Solutions for rail infrastructure Maintenance and Safety

Catenary and tracks tooling

SKILL

INNOVATION

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TURNKEY SOLUTIONS

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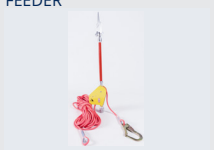
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FOR ALL PRODUCTS ACCORDING TO YOUR SPECIFICATIONS, REMEMBER TO CONSULT US

contact@4nrj.com

Ref : ENSCTS
SNCF approval N° : DPI EO 15093

CONNECTED TENSIOMETER SET

MEASURE THE MECHANICAL TENSION OF CONTACT CABLES AND WIRES FROM THE GROUND.

DEFINITION
Ref : ENSCTS

The tensiometer measures all type of cables and catenary contact wires (brand new or used cables) with simplicity and efficiency.

Simply & quickly screwed on an insulating pole ready for hanging on the chosen cable (support cable, contact wire, feeder).

The operator launches the measurements via its connected application then the measuring process is done in a few seconds, he can read the results on his Smartphone.

DATA recording and you can also export DATA if necessary to a PC server.

ADDED VALUE
All you need to know !

✔ Operational tooling allowing measurements from the ground without using « heavy » transport solutions as work engines, ladder, etc

✔ Self-testing thanks to the control gauge included in the set.

✔ Measurements & instantaneous visualisationof the DATA thanks to 4NRJ application on Smartphone and tablet.

✔ DATABASE gathering several cables and contact wires diameters. All information integrated into the cloud including software automatic update.

✔ Simple and convenient solution allowing an easy transport in case of emergency response.

✔ Connection Bluetooth.

✔ QR code system for a better tooling follow-up (last version of the user guide, certificate of conformity, forthcoming control dates, DATA history).

TECHNICAL FEATURES
What is supplied

- ✔ Utilisation : all power supply
- ✔ Measurements range : 100 daN à 2500 daN.
- ✔ Maximum cable diameter : Ø 21mm
- ✔ Temperatures range : -15˚C/+50˚C
- ✔ Outside Use : all weather conditions
- ✔ Cycling time (one measure) : around 40 seconds.
- ✔ Autonomy : 250 measures
- ✔ Alimentation : recharging battery
- ✔ Battery recharging time : 2,30 hours.
- ✔ Connectivity : Bluetooth : 4.0
- ✔ Tooling Dimensions : 320 x 350 x 150 mm.
- ✔ Mass weight : 4.5 Kg.

KIT INCLUDING

- • Carrying hardcase
- • Tensiometer CTS
- • Emergency extraction tool
- • Control gauge
- • Charger
- • Insulating poles and Carrying bag
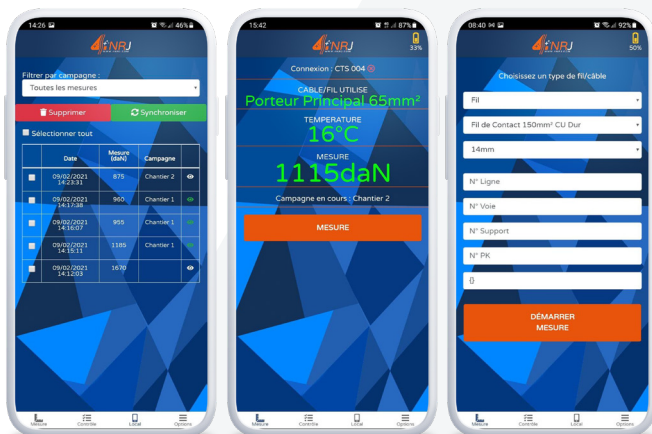
READING AND RECORDING MEASUREMENTS CAMPAIGNS

ACCESS TO MEASUREMENTS DONE WITH SMARTPHONE, PC AND TABLET

Software update everytime the application is used.

↻ Measurement parameters

↻ Cable diameters database

Ref : ENSMESUREFC
SNCF approval N° : DEO 19369
PATENT4NRJ

CONTACT WIRE MEASUREMENT BY LASER PROFILOMETRY

MEASURE FROM THE GROUND THE CATENARY CONTACT WIRE THICKNESS.

DEFINITION
Ref : ENSMESUREFC

Check thickness of the catenary contact wire from the ground.

Connection with a specific catenary insulating pole.

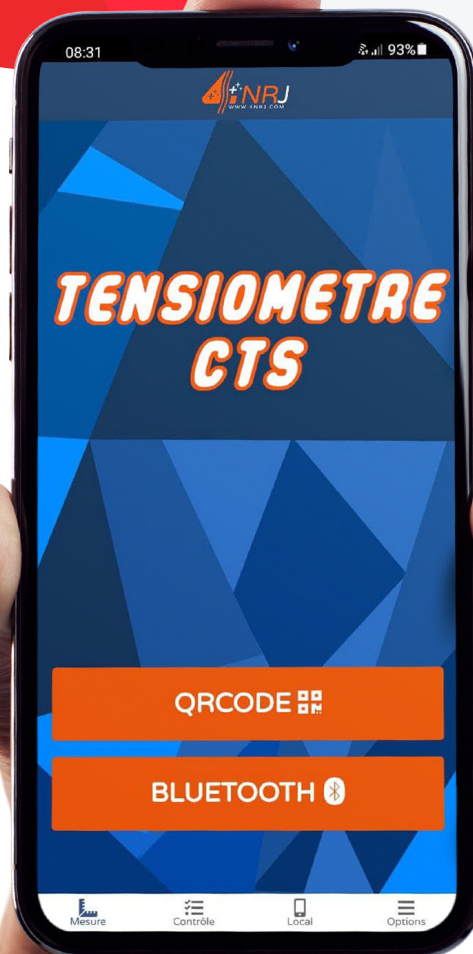Launch measurements via a free 4NRJ application and record instantaneously your data on Smartphone or tablet computer. Data exploitation on dedicated IT server.

ADDED VALUES
All you need to know !

✔ « Ease of use »Solution allowing measuring process from the ground without using work engines, ladders our Lorry.

✔ Auto-control thanks to a calibration tool included in the set.

✔ Innovative Solution allowing an easy and quick transportation gaining time & Production cost.

✔ Instantaneous visualisation of the measures done via 4NRJ Application on your Smartphone and save DATA.

✔ This efficient tool allows you to measure forgotten segments if using automatic mesurement solution in unaccessible areas (as train stations, marshalling yard, etc).

✔ Connection Bluetooth.

✔ QR code system ensuring a better product follow-up (last version of the user manual, certificate of conformity, date of forthcoming control, DATA).

TECHNICAL FEATURES
What is supplied

MEASUREMENT TOOL :

✔ Utilisation on networks 1500 V & 25000 V

✔ Measurement range : 2 mm à 16 mm

✔ Resolution : 0.1 mm

✔ Measurement accuracy : ± 0.05 mm Ø wire < 12mm

± 0.08 mm Ø wire > 12 mm

✔ Temperature of use : -10°C à +50°C

✔ Autonomy : 6 working hours

✔ Dimensions : 245 x 167 x 180 mm

✔ Unit mass weight : 1.5 kg

CABLE SPACER

✔ Utilisation on network 1500 V

SMARTPHONE SUPPORT

✔ Smartphone width : 55 mm to 100 mm

KIT INCLUDING

· Protection bag & transport

· Measuring Tool

· Cable spacer

· Support smartphone

· Control gauge

· Charger

· Insulating poles and Carrying bag for two poles

READ AND SAVE MEASUREMENT CAMPAIGNS

ACCESS TO YOUR DATA WITH YOUR SMARTPHONE, TABLET OR PC.

Ref : CLINALERT

INCLINOMETER SUPPORT

MONITOR THE VERTICALITY OF YOUR SUPPORTS FROM YOUR DESKTOP PC.

DEFINITION
Ref : CLINALERT

100% autonomous solution "Plug & Play" which can be installed from the ground with a catenary pole.

Sharp measurement allowing the detection of support movements.

Configuration of possible movements and alert management done by SMS and/or e-mail. Device that can be used on all supports.
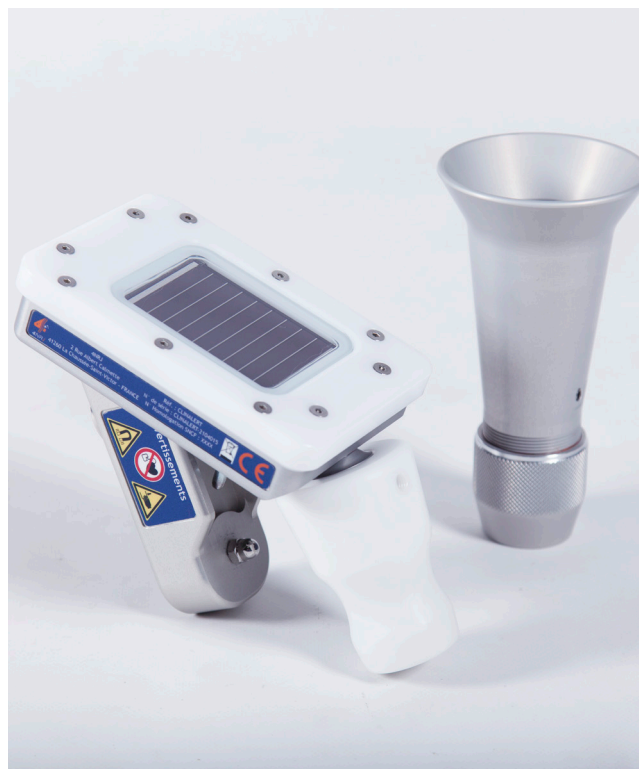
ADDED VALUES
All you need to know !

✔ «Installation can be done at height in inaccessible areas from the ground with catenary pole.

✔ Powerful magnet system allowing the conservation of original references & resisting to strong winds up to 150 km/h.

✔ Solar panel & battery Li ion-iron-Phosphate bringing a total autonomy up to 10 years.

✔ QR code to access directly to several information as end user guide, forthcoming control dates & certificate of conformity, etc.

TECHNICAL FEATURES
What is supplied

✔ Utilisation on Networks 1500 V & 25000 V

✔ Alimentation : solar battery.

