

TURBINE-CONNECT KIOSK



RJE



Smarter
Engineering

RJE Turbine-Connect Kiosk

The RJE Turbine-Connect Kiosk provides a standardised modular solution for connection of wind turbine generators to the 33kV reticulation network. This results in project benefits such as schedule flexibility, reduces the risk associated with site work, and reduces overall project cost.

The Turbine-Connect has been engineered to reduce whole of life O&M cost by utilising low-maintenance devices, and provides remote status indication to assist in troubleshooting. Integrated, standardised and fully pre-tested protection systems ensure safe and reliable operation of the device from the moment it arrives on site.



KEY FUNCTIONS & BENEFITS

REMOVES SCHEDULE CONSTRAINTS

As the kiosks are self-powered, they can be fully tested prior to turbines becoming operational.

REDUCES SITE WORK

The modular nature of the units allows for all protection functions to be tested and electrical commissioning to be performed prior to site installation, reducing complexity, cost and risk on site.

GREAT VALUE SOLUTION

Standardisation allows for a known, validated design to be bulk purchased, resulting in overall project savings.

LOW MAINTENANCE

Tapping bars are used in lieu of a tap changer with moving parts, hence reducing ongoing maintenance costs and associated risk.

ROBUST AND DURABLE DESIGN

Resists damage which can be caused by mishandling, livestock on site etc.

AUSTRALIAN STANDARDS COMPLIANT

Unlike many existing WTG connection designs, this kiosk meets the rigorous requirements of AS2067, AS1940 and AS3000. In particular, the oil containment capability is unique to this kiosk design.

OPTIONAL EXTRAS

- VT reference for added protection functions
- VT reference for power quality monitoring functions
- CCCV option (three reticulation connections) for added feeder layout flexibility
- Tap changer option if required
- Remote operation of circuit breaker



TECHNICAL SPECIFICATION

Rating - 3 to 4MVA

Voltage - 33/0.690kV (customisable voltage levels as required)

RMU configuration CCV

Fault Level - 20kA for 4 seconds

1. MANUFACTURING IN ADELAIDE, SOUTH AUSTRALIA

- Constructed from corrosion resistance glass reinforced cement (GRC)
- Structurally designed to be mounted on 4 bored piers
- All warranty & maintenance issues will be by service exchange
- All wiring & earthing will be compliant with AS3000 & AS2067
- Vented & cooled through natural convection

2. SITE CONSTRUCTION

- Lifting lugs provided for ease of installation & transport
- Cable access unrestricted by foundations
- Cable crutching vault

3. ENVIRONMENTAL

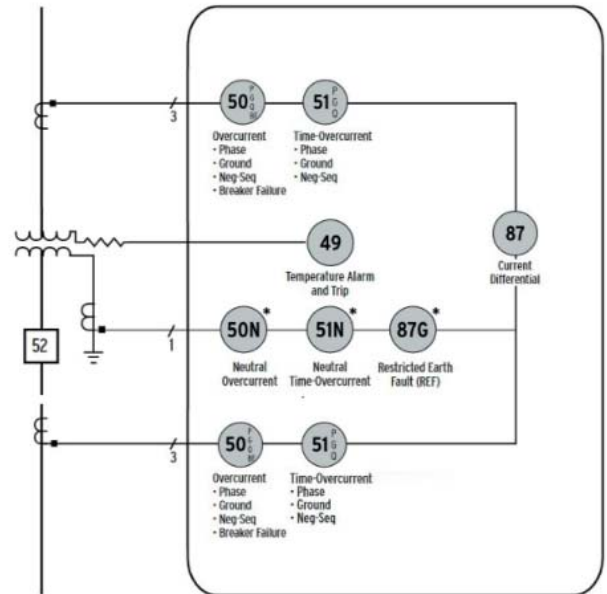
- Oil containment that complies with AS1940 & AS2067

4. 20-HOUR BATTERY BACKUP SYSTEM

- 690/110 VAC battery charger
- 24 VDC gel lead acid batteries
- Solar panel (optional)

5. COMMUNICATIONS

- Full SCADA communications to plant control system via Ethernet switch
- Circuit breaker, load break switch & earth switch position indication during normal operation & in the event of a collector outage
- Circuit breaker remote operation available (as an option)
- Voltage monitoring available (as an option)



6. PROTECTION

- Transformer differential
- Transformer over pressure alarms & trips (Buchholz)
- REF & earth fault protection is standard
- Overcurrent protection
- Circuit breaker fail protection to upstream collector breaker
- Transformer winding over temperature alarms & trips
- Transformer oil over temperature alarms & trips

7. FIBRE OPTIC

- Fibre Optic breakout boxes will be provided in the kiosk with a standard 20m umbilical patch lead supplied as a standard part for the tower connection. This will assist in fully commissioning the communication fibre network prior to the turbines being full installed.

