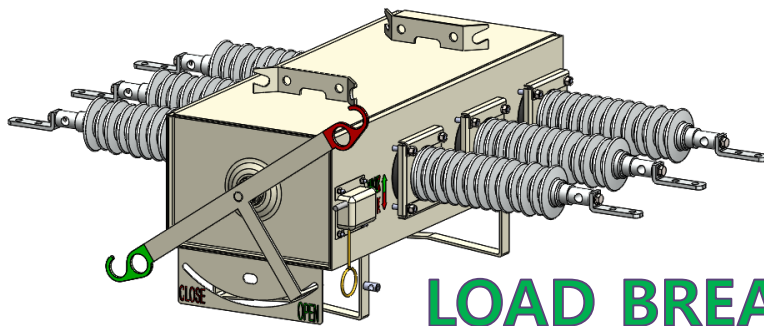


# PRODUCT CATALOG



Quality stability !

Customer first !



**SF<sub>6</sub> GAS**

**LOAD BREAK SWITCH**



**DELCOO CO., LTD.**

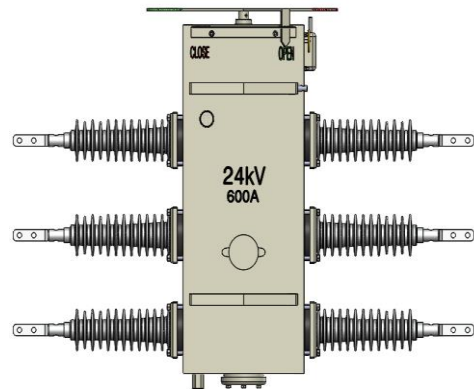
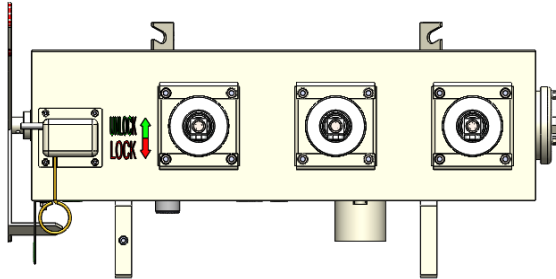
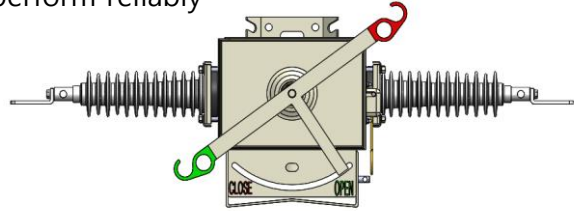
# SF6 GAS Insulated Load break switch for overhead line

## Introduction

- Delcoco SF6 gas insulated load break switch was produced base on many experience
- Load break switches high electrical ratings ensure operation even under heavy loading or fault conditions.
- mechanical construction that enables them to perform reliably in all weather conditions

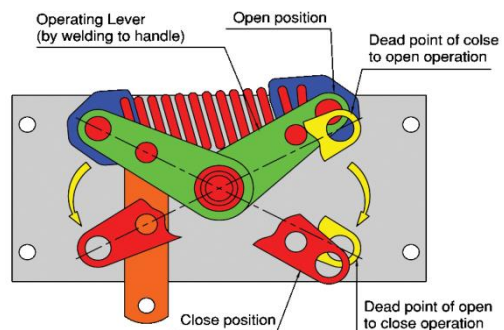
## Characteristic Key point

- Wide operating temperatures range
- High number of breaking operations at rated normal current
- Compact design
- Reliable position indicator
- Puffer interrupter system
- Simple operation mechanism



