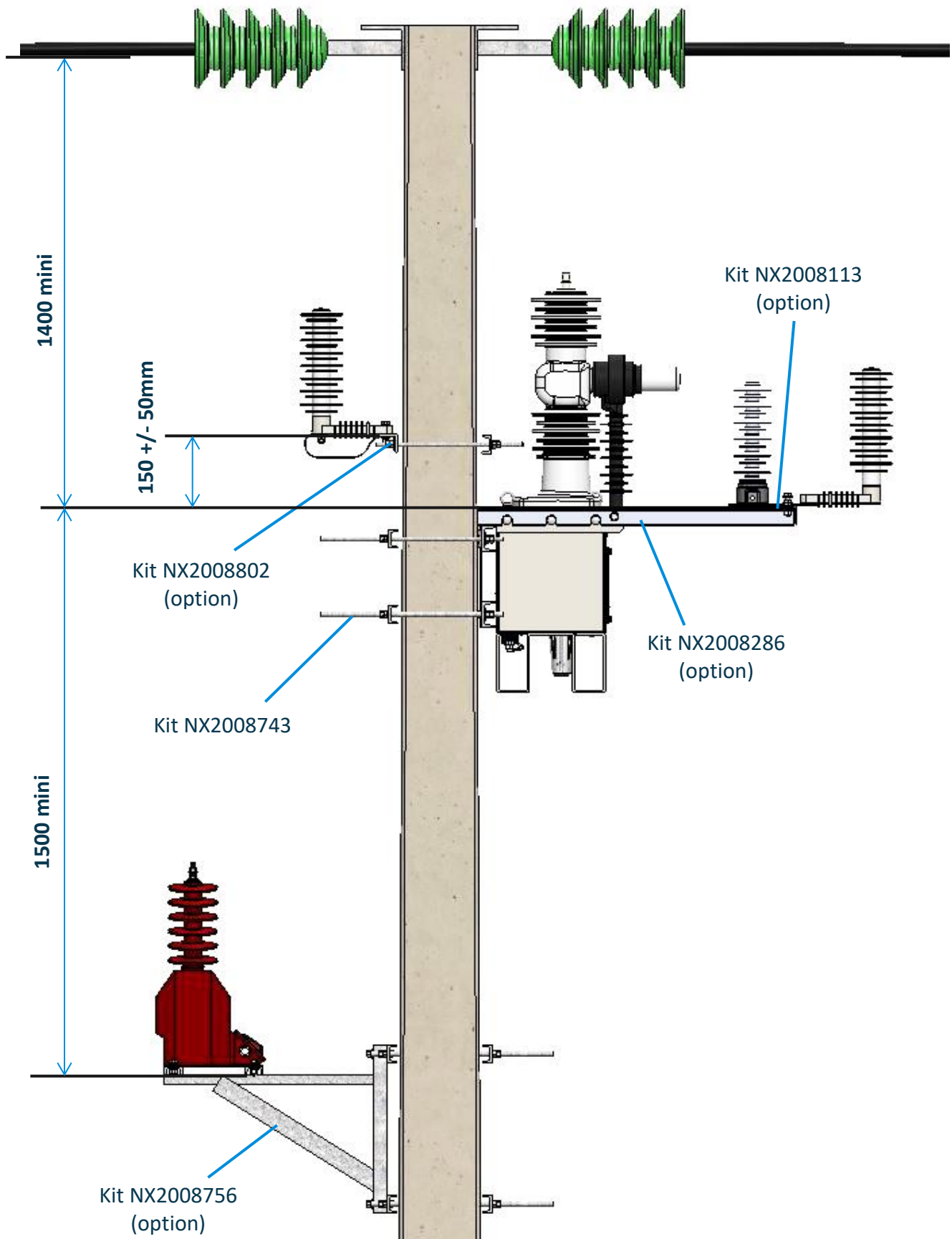
STEP 13: Transformer connexion

Connect transformer to lines 2 and 3 (cables not provided).



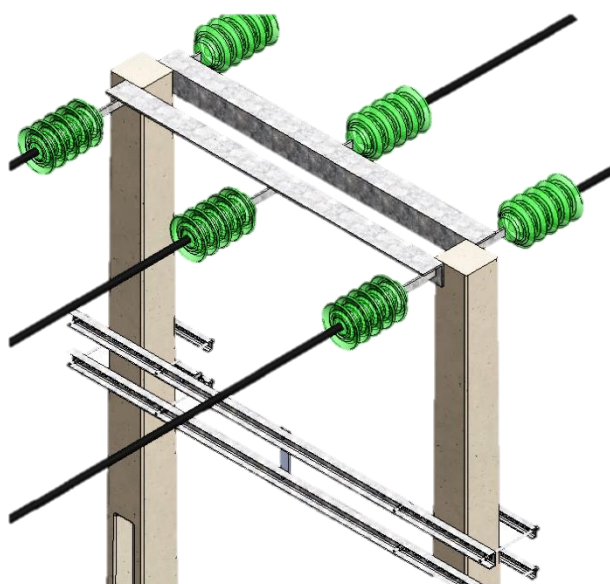
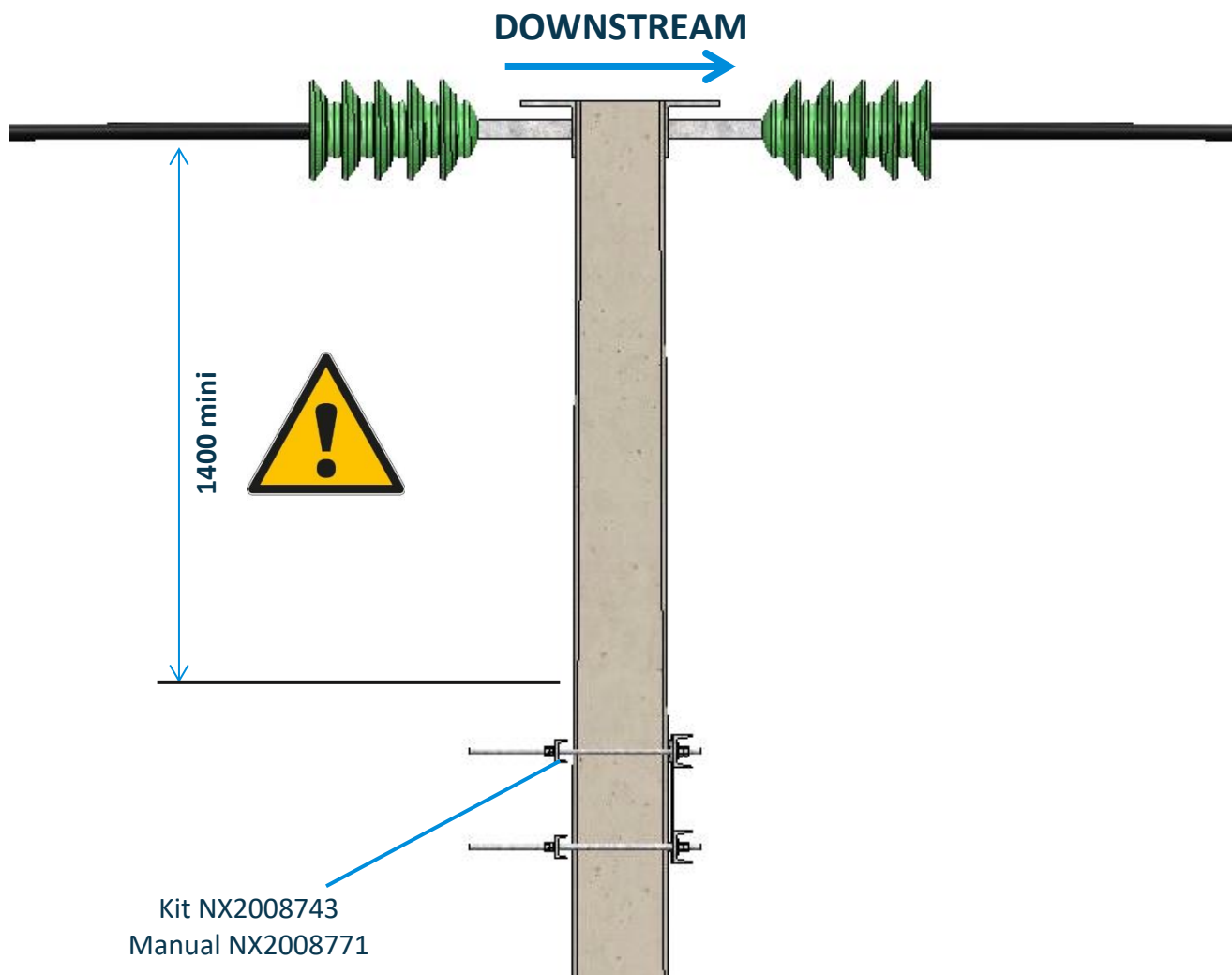
2.2.2. Installation on double concrete pole





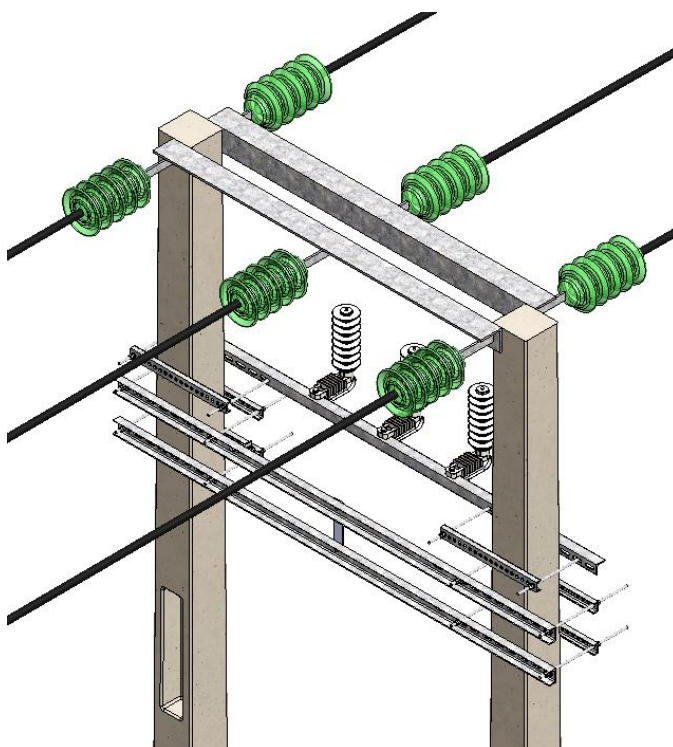
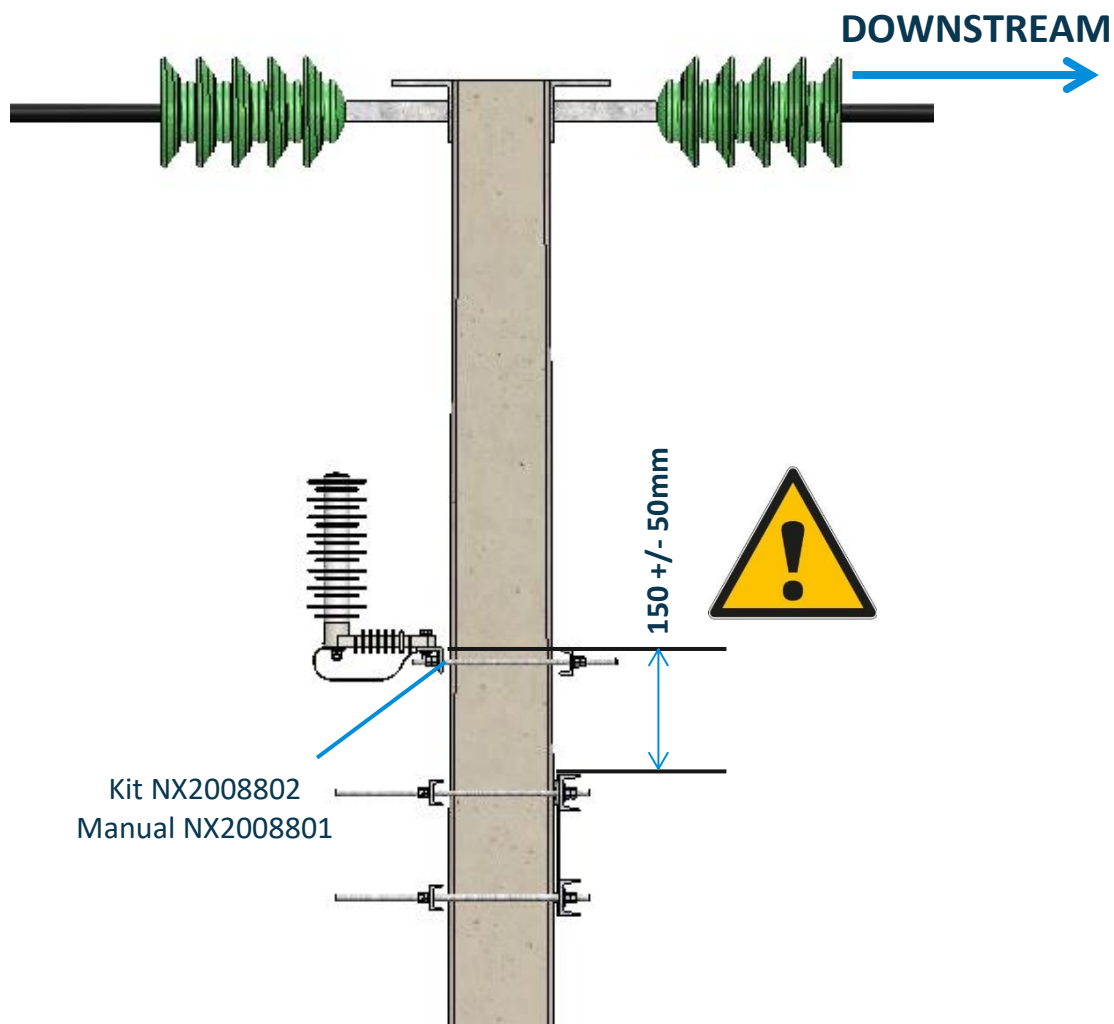
STEP 1: installation of Smartcloser fixation device NX2008743

