# SIP-CRT
# UNIVERSAL CONTROL


**Versatile and powerful multirestorer control, with interchangeable control cable.**

The **SIPSEMX** recloser control is a unique recloser control integrating the best brands on the market in various specialties and together with its own firing card, designed and manufactured at the headquarters, it is an essential device for the operation and an ideal substitute for any recloser.

# CABINET

## VERSATILE CONTROL

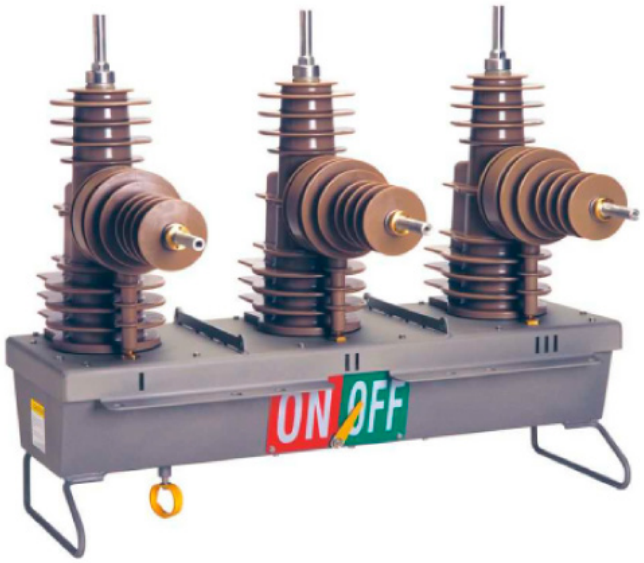
Achieving the highest compatibility in the market in new generation reclosers and off-line reclosers. Being the same equipment applicable to one or more brands and models of reclosers, only by using the appropriate control cable for the required application, the control automatically detects the device. **Unique feature in the industry.**

**A universal control for all makes and models facilitates installation, reduces training and minimizes operating errors.**

## COST-EFFECTIVE CONTROL

Equipment born from the need for substitute controls in the repair industry, given the high mortality rate in legacy equipment controls, leaving uncontrolled primary equipment in mostly optimal condition, primary equipment with outstanding capabilities that are wasted when discarded:

The **SIPSEMX** universal control was designed with the purpose of reducing costs in the operation and in the acquisition of assets, aiming to return to operation legacy and off-line switching equipment to key points of the operation, bringing an obsolete equipment, comparable to a state of the art equipment.




# CABINET

Cabinet designed for easy access and installation either on pole or substation. Made of stainless steel and double door.