## Operating Mechanism

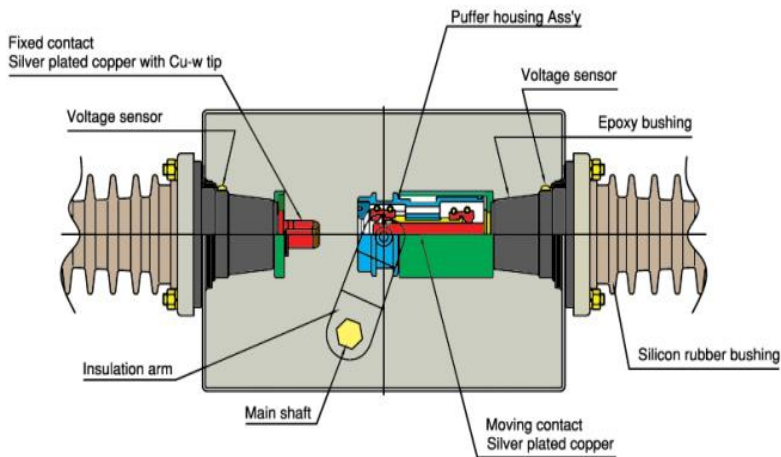
- The switching contacts are driven by an over-center spring mechanism to ensure that the operating speed is always constant, independently of the speed of the operator. The mechanism can be driven by either a manual hookstick, electric motor or ground actuator (optional)



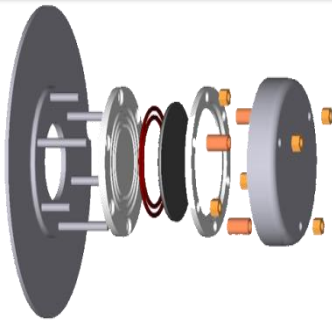
# SF6 GAS Insulated Load break switch for overhead line

## Switch Internal composition

- Load break switch tanks material is stainless steel and fill in SF6 GAS
- Puffer system and SF6 GAS have a brilliant arc extinction at normal current



## Pressure relief device



- Relief membrane burst for safety at internal overpressure

# SF6 GAS Insulated Load break switch for overhead line

## Control cabinet

### ► Fault detection

Fault Detection (phase / Earth / SEF)

Cold load pickup & Inrush restraint

Open line detection & phase sync fail detection (Va-Vr)

Auto Sectionalizing

### ► Measurement

Voltage(Source/Load) & Current (3-phase RMS / True RMS)

Power (kVA, kW, kVar) & Energy (kWh, kVarh)

Power Factor, Frequency, Phase Angle

Harmonics (up to 32nd) & THD (Total Harmonic Distortion)

### ► Control

Control Position : Local / Remote

Switch Control : Open / Close (SBO / DO) after Select

FI (Fault Indication) Manual Reset, Battery Test

### ► Status Monitoring

Switch Status : Open / Closed

Control Position : Local / Remote

Fault Indication (A/B/C/N/SEF/ Reverse Dir.)

Open Line & Sync Fail, Hot Line, Inrush Detected

Switch Handle Locked & Gas Pressure Low

External AC Power Loss, Enclosure Door Open

Battery Overdischarged & Charging Circuit Error

System Error (Self Diagnosis Result)