The assembly manual for this kit is located in its packaging.



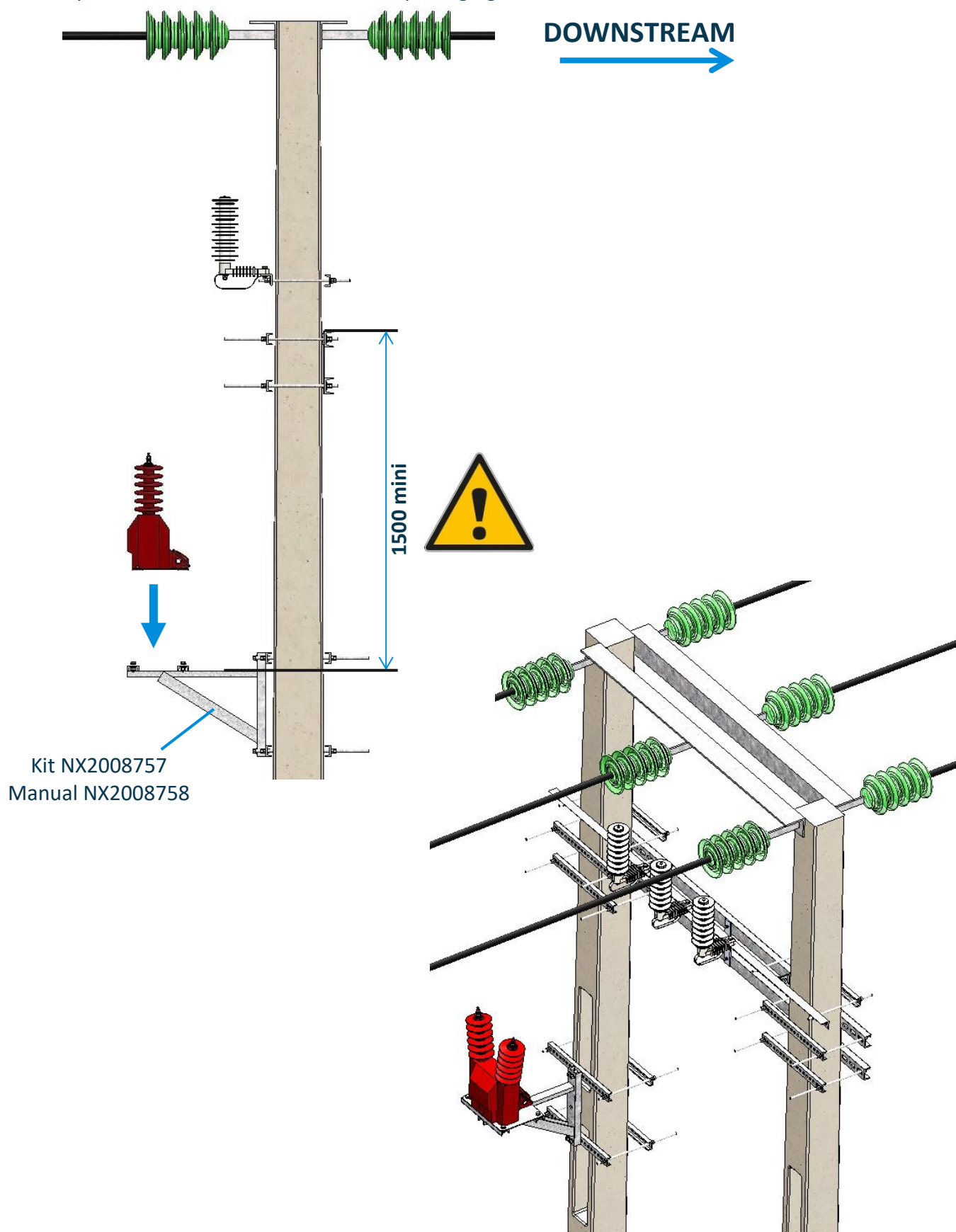
STEP 2: installation of upstream surge arresters NX2008802 (option)

The assembly manual for this kit is located in its packaging.



STEP 3: installation of transformer fixation kit NX2008757 (option)

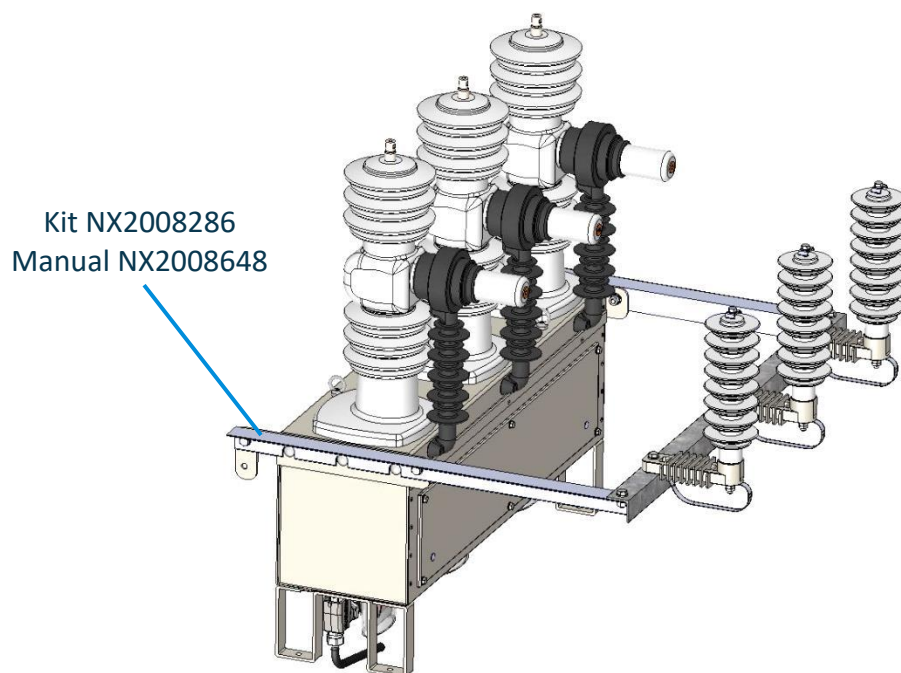
The assembly manual for this kit is located in its packaging.



STEP 4: installation of downstream surge arresters fixation kit NX2008286 (option) and voltage sensors fixation kit NX2008113 (option)

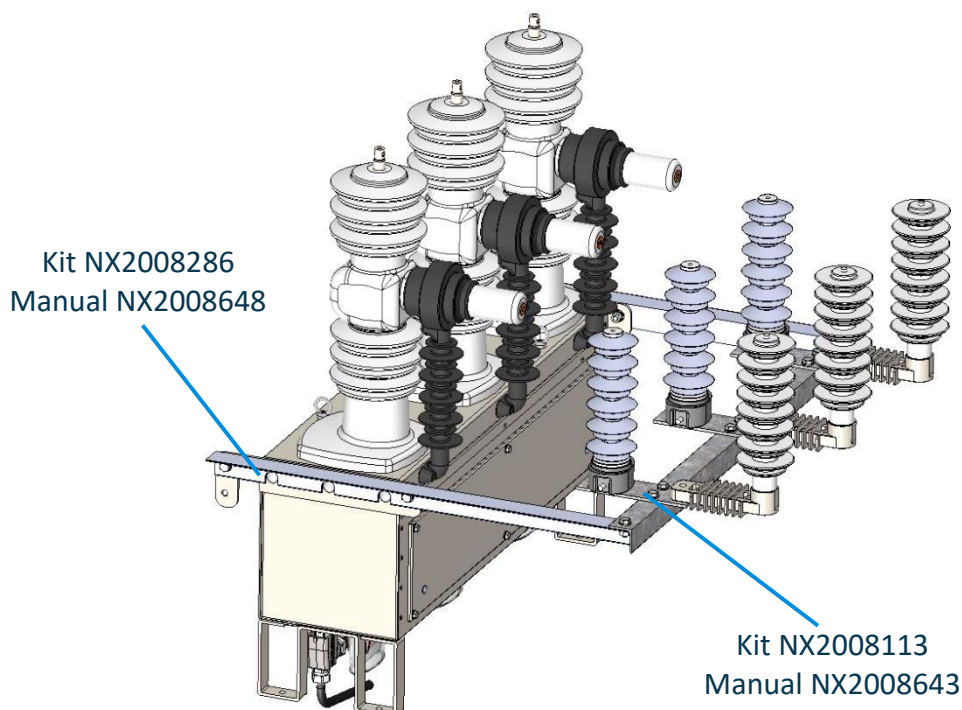
The assembly manual for this kit is located in its packaging.