✔ Relative measurement fidelity : 0.01° degree (1mm at 5.73m height).

✔ **Measure at ambient temperature : +/- 0.5°C**

✔ Wind resistance up to 150 Km/h.

✔ Shocks detection.

✔ Protection rating : IP67

✔ Dimensions : 210 mm x 130 mm x 100 mm.

✔ Mass weight : 1.2 kg

NOTE :

Important to know

· Configuration of movement detection and alert by SMS, automatic E-mails.

· Inclination monitoring along the ZX and ZY axes.
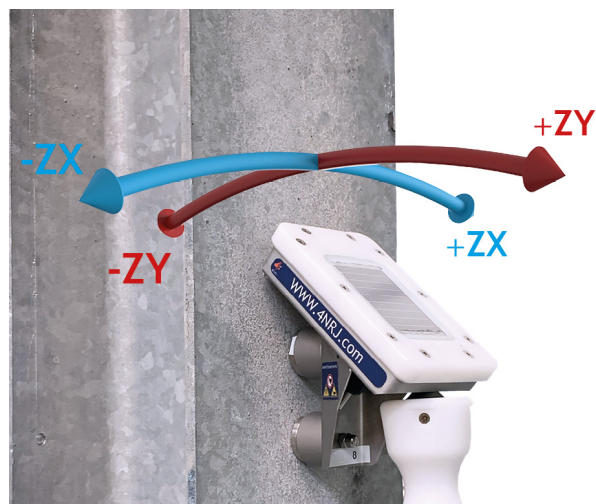
Exploitation of statistics on the web including *configurable alerts on your Smartphone. by SMS & E-mails.*

Alert
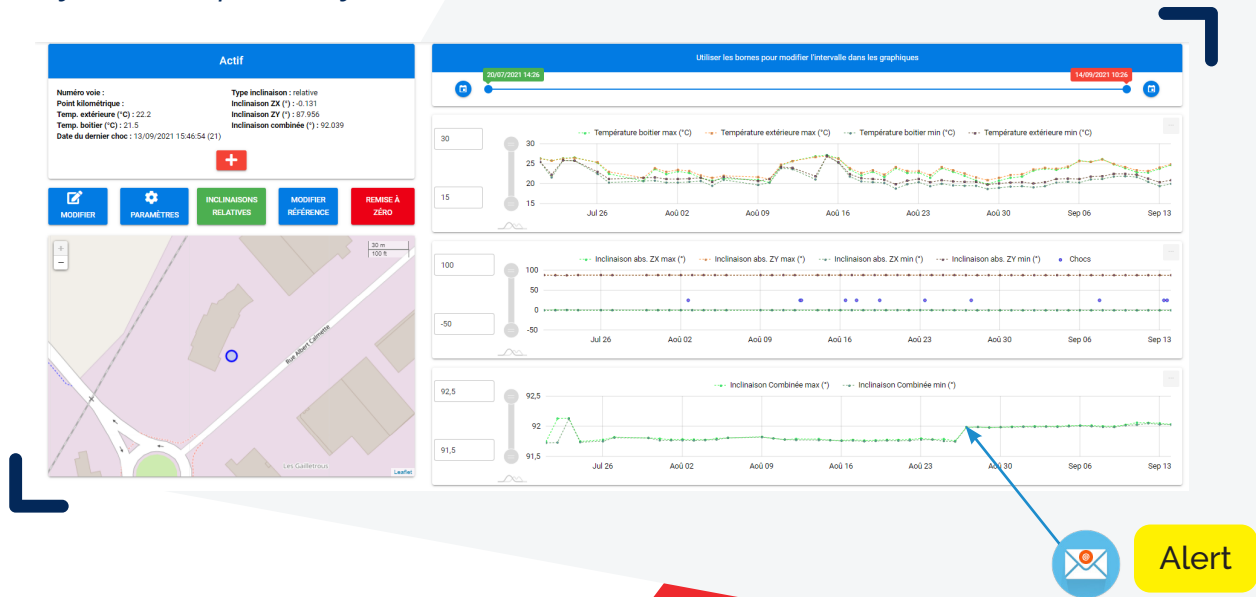
RECORDING & READING DATA

THE INCLINATION VALUE IS AVAILABLE VIA A WEB-BASED INTERFACE.

Ref : RLAHD
SNCF approval N° : DPI EO 15093
PATENT 4NRJ

SELFCENTERING LASER RULER HEIGHT & MISALIGNMENT

MEASURE HEIGHT AND MISALIGNMENT OF THE CATENARY CONTACT WIRE VERSUS THE AXIS OF THE TRACK.

DEFINITION
Ref : RLAHD

Laser ruler allowing measurements of catenary contact wire height and misalignment versus the axis of the tracks.

The « 4NRJ RLAHD » App is available on Smartphone tablet (ANDROÏD-based) allowing DATA storage and adding all information required needed to proper measuring process. Recording of the measurement series into a Database accessible with your PC, tablet or Smartphone.

ADDED VALUES
All you need to know !

✔ Predefined misalignment measure reference thanks to the selfcentering of the ruler.

✔ Integrated Laser Camera allowing easy and sharp measurement at man chest height (night/day) thanks to the visualisation of the Laser on the catenary contact wire.

✔ Connected ruler for having and saving DATA thanks to the dedicated application RLAHD.

✔ Retractable cylinders facilitating an easy transport.

✔ Rolling system facilitating repeated measurements on long distance.

TECHNICAL FEATURES
What is supplied

RULER

✔ Compatibility with the tracks width 1430 to 1470 mm.

✔ Misalignment range : ± 450 mm (900 mm)

✔ Electrical isolation between the two rails of the track.

✔ Mass weight : 17.5 kg

LASER / CAMÉRA

✔ Scope : 200 m

✔ Autonomy : ± 4000 measures.

✔ Bluetooth connection.

LIGHT CASE

✔ Integrated rolling system.

✔ Dimensions : 1100 x 300 x 290 mm

✔ Mass weight : 13.5 kg.

OPTIONS
Measuring Slope and Implantation

• Solid box adapted to both Laser rulers RLAHD et REGLIGHT (Installation and option supplied by 4NRJ).

• Quick and simple connection to recharge and storage the laser distance meter.

• Fits on both 4NRJ rules and App RLAHD (available on Play store) to access and save DATA.
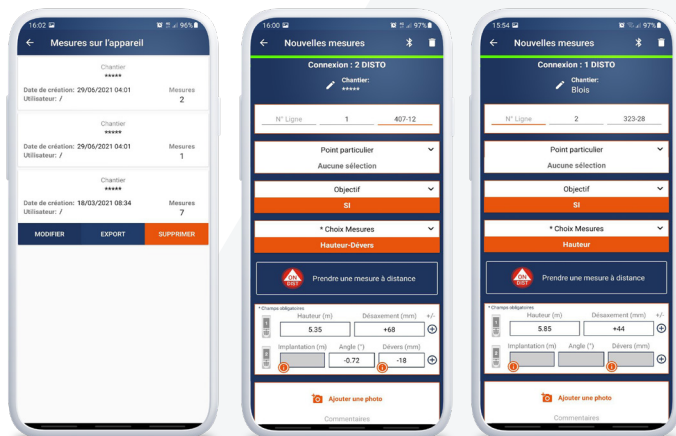
READING AND RECORDING MEASUREMENT CAMPAIGNS

ACCESS TO YOUR DATA WITH PC, SMARTPHONE AND TABLET.

Ref : REGLIGHT
SNCF approval N° : MTP EO 17036

LASER SELFCENTERING LIGHT RULER HEIGHT & MISALIGNMENT

MEASURE HEIGHT AND MISALIGNMENT OF THE CATENARY CONTACT WIRE VERSUS THE AXIS OF THE TRACK.

DEFINITION
Ref : REGLIGHT

This light Laser ruler allowing measurements of catenary contact wire height and misalignment versus the axis of the tracks.

The « 4NRJ RLAHD » App is available on Smartphone tablet (ANDROÏD-based) allowing DATA storage and adding all information required needed to proper measuring process.

Recording of the measurement series into a Database accessible with your PC, tablet or Smartphone.

ADDED VALUE
All you need to know !

✔ Predefined misalignment measure reference thanks to the selfcentering of the ruler.

✔ Lightened system facilitating measurement for particular rating points.

✔ Shoulder straps for long distance transportation.

✔ Integrated Laser camera allowing easy and sharp measurement at man chest height (night/day) thanks to the visualisation of the Laser on the catenary contact wire.

✔ Connected ruler for having and saving DATA thanks to the dedicated application RLAHD.

TECHNICAL FEATURES
What is supplied

RULER

- ✔ Misalignment range : ± 450 mm (900 mm)
- ✔ Compatiblity with tracks width : 1430 to 1470 mm
- ✔ Electrical isolation between the two rail wires.
- ✔ Dimensions (with mast) : 1700 x 130 x 1260 mm
- ✔ Dimensions (without mast) : 1700 x 130 x 270 mm
- ✔ Mass weight : 7 kg

LASER / CAMERA

- ✔ Scope : 200 meters
- ✔ Autonomy : ± 4000 measures
- ✔ Bluetooth connection

LIGHT CASE

- ✔ Reinforced and Foamed strips
- ✔ Dimensions : 1740 x 210 x 270 mm
- ✔ Mass weight : 1.5 kg

OPTION
Measuring slope and implantation

- Solid box adapted to both Laser rulers RLAHD et REGLIGHT (Installation and option supplied by 4NRJ).

- Quick and simple connection to recharge and storage the laser distance meter.

- Fits on both 4NRJ rules and App RLAHD (available on Play store) to access and save DATA.
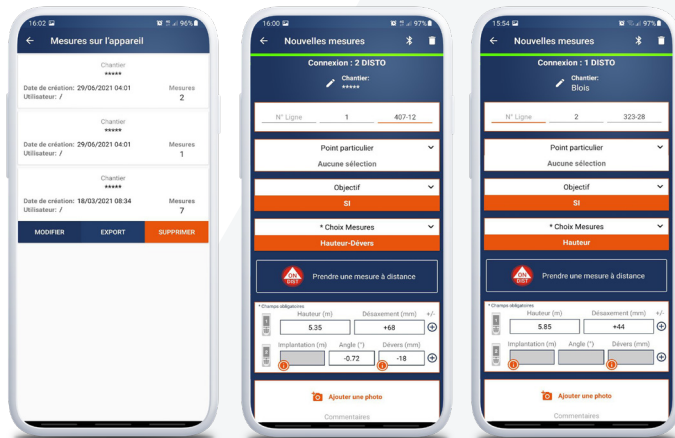
READING AND RECORDING MEASUREMENT CAMPAIGNS

ACCESS TO YOUR DATA WITH PC, SMARTPHONE AND TABLET.

