



# Sectos NXB Switch Disconnecter For Overhead Networks

# General

The NXB is a SF6-insulated pole mounted switch disconnecter suitable for both conventional overhead lines and BLX type lines with insulated conductors and specifically designed for use in modern tele-controlled distribution automation systems. The NXB offers reliable maintenance free operation even in the most demanding climatic conditions including salt laden atmospheres, corrosive industrial pollution, snow and ice.

# Switch design

The three phase switch unit is mounted inside a sealed for life stainless steel tank filled with a small SF6 overpressure. The stainless steel tank is designed specifically to guarantee the safety of the operation personnel even with the internal arc faults at the maximum fault capacity. Due to high internal arc containment capacity of the tank the NXB in most cases withstands an internal fault without venting hot gases. The independent spring operating mechanism provides a guaranteed load break fault make capability by ensuring the opening and closing speed of the switch.

The NXB is provided with a standard SF6 gas density indication unit ensuring guaranteed lightning impulse withstand voltage rating and maximum reliability when used as a point of isolation.

# Configuration

The NXB is available as two positions (ON-OFF) or a three positions (ON-OFF-EARTH) switch. When supplied as a three positions switch the unit has facility to earth the line on one side of the switch.

Both types of units can be supplied suitable for manual or electrical and manual or electrical only operation. The earth position on the three positions switch is manually selected only.

The units can be provided with an optional feature to manually lock and electrically isolate the unit in the earthed, open (OFF) or closed (ON) position.

# Installation

The switch is suitable for horizontal mounting either above or below the crossarm. A selection of different mounting equipment is also available such as direct mounting for the switch to wooden or concrete pole.