Downstream surge arresters assembly without voltage sensor



OR

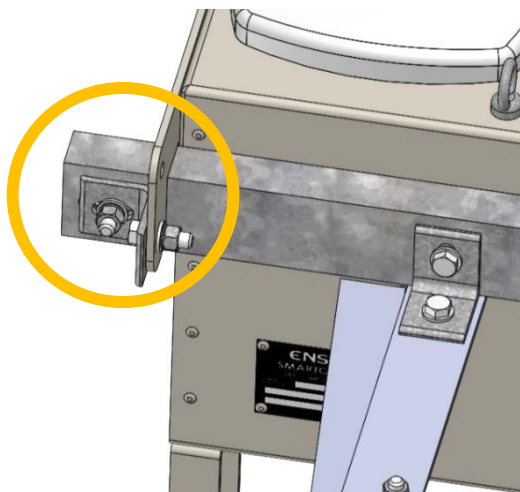
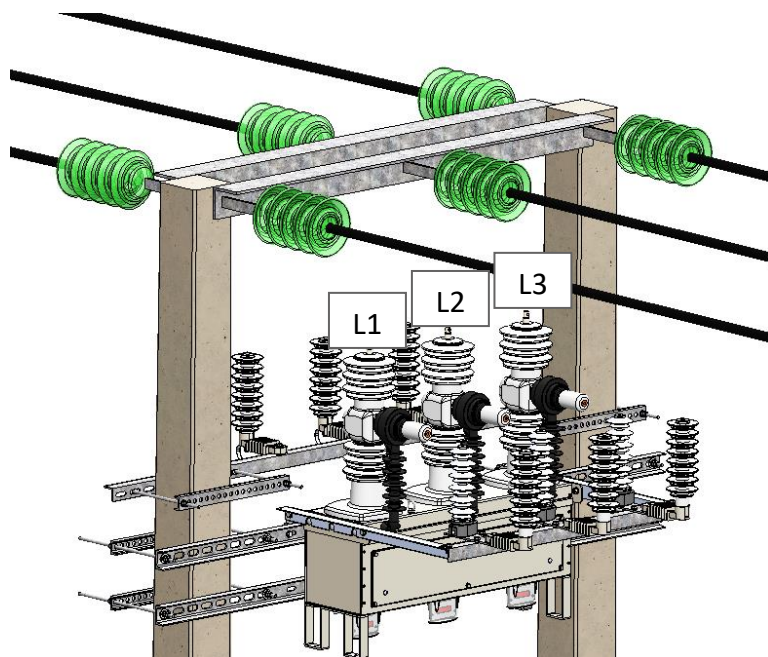
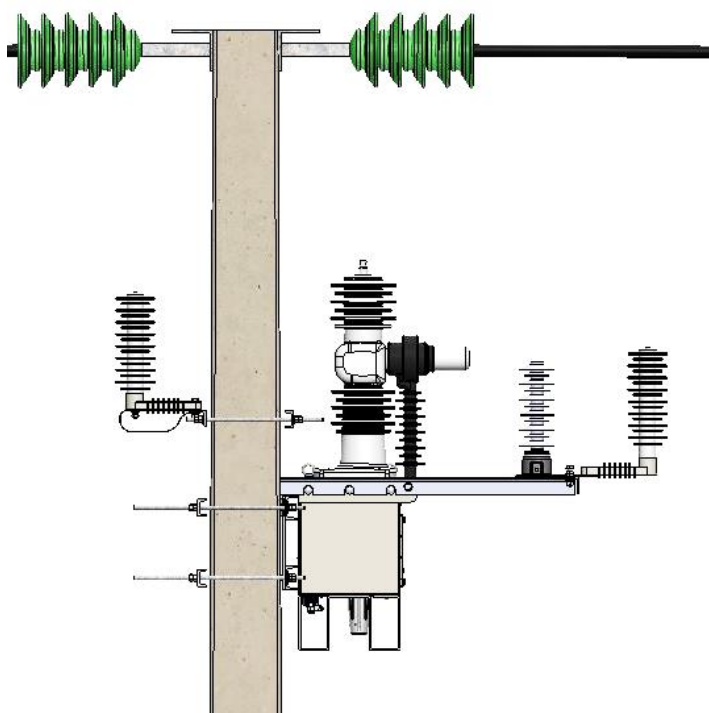
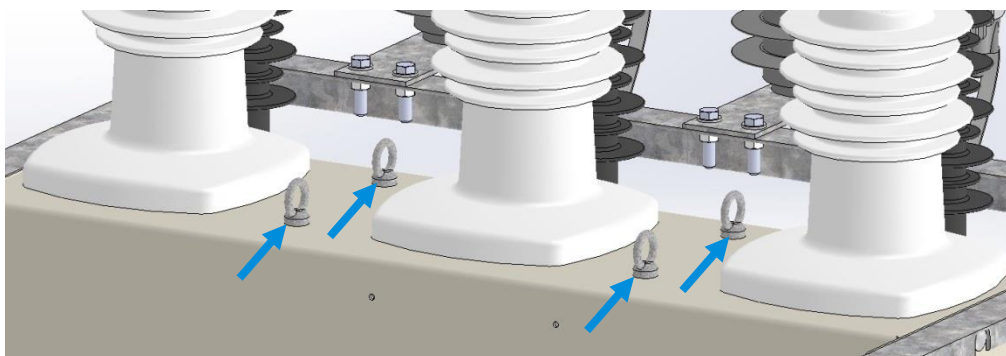
Downstream surge arresters assembly with voltage sensor



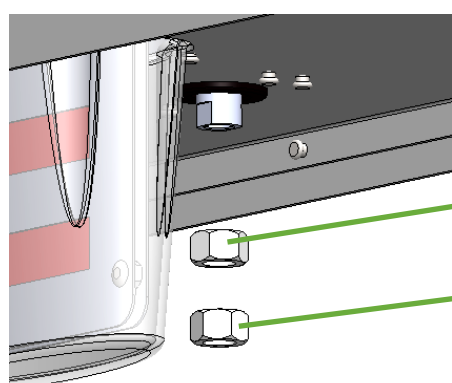
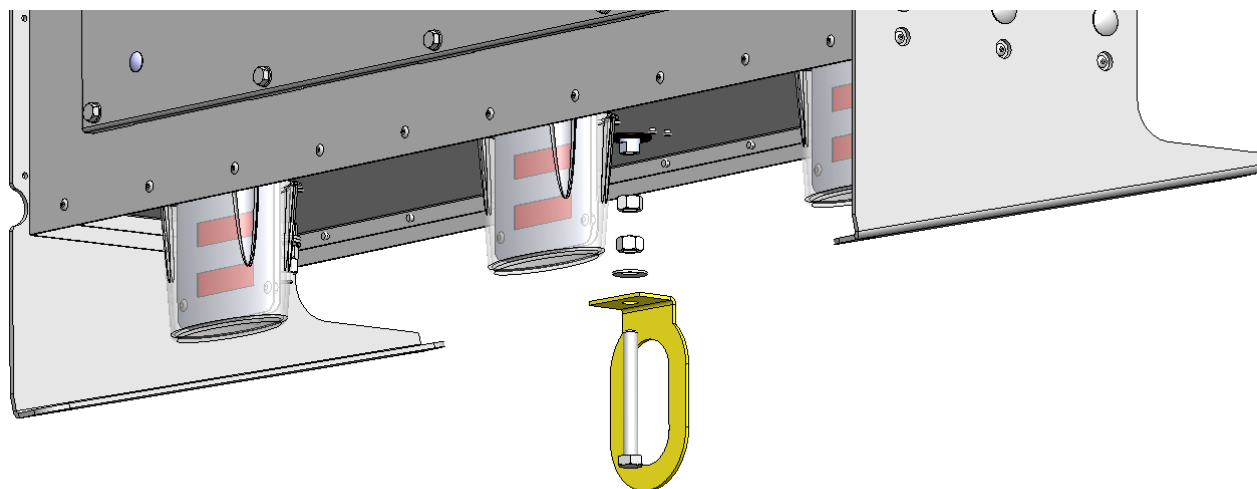
STEP 5: installation and locking of Smartcloser on its support NX2008743

The assembly manual for this kit is located in its packaging.

Lifting must be done only with the four lifting rings located on the upper side of the body.



STEP 6: installation of manual operation ring



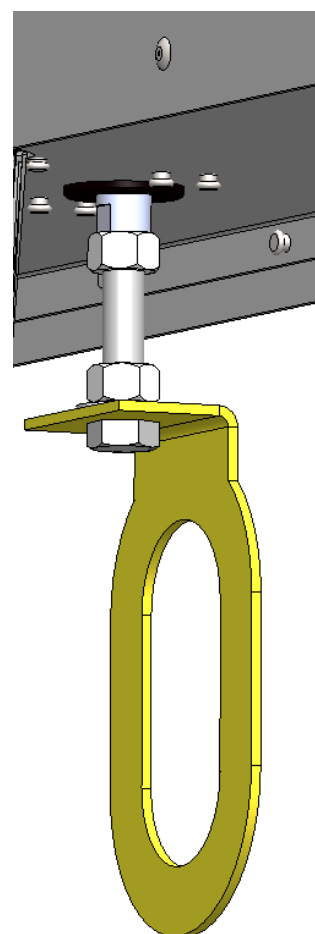
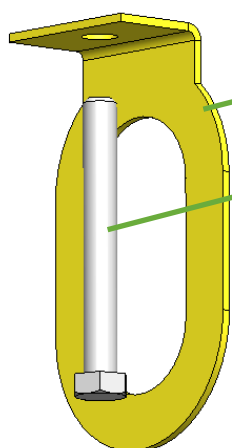
H M12

