

# ***Power Consultants Ltd***

Locked Bag 2190, Suite 8,79-83 Longueville Road, Lane Cove, NSW 2066

## **Unitised Rocking Post Isolator-----ED11V4 11kV 600 Amp Air Break Switch**

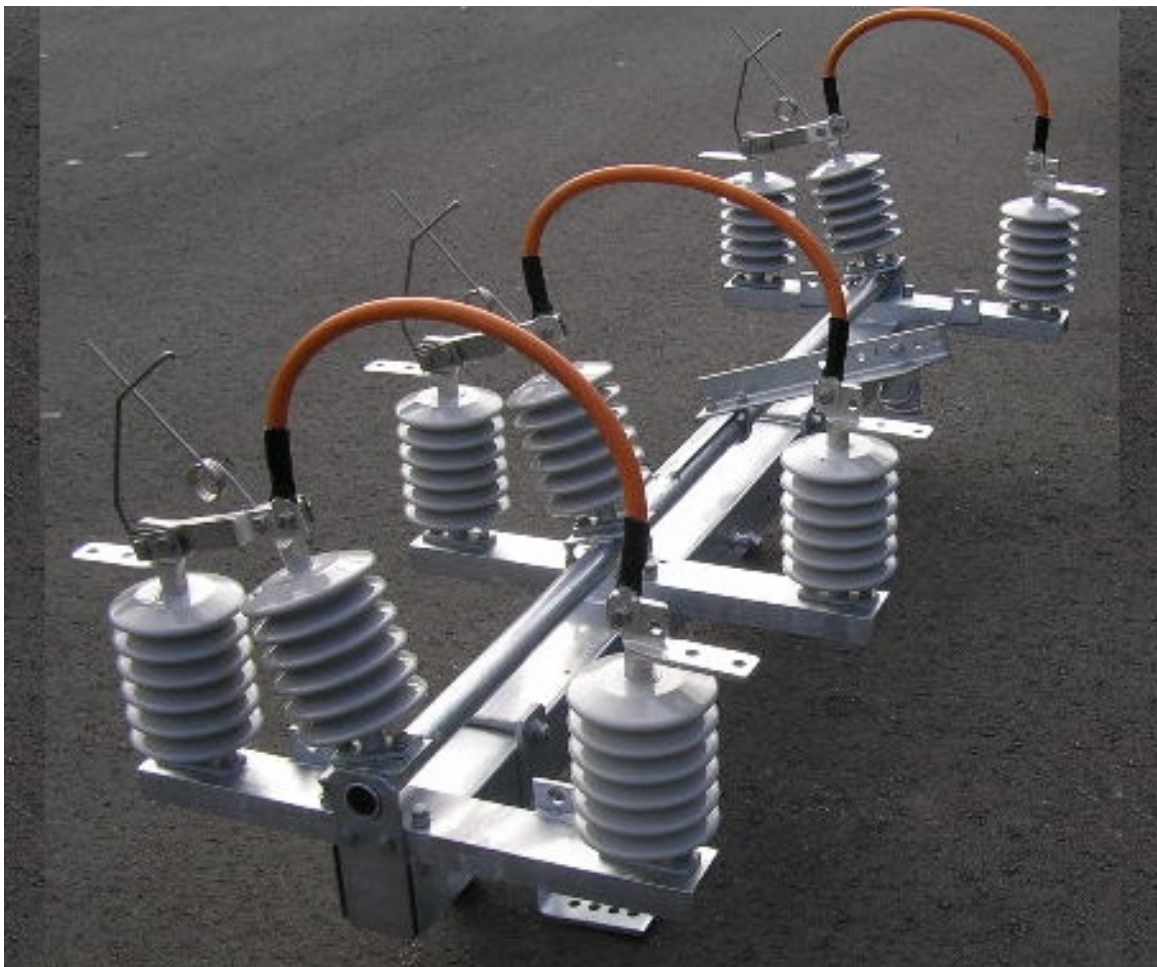
Fully Welded or bolt-on cross arms, unitised, strong construction allows the switch frame to be strained against.

Bolted-on Cross arms offers adjustable phase spacing as per application.

All metal parts which are not of High Grade Stainless Steel or Silver-plated Copper are Hot Dip Galvanised.

Type tested to BS 5253: 1990 (IEC 129: 1984)

Modifications can be made as per customer's requirements and applications.



## **Specifications:**

### **Insulator Specifications:**

**Voltage:** 12kV Continuous

**Lightning Impulse:** 125kV

**Insulation:** Power frequency withstand voltage – dry: 125kV  
wet: 50kV

Total creepage distance 480mm  
Protected creepage 135mm  
Flashover 230mm

### **Isolator Specifications:**

**Current:** 600 amp (single Flexible cable) continuous

**Fault:** 13.1 kA for 1 second (250 MVA) (33 kA peak)

**Phase Centres:** 663mm and 1063 mm standard or to requirement

**Main Items:** Two Bolt (NEMA) terminals, tin plated  
Stainless steel flicker arc horns  
Silver Plated cu contacts of V design  
Intermediate pipe guide for 25 NB pipe and bottom handle

**Options:** 600 amp load break heads with Kearney or Duo-gaps  
Earth points for live work  
Pole top mounting; raised feet, 1.6m long equal spacing  
Dropout fuses