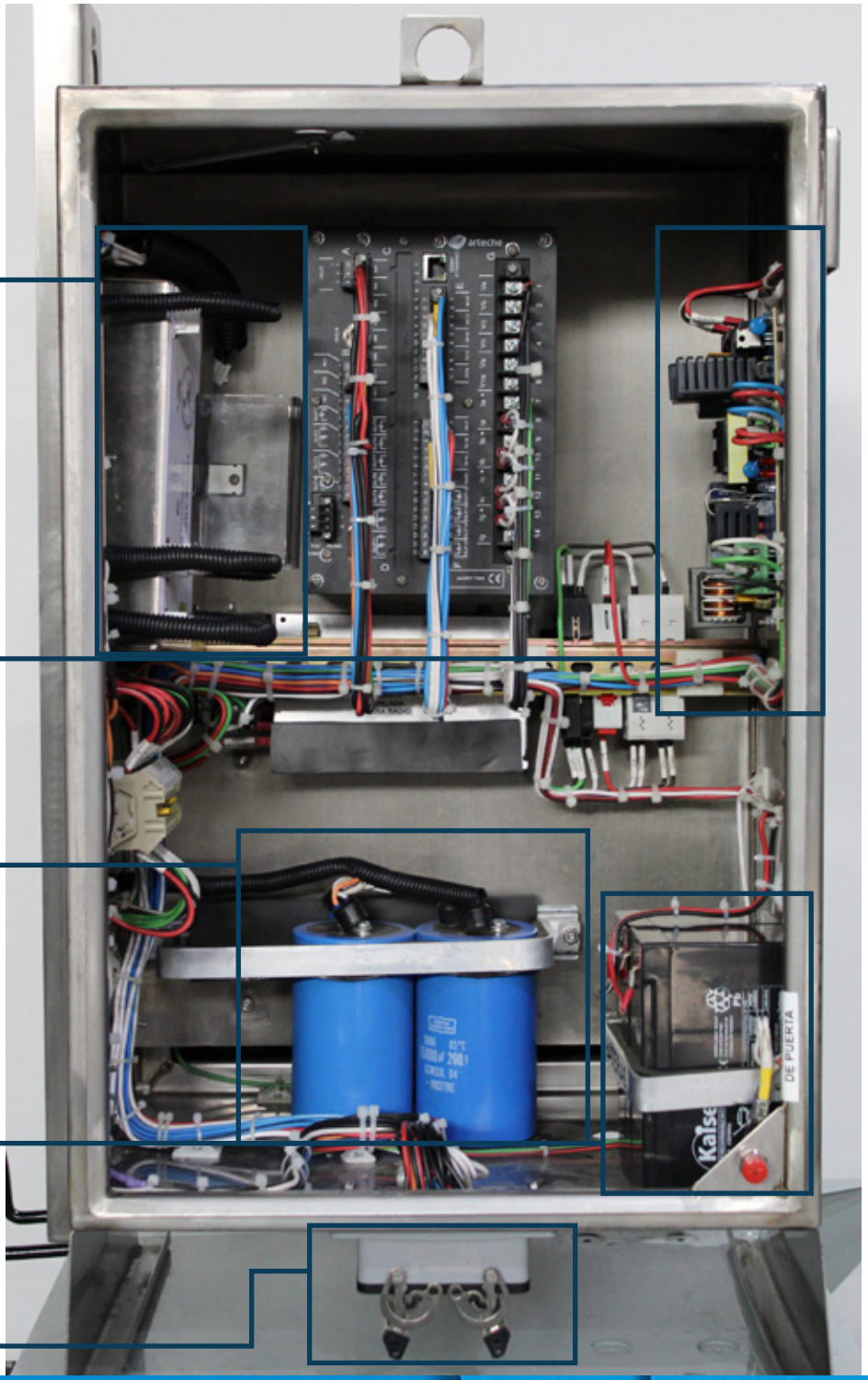
**TRIGGER CARD;**
In charge of generating and supplying the necessary power to the bed for the execution of a command.

**SOURCE/CHARGER;**
Device in charge of supplying the necessary power to the integration.

**CAPACITORS;**
Stores energy for the execution of a command.

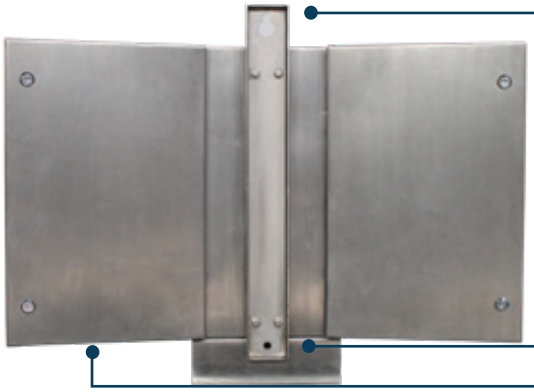
**BATTERIES;**
Backup means in case of main power failure.

**IP67 MILITARY CONNECTOR.**



# CABINET

- IED.
- CONNECTION FOR COMPUTER EQUIPMENT.
- GENERAL PROTECTION FUSE.
- OVER VOLTAGE PROTECTION.
- OVER CURRENT PROTECTION.