H M12

M 12

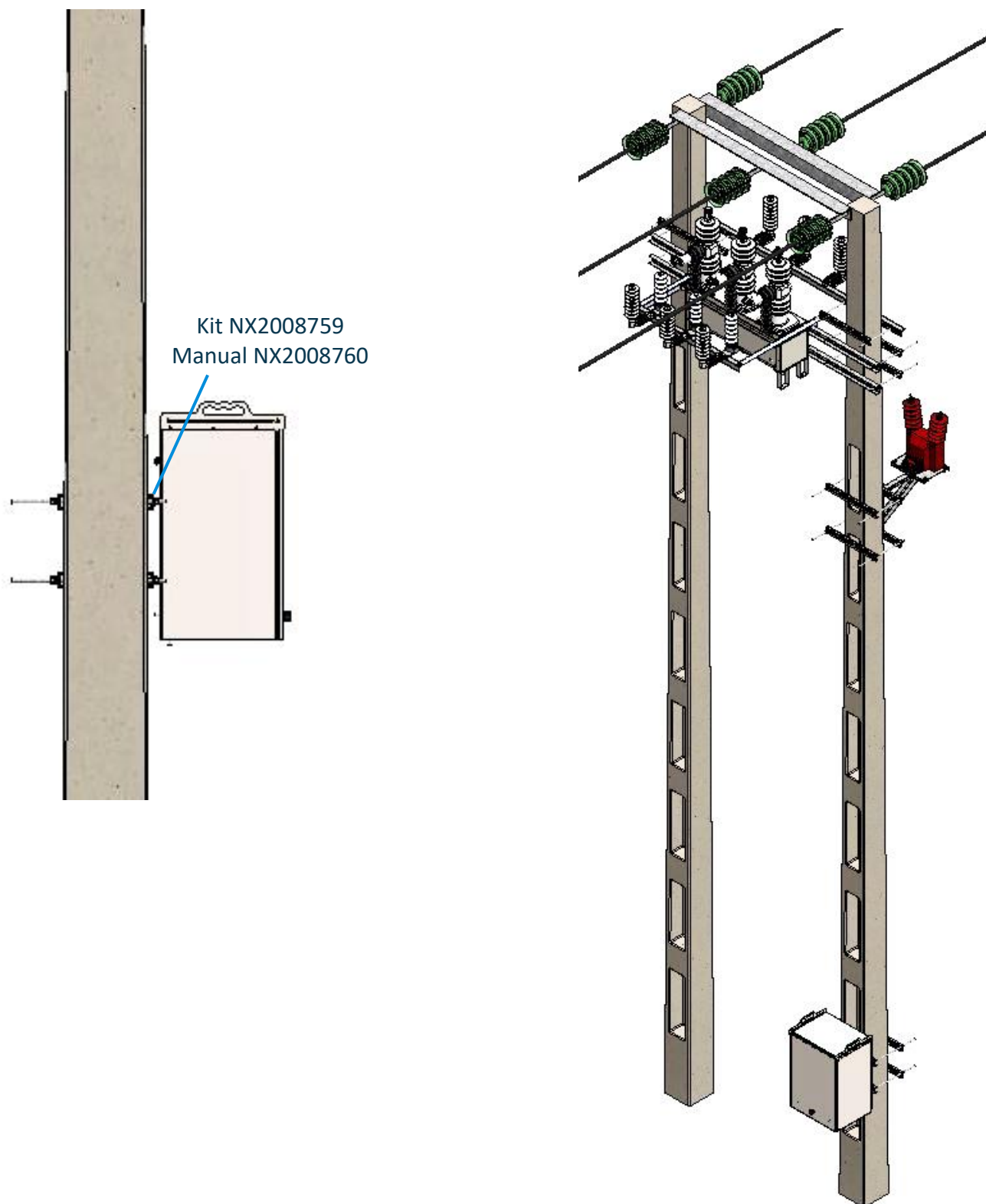
NX2006537

H M12 x 100



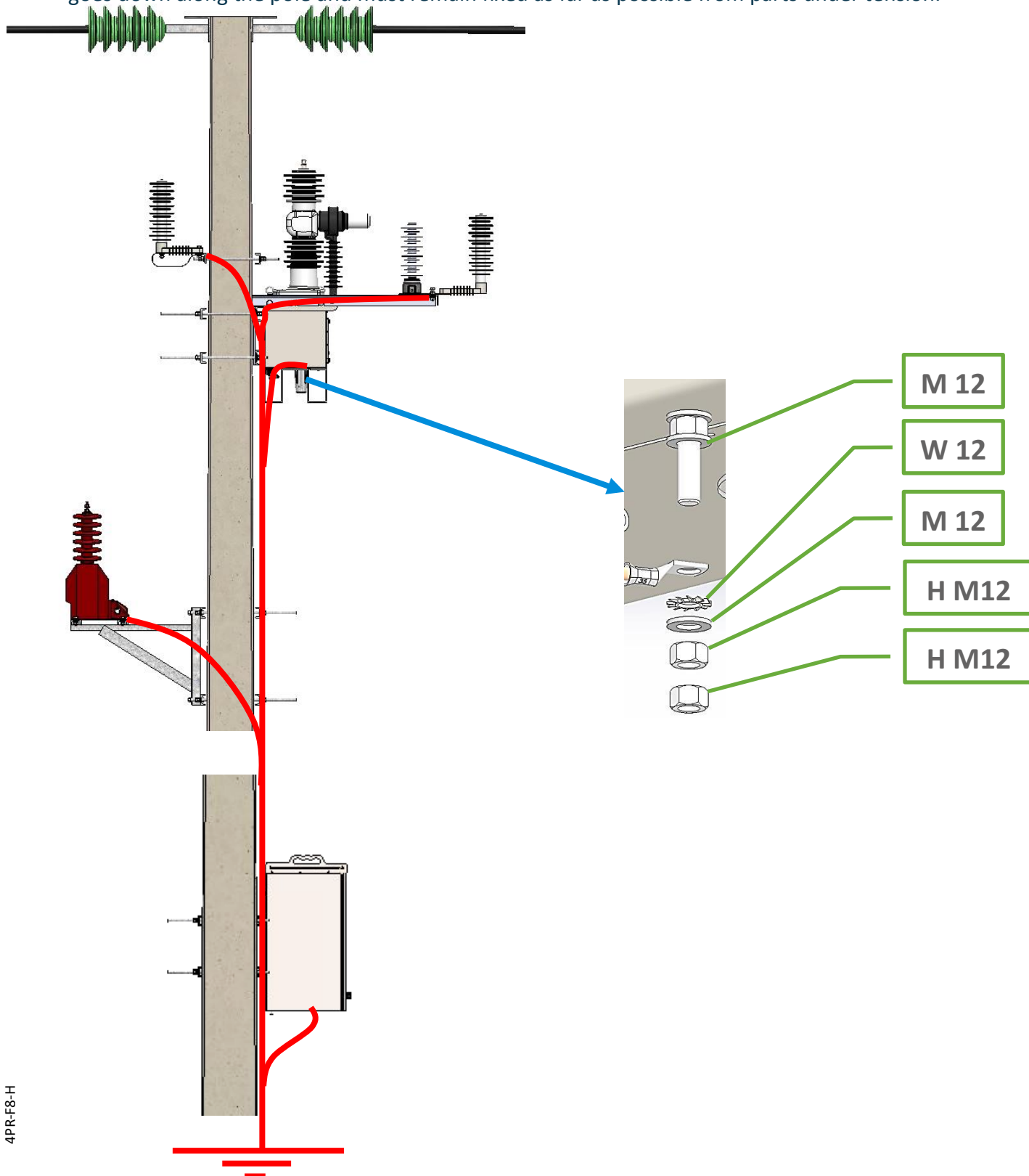
STEP 7: installation of control box fixation kit NX2008759

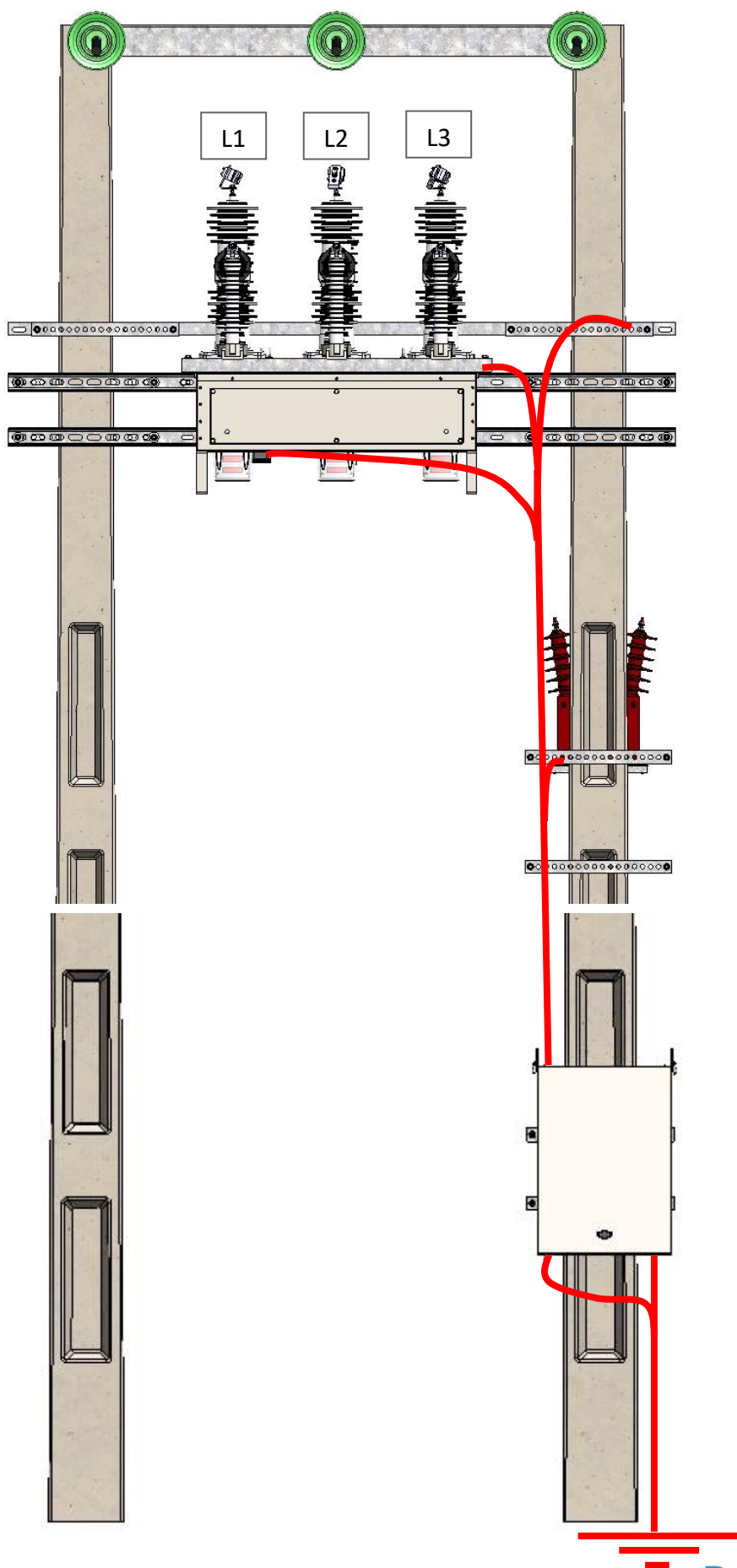
The assembly manual for this kit is located in its packaging.



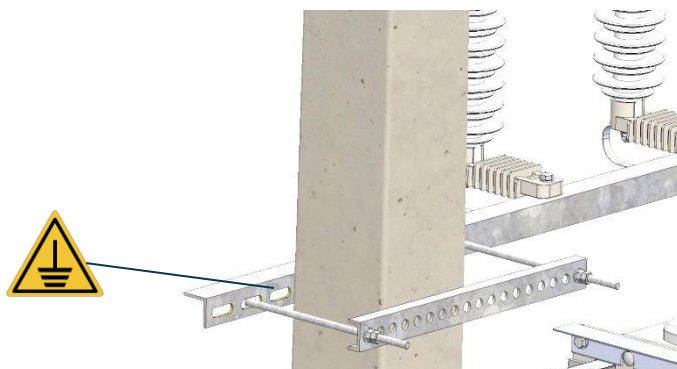
STEP 8: earthing connexion

The Smartcloser is intended to be installed in equipotentiality. All metal parts must be connected to the main grounding cable. The earthing circuit consists of a 25mm² minimum copper cable that goes down along the pole and must remain fixed as far as possible from parts under tension.

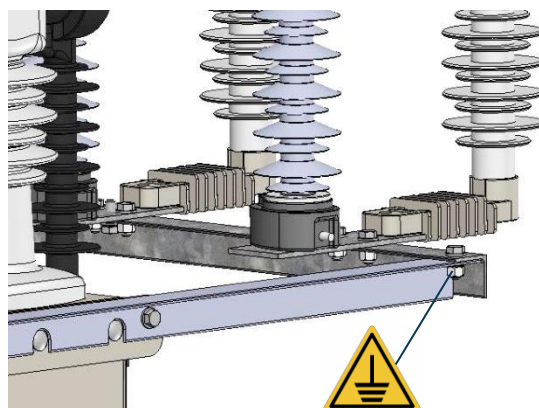




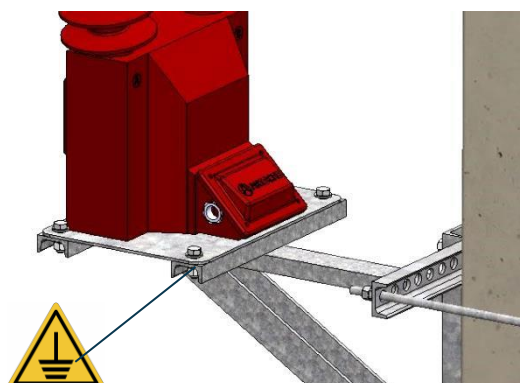
Earthing of upstream surge arresters frame