8. OPERATION AND MAINTENANCE

- Low maintenance tapping bars used in lieu of tap changer (tap changer option available)
- Remote indication of protection trips, collector outages etc
- Live Stock Resist
- Access via roller doors removing the need for wind stays on a traditional hinged door

RJE Distribution-Connect Kiosk

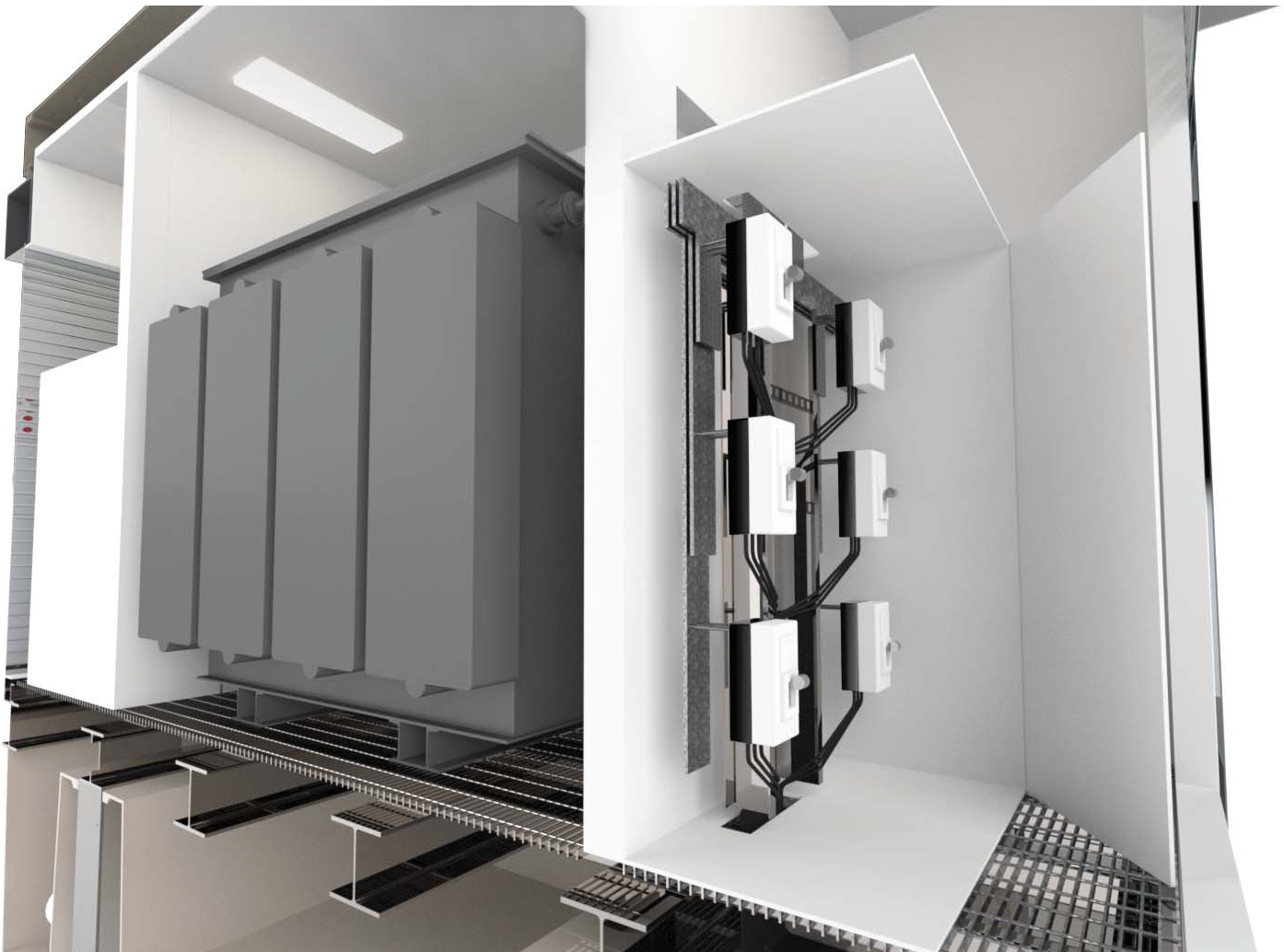
This kiosk can also be configured to suit LV distribution applications, for commercial, mining or industrial customers, with the addition of a dedicated LV distribution compartment.

Similar to the Turbine-Connect kiosk, the modular distribution design is safe and reliable, requires less work on site, and is provided with Form 2B segregation to allow for flexible operation and future expansion.

With the integrated RMU and transformer, this modular unit provides an effective MV/LV solution for a wide range of applications.

LV Distribution Specification:

- Nominally 2000kVA, 33/0.4kV (can be customised)
- Provision for up to 6x 630A LV feeders
- Additional feeders optional, with the inclusion of a main switch
- Integrated protection functions
- Remote status indication (optional)



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