- 120° OPENING.
- BASE SUPPORT FOR INSTALLATION ON A POLE.
- FRONT AND REAR DOOR FOR EASY ACCESS.

- ATMOSPHERIC PRESSURE COMPENSATOR.


- HOISTING WASHERS.

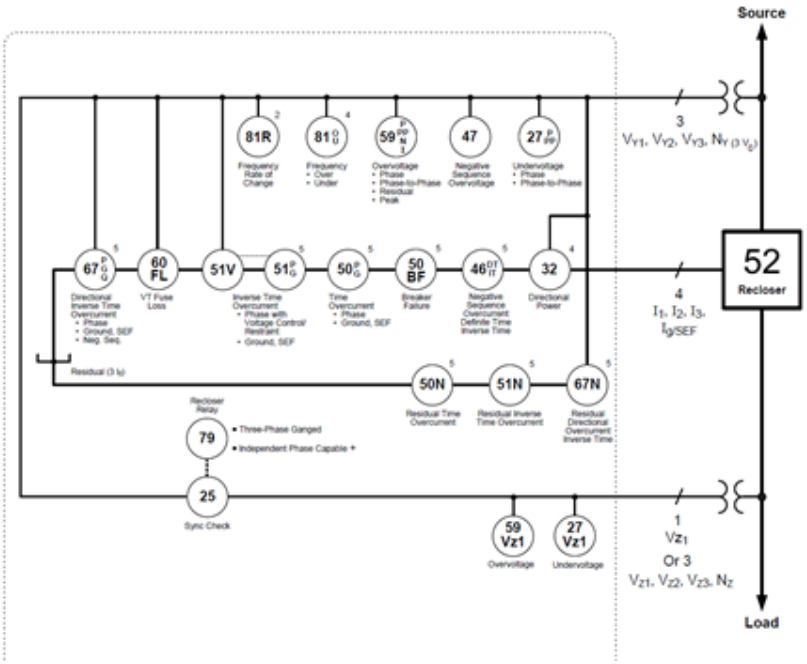
# INTELLIGENT ELECTRONIC DEVICE

## IED CONTROL

**SIPSE Control's** philosophy is to adapt to our customers by using an IED that we have experience using, application templates developed and implemented or simply the preferred IED for the operation.

Thus exploiting the particular advantages of each IED at the right place in the network integration.

## PROTECTIONS AVAILABLE




### Protocols available:

- MODBUS®,
- DNP3.0
- IEC 61850,
- IEC 60870-5-104/101

### Analog inputs available:

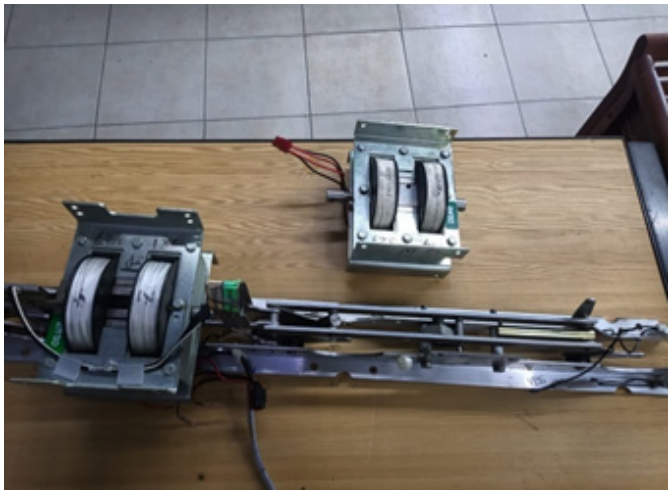
- 6 or 3 voltage inputs.
- 4 current inputs.