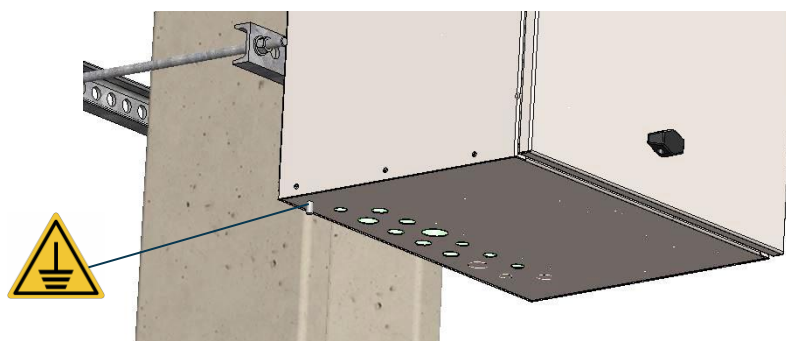
Earthing of downstream surge arresters frame



Earthing of transformer frame



Earthing of control box

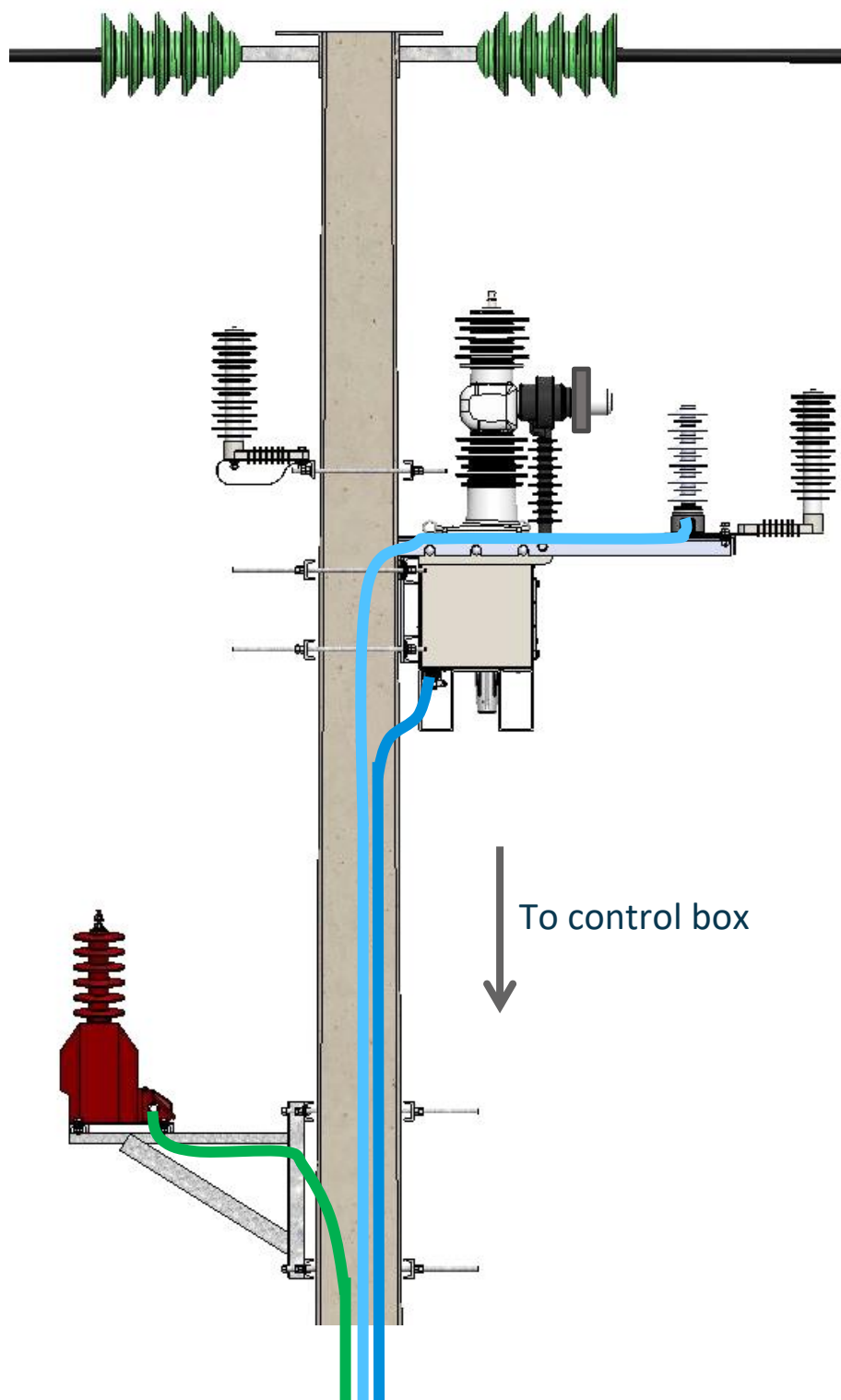


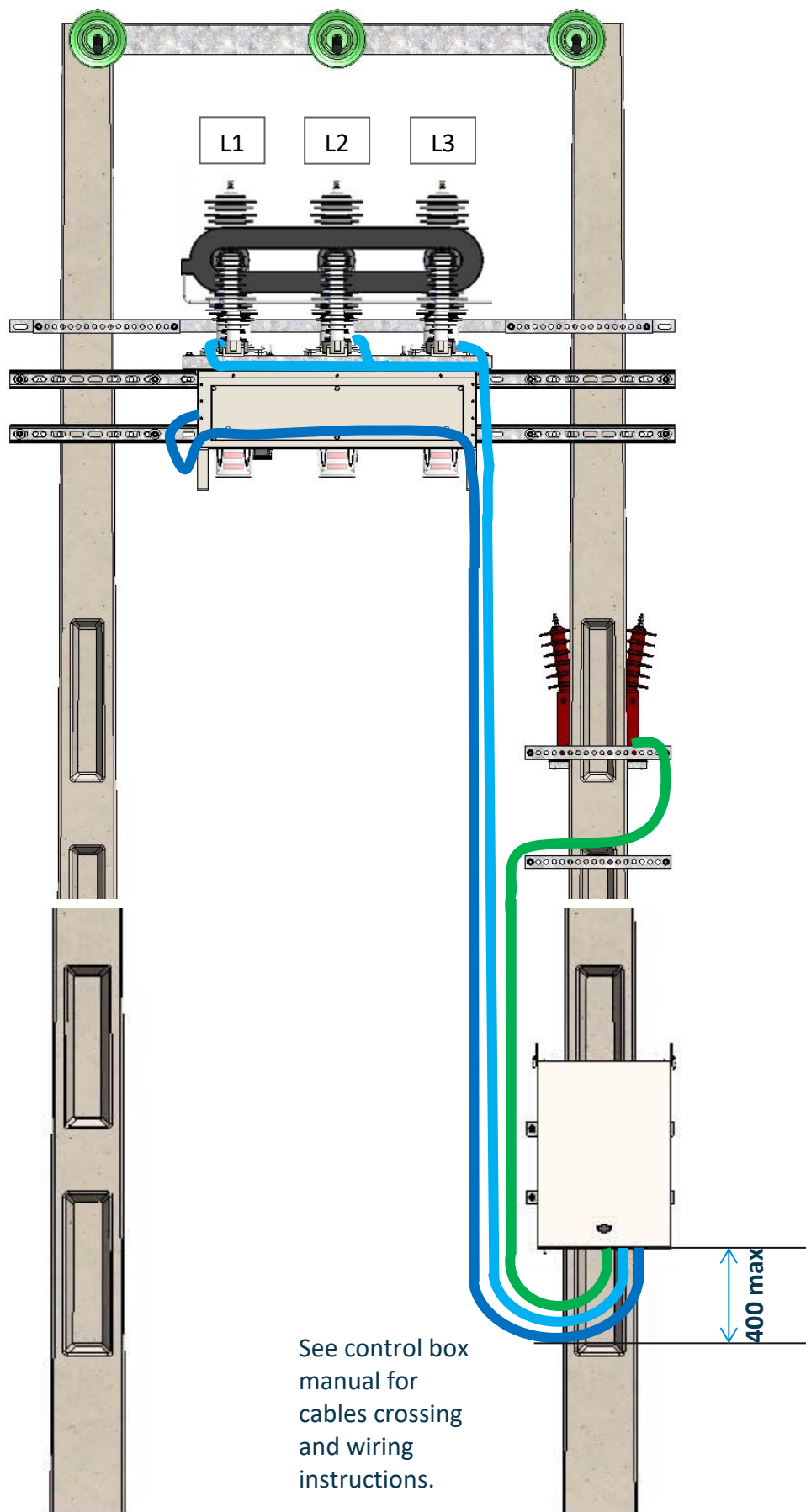
STEP 9: Connexion between Smartcloser and control box

Smartcloser connexion with cable NX2007029

Voltage sensors connexion (option) with cables NX2008695

Transformer connexion (option) with cable NXC320036





Details of Smartcloser cable NX2007029

Wire number / colour	Fonction
1 / black	Common for position contacts
2 / black	Closed position contact
3 / black	Open position contact
4 / black	Current sensor line 1
5 / black	Current sensor line 2
6 / black	Current sensor line 3
7 / black	Homopolar sensor
8 / black	Homopolar sensor
9 / black	Free
10 / black	Free
11 / black	Free
Green Yellow	Common for current sensors

