

# Rapier GX

## Gas enclosed load break switch and sectionaliser



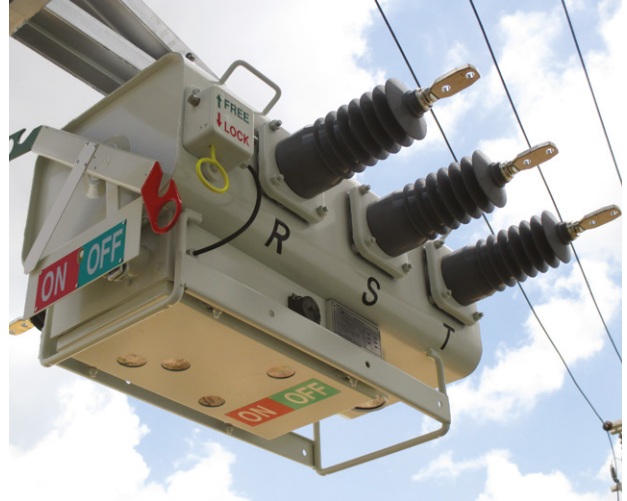
# Rapier GX gas enclosed switch

**Our RAPIER GX, pole-mounted gas enclosed switch has been developed to complement our low cost and low maintenance RAPIER AX air break switches and offers customers an alternative solution.**

Available up to 38kV, the GX switch has been designed utilising the latest SF6 puffer switching technology to achieve high performance and reliability. Whether operated as a base manually independent switch or equipped with fully automated features, the GX switch provides the answer to your sectionalising and network automation requirements.

## Key features

- Available up to 38kV
- Permanent hookstick operating lever
- Lock-off device
- Independent spring opening and closing for consistent operating speed
- Stainless steel tank sealed for life
- Polymeric bushings
- Gas pressure indicator
- Low gas pressure lockout device
- Overpressure bursting disc



## Built to last

All switch tanks are manufactured from stainless steel, sealed for life and maintenance free. The "tulip" type contact system made from Tungsten-Copper ensures long contact life and high short-circuit making capability up to 32.5kA. Load breaking up to 630A is achieved with very short arcing times of less than half a cycle of power frequency. Full ratings are guaranteed at atmospheric gas pressure.

The standard operating mechanism is an independent manual spring for fast open, fast close GX switch operations. Motor operation time takes no more than 700 milliseconds. Bushings are manufactured from polymeric materials to maximise protection against vandalism.

## Safe operation by design

A number of safety features have been designed into the GX switch, which protects the operator from adverse operation.

From ground level, an operator has visibility of status of the switch underneath the switch tank and if low gas pressure mechanism has operated then the switch remains in its current state.

A software feature in the RTU ensures that any remote or local electrical operation is duly inhibited, if a low gas pressure is detected.

The operator is protected from an internal arc fault by the operation of a bursting membrane such that exhaust debris is directed away from the operator. In addition, a low pressure lock-out device operates to inhibit mechanical and electrical operation of the switch in the event of low gas pressure.

On isolating the GX switch to establish a Point of Isolation, a lock handle can be operated to lock-off the mechanism. The lock-off must be returned to its normal position before the GX can be operated.



# Rapier GX-RC/S for automation & remote control

When the GX switch is combined with the RTU control cabinet via a multi-core cable, Lucy Electric can offer a remotely controlled load break switch and sectionaliser – two products in one, namely the RAPIER GX-RC/S.

The automated GX switch is equipped with all the necessary hardware / software features to operate as a remotely controlled load break switch or a sectionaliser working in conjunction with an upstream recloser.

All mounting steelwork for the GX switch, control cabinet and VT is normally supplied as standard to fit the variety of pole structures installed worldwide.

## Optional features

- Communications modem
- Pole-mounted voltage transformer (VT) and bracket
- Integral VT within the GX switch tank
- Longer control cable (8 metres standard)
- Surge arrestors brackets

## Product offering

The RAPIER GX-RC/S represents the fully automated format, providing customers with all the necessary features to meet applications for remote MV switching and sectionalising. The GX switch, equipped in this format, can be installed in locations where there is a likelihood of upgrading to automation in the future.