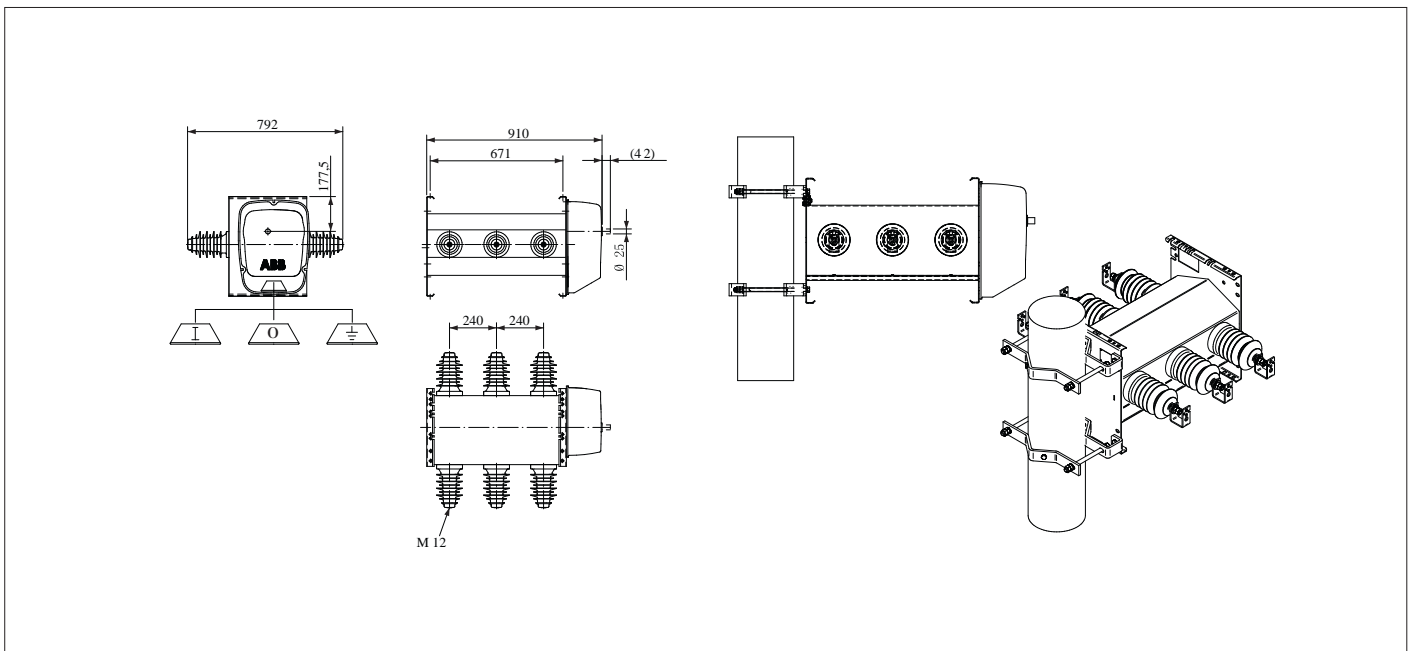
# Control

The switch can be manually controlled or it can be provided with an integrated motor drive for both tele and/or local electrical control. The motor drive can easily be retrofitted on site to manually operated units. Both manual operation and mechanical locking (when fitted) are by hook stick with local electrical operation at ground level (when required) via a control box. Hook stick operation negates the need for the provision of an operator earth mat.

# Position indication

The NXB is provided with light reflecting position indicators which are directly connected to the switch operating shaft providing clear and unambiguous switch position indication. When manual switch locking is required half eyelid indication over the position indicator is provided.

Position indicating contacts directly connected to the operating shaft are provided to give remote switch position indication via the RTU to the telecontrol system.



## Insulators

The NXB can be provided with outdoor type cycloaliphatic epoxy resin insulators or standard 400 series outer cone fitted with silicone rubber insulators. Both types are suitable for line termination with standard cable lugs. Outer cone bushings are also suitable for standard elbow type cable connectors.

A wide range of current transformers suitable for overcurrent and earth fault protection are available for mounting around the bushings.

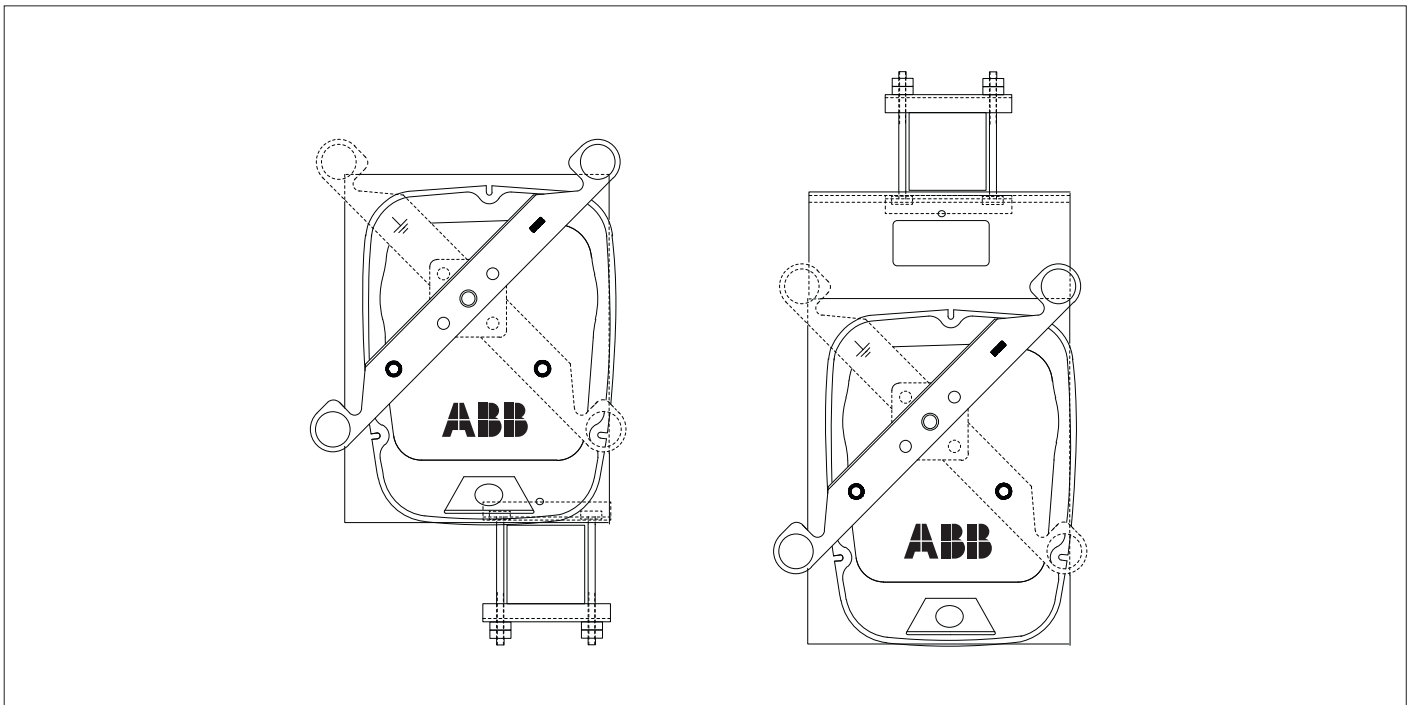
An integral mounting plate is available to allow most types of standard surge arrestors to be mounted close to the NXB bushings.

