

Tranquil

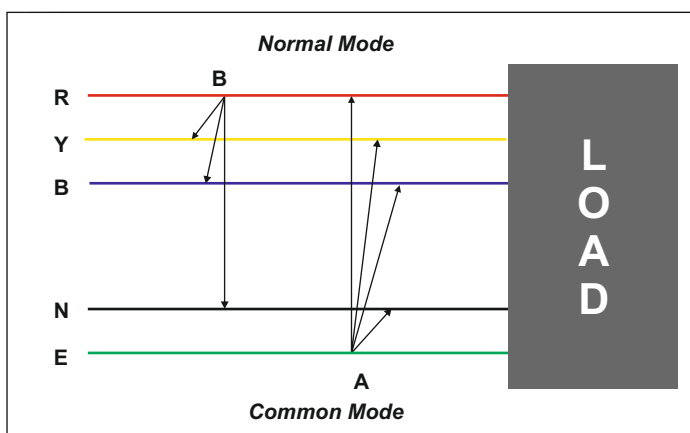
ULTRA ISOLATION TRANSFORMER

Did you know that most AC power lines are superimposed with spikes, surges, transients, sags, RFI noise and harmonics?

This is due to Inductive and SMPS loads, electronic ballasts, PWM switching systems, or even improper earthing. Such electrical noise often damages costly Hi-Tech machinery, unduly interrupt factory operations and increase down time resulting in increased expenses. The lack of adequate protection in such environments results in the steady rise of failure rate in such equipments. Isolated power supply has therefore become a necessity in order to prevent such breakdown time and costs.

Ultimate Protection against Electrical Noises

As an Ultra Isolation Transformer, Unity's Tranquil is the most powerful solution to help reduce all types of noise, particularly Common Mode Noise, Spikes, and Transient Noise, which act as silent killers inside factories and commercial parks alike.



The Tranquil series offers transformers with various levels of noise attenuating capabilities, including the most commonly used 100 and 120 dB, and other custom requirements can also be met.

Designed for Energy Efficiency & Reliable Performance

Tranquil transformers are built to meet the stringent requirements of the most sophisticated equipment being used today, resulting in a clean and noise-free power supply.

Each Tranquil is intelligently designed using advanced technologies and proven engineering principles to provide reliable performance and energy efficiency year after year. Furthermore, by completely isolating primary and secondary sides as well as the neutral to ground bond on the secondary side, Tranquil creates a separately derived power source to combat current loops.

Key Features

• Total Protection

Shields electronic equipments that produce different types of electrical noise, typically CNC Machines, Drives, Hardening machines and Telecommunication equipment

• Energy Efficient

Reduces operating costs due to high efficiency design and high quality of magnetics

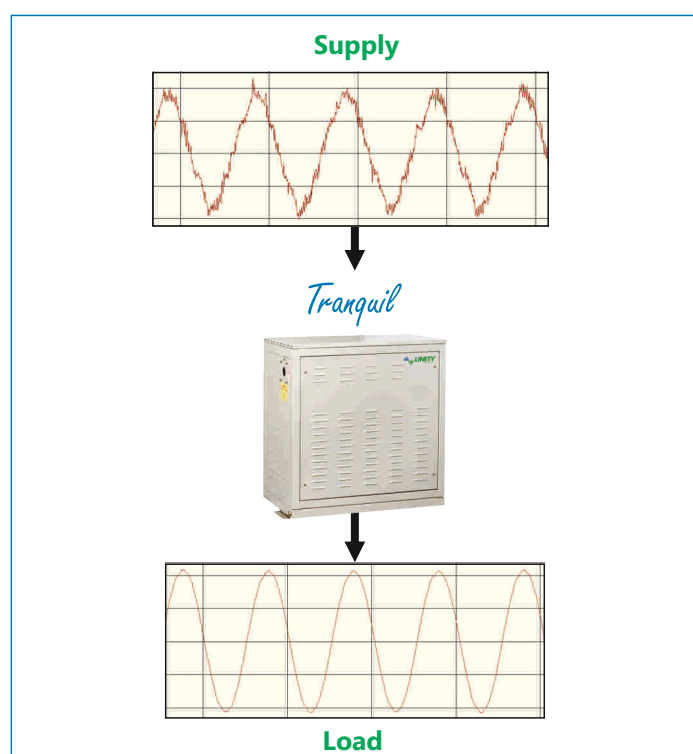
• Noise Elimination

Prevents damage due to circulating noise interference within electronic equipments



| Causes of Electrical Noise | Effects of Electrical Noise |
|---|--|
| Electrical utilities such as Capacitors, MCCB's, ACB's and Inductive loads such as large Motors, Compressors, Overhead Cranes, Elevators, Presses cause switching noise | Occurring over a wide band of frequency ranging from 1KHz to 100 MHz or more, in magnitudes as high as 4000-6000 Volts on 3 Phase supply systems |
| Welding systems can pollute earthing systems, add notches and high frequency noises in the wave form, generating anomalies in power quality | High frequency noise can interfere with digital electronic equipment and cause untraceable data errors, change of programme, memory loss and erratic machine behaviour |
| Inverters, Converters, SMPS cause electrical noise due to switching of Thyristors, Transistors and Relays | High voltage spikes can cause the failure of Thyristors, Transistors, Microprocessors, etc. |

Noise Attenuation



What makes Tranquil the Best?

- Conforms to stringent technical specifications
- High Noise Attenuation Characteristics Better Than 100/120 dB
- Very Low Leakage Current
- Designed for Safety and Reliability
- Lower Running Cost and Longer Life

Unity's Tranquil Transformers are used to protect:

- CNC & Hi-tech Machines
- Large Computer Installations
- Printing Machinery & Presses
- Textiles & Garments Manufacturing Machines
- Bio-Medical, Pharmaceutical and Hospital Equipment
- Equipment at Oil & Gas Refineries and Power Plants
- Telecom & Mobile Network Equipment and more

| Technical Specifications | | Supply System | Input Voltage* | Output Voltage* | Ratings (KVA) |
|--------------------------|-------------------------|---------------|----------------|-----------------|--|
| System Connections | Delta/Star or Star/Star | Three phase | 415V | 415V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Regulation | 2-4% | | | 208V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Power Factor | 0.75 Lead to 0.75 Lag | Three phase | 415V | 208V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Dielectric Strength | 3 KV for 60 seconds | | | | |
| Insulation Resistance | > 1000 Mega Ohms (MΩ) | Three phase | 415V | 208V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Leakage Current | < 20 Micro Amps (μA)* | | | | |
| Common Mode Attenuation | 100 dB / 120 dB* | Three phase | 415V | 208V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Efficiency | > 98% | | | | |
| Insulation Class | F / H | Three phase | 415V | 208V | 10, 15, 20, 25, 30, 40, 50, 60, 75, 85, 100, 125, 150, 200, 250, 300, 400, 500 |
| Operating Temperature | 0°C to 50°C | | | | |

*As required

*Non standard voltages are also available.



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Due to continuous product improvements, technical specifications are subject to change