Ref : BERHD
SNCF approval N° : MTP EO 17323
PATENT 4NRJ

CONTROL BENCH FOR LASER RULER HEIGHT & MISALIGNMENT

PERIODIC CONTROL
WHEN NEEDED.

TECHNICAL FEATURES
What is supplied

- ✔ Rigid structure anchored to the ground to guarantee calibration
- ✔ Ground space required : 1.86 x 0.82 m
- ✔ High ceiling : 2.3 m

ADDED VALUE
All you need to know !

- ✔ To ensure calibration by a simple control of your Laser rulers.
- ✔ Mandatory for a periodical control and a potential adjustment.
- ✔ Protective casing and structure fixed to the ground to avoid disorders due to unintentional shocks.
- ✔ Installation, adjustment, setting and technical training provided by 4NRJ Team.

Ref : USUREFC
PATENT SNCF /4NRJ

CATENARY CONTACT WIRE WEAR INDICATOR

THE MOST EFFECTIVE WAY TO MONITOR WEAR FROM THE GROUND.

TECHNICAL FEATURES
What is supplied

- ✔ Predefined release mechanism which matches with many different contact wires.
- ✔ Materials : injected polymer structure reinforced with stainless steel, brass spring blade.
- ✔ Mass weight : 32.5 g

AVAILABLE DIAMETERS

- ✔ 107 mm² (release : 8.8 mm)
- ✔ 150 mm² (release : 9.8 mm)

Ref : OTFC

ADDED VALUE
All you need to know !

- ✔ Easy setting on the contact wire from the ground without electrical lockout (Network 1500V).
- ✔ The wear indicator is placed from the ground with a catenary insulating pole and its setting tool OTFC.
- ✔ Anti-friction flange to avoid premature wear of the spring blades when there are two wires on the Network 1500V.

NOTE :
Important to know

✔ Mandatory setting tool OTFC to move & remove wear indicator from the ground.

Ref : CSP V1
SNCF approval N° : DPI 14259

CHOKES CONTROLLER

CONTROL AND VALIDATE THE CONDITION OF YOUR PORTABLE RAIL CHOKE.

TECHNICAL FEATURES
What is supplied

- ✔ Compact light case, resistant to external hocks
- ✔ Alimentation : 2 batteries Alcaline 9 V
- ✔ Autonomy : 500 controls
- ✔ Dimensions : 470 x 350 x 180 mm
- ✔ Mass weight : 6 kg

ADDED VALUE
All you need to know !

- ✔ Control indicators GREEN/RED to validate earthing measurement solution.
- ✔ Light & compact hard case resistant to shocks to facilitate transport & storage.
- ✔ Autonomous tooling allowing nomadic use.
- ✔ Automatic control of the calibration at every single use ensuring the expected conformity.
- ✔ Automatic shutdown if not used after several minutes.
- ✔ QR Code to access to tooling follow-up (certificate of conformity, forthcoming control dates, end user guide, etc).

Ref : BC3P

CONTROL BENCH FOR TEMPORARY DROPPER 1500 V

CONTROL THE CONFORMITY OF YOUR TEMPORARY OVERHEAD CONTACT DROPPERS PPROS.

TECHNICAL FEATURES
What is supplied

- ✔ Compact light case, resistant to external shocks
- ✔ Alimentation : 2 batteries 9 V (1000 cycles)
- ✔ Control gauge.
- ✔ Dimensions : L 470 X l 350 X H 180 mm
- ✔ Mass weight : 8.7kg

ADDED VALUE
All you need to know!

- ✔ Result of the control to validate PPROS clamping force. Green / Red check then sound signal to validate the 4NRJ temporary pendulums.
- ✔ Stand-alone tooling allowing a nomadic use.
- ✔ Tracking system to identify validated PPROS thanks to coloured clips.
- ✔ Automatic shutdown if not used after several minutes.
- ✔ QR Code allowing a quick access to several information as dates of control, user guide, certificate of conformity.

Ref : VATDCC1500V
SNCF approval N° : DEO 19371
PATENT 4NRJ

VOLTAGE DETECTOR 750 V/1500 V DC BI-IMPEDANCE

VERIFY THE ABSENCE OF VOLTAGE ON THE 1500V AND 750V NETWORK (DIRECT CURRENT).

DEFINITION
Ref : VATDCC1500V

Impedance switching system for discrimination of nominal voltage.

The electronics compartment of the box is tamper-proof and waterproof with a hatch for quick change of
The battery to guarantee the reliability of the whole.

Rail contact provided by a powerful magnet with automatic striker for a reliable connection.

ADDED VALUE
All you need to know !

- ✔ Result of the VAT signaled by bright LEDs and loud beep sound.

- ✔ Presence of leakeage current shown by orange LED light.

- ✔ Optimized indications to be clearly perceived whatever the working conditions.

- ✔ Permanent check of cable integrity by the self-test.

- ✔ Quick assembly with a SNCF standardized catenary pole.

- ✔ It can be used by mistake on Network 25KV AC without destruction of the tool.

- ✔ QR Code allowing a quick access to several information as dates of control, user guide, certificate of conformity.

TECHNICAL FEATURES
What is supplied

- ✔ Storage & carrying bag.
- ✔ Tool equipped with an auto-test.
- ✔ Outdoor use : All weather outdoor
- ✔ Temperature use : -25˚ à 55˚ C
- ✔ Voltage utilisation : 3600 V DC
- ✔ Minimum threshold detection : 120 V
- ✔ Dimensions : 170 x 420 x 100 mm
- ✔ Mass weight : 3.8 kg
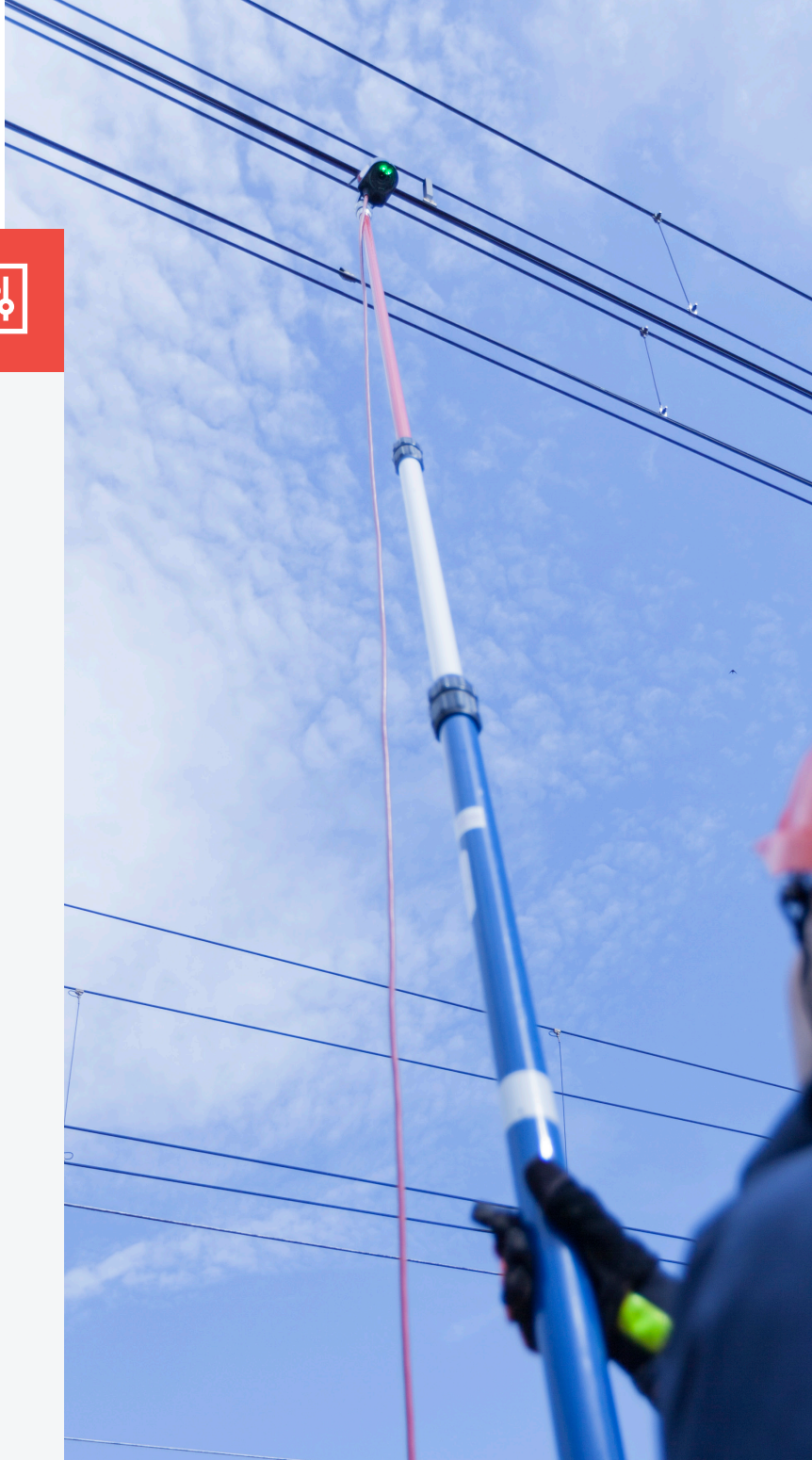
KIT INCLUDING

- · 1500 V bi-impedance voltage detector.
- · Spare 9 V battery.
- · Workshop self-test panel.
- · Silicable (extension possible on request).

The evolution of voltage detection characteristics on 1500 V and 750 V networks (Direct Current).