**Type Tested** Test Specification BS5253:1990 (IEC 129:1984)  
Fault level 15 kA / 1 sec

FEATURES	BENEFITS
<p><b><u>Unitised Frame Design</u></b></p> <p>(Fully welded one-piece frame)</p>	<p><b><i>Rigidity</i></b> - Reduced flexing of switch frame providing reliable long term contact alignment</p> <p><b><i>Ease of installation</i></b> - Switch supplied fully assembled and factory set up for immediate installation and use. (Have been installed within 30 minutes).</p> <p>Ease of live line installation (one-piece lift).</p> <p><b><i>Mounting</i></b> - Additional-mounting brackets not normally required.</p> <p>6mm bearing surface to prevent seizing of moving parts</p> <p>All Parts below Insulators manufactured mild steel and Hot Dip Galvanised to prevent dissimilar metal problems.</p>
<p><b><u>Customised Frame Design</u></b></p> <p>(Both Unitised and Demountable designs can be customised to customer requirements).</p>	<p><b><i>Packaging</i></b> - Phase poles can be shipped in separate crate, eliminating transit damage if required.</p> <p><b><i>Pole Spacing</i></b> - Fully adjustable phase spacing is available on request.</p> <p><b><i>Set-up</i></b> - Contact alignment is factory set.</p> <p><b><i>Operation</i></b> - Square axle provides full adjustment of operating lever position relative to pole.</p> <p><b><i>Installation</i></b> - Switch frame can be installed independently and switch poles mounted individually.</p>
<p><b><u>Frame Construction</u></b></p> <p>High Strength Spar (100x100x3 RMS)</p>	<p><b><i>Range of options to date include :</i></b></p> <ul style="list-style-type: none"> <li>◆ Various spar lengths</li> <li>◆ Various spar mounting hole configurations</li> <li>◆ Various phase pole spacing</li> <li>◆ Special earthing tags</li> <li>◆ Special mounting feet/brackets</li> <li>◆ Lifting lugs when required</li> <li>◆ Extended axle</li> <li>◆ Vertical mount</li> <li>◆ Special handle design</li> <li>◆ <b>Line strain point on end of pole base</b></li> <li>◆ Fuse mounting brackets</li> </ul> <p>Eliminates flexing due to pole movement or cross arm warping.</p> <p>Enables line termination through dead end insulators mounted directly onto spar.</p> <p>Provides sufficient strength to enable ABS to be mounted directly to the pole as a cross-arm.</p>

FEATURES	BENEFITS
<p><b><u>Pole Construction</u></b></p> <p>Strong Switch Pole Base (75x40TFS)</p> <p>Factory Tested Design 2000+ Operations without re-adjustment of contact assemblies or bearing points)</p>	<p>Eliminates the need to regularly re-adjust contact alignment.</p> <p>Strong enough to support line strain point or additional equipment mounting.</p> <p>Proven long reliable switch life.</p>
<p><b><u>Insulator Construction</u></b></p> <p>Silicone rubber or cycloaliphatic insulator options Will be possible with minor design changes.</p>	<p>Reduced weight Improved pollution performance Vandal resistance Higher strength than porcelain</p>
<p><b><u>Contact Assembly Construction</u></b></p> <p><b>Materials</b> - Silver plated contacts Plate and Bronze castings</p> <p>Flexible conductor 150mm<sup>2</sup> double insulated</p> <p><b>Type Tested</b></p> <p>One piece plated bronze contact mounted casting bolted directly onto insulator</p>	<p>Improved electrical performance</p> <ul style="list-style-type: none"> <li>◆ No Load switching - 600A continuous rating with flicker arc breaks</li> <li>◆ Load Switching – 50 full load break operations @ 600A or 10 @ 900A available with load break head</li> </ul> <p>Tested design to IEC 129:1984 BS 5253:1990 Fault level 13.1 kA / 1 sec(250 MVA)</p> <p><b>Summary of Original Test Results</b></p> <ul style="list-style-type: none"> <li>◆ Lightning impulse 125kV</li> <li>◆ Power Frequency 28/32kV</li> <li>◆ Thermal Rating 630A</li> <li>◆ Short Time Rating 250MVA for 1 second</li> <li>◆ All post are 25 micron Tin plated to prevent corrosion</li> <li>◆ Contacts are 5 micron Silver-plated</li> </ul> <p><b>Specifications of most recent Switch Insulators</b></p> <ul style="list-style-type: none"> <li>◆ <b>System highest Voltage</b> - 12 kV</li> <li>◆ <b>Withstand Test Voltages</b> <ul style="list-style-type: none"> <li>A) Power Frequency- wet – 50kV</li> <li>B) Lightning Impulse – dry – 125 kV</li> </ul> </li> <li>◆ <b>Minimum Failing Loads</b> <ul style="list-style-type: none"> <li>A) Cantilever - 3.5 kN.</li> <li>B) Torsion - 300 Nm</li> <li>C) Tension - 25 kN.</li> </ul> </li> <li>◆ <b>Creepage Distances</b> <ul style="list-style-type: none"> <li>A) Total – 480 mm</li> <li>B) Protected – 1350 mm</li> <li>C) Flashover – 230 mm</li> </ul> </li> </ul>