## A STATE-OF-THE-ART RESTORER?

**SIPSEMX,** specialists in reclosers, have developed a generic firing circuit capable of integrating most of the commercial controls to new or existing (retrofit) benches.
The main challenges of this development are:

1. Speed.
2. Power.

The two points mentioned above are of main importance in the integration of the restorer, and are related to the mechanical and electronic composition.
In the mechanical composition of the recloser we have the following:
The primary equipment (bench), fast and of new generation, **operate in a closing time of less than 50ms and opening time of less than 15ms.**
Given this situation and in the manufacturers' race to release the fault as soon as possible, most of them have opted for a mobile type actuator with permanent magnets.
At this point there are several advantages.



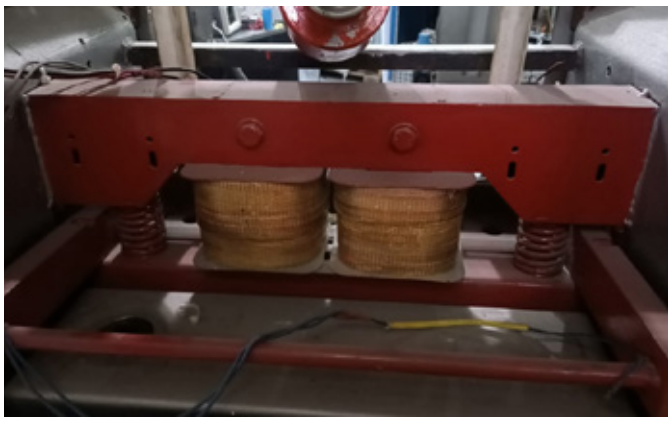
Permanent magnet mobile actuator.

# TRIGGER CIRCUIT

### 1. Magnetically light.
This means that the power necessary for their magnetization and consequently to perform a movement is low and the higher this power is, the greater the movement of the contact.

### 2. Mechanically fast.
Given its composition at the moment when the actuator exerts its movement, it inversely affects the position of the contact reducing the time of a command.

Unlike some off-line benches where the mechanism is a solenoid type actuator.



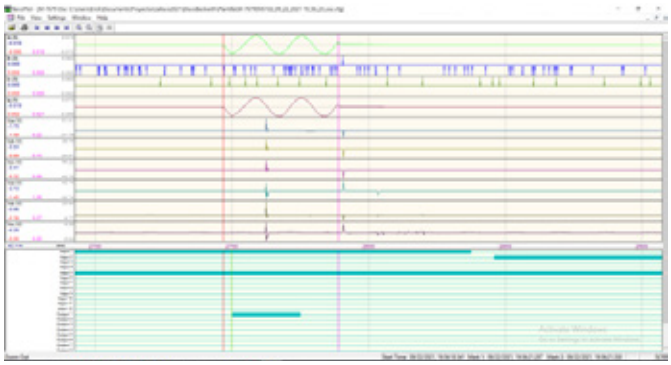
**Solenoid/contactor type actuator.**

## Disadvantages:

### 1. Magnetically heavy.
Given the type of mechanism, the power required for its magnetization is large and most of this power is wasted in the magnetic field.

### 2. Mechanically slow.
Given its nature, the time is sacrificed by the power of action, the time is extended in first part to magnetize the field, once magnetized, the mechanical part begins its operation.
**Approximate opening time = 80 ms.**
**Approximate closing time = 80 ms.**

The image shows the opening of a "slow" solenoid bank in controlled fault with the **SIPSEMX** trip circuit, **resulting in a fault release in 42 ms less tha 3 cycles. Improving the time of action, limited by the mechanical part of the bench.**



**Test 1. 50f delayed 0.00s.**

## AT SIPSEMX WE ARE COMMITTED TO OUR CLIENTS...

The **SIPSEMX** control was designed for a useful life of 10 years, being modular and scalable, having the possibility of repair in all its components and being the same equipment for different reclosers, it can be relocated to a different primary equipment only using the appropriate control cable.

Having a better control and management of the network has an impact on **SAIFI and SAIDI** to achieve this with a lower investment, it impacts on the energy supply company to be more profitable exploiting it assets to the maximum, investing what is necessary for the functionality required in the integration of the network.

# CONTACT US

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