Permanent control of the electrical continuity of the cable.	√
Permanent control of the rail connection.	√
Visual indication in case of loss of continuity.	√
Visual indication of absence of voltage.	√
Visual indication of the presence of nominal voltage.	√

Visual alert in the event of stalling of the contact hand on the rail, signaled by bright red LEDs.

Ref : KITVAT25KVAC
SNCF approval N° : MTP EO 14070

VOLTAGE DETECTOR KIT 25 KV AC

VERIFY THE ABSENCE OF VOLTAGE ON NETWORK 25 KV (ALTERNATING CURRENT).

TECHNICAL FEATURES
What is supplied

- ✔ Unipolar voltage measurement (electric field measurement).

- ✔ Tool equipped with an auto-test

- ✔ Permanent threshold control.

- ✔ Voltage type : 25 KV AC ou 2 x 25 KV AC

- ✔ Temperature use : -25˚ C à 55˚ C

- ✔ Threshold detection : 6900 V

- ✔ Dimensions : 80 x 115 x 1545 mm

- ✔ Mass weight : 1.2 kg

WHAT IS PROVIDED TO YOU IN THE KIT

- ✔ VAT 25 KV AC

- ✔ PIVAT pole

- ✔ Silicone Fabric

- ✔ 1 spare 9 V battery

- ✔ Storage & carrying bag.

ADDED VALUE
All you need to know !

- ✔ Results shown by LED light & beep sound.

- ✔ Raccord P-FIX (brevet 4NRJ) pour assemblage rapide avec la perche caténaire SNCF.

- ✔ 2-layer fiberglass antenna (wear indication) with central electrode.

- ✔ PIVAT pole quickly unfolded.

- ✔ QR Code to access directly to several information as end user guide, forthcoming control dates, certificate of conformity, etc).
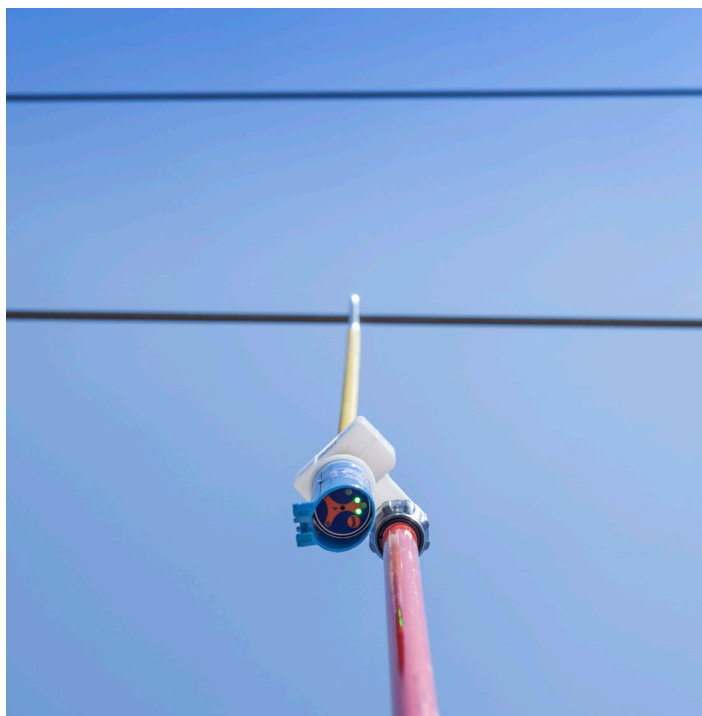
Ref : KITVAT15KVAC
SNCF approval N° : DEO 20178

VOLTAGE DETECTOR 15 KV 16.66 HZ

VERIFY THE ABSENCE OF VOLTAGE ON NETWORK SINGLE-PHASED 15 KV AC 16.66 HZ.

TECHNICAL FEATURES
What is supplied

✔ Equipped with an auto-test

✔ Voltage type : single phased 15 KV

✔ Network frenquency : 16.66 Hz

✔ Temperature use : -25˚ C à 55˚ C

✔ Permanent threshold control.

✔ Dimensions : 80 x 115 x 1545 mm

✔ Mass weight : 1.2 kg

WHAT IS PROVIDED TO YOU IN THE KIT

✔ VAT 15 KV AC

✔ PIVAT pole

✔ Silicone Fabric

✔ 1 spare 9 V battery

✔ Storage & carrying bag.
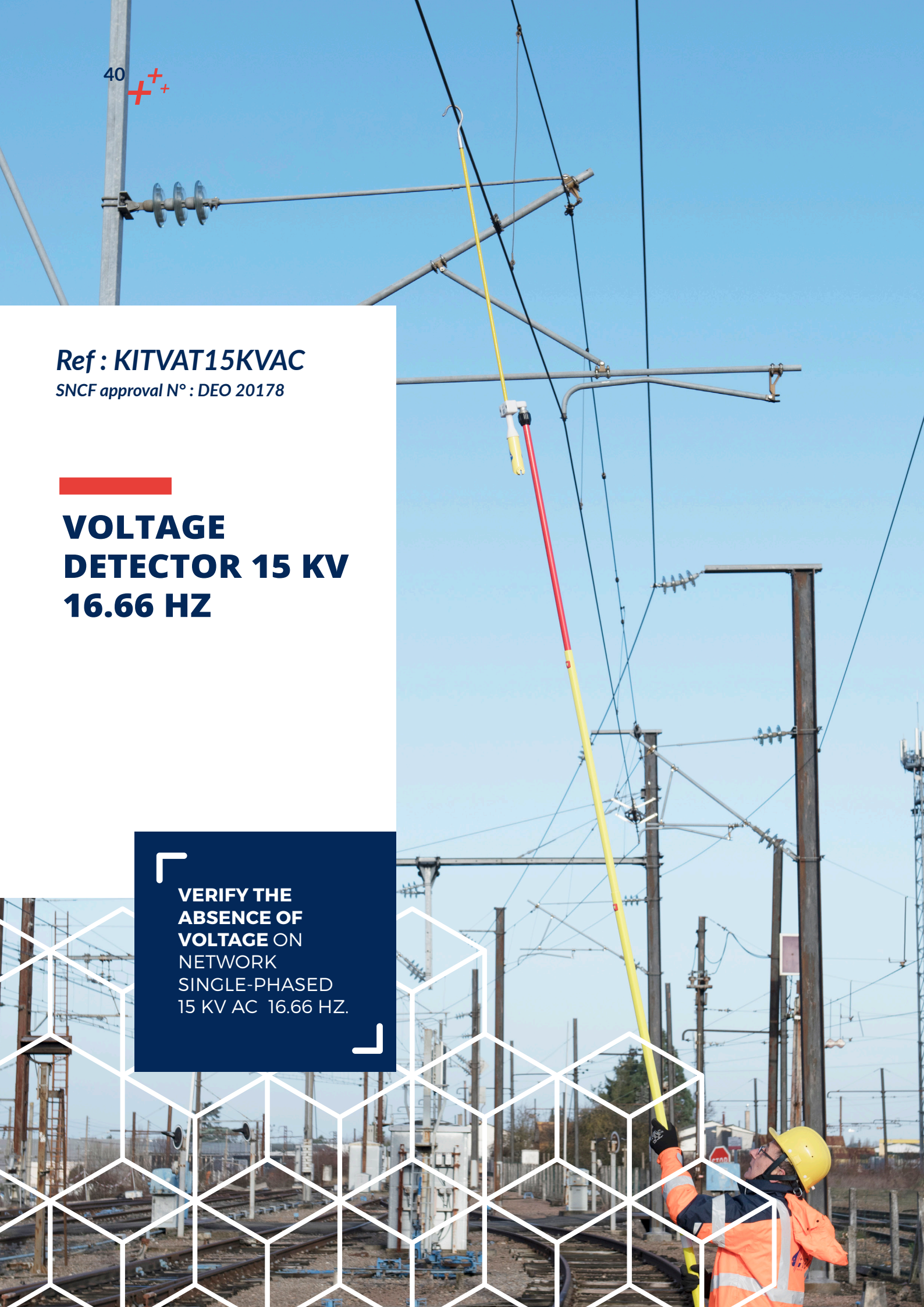
ADDED VALUE
All you need to know !

✔ Indication of absence of voltage thanks to two green fixed LED

✔ P-FIX connection (4NRJ patent) for a quick assembly with SNCF catenary pole.

✔ 2-layer fiberglass antenna (wear indication) with central electrode.

✔ PIVAT pole quickly unfolded.

✔ QR Code to access directly to several information as forthcoming control dates, certificate of conformity, end user guide, etc.

Ref : VAT1500VDC

SNCF approval N° 1500 V : DPI EO 12139

SNCF approval N° 750 V : DPI EO 13230

VOLTAGE DETECTOR 750V/1500V DC

VERIFY THE ABSENCE OF VOLTAGE 1500V & 750V (CONTINUOUS CURRENT).

TECHNICAL FEATURES
What is supplied

✔ Bipolar voltage Measurement (between rail and catenary).

✔ Tool equipped with an auto-test.

✔ Maximum voltage use : 3600 V DC.

✔ Minimum threshold detection : 480 V DC

✔ Permanent threshold control.

✔ Dimensions : Ø80 x 480 mm

✔ Mass weight : 1.8 kg

INCLUDES IN THE KIT

✔ VAT 1500 V

✔ Silicone Fabric

✔ 1 spare 9 V battery

✔ Storage & carrying bag.

ADDED VALUE
All you need to know !

✔ Result shown by LED lights & strong beep sound.

✔ P-FIX connection (patent 4NRJ) for a quick setting with SNCF standard catenary pole.

✔ Anti-ejection battery support (patent 4NRJ) avoiding inadvertent interruption of the tool.

✔ New angled handle avoiding a tractive effort on the cable.

✔ Reinforced cable fixing for a stronger connection while facing pullout.

✔ It can be used by mistake on Network 25 KV AC without destruction of the tool

✔ QR Code to access directly to several information as forthcoming control dates, certificate of conformity, end user guide, etc).

Ref : SAMNG
SNCF approval N° : Symbol 7.391.0313

HANDY STOP SIGNAL NEW GENERATION

SIGNAL AND SECURE YOUR WORKSITES BEFORE MAINTENANCE ACTIVITIES.

