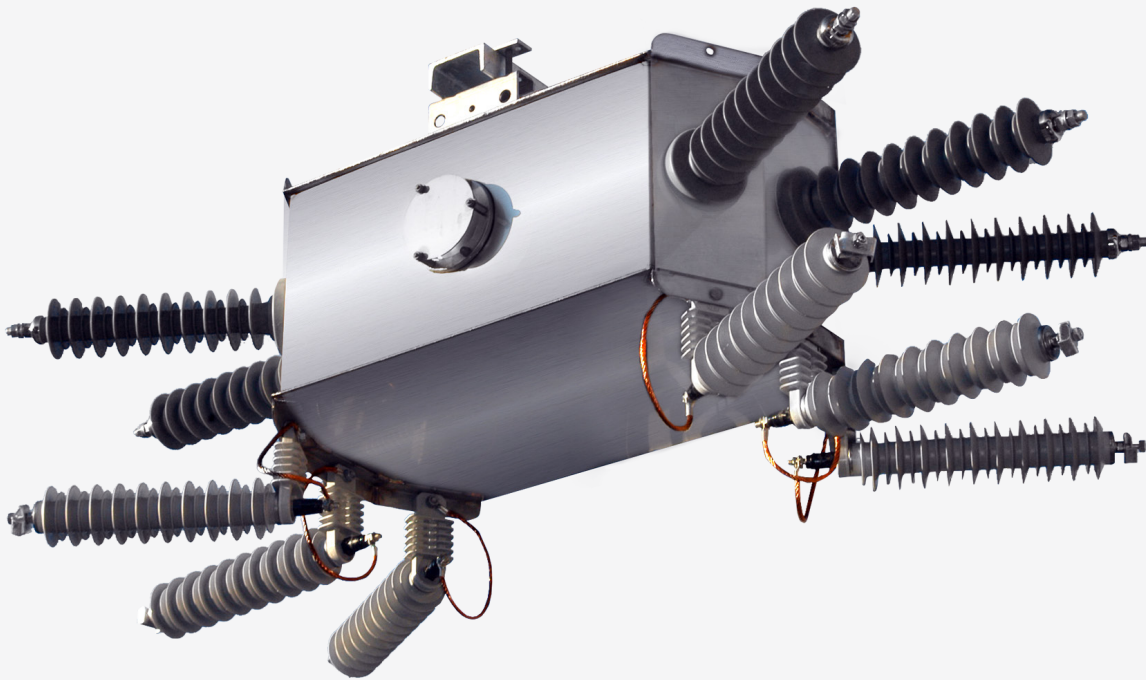




INEXT SF6 Load Break Switch

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Towards an intelligent, sustainable and efficient electrical network

We have a clear goal: to provide intelligent, efficient and sustainable energy solutions that protect the environment and technologically advance the human being.

We are committed to technology, to R&D&I, which allows us to offer functional and performance improvements in elements of protection, distribution control and electrical energy transport.

Faithful to our commitment to the environment, we have implemented sustainable policies such as energy self-consumption. In addition, our company is accredited with the ISO 14001/2015 Environmental Management Certificate and

the ISO 14067:2019 Calculated Product Carbon Footprint Certificate.

We work every day to be more efficient. In recent years, Inael has been immersed in a continuous improvement project that involves all departments of the company. This is an initiative that seeks both the incremental optimization of production processes, methodologies and areas of the organization, as well as efficiency in all our products.



INEXT SF6 Load Break Switch

Presentation

INEXT is a load break switch, breaking and insulated in SF6 gas, designed for outdoor installation on any overhead line pole of medium voltage electrical distribution.

Reference standars

The INEXT is manufactured in compliance with the following international standards: IEC/UNE-EN 62271-100/102/103/200, IEC/UNE-EN 60044-1/2

The equipment manufacturing process is assured based on a quality management system ISO 9001 Certificate, and environmentally friendly ISO 14001 Certificate.

Application

INEXT is a load break switch solution for being use on:

- Interruption and isolation of the overhead line.
- Heading of an aerial line.
- Transitions from an aerial line to isolated cable.