Details of transformer cable NXC320036

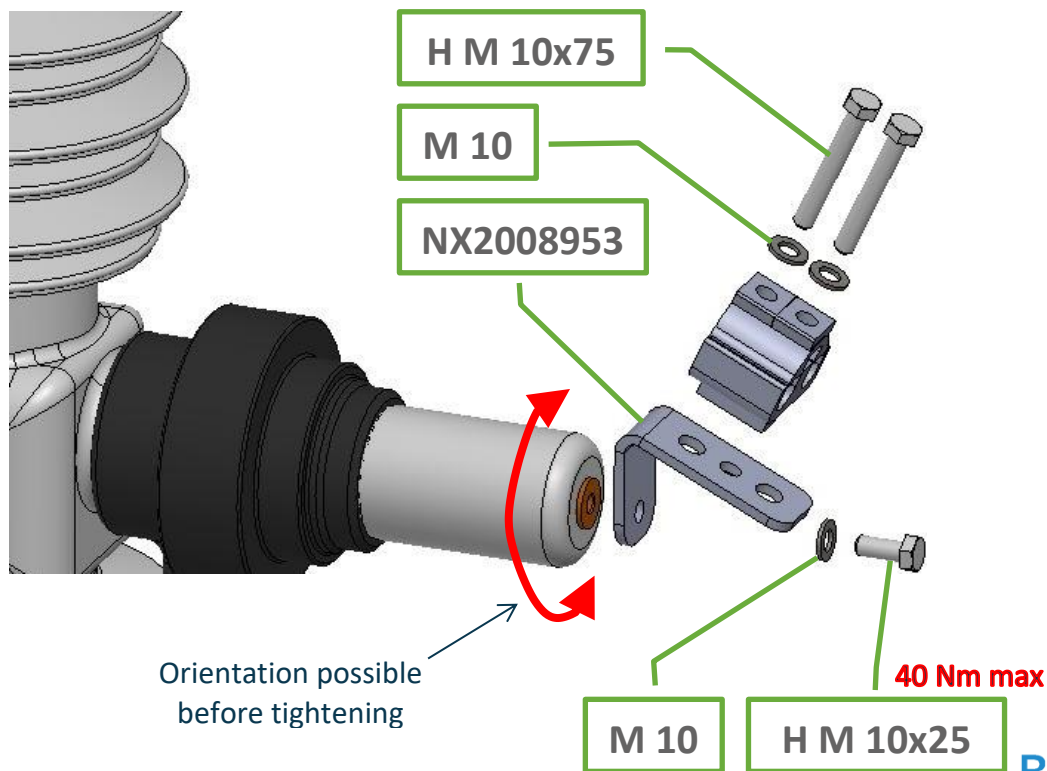
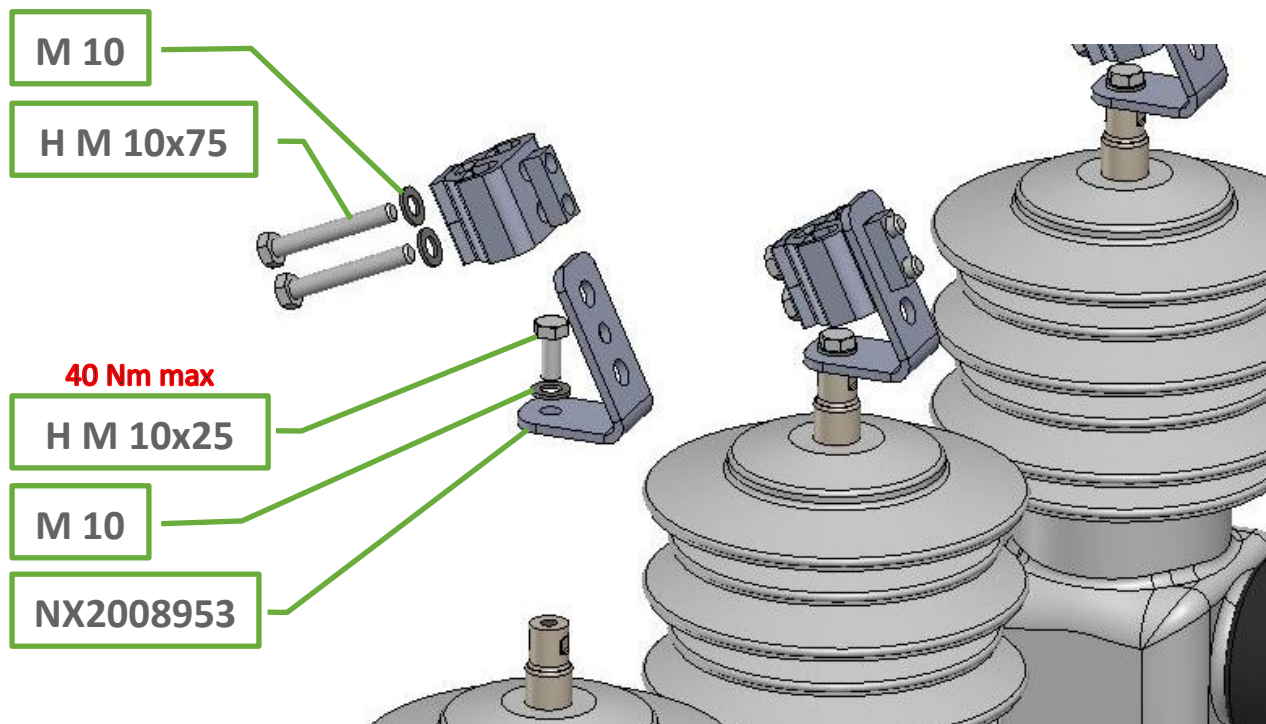
Wire number / colour	Fonction
Brown	Phase
Blue	Neutral

Detail of voltage sensors cable NX2008695

Wire number / colour	Fonction
Center conductor	Phase voltage
Braided shield	Common

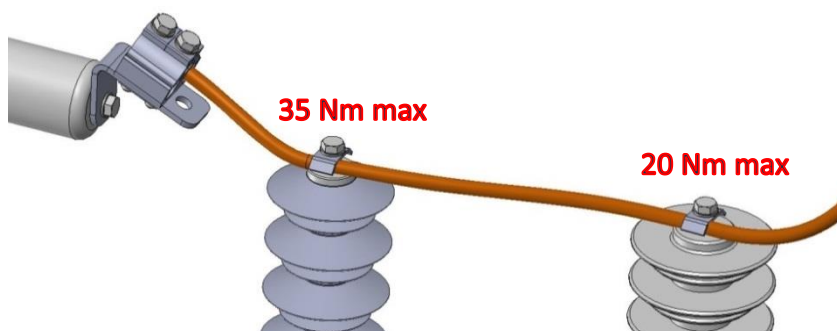
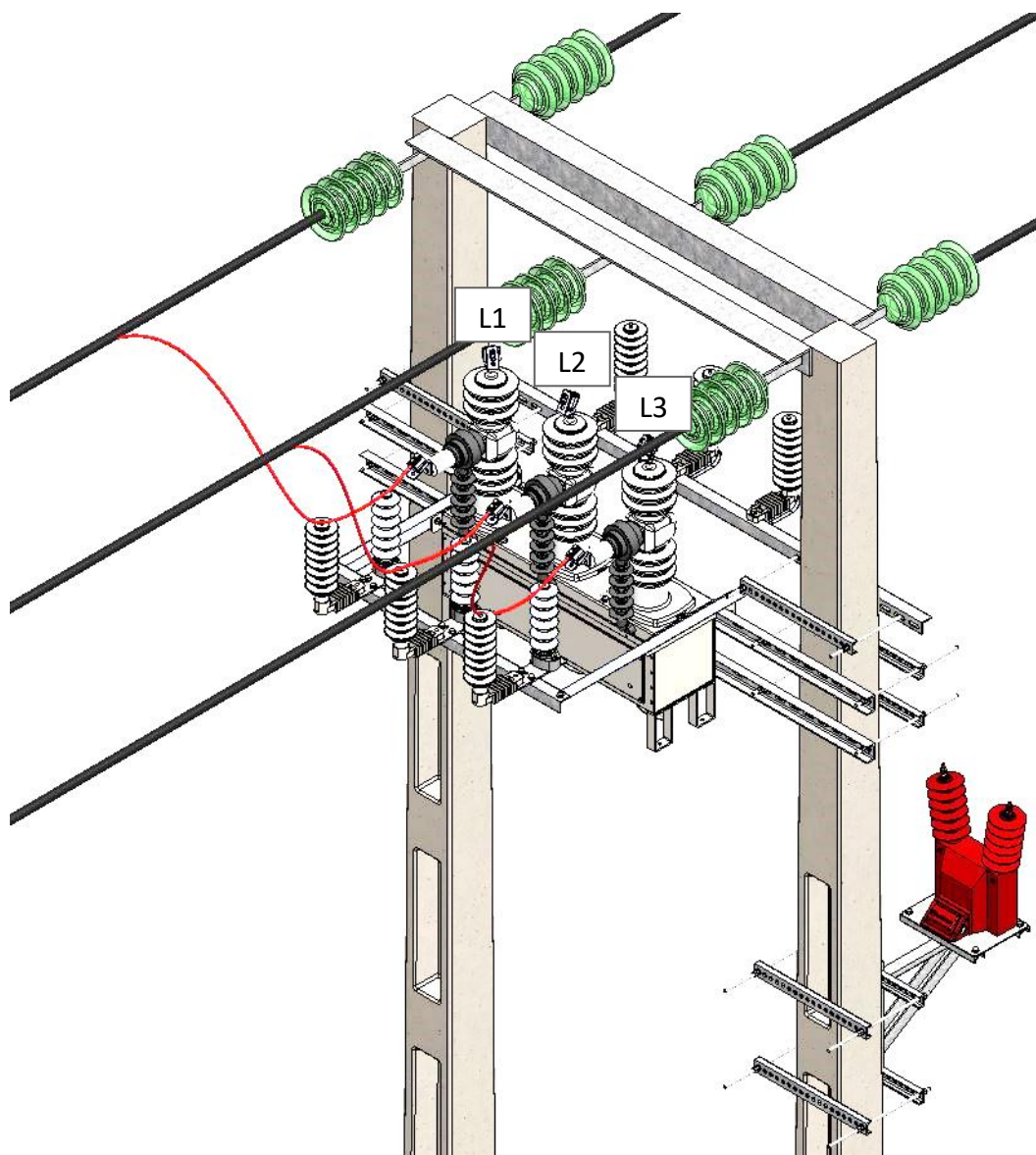
STEP 10: installation of Ensto connectors NX2008956 on the Smartcloser

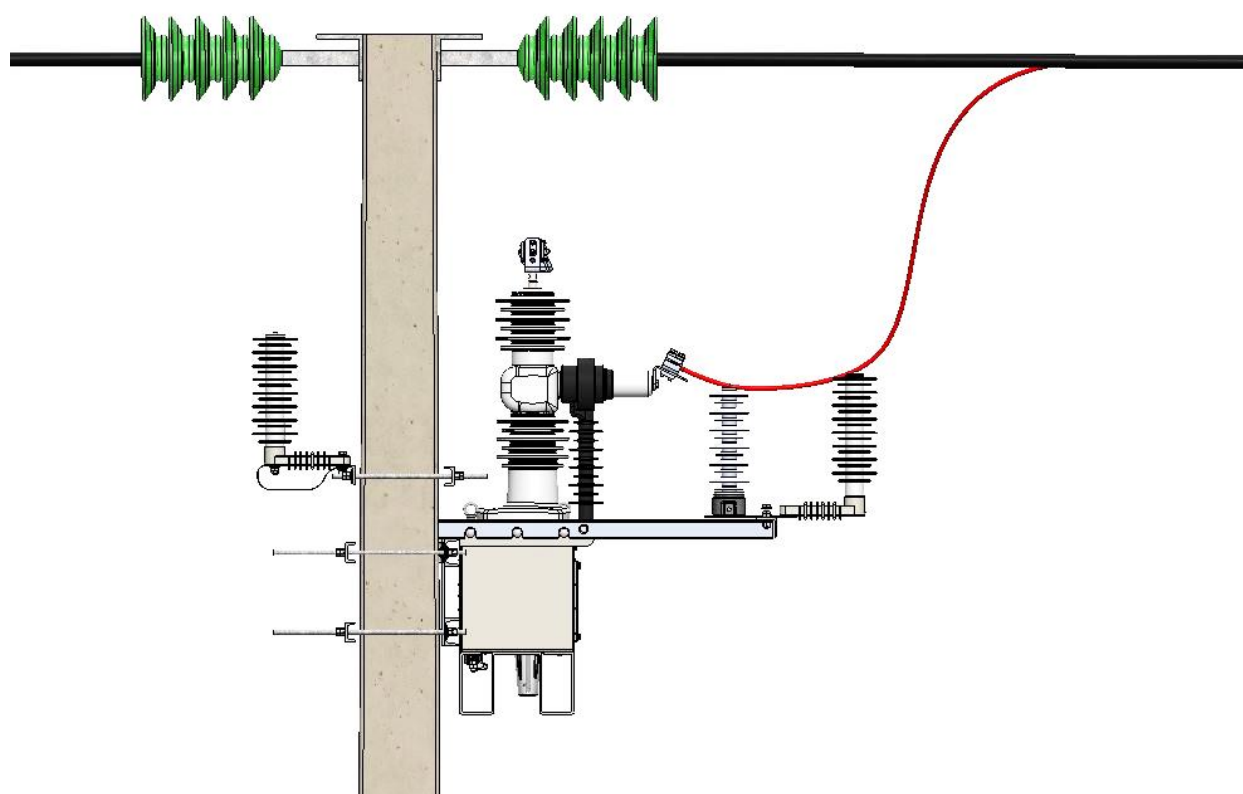
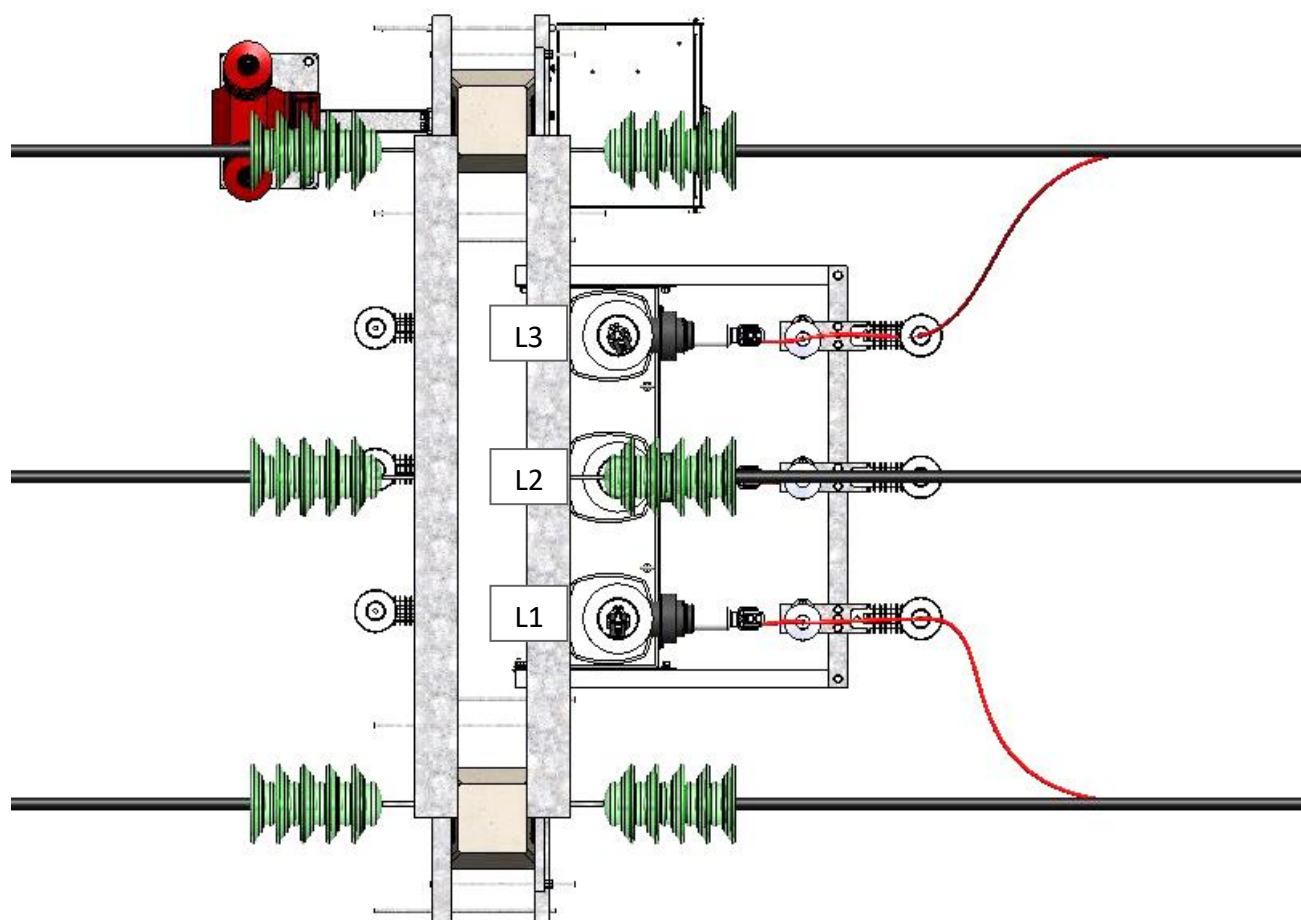
Cables orientation can be obtained by rotation of Ensto connectors before tightening.