TECHNICAL FEATURES
What is supplied

PROTECTIVE BAG INCLUDING CHARGERS

- ✔ Alimentation charger 220 V
- ✔ Cigarette lighter charger 12 V / 24 V
- ✔ Recharging time : 4 h
- ✔ Dimensions : 480 x 370 x 155 mm
- ✔ Carrying bag mass weight : 5 kg

LAMP SAMNG

- ✔ Autonomy : 20 hours
- ✔ Unit mass weight : 250 g
- ✔ Including Power indicators
- ✔ Magnet integrated to the lamp.
- ✔ Magnet strength : 8 daN
- ✔ Folded & unfolded reflective flap.
- ✔ Dimensions : Ø 110 x 45 mm (folded) 125 mm (unfolded)

FIRECRACKERS BAG

- ✔ Removable bag Capacity 6 firecrackers (firecrackers not supplied)
- ✔ Dimensions : 300 x 200 x 70 mm

ADDED VALUE
All you need to know !

- ✔ Compact & light lamp facilitating an easy transportation.
- ✔ Integrated magnet system facilitating a simple and reliable clamping on the rail.
- ✔ Solid & waterproof box for intensive use.
- ✔ Folding red & reflective flap ensuring a permanent visibility.
- ✔ Lamp & its flap resistant to winds up to 105 km/h without flap dropping to guarantee you a long-lasting visibility whatever the weather conditions.
- ✔ Specific bag tested with bangers explosion without release of the other firecrackers & without any projection out of the bag.
- ✔ QR Code to access directly to several information as forthcoming control dates, certificate of conformity, end user guide, etc).

Ref : PI56 / PI46
SNCF approval N° : DEO 19 284

CATENARY TELESCOPIC & INSULATING POLE

MANIPULATE SAFELY YOUR CATENARY TOOLS.

TECHNICAL FEATURES
What is supplied

PI56

- ✔ Foamed red tube compliant with standard CEI60855-1.
- ✔ Empty blue & white tubes compliant with standard CEI 61235.
- ✔ Length : 2,15 m to 5,60 m
- ✔ Mass weight : 3,8 Kg

PI46

- ✔ Foamed red tube compliant with standard CEI60855-1.
- ✔ Empty blue & white tubes compliant with standard CEI 61235.
- ✔ Length : 1,85 m to 4,60 m
- ✔ Mass weight : 3,0 Kg

ADDED VALUE
All you need to know!

- ✔ System with quick-release sleeves for easy adjustment of the required length.
- ✔ QR Code to direct access to several information as end user guide, forthcoming control dates, certificate of conformity.

Ref : RPIR
SNCF approval N° : DEO 19284

INSULATING TELESCOPIC & PENTAGONAL POLE EXTENSION

INCREASE YOUR CATENARY POLE LENGTH WITH A POLE EXTENSION.

TECHNICAL FEATURES
What is supplied

- ✔ Attainable height with pole PI56 + pole extension : 8 m
- ✔ Height with pole PI56 + 2 pole extensions : 9.5 m
- ✔ Tube diameter : Ø 45 mm
- ✔ Mass weight : 11 kg

ADDED VALUE
All you need to know !

- ✔ Long sleeving along the lower part of the tube diameter (Ø45) to make stronger the breaking load.

- ✔ Long sleeving with quick fastening to fit with a lot of different catenary poles.

- ✔ QR Code to access directly to several information as end user guide, forthcoming control dates & certificate of conformity, etc.
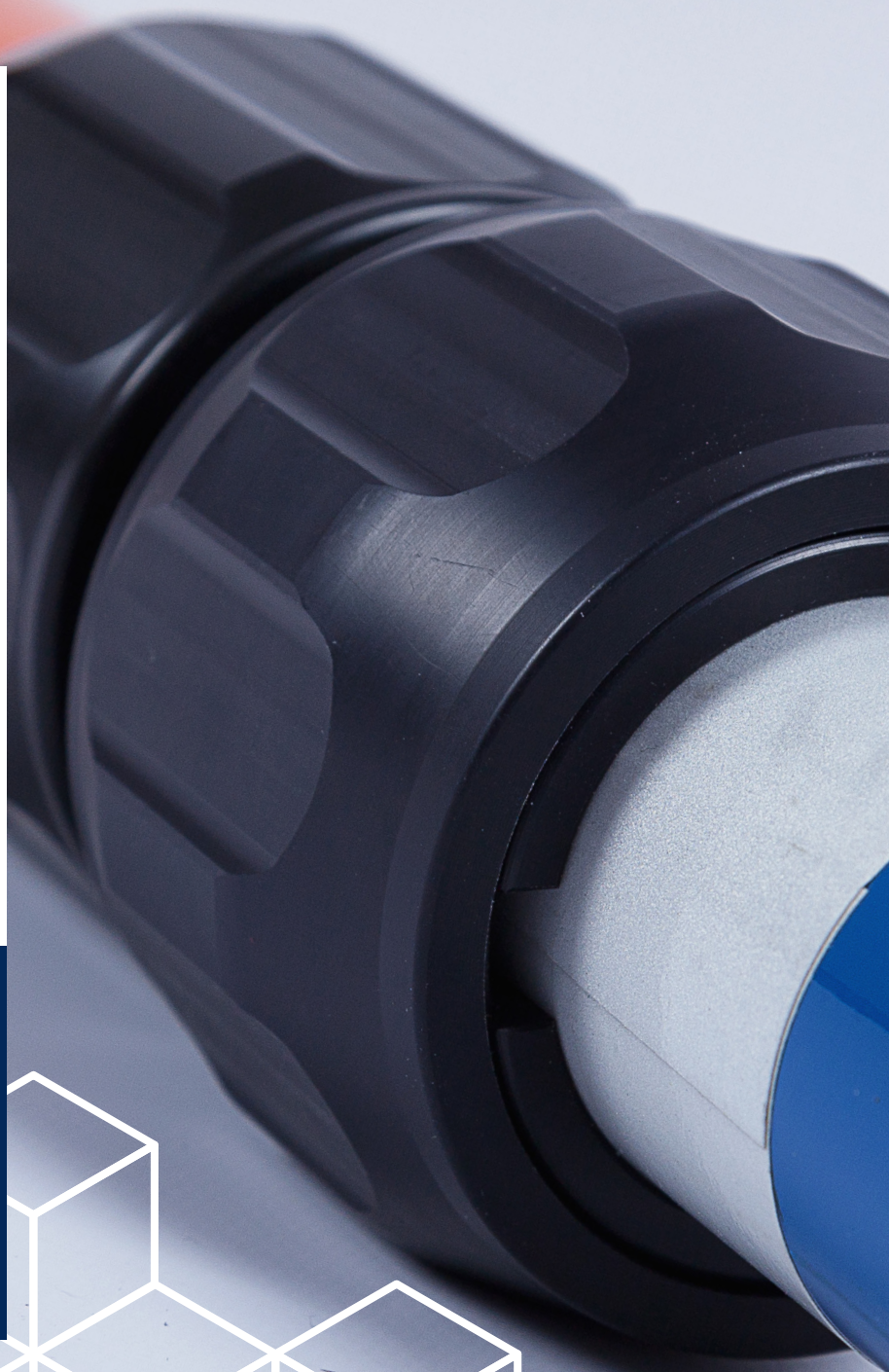
Ref : PIVAT / PPOL
SNCF approval N° : DEO 19 284

PENTAGONAL & TELESCOPIC INSULATING POLE

VERIFY SAFELY THE ABSENCE OF TENSION ON NETWORK 25 KV AC.

TECHNICAL FEATURES
What is supplied

DEVELOPED FOR OUR VOLTAGE DETECTOR 25KVAC)

✔ Red foamed tube compliant with standard CEI60855-1

✔ Telescopic pole compliant with standard CEI 62193

✔ Pole with 4 strands

✔ Length (folded) : 1.25 m

✔ Length (unfolded) : 4.20 m

✔ Mass weight : 2 Kg

PPOL

✔ 7 references for unfolded poles from 3.70 m to 12 m

Ref	Number of elements	folded	unfolded		Max Tension
PPOL3	3	1,45 m (4'9'')	3,70 m (12'2'')		
PPOL4	4	1,51 m (4'11'')	5,00 m (16'4'')		
PPOL5	5	1,58 m (5'2'')	6,30 m (20'8'')		
PPOL6	6	1,65 m (5'4'')	7,70 m (25'2'')		123 kV
PPOL7	7	1,71 m (5'7'')	9,10 m (29'10'')		
PPOL8	8	1,80 m (5'10'')	10,55 m (34'7'')		
PPOL9	9		12,00 m (39'4'')		

ADDED VALUE
All you need to know !

✔ Buttons system for a quick deployment.

✔ Pole Tip adapted to our voltage detectors with clamping nut ECRCDS P-FIX.

✔ QR Code for direct access to several information as end user guide, forthcoming control dates, certificate of conformity
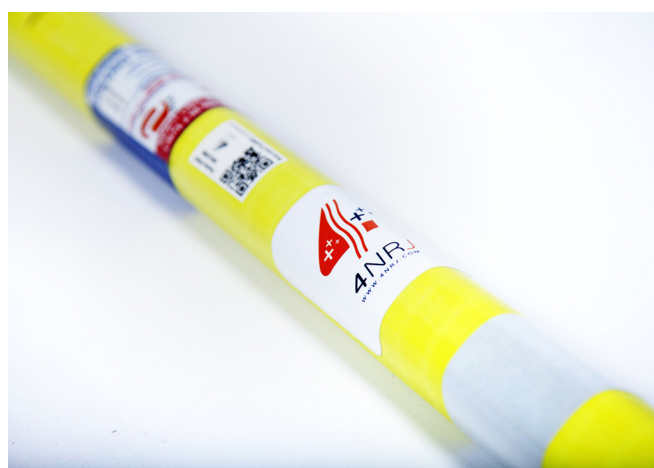
Ref : PE10CV
SNCF approval N° : DEO 19284

SPECIFIC SETTING OF YOUR
"FLYING CONNECTIONS"

CARRY OUT YOUR « FLYING CONNECTIONS » FROM THE GROUND.