### ► Counter

FRTU restart count, switch trip count

Fault count

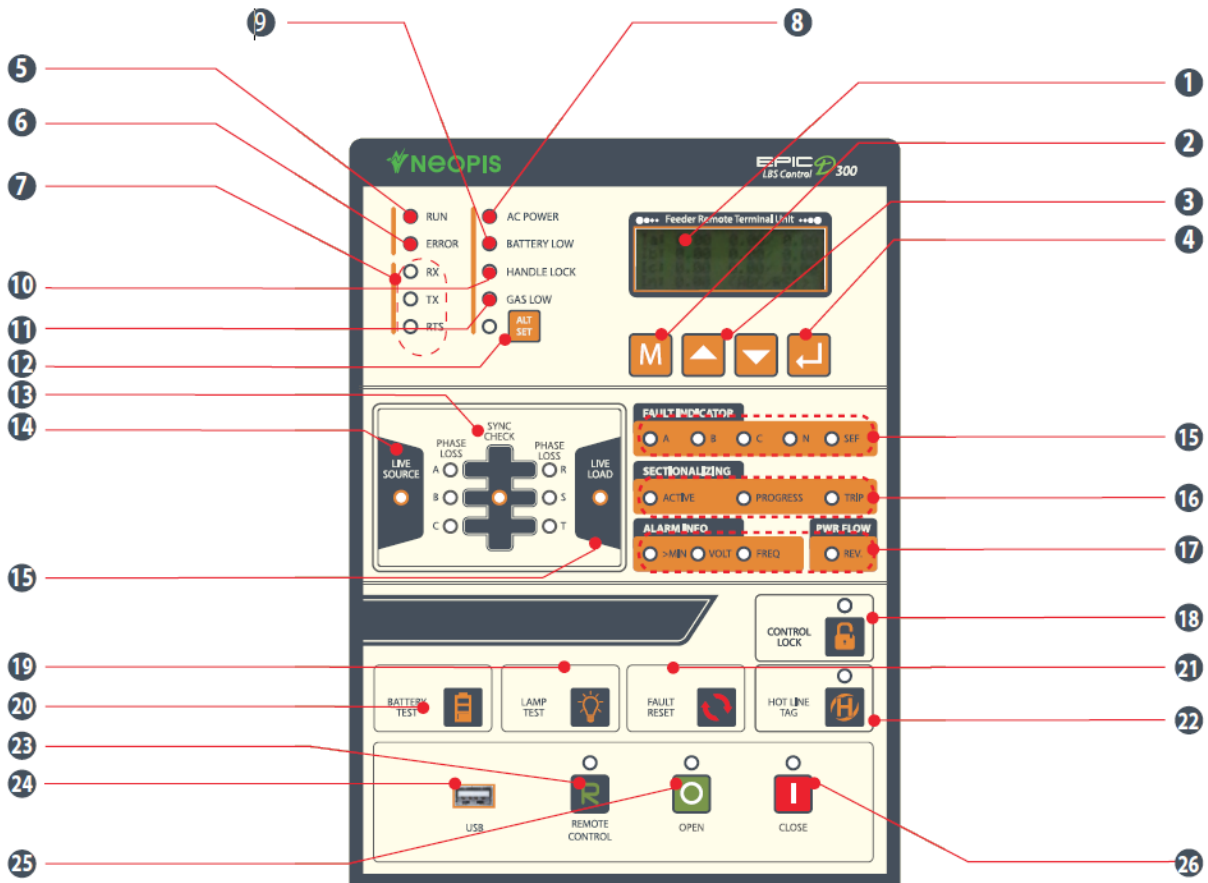
### ► Communication Protocols

SCADA : DNP3.0 , IEC60870-5-101/104 , IEC61850 (Optional)

Setting & Maintenance : Modbus



# SF6 GAS Insulated Load break switch for overhead line



- |  |  |
|--|--|
| 1 LCD                                    | 14 Hot Line LED's (Load - side)                    |
| 2 Menu Button                            | 15 Fault Indicator LED's (A/ B /C / N/ SEF)        |
| 3 Up / Down ( LCD Menu Operation) Button | 16 Sectionalizing LED's (Active/Progress/Trip)     |
| 4 Enter ( LCD Menu Operation) Button     | 17 Alarm Information & Power Flow LED'S (FWD/ REV) |
| 5 DSP Run LED                            | 18 Control Lock Button & LED                       |
| 6 System Error (Self Diagnosis) LED      | 19 Lamp Test Button                                |
| 7 Communication Status LED's (RX/TX/RTS) | 20 Battery Test Button                             |
| 8 External AC Power On LED               | 21 Fault Reset Button                              |
| 9 Battery Test Result LED                | 22 Hot Line Tag Button & LED                       |
| 10 Handle Lock LED                       | 23 Local / Remote (Control Position) Button & LED  |
| 11 Gas Low LED                           | 24 USB Setting & Maintenance Port                  |
| 12 Alt Set Button & LED                  | 25 Open (Switch Control Command) Button & LED      |
| 13 Sync Check LED                        | 26 Close (Switch Control Command) Button & LED     |