STEP 11: Smartcloser downstream connexion

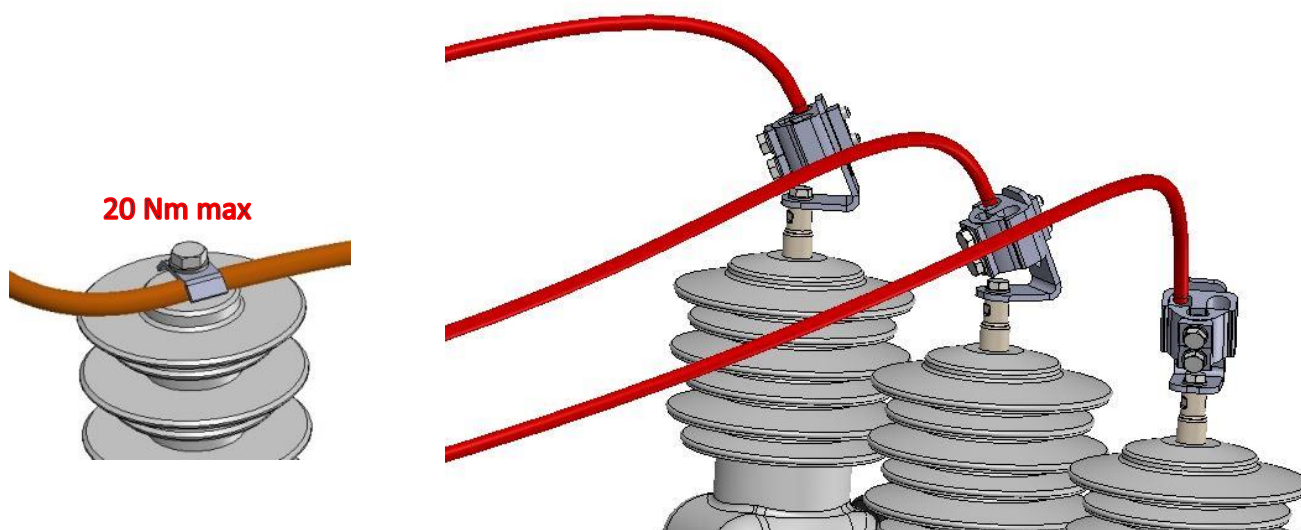
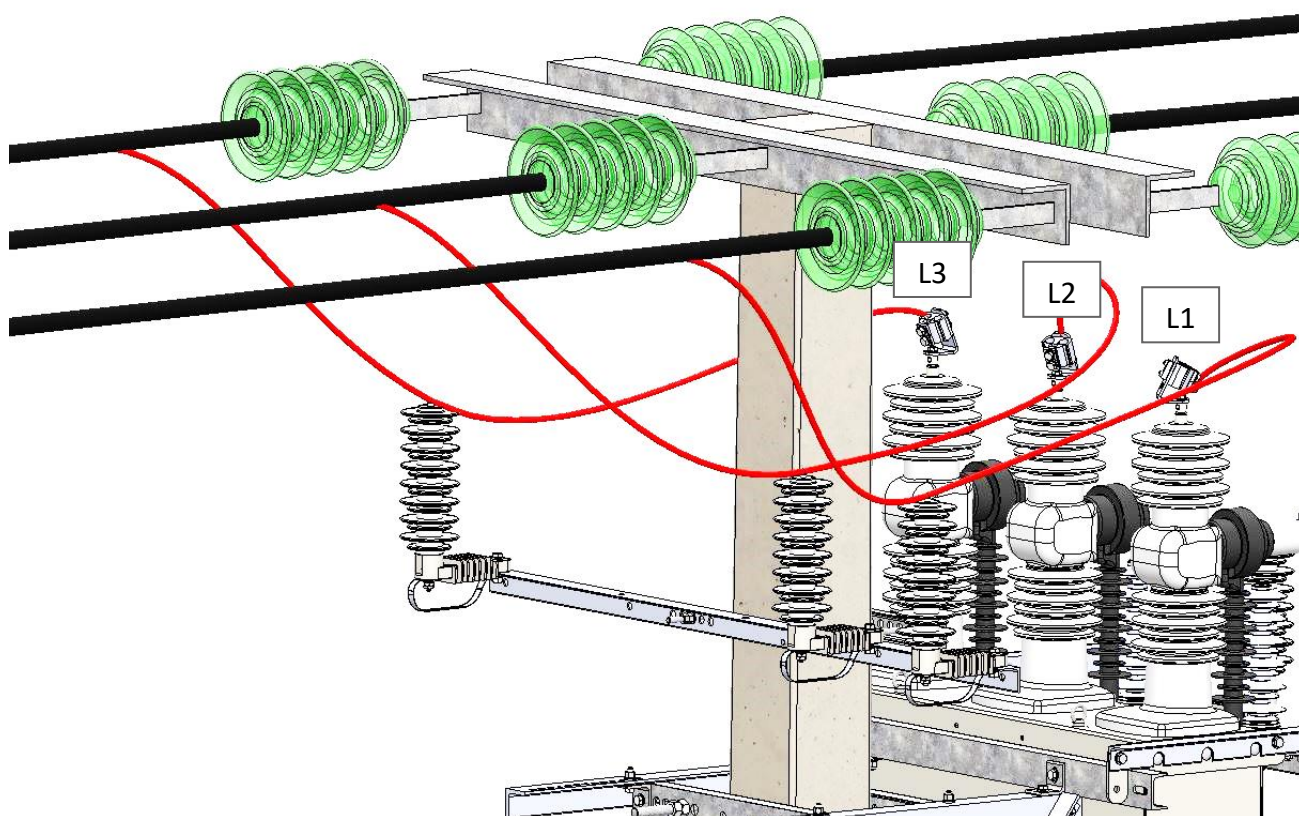
Cables orientation can be obtained by rotation of Ensto connectors before tightening.