## Remote control

The NXB can be provided with a stainless steel pole mounted control box sealed to IP54 and incorporating:

- 24 VDC battery and charger
- Open/Close Remote/Local Control
- Battery monitor device
- VT Supply fail
- RADIO & RTU (to customer approved standards)
- Earth fault passage indicator
- Auto sectionalizing

One control box can control up to four NXB switches.



# Technical specification

Sectos NXB switch disconnecter complies with the IEC 60265-1 (1998) requirements for General purpose switches in electrical endurance class E3 (Ik = 12,5 kA) and E2 (Ik = 20 kA) and mechanical endurance class M2 and requirements of

EATS 41-27. The breaking tests under earth fault conditions enable use also in isolated or resonant earthed neutral systems.

Ratings		NXB 12	NXB 17.5	NXB 24
<b>Insulation level</b>				
Rated voltage	kV	12	17.5	24
Power-frequency withstand voltage				
– to earth and between phases	kV	75	95	125
– across isolating distance	kV	85	110	145
Power-frequency withstand voltage				
– to earth and between phases	kV	28	38	50
– across isolating distance	kV	32	45	60
<b>Current ratings</b>				
Rated normal current	A	630	630	630
Mainly active load breaking current (100 CO operations)	A	630	630	630
Line- and cable-charging breaking current	A	16	16	16
Earth fault breaking current	A	50	50	50
Cable-and line-charging breaking current under earth fault conditions	A	28	28	28
No-load transformer breaking current	A	6.3	6.3	6.3
<b>Short-circuit ratings</b>				
Short-time withstand current $I_k$ (3 s)	kA	20	20	20
Peak withstand current, $I_{dyn, peak}$	kA	50	50	50
Short-circuit making current	kA	50	50	50
Number of short-circuit making operations				
- main switch 50kA (CL E2)	n	3	3	3
- main switch 31.5kA (CL E3)	n	10	10	10
- earthing switch 50kA (CL E2)	n	3	3	3
- earthing switch 31.5kA (CL E3)	n	5	5	5
Degree of protection (Top motor box)			IPX7	
Creepage distance of insulators				
– silicone rubber			620	
– cast resin	mm		500	
Ambient air temperature limits	mm		-40 ...+60	
Mechanical endurance (number of close-open operations)				
– main switch	n		5000	
– earthing switch	n		1000	
Filling pressure (+20 )	bar(abs)		1.5	
Alarm pressure (+20 )				
– density switch	bar(abs)		1.2	
– density gauge (optional)	bar(abs)		1.1	
– lock-out mechanism (optional)	bar(abs)		1.1	
Minimum functional pressure (+20 oC)	bar(abs)		1.1	
Weight (cast resin/silicone/without bushings)	kg		81/82/71	

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