TECHNICAL FEATURES
What is supplied

SPECIFIC POLE PE10CV

✔ Necessary installation tool : OUTPE10CV

✔ Implementation of the tool by magnetic Setup

✔ Red foamed tube compliant with standard CEI60855-1

✔ Dimensions : Ø 60 x 1050 mm

✔ Mass weight : 500 g

INSTALLATION TOOL OUTPE10CV

✔ Setting on the catenary pole thanks to dedicated P-FIX connection

✔ Mass weight : 500 g

ADDED VALUE
All you need to know !

✔ Drive in rotation allows the anti-ejection system opening and locking to allows the use of the poles heads anti-ejection system.

✔ Install & uninstall it from the ground.

✔ It allows the passage of work engines.

✔ QR Code to access directly to several information as end user guide, forthcoming control dates, certificate of conformity.

Ref : PE10
SNCF approval N° : DEO 19284

SHORT POLE ALLOWING PASSAGE OF WORK ENGINES

SET THE NEUTRAL WIRE EARTHING OF AN AERIAL WORK PLATFORM.

TECHNICAL FEATURES
What is supplied

- ✔ Foamed red tube applicable to standard CEI 60855-1
- ✔ Threaded end standardised by SNCF
- ✔ Length : 1 m
- ✔ Mass weight : 750 g

ADDED VALUE
All you need to know !

- ✔ Drive in rotation allows the anti-ejection system opening and locking to allows the use of the poles heads anti-ejection system.
- ✔ Gripping handle with safety waypoint (Safety hand-guard)
- ✔ Ergonomic grip for a better handling.
- ✔ Including a reflective tape for a visual landmark at night.
- ✔ QR Code to access to several information as end user guide, forthcoming control dates, certificate of conformity, etc.

Ref : LECBV2
SNCF approval N° : DPI EO 13170

WORKSITE FRAMING LAMP

IDENTIFY AT NIGHT WORKSITE FRAMING POLES.

TECHNICAL FEATURES
What is supplied

RECHARGING HARD CASE

- ✔ Alimentation: charger 220 V
- ✔ Cigare lighter charger 12 V / 24 V
- ✔ Recharging time : 5 hours
- ✔ 6 lamps per carrying hard case
- ✔ Extra bag equipped with 6 clips (Ø45) to maintain the orientation of the lamp on pole.
- ✔ Fully equipped hardcase mass weight : 1.80 kg

LAMPS

- ✔ Waterproof lamps & resistant to shocks
- ✔ Autonomy: 30 hours
- ✔ All weather conditions use
- ✔ Recharging indicator
- ✔ Mass weight : 200 g

ADDED VALUE
All you need to know !

- ✔ Optimized signalisation with blue LED lights at long distance.
- ✔ Compact & light hard case for an easy transport.
- ✔ Lamps are recharged directly into the hard case via a power supply connection.
- ✔ Unique scheduled Power ON/OFF mode as required by SNCF.
- ✔ Equipped with 6 clips (Ø45) to maintain the orientation of the lamp on pole.
- ✔ QR Code to access directly to device follow-up as validity dates, end user guide, certificate of conformity, etc).

Ref : DTBC

CATENARY TRIANGULAR BLUE FLAG

SIGNAL YOUR CATENARY WORKSITE FRAMING POLES.

TECHNICAL FEATURES
What is supplied

- ✔ Reflective tape
- ✔ Clips adapted to pole Ø 45
- ✔ Dimensions : 505 x 600 mm
- ✔ Mass weight : 500 g

ADDED VALUE
All you need to know !

- ✔ Clips for storing the flag and to maintain the orientation of the flag on pole.
- ✔ Visible night & day.

60

Ref : LRIOV1
SNCF approval N° : DEO 20059

POINT OUT THE POLES ON WORKSITE

IDENTIFY IN-BETWEEN POLES AT NIGHT ON YOUR WORKSITE.

TECHNICAL FEATURES
What is supplied

CARRYING BAG INCLUDING BATTERY CHARGER :

- ✔ Alimentation : charger 220V
- ✔ Cigare lighter charger 12V / 24V
- ✔ Recharging time : 9 hours
- ✔ 6 lamps per carrying hard case
- ✔ Extra bag equipped with 6 clips (Ø45) to maintain the orientation of the lamp on pole.
- ✔ Fully equipped hardcase mass weight : 1.80 kg

LAMPS

- ✔ Waterproof lamps & resistant to shocks
- ✔ Autonomy : 40 hours
- ✔ All weather conditions use
- ✔ Recharging indicator
- ✔ Mass weight : 200 g

ADDED VALUE
All you need to know !

- ✔ Wide view on 360°by orange LED lights night & day.
- ✔ Unique scheduled Power ON/OFF mode as required by SNCF.
- ✔ Light & compact lamp for an easy transportation.
- ✔ Clips to maintain the orientation of the LED light on top of the pole.
- ✔ LED Lamps are directly recharging into the carrying bag.
- ✔ QR Code to access directly to several key information as end user guide, forthcoming control dates, certificate of conformity, etc.

Ref : SUPPER

MAGNETISED HOOK ALLOWING POLES CLEARANCE

PLACE THE POLES ABOVE THE WORKSITE TO LET WORK ENGINES TO GO THROUGH.

TECHNICAL FEATURES
What is supplied

SUPPER
- ✔ Insulating materials.
- ✔ This requires the setting tool OUTPE10CV
- ✔ Dimensions : 285 x 300 x 210mm
- ✔ Mass weight : 770 g

OUTPE10CV
- ✔ Necessary setting of P-FIX connection to the pole
- ✔ Mass weight : 500 g

ADDED VALUE
What you need to know !

- ✔ It can be placed from the ground on «H» designed posts and lattice posts.
- ✔ Adjustment of the height from the ground thanks to the rolling system.
- ✔ It allows the passing of work trains.
- ✔ Equipped with a plastic flange to avoid all contact with the post.

Ref : CROPER
SNCF approval N° : MTP EO 18130

CLEARING WORKING ZONE WITH DEDICATED HOOKS /1500 V

PLACE THE POLES ABOVE THE WORKSITE TO LET WORK ENGINES TO GO THROUGH.
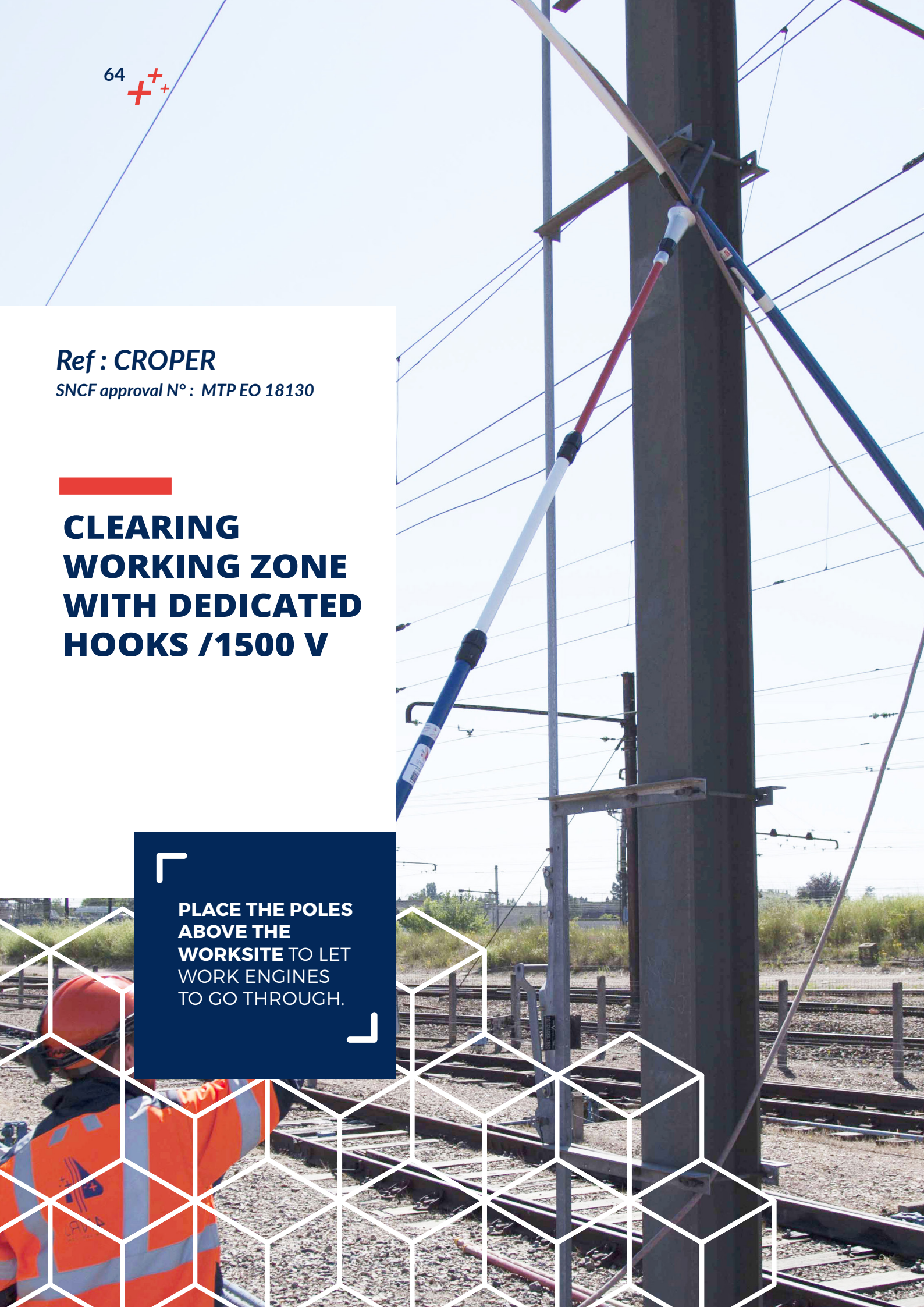
TECHNICAL FEATURES
What is supplied

CROPER

- ✔ Insulating material
- ✔ Necessary use of dedicated connection OUTPE10CV
- ✔ Dimensions : 500 x 250 x 100 mm
- ✔ Mass weight : 770 g

OUTPE10CV

- ✔ Necessary setting of P-FIX connection to the pole
- ✔ Mass weight : 500 g

ADDED VALUE
Tout All you need to know !