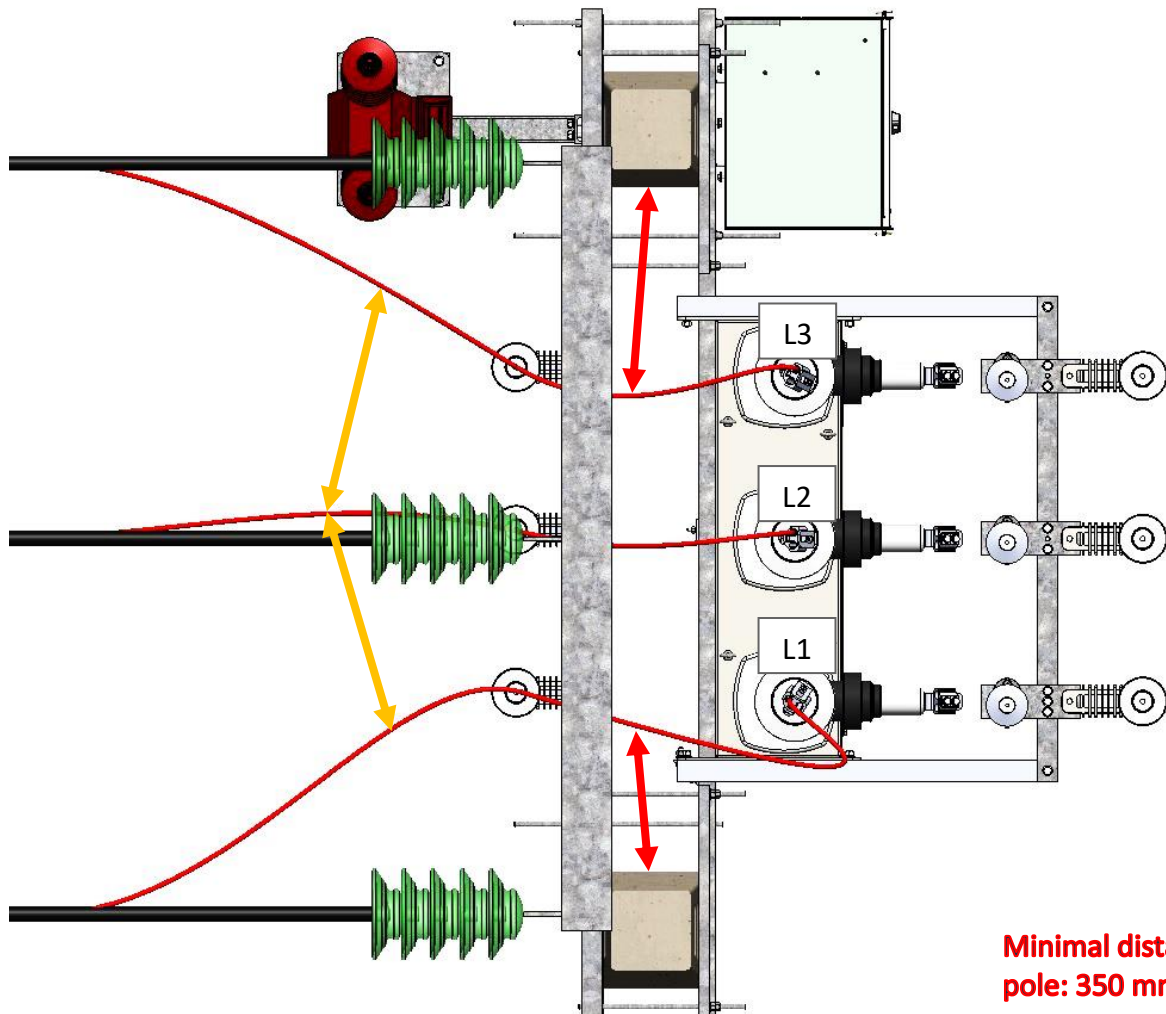




STEP 12: Smartcloser upstream connexion

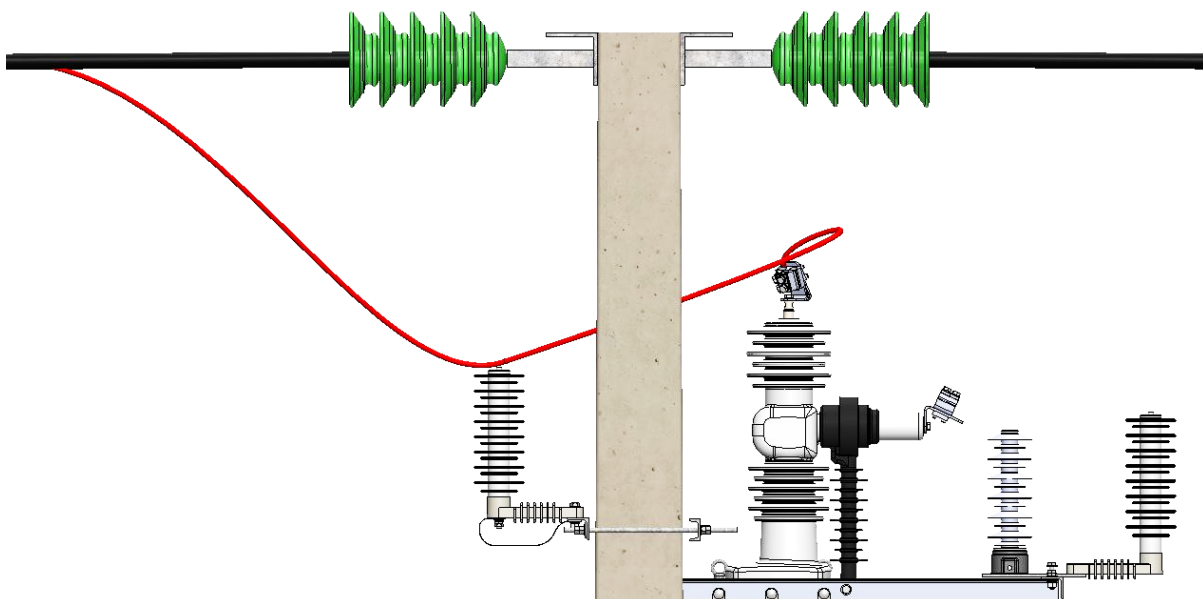
Cables orientation can be obtained by rotation of Ensto connectors before tightening.





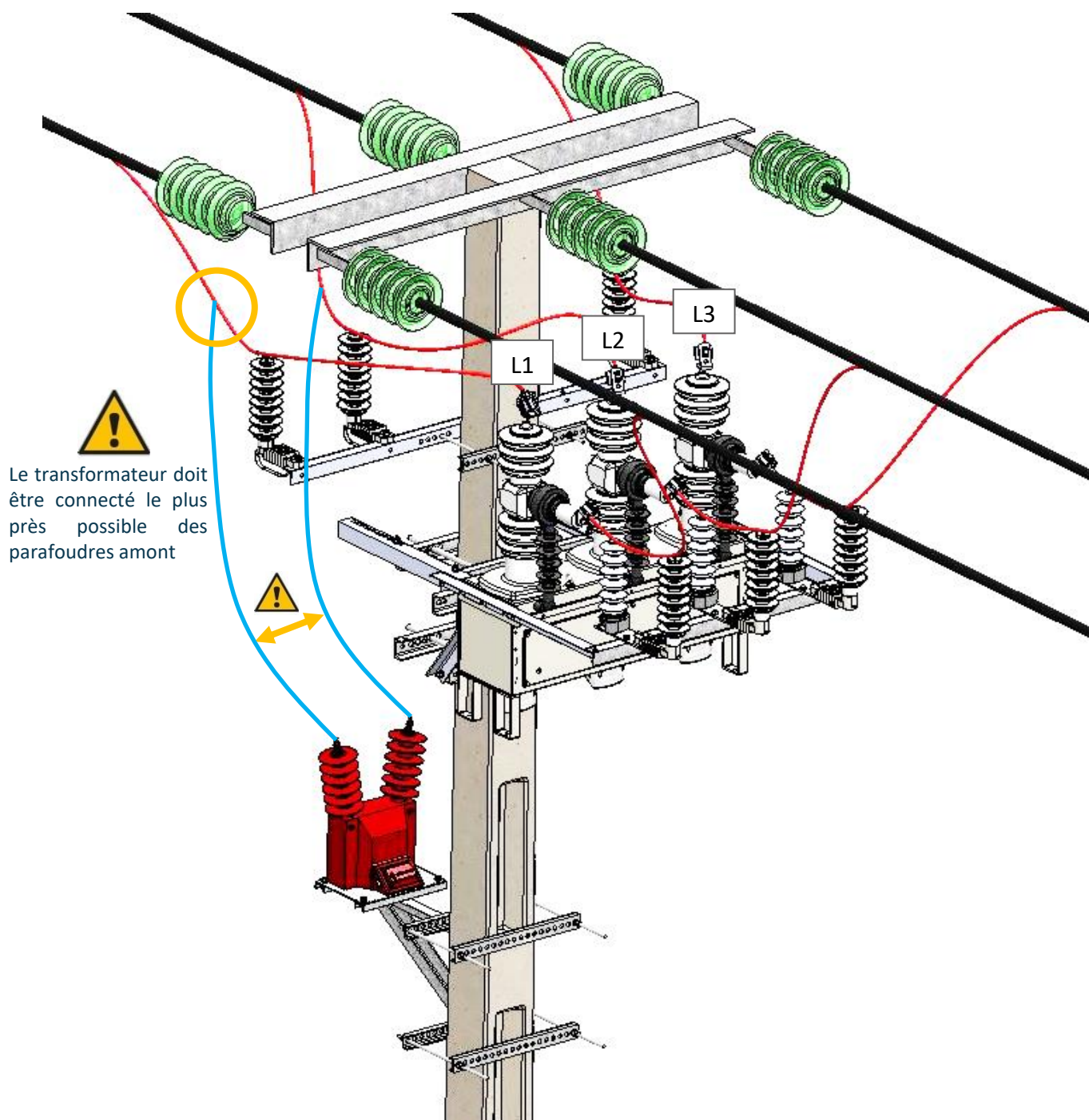
**Minimal distance with
pole: 350 mm**

**Minimal distance
between cables : 380 mm**



STEP 13: Transformer connexion

Connect transformer to lines 2 and 3 (cables not provided).



3 Commissioning

3.1. Control box commissioning

Control box commissioning must be performed according to instructions located in its own user's manual.

3.2. Commissioning operations list

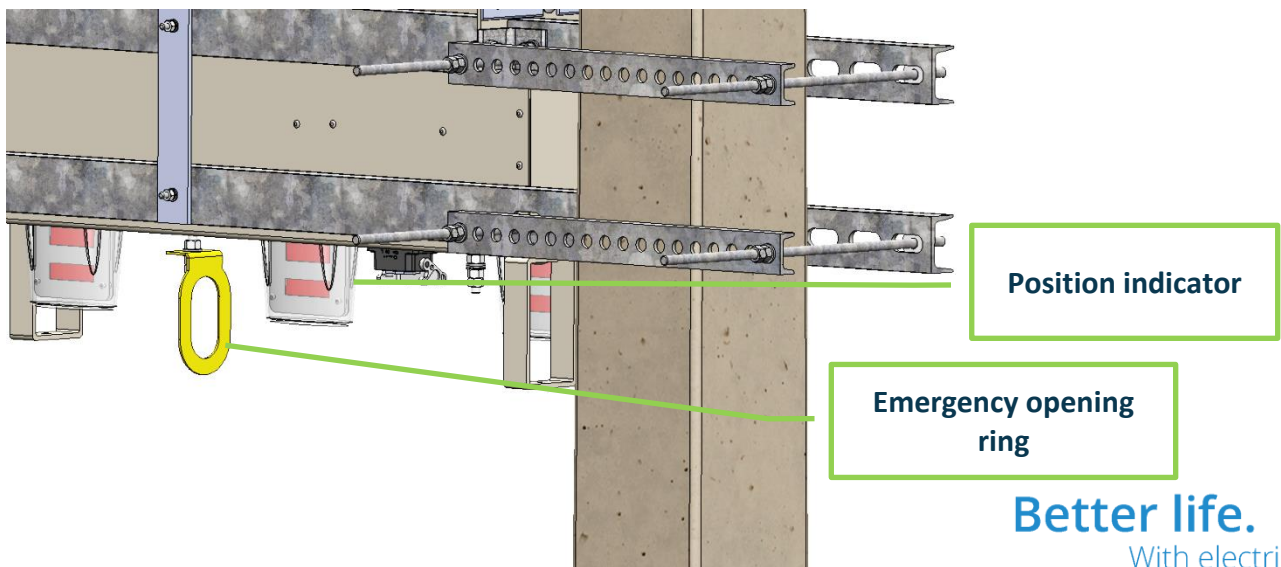
Mechanical check of Smartcloser: for this step, control box must be powered since at least 30 minutes and the circuit breaker must be in open position, as it is when delivered.

Then, with help of control box, proceed to:

- One closing electric command
- Check that three coloured indicators, under the Smartcloser, all display closed position: **red display** on three lines.
- One opening electric command
- Check that three coloured indicators, under the Smartcloser, all display opened position: **green display** on three lines.
- One closing electric command again
- Check that three coloured indicators, under the Smartcloser, all display closed position: **red display** on three lines.

Then with help of a hookstick, proceed to an emergency manual opening operation which consists in pulling the yellow ring located under the body of the Smartcloser, by a brief and energetic pull on the hookstick.

- Check that three coloured indicators, under the Smartcloser, all display opened position: **green display** on three lines.



3.3. Function tests

After control box commissioning:

- Proceed to several opening and closing operations from control box, in local (control box) and distant (remote) configurations.
- Neutralize the electric command using the neutralization switch located in the control box and check that local and distance operations are correctly inhibited.

4 Maintenance

4.1. Preventive maintenance

The Smartcloser and its accessories do not require any maintenance.

4.2. Corrective maintenance

In case of corrective maintenance asked by Ensto expert, please contact Ensto after-sales service.

5 End of product life

For any question or demand about end of product life requirements, please contact Ensto after-sales service.

Note

Fiche suivi retour matériel / Return form

**Service Après-Vente
After-sales Service**

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FR – 69656 Villefranche-sur-Saône
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Mobile : +33 (0)6 16 66 46 43