Technical Characteristics

INEXT is an electrical network equipment which have the following features:

- Rated current switching
- Making over short-circuit
- Effective breaking

Technical Characteristics		
Switching operation class	E 3	
Mechanical endurance class	M 2	
Rated voltage	24 kV	36 kV
Power frequency withstand voltage. to earth and between phases/across the isolating distance	50 kV / 60 kV	70 kV / 80 kV
Lightning impulse withstand voltage. to earth and between phases/across the isolating distance	125 kV / 145 kV	170kV/195 kV
Rated frequency	50 kV / 60 kV	
Rate Current	400 - 630 A	400 A
Mainly active load breaking current	630 A	400 A
Closed-loop breaking current	630 A	400 A
Cable and line charging breaking current	25 A	40 A
Short-circuit making current	20 kA	
Short-time withstand current	50 kA	
Rated filling pressure	0.13 Mpa abs.	0.18 Mpa abs.
Creepage distance of polymeric housing bushings	780 mm	1050 mm
Approximate weight	105 kg	112 kg
Making capacity over short-circuit	50 kA	
Maximun height or use	1000 m.s.n.m	
Working temperature	-25°C + 60°C	
Protection degree of the SF6	IP 67	
Protection degree orf the driver box	IP55	

Advantages

The use of INEXT load break switch in overhead lines of medium voltage electrical distribution provide following advantages:

- Efficiency Power Supply
- Safety and Facility Operation
- Reduce Maintenance Cost
- Long Service Life

Equipment supplied

The supplied equipment consist of the following components as requested models:

INEXT ROAD STICK OPERATION

- Load break switch
- Pole support breaket (Optional without support)
- Surge Arresters (Optional)
- Lock Low Pressure (Optional)

INEXT HAND DRIVER OPERATION

For hand driver operation, two solutions are presented:

A) Drive by wire type MMT / MMT-S formed by:

- Load break switch.
- Pole Support bracket (Optional without support).
- Surge Arresters (Optional)

- Low Pressure Lock (Optional).
- Manual driver at the base of pole.
- Wire Transmission and Fixings.
- ntermediate insulators and base (MMT).

B) Drive by rods type MPH formed by:

- Load break switch.
- Pole support bracket (Optional without support).
- Surge Arresters (Optional).
- Low Pressure Lock (Optional).
- Manual driver at the base of pole
- Transmission rods (up to 12 m).
- Extension rods and intermediate supports (Optional).
- Intermediate insulators (Optional).

INEXT (OCR) MOTORIZED DRIVE AND REMOTELY CONTROLLED

- Motorized Load Break Switch.
- Current Transformers in input line (Optional Output).
- Single Phase Voltage Transformer.
- Voltage Sensors (Optional).
- Pole Support Bracket.
- Overvoltage Suppressors Surge Arresters (Optional).
- Low Pressure Lock (Optional).
- Hose Electric Wiring (up to 17 m).
- Box and Remote Control.
- Electrical Control Driver.
- Manual control at the base of support with drive rods.
- Transmission rods (up to 12 m).
- Extension pipes and intermediate support (Optional).
- Intermediate Insulators (Optional).



Structural characteristics

Breaking body

The load break switch INEXT is made of stainless steel housing, containing within breaking chambers, busbar connection, spring operation driver and SF6 gas. By design can be used in adverse weather and environmental conditions such as snow, ice, wind, rain, industrial pollution, etc.

Design process and materials used in its manufacture assure a sealed tank lifetime satisfying the criterion of "sealed pressure system" according to IEC 62271-200 standard assuring minimal SF6 leakage rate.

Switching and control mechanism

Located in a separate stainless steel housing and rigidly attached to the cutting of the break switch, switching mechanisms and control mechanism are housed.

The operation of the switch - disconnecter is performed by a single spring mechanism that performs maneuvers open close (two positions), regardless of the speed of maneuver of the operator, by loading or unloading dock by the rotation of shaft break switch.

- OPERATION MANUAL

In the case of manual operation is performed by turning both the hand lever drive in the pole as manual override drive post walk.

- POWER DRIVE

In the case of motor drive, the rotation is performed by engine control 48 Vdc (optional 12 to 24 VDC) and rated power 250 w performing the opening and closing electrically, both from the control cabinet located by the post and via the remote control center remotely; motor, position limit switches and the transmission assembly are housed inside said casing of stainless steel.

Power is supplied via integrated into the control box located by the battery post.

- STATUS INDICATOR

A reflective display device attached to the shaft position switch contacts switch-disconnectors (open-closed) ensures its easily visible from the ground position, as stated in IEC 62271-102 "design position indicating devices"

As all these components are inside an enclosure with a high degree of protection, its excellent performance in outdoor conditions is guaranteed.

Mechanical transmission systems

Two transmission systems are available that allow the load break switch to be operated at the base of the pole.

A) OPERATED BY REMOTE CONTROL WIRES DRIVERS AND MMT MMT-MS AND MMT

MMT-MS system consists of an operating lever rigidly attached to the axis of the load break switch, stainless steel transmission cables in two sections, intermediate ceramic insulators for cable sections, operating control at the base of the pole consisting of: two ceramic support insulators, support plates with open-closed position indication with position interlock and manual operating crank.

The MMT system is composed of the same elements as the MMT-MS command, where the intermediate insulators are excluded, so the cable is a single trench length 9 meters, support insulators ceramics is replaced by aluminum brackets..

