A Universal Energy Controller and Voltage Optimiser

ComEC dynamically controls and stabilises the voltage provided to all loads in the facility generating immediate energy savings of up to 18%, improving power quality by mitigating harmonics and reducing voltage transients, as well as extending equipment lifetime.

**Voltage Regulation Range**
ComEC regulates the supplied output voltage, in the range of 0V - 20V at ±2.5V steps and stabilises it at the level where equipment will work most efficiently. The output voltage level can be set by the user.

**Easy and Quick to Install**
ComEC simply installs after the main circuit breaker. Selecting the appropriate ComEC model requires only matching ComEC's rating to the main circuit breaker of the entire facility or to a specific electric distribution board. Due to its small footprint, it can easily be wall-mounted without any changes to the electric infrastructure.

**How ComEC Works**
ComEC is composed of several transformation cells controlled by a microprocessor. Each transformation cell utilises PowerSines Induced Negative Voltage (INV™) technology for dynamic voltage optimisation. Connecting and disconnecting transformation cells enables different voltage reduction levels and stabilises the output voltage.

**Integration with Remote EMS**
The ComEC parameters can be configured either by using the built-in keypad and display or remotely through a GSM Gateway.

**Communications & Controls:**

| **RS 232** | MODBUS protocol for connectivity with Remote EMS or any other SCADA system |
| **Input** | 11 & 12: Dry contact terminals controlling ComEC modes (Save or Bypass) |
| **Output** | 15 & 16: Indicating alarm/bypass condition due to over temperature, overload, missing phase or under voltage |
|            | 13 & 14: Astronomic-clock output control for outdoor lights |

**ComEC Features**

- Dynamic Voltage Stabilisation at user-defined voltage level
- Built-in Manual Change Over Switch for emergency situations
- Internal Automatic Bypass protections against over load, over temperature, missing phase or under voltage
- Online Measurements of all electric network parameters
- Automatic Measurement of Electric Consumption and Saving Figures sliced by days, weeks, months and years
- Voltage Control Windows for 2 interval voltage level and saving settings during a 24-hr period
- Astronomic Clock with User-Defined on/off Operation of outdoor lights according to sunrise and sunset times
- Diagnostic Features for Analysis of internal temperatures, device status, operation times, and more
- Internal Cooling Fan controlled by a microprocessor
ComEC Product Models

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Catalogue Number</th>
<th>A (mm)</th>
<th>KVA</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
<th>Cross Section</th>
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</tbody>
</table>

* With bottom cover

Technical Specifications

- **Input Voltage**: 3x230V VAC ± 10%
- **Output Voltage**: Reduction of up to 20V
- **Voltage Reduction**: By steps of 2.5V
- **Frequency**: 50Hz
- **Efficiency**: 99%
- **IP Class**: IP 20 (with covers)
- **Ambient temperature**: -20°C : +45°C
- **Measurements**: A, V, kW, PF, kWh

Electric Diagram

* See the ComEC Installation Manual for additional electric configurations