

## Voltage Regulating Distribution Transformers (VRDT)

Tyree's NEW range of Voltage Regulating Distribution Transformer's (VRDT's) feature zero maintenance Vacuum On-Load Tapchangers (OLTC) with onboard voltage regulators for complete self-contained voltage control at the pole or padmounted substation.

Tyree VRDT's are engineered to match existing network construction standards and rated up to and including 63kVA 36kV for pole-mounting SINGLE phase and SWER applications

Tyree have proven the concept and implemented this mature technology in Australian network conditions.

All Tyree transformers are manufactured using high grade materials and are designed to ensure safe reliable operation with a service life meeting power utility grade expectation.



### Features

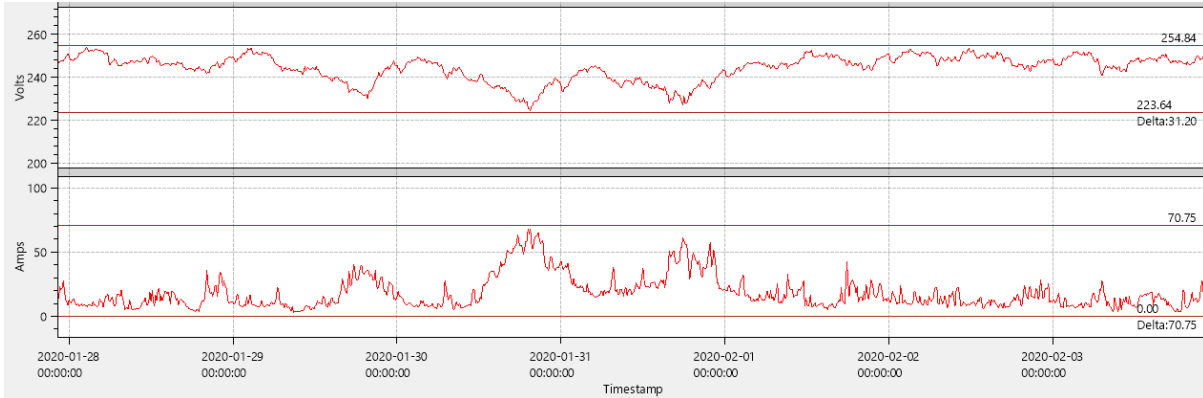
- Designed, Manufactured and Tested in Australia to comply to AS/NZS2374 and AS/NZS60076.
- In-tank, fully sealed and maintenance free on-load tapchanger (OLTC) feature vacuum interrupter design and up to (9) regulating tap positions
- Integrated, self-powered, standalone voltage controller with COM's and/or remote options.
- All tanks, radiators and covers are hot dipped galvanised tanks to AS/NZS 4680 for corrosion protection as a standard.
- Painted finish available.
- High quality porcelain bushings compliant to ENA standards
- Sealed designs to prevent moisture ingress
- Filled with new PCB free high grade naphthenic mineral oil complying to BS148 and AS1767.
- Biodegradable, High Flash Point, Natural Ester (K) Rated Fluid available
- Integrated lifting lugs
- Integrated Surge arrestor brackets

### Specifications

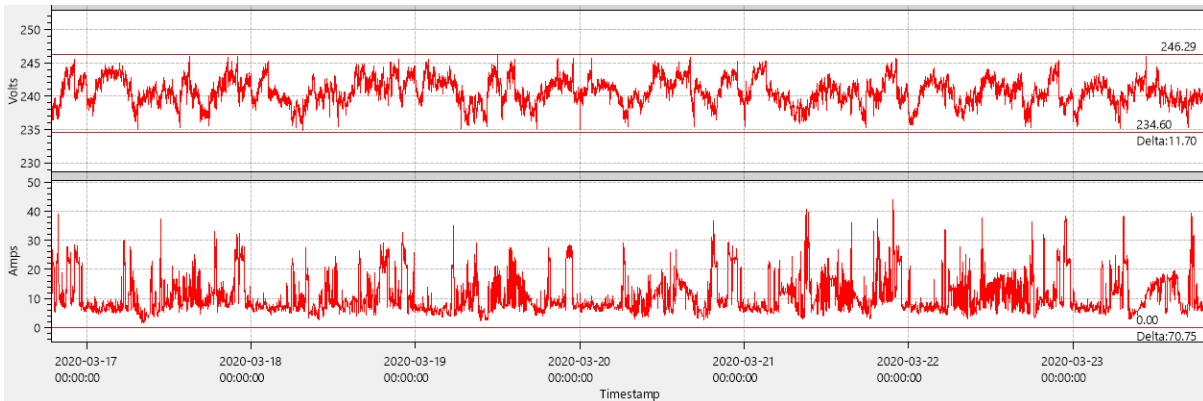
- **Standard kVA Ratings:** 10 16, 25, 50 and 63
- **Voltage Ratio:**
  - 11kV 22kV and 33kV, 1PH
  - 12.7 and 19.1kV SWER
  - Other voltages available
- **On-Load Tappings:** up to +10 to -10% in up to 2.5% steps, OR as required
- **Insulation and Dielectric Level:**
  - 12kV - LI 95kV/AC 28kV
  - 24kV - LI 150kV/AC 50kV
  - 36kV - LI 200kV/AC 70kV
- **Noise Level:** 56dB(A)
- **Temperature Rise:**
  - 65 °C / 60°C for 40°C ambient OR as required
- **Mounting:**
  - ENA Pole-mounting
  - Cross-arm hanger
  - Platform bolting in structural feet
  - Other custom options and brackets available

**Field Proven Results**

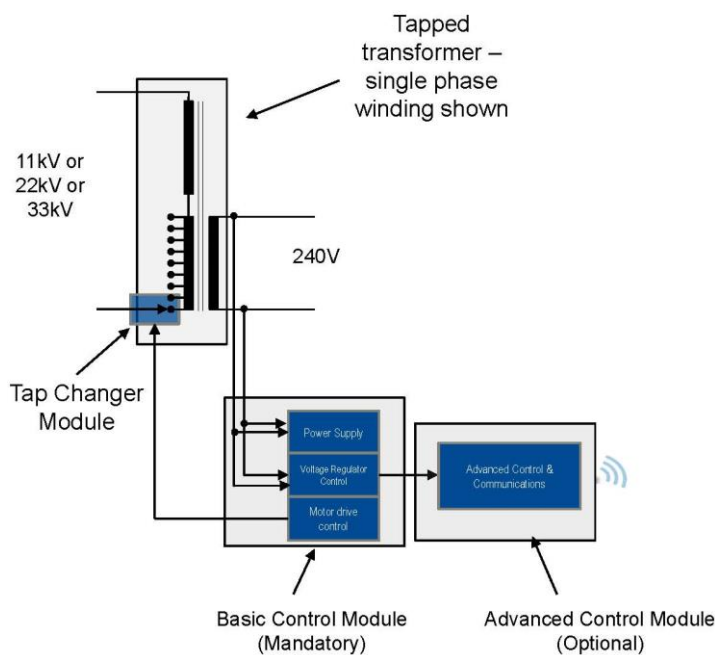
Without VRDT Installed :  $V = 224-256 V_{rms}$  – **NON-COMPLIANT**



VRDT Installed :  $V = 236-246 V_{rms}$  – **COMPLIANT**



**Technology Implementation**



General Construction

- Uses "custom" distribution transformer
- Integrated MV tap changer module in oil, motor drive in air
- Power supply, voltage regulator control (RTC) and motor drive control in one integrated module
- Separate radio/comms/data logging and storage/optional downstream controls