B) Operation by rod type MPH.

Consisting of a manual control fixed to the base of the pole operated by a manual lever with two positions (open-closed) in the case of manual operation or three positions (open-remote control-closed) in the case of remote-controlled operation, with the possibility of mechanical locking in any of the positions, the connection to the load break switch is made with 1.5" tubes in three sections of 4 meters (12 meters) with rigid or cardan joints.

All the material of the transmission and control system is made of hot-dip galvanized steel, according to UNE EN ISO 1461 for outdoor use.

Fixation

The equipment includes support to the post where it is installed, universal type for use in all types of both metallic and concrete poles..

The load break switch can be installed on the pole in both horizontal and vertical positions. For other types of anchors, consult INAEL. All the fixation elements are installed all elements, in both manual and remote version.

The load break switch can be installed on the pole in both positions, horizontal and vertical. For other fixation types consult with INAEL

NOTE:The fixing system to the pole can be adapted to the customer´s needs, once the dimensions are clear.



Medium voltage connections

The INEXT load break switch can be equipped:

- Type AA: Terminals on silicone insulators, designed for input and output of switch-disconnector in bare cable
- Type AS: Input terminals with silicone insulators for bare cable and output terminals bushings type C for insulated wire cable..
- Type SS: Terminal input and output bushing type C for insulated wire cable.

Safety Maneuver

The load break switch can be in two positions "Open" or "Closed" meaning a natural interlocking system that prevents incorrect operations. The movement of the linear contacts is managed by a fast-action mechanism regardless of the operator performance. The equipment combines the functions of breaking and sectioning.

Control Cabinet

INAEI has two types of control cabinets, stainless steel enclosure with front door and 180° opening, the closing is done in two points and the stainless steel lock, padlock interlock (optional) and anchors to the pole.

The cabinets have an IP45 degree of protection according to UNE-EN 20324, the connection of the cabinet with the cables of the included equipment is made by means of high reliability standard connectors.

The available cabinets are:

A) Basic Motorization Control Cabinet

Basic control cabinet to be used in those installations where motorized operation of the switch disconnecter is required in local mode, consisting of:

- Module supply - battery charger
- Battery
- Power supply protection
- Open and close push button

B) Control Cabinet Remote Control

Cabinet to be used in those installations where: motorization, control and remote control of the load break switch is required, consisting of:

- Integrated Controller/CPU with measurement, control and serial management functions among others:
 - Switch Status (O-C-F)
 - Motor Power and Control
 - Fault Passage Detection
 - Voltage Presence Detection
 - Sectionalizer Function
 - Voltage and Current Measurement Acquisition
 - RJ45/RS232 Connection Ports
 - Communication protocols DNP 3.0, IEC 104, IEC 101, etc.
- Biphasic Rectifier - Charger Module
- Voltage Converter Module
- Battery
- Opening/Closing Relays
- Control Terminal Blocks
- Tray for Communications equipment
 - Optional (Consult)
- Overvoltage Protections
- AC Outlet
- Communications Equipment (Digital/Analog Radio - GPRS Router)

GENERAL CONDITIONS OF SALE

TODOS LOS PRECIOS, CÓDIGOS Y REFERENCIAS INDICADOS EN LA PRESENTE TARIFA, ESTÁN SUJETOS A VARIACIÓN SIN PREVIO AVISO

GENERAL TERMS

Any sale made by the Seller shall be expressly subject to the Buyer's full acceptance of the terms and conditions specified below and the waiver of the Buyer's general conditions of purchase, which acceptance and waiver shall be deemed to have been made on any order placed by the Buyer.

PURPOSE AND SCOPE OF THE OFFERS

The applicable prices are those shown in the Seller's price list in force on the date of the order.

The prices and conditions for specific offers shall relate exclusively to the products offered, valid for one month, unless otherwise stipulated.

The acceptance of an offer must be materialised with an order to the Seller. This shall be understood to be definitively accepted after the express and unreserved acceptance of the order by the Seller. The modifications and/or variations to the scope, deadlines or other terms of the contract that may be proposed by one of the parties must always be notified in writing and accepted by the same means.

TERMS OF PAYMENT

Unless special agreements have been made, all our sales are insured by an insurance company and will be made with a maximum payment of 60 days from the date of invoice in accordance with the provisions of Law 15/2010, of 5 July, amending Law 3/2004, of 29 December, which establishes measures to combat late payment in commercial transactions, without exceeding in any case the maximum periods established therein. For orders 300, payment shall be made in advance.

In the case of international sales and purchases, when payment is made by documentary credit, the buyer must obtain the seller's acceptance of the terms of the letter of credit and of the bank confirming it before it is issued. Due to the handling costs borne by the seller, a minimum invoice amount of 150€ will be applied to all sales.