- ✔ Quick setting from the ground on posts 1500 V.
- ✔ Clearing worksite in placing poles above.

66

Ref : BLOCKCLR2
SNCF approval N° : MTP EO 18130

IMMOBILISATION CLR (CONNECTIONS LINE/ RAIL)

LES VICTOIRES DE LA SÉCURITÉ DES CHANTIERS

2018

SECURE SAFELY YOUR CONNECTIONS LINE/ RAIL.

TECHNICAL FEATURES
What is supplied

- ✔ Safety set for insulating pole Ø45 mm
- ✔ Strap strength : 500 kg
- ✔ Cable clips to secure cable downtime.
- ✔ Dimensions : 130 x 60 x 110 mm
- ✔ Mass weight : 1.8 kg

ADDED VALUE
All you need to know !

- ✔ Easy & simple solution top avoid risks linked to a potential collision or suction force
- ✔ A simple way to secure your worksite.
- ✔ Set between the two rails with a strap which does not shunt the rails.
- ✔ Aerial poles clearance facilitating the passage of work engines.
- ✔ QR Code to access directly to several key information as end user guide, forthcoming control dates, certificate of conformity, etc.

Ref : KCCU1500

Ref : KCCU25000

CABLES MOUNTING CLIPS / CLR

AVOIDING THE POLE EJECTION IN CASE OF POWER RE-SUPPLY.

TECHNICAL FEATURES
What is supplied

- ✔ Materials : polymer & fiberglass
- ✔ Resistant to shocks, ultraviolet light & pollution
- ✔ Unit Mass weight : 70 g

KCCU1500 (cable 95 mm²) :

1 mounting clip for tube Ø 28 mm
1 mounting clip for tube Ø 37 mm
1 mounting clip for tube Ø 45 mm

KCCU25000 (cable 40 mm²) :

1 mounting clip for tube Ø 28 mm
1 mounting clip for tube Ø 37 mm
1 mounting clip for tube Ø 45 mm

ADDED VALUE
All you need to know !

- ✔ Avoiding pole ejection in case of power re-supply.
- ✔ Available on network 1500 V (cable 95 mm²) and 25 KV (cable 40 mm²).
- ✔ Set includes 3 clips adapted to the catenary pole diameters and cable diameters.

Ref : KITCAM

MONITORING CAMERA ON INSULATING POLE

VISUALISE FROM THE GROUND ELEMENTS TO CONTROL WITH A CAMERA.

TECHNICAL FEATURES
What is supplied

SUPPORT CAMERA

- ✔ Dimensions : 140 x 120 x 180 mm
- ✔ Mass weight : 780 g

CAMERA

- ✔ Photo camera / movie camera
- ✔ Optical Zoom 4X
- ✔ Video HD 1080 p
- ✔ Wi-Fi® Connection

PIVAT

- ✔ Number of strands : 4 strands (3 yellow pentagonal tubes + 1 foamed tube and insulating red tube).
- ✔ Maximum power supply use : 25 kv
- ✔ Length : (folded) 1.25 m /unfolded 4.20 m

ADDED VALUE
All you need to know !

- ✔ Photograph and visualize the elements to be controlled on Smartphone.
- ✔ Rotating system allowing vertical & horizontal orientations of the camera.
- ✔ Equipped with recharging led light for unlit areas.
- ✔ Harness and Smartphone support provided for easy handling.

Ref : LBOOV2
SNCF approval N° : DEO 20059

LIGHT FOR OBSTACLES MARKUP

IDENTIFY AT NIGHT
OBSTACLES &
TOOLING (LORRY
LADDER, LORRY
PLATFORM, TROLLEY,
WAGON, ETC).

TECHNICAL FEATURES
What is supplied

RECHARGING HARDCASE

- ✔ Alimentation: charger 220 V
- ✔ Cigare lighter charger 12 V / 24 V
- ✔ Recharging time : 9 hours
- ✔ 6 lamps per carrying hard case
- ✔ Extra bag equipped with 6 removing supports.
- ✔ Fully equipped hardcase mass weight : 1.80 kg

LAMPS

- ✔ Waterproof lamps & resistant to shocks
- ✔ Autonomy : 40 hours
- ✔ All weather conditions use
- ✔ Recharging indicator
- ✔ Mass weight : 200 g

ADDED VALUE
All you need to konw !

- ✔ Signalizing night & day on 360° with orange LED light.
- ✔ Magnetic system to be placed on steel frame.
- ✔ Unique ignition mode according to SNCF requirements.
- ✔ Compact & light lamp for an easy transport.
- ✔ Lamps are recharged into the hard case via power supply connection.
- ✔ Removable & adjustable support to obtain & maintain the right lamp orientation if placed on non-metallic frame.
- ✔ QR Code for direct access to device follow-up as validity dates, end user guide, certificate of conformity, etc.

Ref : PPROS
SYMBOL : 0.392.6910

OVERHEAD CONTACT DROPPER FOR 1500 V

DEVICE USED WHILE REPLACING CONTACT WIRE DURING MAINTENANCE OPERATIONS.

TECHNICAL FEATURES
What is supplied

OVERHEAD CONTACT DROPPER NETWORK 1500V

- ✔ Minimum strength before breakage : 800 daN
- ✔ Distance between contact wire & cable support 195 mm
- ✔ Materials : injected Polymer & stainless steel
- ✔ Used on catenary contact wire (107 mm² and 150 mm²).
- ✔ Unit mass weight : 339 g

CARRYING BAG :

- ✔ Holding capacity : 44 U droppers
- ✔ Dimensions : 215 x 48 x 35 mm
- ✔ Total mass weight : 17.5 kg

ADDED VALUE
All you need to konw !

- ✔ Tool for replacing flat pendulums on a 1500 V network during unwinding operations.
- ✔ Instinctive positioning on the contact wire.
- ✔ Adapted to minimum & maximum tolerance of the contact wire.
- ✔ Ergonomics design to place & remove with limited efforts.
- ✔ Specific design for use in curves allowing the passage of an equipotential bonding pantograph.

Ref : KIC

SNCF approval N° : MTP EO 18128

CATENARY INTERVENTION KIT

CARRY OUT URGENT INTERVENTIONS WITH SUITABLE TOOLS.

DEFINITION
Ref : KIC

Carry out quick interventions in catenary environment with an insulating pole from the ground.

Cut and remove various elements disturbing the catenary.

ADDED VALUE
All you need to know !

✔ Easy and quick tools setting thanks to the P-FIX connection (patented by 4NRJ).

✔ Foamed carrying bag for managing transport and storage of the tools.

TECHNICAL FEATURES
What is supplied

COMPLETE KIT

✓ Carrying bag dimensions : 900 x 500 x 250 mm

✓ Kit mass weight : 12 Kg

KIT INCLUDING :

✓ Insulating pole PI46 (Ref : KICPI46)
Dimensions : 2.15 m à 5.6 m

✓ Reel of rope with 2 insulating rods (Ref : KIC2JEN)
Joncs ISO 60855-1

✓ Saw (Ref : KICS)
Dimensions : 750 x 160 x 60 mm
Mass weight : 750 g
Ø cutting diameter : Ø160 mm

✓ Pruning pole (Ref : KICE)
Dimensions : 380 mm x 300 mm x 80 mm
Mass weight : 1.4 kg
Ø cutting diameter : Ø50 mm

✓ Wire hanger cutter (Ref : KICC)
Dimensions : 380 mm x 300 mm x 80 mm
Mass weight : 1.4 kg
Ø cutting diameter + material : Ø7 mm high carbon
steel

✓ Gripper (Ref : KICP)
Dimensions : 380 mm x 300 mm x 80 mm
Mass weight : 1.4kg
Gripper opening angle : Ø50 mm

✓ Ganging tool (Ref : KICG)
Dimensions : 100 x 120 x 370 mm
Mass weight : 700 g

✓ Silicone fabric

✓ Anti-cut gloves

Ref : KICS Saw

Saw off some branches facing potential accidents

Ref : KICE Pruning pole

Saw off small branches facing potential accident.

Ref : KICC Wire hanger cutter

Cut off catenary wire hangers.

Ref : KICP Gripper

Unhook some elements upsetting the catenary.

Ref : KICG Ganging tool

Remove some elements upsetting the catenary.

Ref : KIC2JEN Reel of rope with 2 insulating rods

Essential and mandatory accessories to use safely above specific tools.

Each specific tool may be sold separately

Ref : SPT21
SNCF approval N° : DPI 14128

HYDRAULIC UNIT 700 BARS, ELECTRICALLY POWERED 220 V

RELIABLE HYDRAULIC POWER UNIT FOR YOUR INTENSIVE CRIMPING OPERATIONS.

TECHNICAL FEATURES
What is supplied

- Power supply : 220 V

- Two-stage hydraulic pump,
  - Low pressure stage 2 Mpa (20 bars).
  - Flow : 2,2 l / mn (50 Hz), 2,6 l / mn (60 Hz),
  - High pressure stage 70 Mpa (700 bars).

- Flow : 0,27 l / mn (50 Hz), to 0,32 l / mn (60 Hz).

- Electrical remote 6 V, cable length 5 m

- Operating temperatures : -10°C to +50°C

- Rotating connection 360° facilitating manipulations.

- Oil with a high viscosity index : EQUIVIS XV32

- Dimensions : 270 x 200 x 400 mm.

- Mass weight : 15 kg

ADDED VALUE
All you need to know !

- Sturdy hydraulic solution for maximum intensive use.

- Reduced size allowing aerial use.

OPTIONS :

- Crimping head C 12.5 KN, ref : SC125J

- Control pedal assembly, ref : PCSPT21

- Hydraulic hose with standard catenary connections :
  3 m (ref: FL3MJ)
  9 m (ref : FL9MJ)
  12 m (ref: FL12MJ)

Ref : PCAF

PULLEY SYSTEM FOR CLEARING THE RAILWAY

HOIST YOUR EQUIPMENT FOR OVERHEAD WORK.

TECHNICAL FEATURES
What is supplied

- ✔ Use for : Network 1500 V & 25000 V DC

- ✔ Pulley system mass weight : 2.6 kg

- ✔ Working load limit : 40Kg

- ✔ Dimensions : 900 x 200 x 50 mm

- ✔ Mass weight : 4.8 kg

ADDED VALUE
All you need to know !