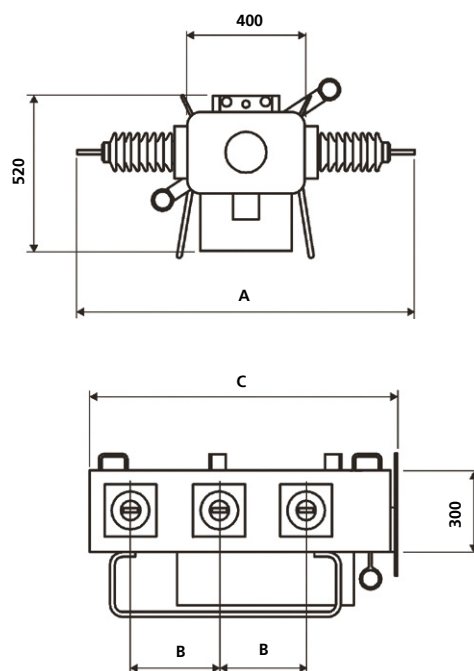
For situations where there is no likelihood or requirement for automation, Lucy Electric offers a low cost version of the GX switch as a independent manual spring, hookstick operated load break switch (no automation features) – the RAPIER GX-M17.5/24/38. In addition, we supply the necessary mounting steelwork for any type of structure.

## Dimensions (mm)

	A	B	C
15kV	1120	250	900
24kV	1380	290	980
38kV	1530	350	1170

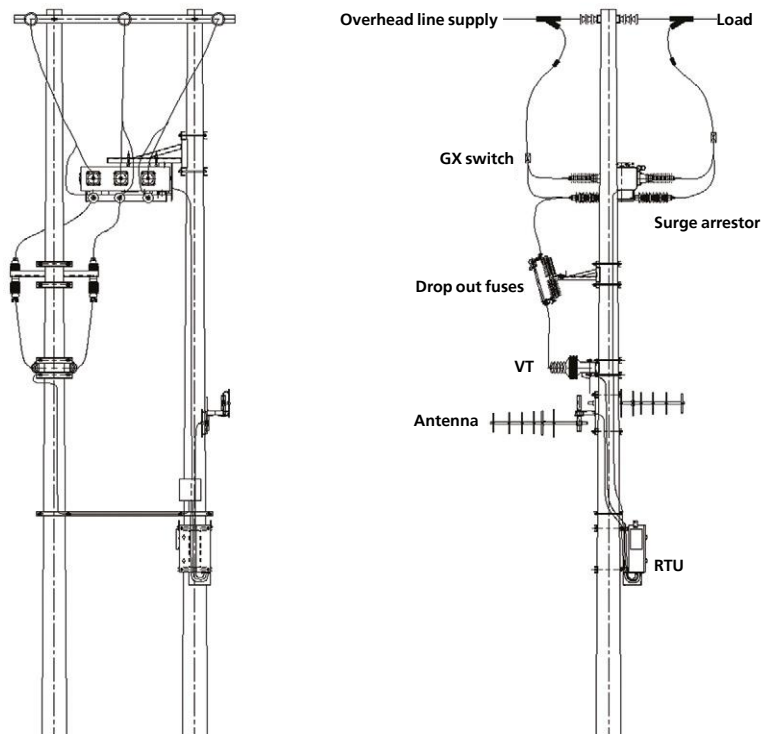


## GX-RC/S General arrangement





## Typical layout



# Electrical performance

## Product range

## Rapier GX

Rated Voltage		15kV	24kV	38kV
Maximum system voltage	kV	15	24	38
Rated current	A	630	630	630
Power frequency	Hz	50 / 60	50	50 / 60
Fault make capacity (rms)	kA	20	12.5	12.5
Fault make capacity (Peak)	kA	50	31.5	32.5
Number of make operations		5	5	5
<b>Breaking capacity</b>				
Mainly active	A	630	630	630
Closed loop current	A	630	630	630
<b>Impulse withstand voltage</b>				
Phase to Earth	kVp	95	150	170
Across isolation gap	kVp	110	150	195
<b>Environmental</b>				
Ambient temperature		-25 to +50°C	-25 to +40°C	-25 to +50°C
Humidity		0 to 100%	0 to 100%	0 to 100%
Altitude (max)		Up to 1000m	Up to 1000m	Up to 1000m

## Product range

Product designation	Mode	Description
GX-M, 15, 24 or 38kV	Manual operation	Manually operated enclosed switch via hook stick mechanism
GX-RC/S 15, 24 or 38kV	Remote control / sectionaliser	Remotely controlled enclosed switch equipped with Gemini RTU, FP and optional sectionalising software

For Pole mounted air break switches, refer to RAPIER AX range.