TRANSPORT AND INSURANCE

For shipments within the Peninsula, shipments that exceed a net of 2000€ will go carriage paid, for any other destination the goods will be placed in EXW Toledo conditions. For shipments carriage paid, no transport claims will be accepted after 48 hours from delivery. In cases of urgent shipments, requested by the customer, such goods will always go carriage paid. The goods always travel at the risk of the buyer, who, in case of damage or delay, must make the relevant claim to the companies or transport agents, within 48 hours of delivery.

TOOLING AND PACKAGING

The tools made for the manufacture of special products shall be the responsibility of the customer, and shall be deposited at INAEL and used exclusively for the orders for which they were made. They may only be used for third parties with the express authorisation of the customer, and shall remain at INAEL's disposal five years after the last use. The delivery of the tools must be expressly agreed with the order. All materials shipped from INAEL to customers are in standard packaging suitable for road transport, any other type of specific packaging requested by the purchaser will be at the customer's expense.

MANUFACTURING

In the event of force majeure of any kind, including those caused by an obvious lack of raw materials, manufacturing difficulties, strike, lack of communication or catastrophe, INAEL is automatically released from any commitment made, and reserves the right to cancel orders pending production without prior notice.

DELIVERY TIMES

Delivery times are approximate, unless the Seller expressly accepts firm delivery times.

Delivery times shall commence from the latest of the following dates:

- Delivery times are approximate, unless the Seller expressly accepts firm delivery times.
- Delivery times shall start to run from the latest of the following dates
- Date of unreserved acceptance of the order by INAEL.
- The receipt by INAEL of the information at the customer's expense that is necessary for the execution of the order.
- The receipt by INAEL of the advance payment that is necessary for the execution of the order.

If the preconditions have not been fulfilled within 6 months from the existence of the contract, the contract shall be null and void and the customer shall waive all claims for damages. In the event that the customer requests the postponement of the delivery date, INAEL may invoice with the provision of the products on the agreed date, without prejudice to the passing on to the customer of the storage costs to be borne.

GENERAL CONDITIONS OF SALE

OWNERSHIP OF THE GOODS AND RETENTION OF TITLE

INAEI shall remain the owner of the goods until full payment of the invoice sales price, even if there is a bill of exchange. The customer is authorised to process the goods, but this authorisation shall cease as of right if the customer does not strictly observe the stipulated conditions.

RETURN OF MATERIALS

Returns are not admitted without the express intervention or consent of INAEL, and in no case for special materials. In the event that the return is accepted, all transport, revision and repair or verification costs for a new set-up will be the exclusive responsibility of the sender. No returns of any type of material will be accepted after one year from the date of delivery.

TESTS

Returns are not admitted without the express intervention or consent of INAEL, and in no case for special materials. In the event that the return is accepted, all transport, revision and repair or verification costs for a new set-up will be the exclusive responsibility of the sender. No returns of any type of material will be accepted after one year from the date of delivery.

GUARANTEE

We guarantee the products of our construction for one year, from the date of leaving the factory, against all defects in materials or manufacturing defects, obliging us, during this time, to repair or replace at our expense and in our factory, in the shortest possible time, any part recognized as defective, without compensation for any of the parties, not admitting responsibility for direct or indirect damages that may arise.

In order for our warranty to remain intact, it is essential to comply with the provisions of our operating manuals.

To ensure that our warranty is not affected, it is essential to comply with the instructions in our installation and maintenance manuals. Likewise, the notification or repair of our products without our intervention or consent, implies the termination of our warranty on them.

The repair of the product or part of it, its exchange or replacement during the warranty period, in no case will cause the extension of the warranty period of the product.

NORMATIVA MEDIOAMBIENTAL

It is the responsibility of the waste holder to collect and dispose of the waste or to have it collected and disposed of. For professional electrical and electronic equipment affected by European Directives 2002/96/EC of 27 January 2003 and 2006/66/EC of 6 September 2006 as well as the regulations implementing them, the organisational and financial responsibility for the collection and processing of waste arising from such equipment placed on the market after 13 August 2005 has been transferred to the direct purchaser who accepts it. The direct purchaser undertakes to assume responsibility for the collection and disposal of the waste arising, as well as for its processing and recycling. Failure by the purchaser to comply with these obligations could lead to the application of the criminal sanctions of each member state of the European Union. INAEL hereby warrants that the substances, either alone or contained in products it has incorporated for the production process in question, have been used in accordance with the provisions relating to registration, authorisation and limitation.

JURISDICTION

In the event of disputes, the Courts and Tribunals of Toledo shall have jurisdiction, to which both parties expressly agree to submit, waiving their own jurisdiction.



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