- ✔ Light system allowing connection approach of the line/rail at height exceeding 10 meters.

- ✔ A safe system includes a brake disc stopping the rope in case of load loosening.

- ✔ Disengageable locking system on wire/cable that can be installed & removed thanks to its telescopic insulating pole.

- ✔ QR Code allowing a direct access to several information as end user guide, forthcoming control dates, certificate of conformity, etc.

Ref : PCAFEED

PULLEY SYSTEM FOR CLEARING THE RAILWAY FEEDER (MESSENGER WIRE)

ASSIST THE LIFTING OF THE CONNECTION LINE/RAIL FOR MESSENGER WIRE.

TECHNICAL FEATURES
What is supplied

- Use for : Réseau 1500 V et 25000 V DC

- Dimensions : 900 x 200 x 50 mm

- Pulley system : 2.6 kg

- Maximum working load : 40 Kg

- Rope length : 30 m

- Rope mass weight : 4.8 kg

ADDED VALUE
All you need to know !

- A light & safe system allowing a connection approach of line/rail at height exceeding 10 meters.

- Pole equipped with an insulating tube applicable standard CEI 60855-1.

- A safe system includes a brake disc stopping the rope in case of load loosening.

- Disengageable locking system for wire/cable that can be installed & removed with a telescopic and insulating pole.

- QR Code to access directly to several information as end user guide, forthcoming control dates, certificate of conformity.

Ref : LEVIATAN
SNCF approval N° : AGT 22 255

COUNTERWEIGHT LIFTING HOOK

ASSIST THE LIFTING OF THE CONNECTION LINE / RAIL FOR (MESSENGER WIRE).

TECHNICAL FEATURES
What is supplied

✔ Non-slip clamp lock.

✔ Maximum working load : 750 Kg

✔ Dimensions : 510 x 160 x 90 mm

✔ Mass weight : 1.3 kg

ADDED VALUE
All you need to know !

✔ A sturdy materials.

✔ Lifting in the axis of mechanical tension.

✔ Placement in point position.

✔ Adaptable to double clevis and tenon clevis.ole.

✔ QR Code to access directly to several information as end user guide, forthcoming control dates, certificate of conformity.

Ref : ERGO
SNCF approval N° : MTP EO 18129

YALE ERGO 360 RATCHET LEVER HOIST

IMPROVE & SECURE YOUR LIFTING OPERATIONS.

TECHNICAL FEATURES
What is supplied

✔ The hand chain cover rotates up to 360˚.

✔ Galvanized chain load tested up to 100%

✔ Corrosion protection.

✔ Lightweight aluminium housing

Models	Maximum load use	Unit mass weight(kg)	Number of strands
ERGO750YKST16	750Kg	6.6	1
ERGO1T5YKST16	1.5T	9.5	1
ERGO3TYKST32	3T	16.8	1
ERGO6TYKST32	6T	28.6	2

ADDED VALUE
All you need to know !

✔ Ergonomic thanks to its folding handle in the 360˚ swivel lever saves time / less effort / useful for transport.

✔ Highly visible directional indicator located on the handle clearly shows the operating direction as lifting, lowering or neutral.

✔ Cast chain end stop allows the user to easily position the chain in free-chaining mode & prevents it from entering the lift wheel & jamming the hoist.

✔ The unique body design allows the Yale ERGO 360 to lay flat to minimize tipping or slipping during operation.

✔ RFID technology : each unit has a unique serial number for accurate identification & direct access to related website & required documents.
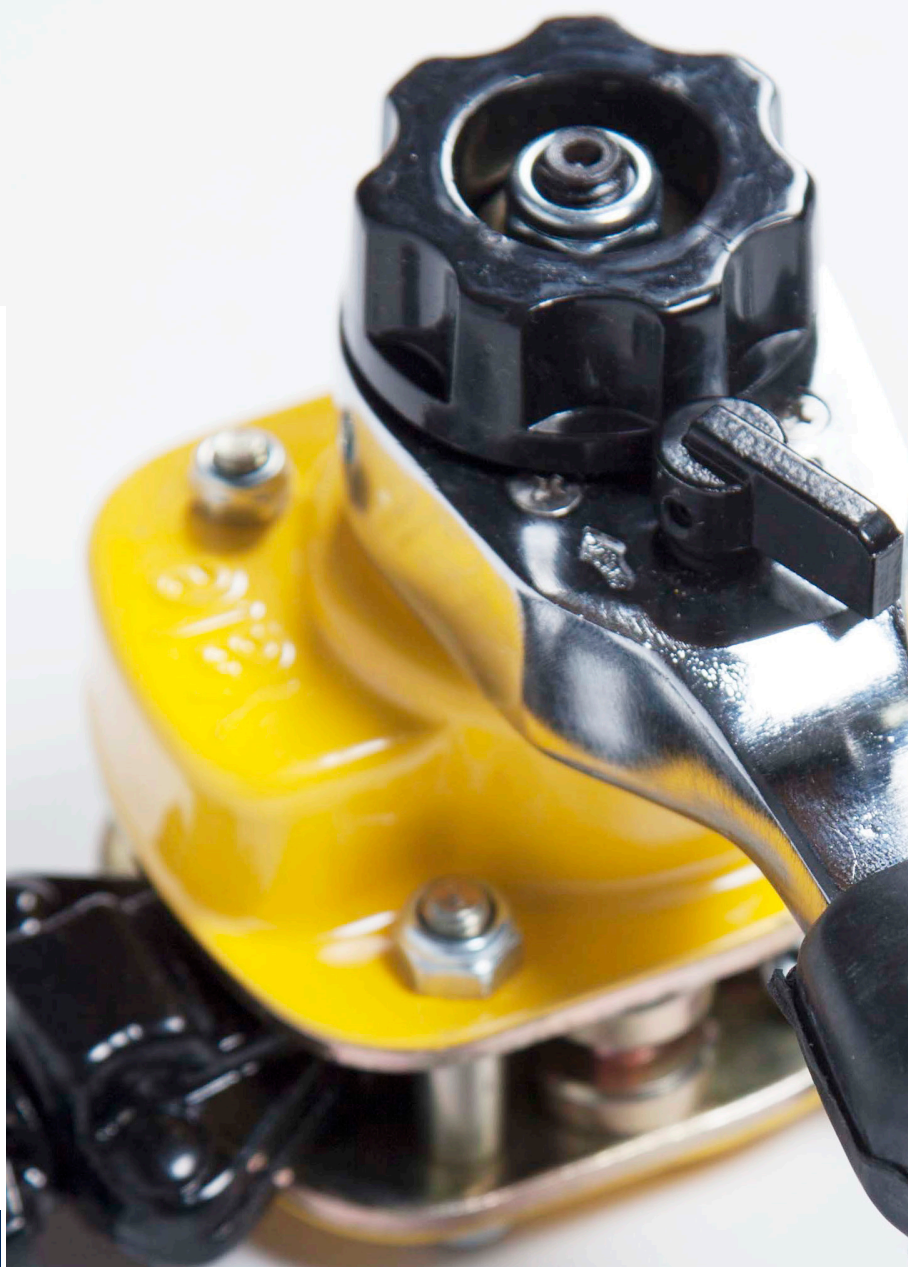
Ref : HANDY250
SNCF approval N° : MTP EO 18129

LEVER HOIST YALE HANDY

LEVER HOIST FOR MULTIPLE APPLICATIONS.

TECHNICAL FEATURES
What is supplied

✔ Low mass weight.

✔ Closed design & construction protecting internal components from dust & moisture.

✔ All brake components are built with high quality materials facing corrosion.

✔ Chain made of aluminium alloy (galvanized or chrome finish) according to the local or international regulations & requirements.

✔ Up & low hooks are forged in high strength steel and equipped with safety latch.

Models	Maximum load use	Mass weight (kg)	Number of strands
HANDY250	250kg	2.2	1
HANDY500	500kg	2.8	1

ADDED VALUE
All you need to know !

✔ Short lever equipped with an ergonomic rubber grip.

✔ Free wheel to quickly load or pulling the chain in both directions.

✔ Easy to use even in confined area.

✔ RFID technology : direct access to related website to download all information required.

Ref : LIFT360
SNCF approval N° : MTP EO 18129

LEVER HOIST
YALE LIFT 360

**OPERATE YOUR
LEVER HOIST** IN MULTIPLE
DIRECTIONS.

TECHNICAL FEATURES
What is supplied

✔ Steel plate casing protecting all internal components even under extreme conditions.

✔ Reduced head loss allowing a maximum lift height

✔ Chain stripper & closed reducer. Even under extreme conditions, the reducer stays closed.

Models	Maximum load use	Mass weight (kg)	Number of strands
LIFT360500Kg	500kg	9	1
LIFT3601t	1t	13	1
LIFT3602t	2t	20	1
LIFT3603t	3t	29	2

ADDED VALUE
All you need to know !

✔ The Yalelift 360 can be operated away from the load allowing it to be used horizontally for pulling or powering up.

✔ The operator is not obliged to work close to the charging station.

✔ New chain guide process allowing the operator to work in many different positions but always above the charging station even in confined areas.

✔ Automatic brake system.

✔ RFID technology : direct access to related website for downloading requested information.

Ref : BART3T

SPRINGS MECHANISM DEVICE

TECHNICAL FEATURES
What is supplied

✓ Pull-Lift 3T (Symbol : 0.392.6350)

✓ Dimensions : Ø 20 x 32 mm

✓ Mass weight : 47 g.

✓ Material : steel

OPERATING URGENT CATENARY INTERVENTIONS.

Ref : H4NRJ10

BAGS FOR STORAGE & TRANSPORT OF RAILWAY TOOLING

DESIGN & BUILD CARRYING
& STORAGE BAGS ADAPTED TO YOUR TOOLS.

TECHNICAL FEATURES
What is supplied

- ✔ Dimensions : 1750 x 170 x 180 mm
- ✔ The bag is used for transporting the standard track rule and the «CHAMIER type» switch.
- ✔ Reinforced walls.
- ✔ Easy opening and closing by «ZIP».
- ✔ Central and side carrying handles.
- ✔ Housing for A5 and A6 format for storing instructions

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