# SF6 GAS Insulated Load break switch for overhead line

## Ratings

| Rating                            |         |       |                    |
|-----------------------------------|---------|-------|--------------------|
| Rated voltage                     | 12      | 24    | kV                 |
| Rated continuous current          | 400/630 | 630   | A                  |
| Rated making current              | 32.5    | 32.5  | kA <sub>peak</sub> |
| Short time withstand current (1s) | 12.5    | 12.5  | kA <sub>rms</sub>  |
| Mechanical operations             | 5,000   | 5,000 | times              |

## Insulation level

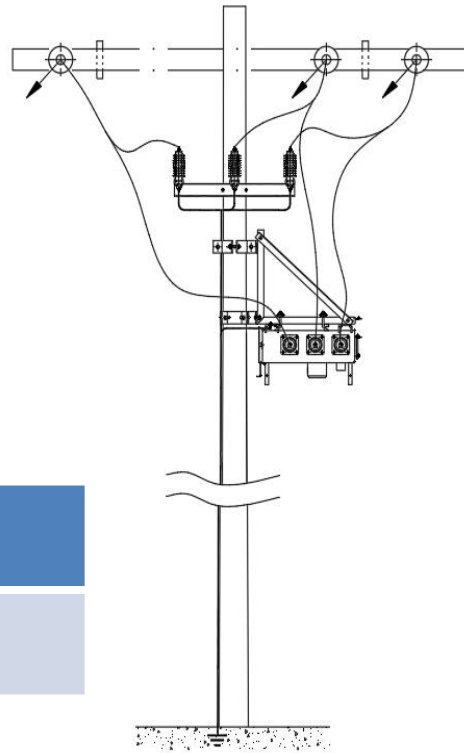
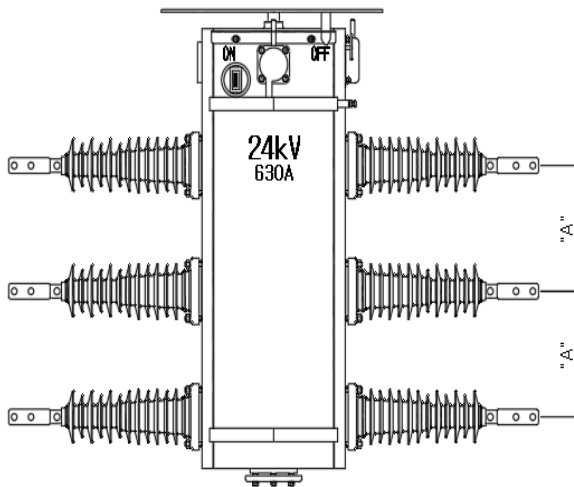
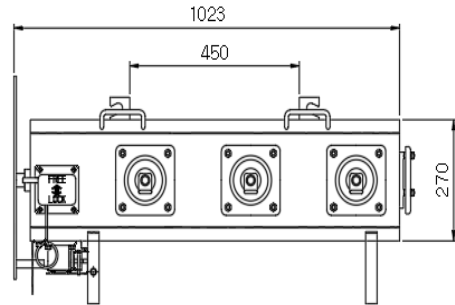
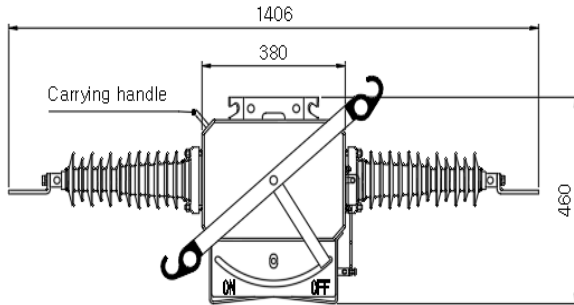
|   |    |     |          |
|---|----|-----|----------|
| Rated lightning impulse withstand voltage | 75 | 150 | kV       |
| Rated power frequency withstand voltage   | 42 | 60  | kV /1min |

## Service condition

|                     |           |    |
|---------------------|-----------|----|
| Ambient temperature | -25 to 50 | °C |
| Humidity            | 0 to 100  | %  |
| Altitude meters     | 3000      | M  |

# SF6 GAS Insulated Load break switch for overhead line

## Dimension



| 구분  | 12kV | 24kV |
|-----|------|------|
| "A" | 230  | 280  |

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