ELECTRICAL MACHINE TRAINER  
Model Number : GOTT-EMT-1543

DESCRIPTION

The Standard Lab has been designed for experiments and testing in Electrical Machines in education. The machines are basically industrial models, self protect kind, with coupling half joint, especially equipped to be suitable for students training in laboratory. For this purpose the winding ends are connected to 4 mm safety socket in a metal housing on top of which a clear synoptic diagram is engraved as an educational terminal board. The student can easily understand operation and winding connection. Also most of the accessories and instruments designed in Panel System A4 is high in standard. The machines power is approximately a maximum of 400W, as the supply requirement for the system operation requires 230/415V, 60Hz.

<table>
<thead>
<tr>
<th>PRODUCT MODULES</th>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>
| DC COMPOUND MOTOR               | 159-001 | Power: 240W  
Voltage: 230VDC  
Current: 1A  
Speed: 1500rpm  
Excitation Voltage: 230VDC  
Excitation Current: 0.5A |
| SINGLE PHASE SYNCHRONOUS        | 159-006 | GENERATOR Power: 370W  
Voltage: 230VAC  
Current: 1A  
Speed: 1500rpm  
Excitation Voltage: 12VAC  
Excitation Current: 1.4A |
| PERMANENT SPLIT CAPACITOR MOTOR | 159-003 | Power: 250W  
Voltage: 230VAC  
Current: 1A  
Frequency: 50HZ  
Speed: 1400rpm |
| THREE PHASE INDUCTION MOTOR     | 159-004 | Power: 370W  
Voltage: 380/660VAC  
Current: 0.64/1.12A  
Speed: 1420/1720 RPM  
Connection: Δ & Y |
| THREE PHASE SYNCHRONOUS         | 159-005 | GENERATOR Power: 370W  
Voltage: 415VAC  
Current: 1.0A  
Excitation Voltage: 12VDC  
Excitation Current: 1.4A  
Speed: 1500rpm  
Connection: Y |
| DC SEPARATELY EXCITED MOTOR     | 159-002 | Power: 240W  
Voltage: 230VDC  
Current: 1.0A  
Excitation Voltage: 230VDC  
Excitation Current: 1.0A  
Speed: 1500rpm |
| ELECTRICAL METER                | 588-038 | Voltmeter range: 0…500VAC  
Ammeter range: 0…5A  
Input: AC 230V, 50Hz 1-Phase |
| DC MEASUREMENT UNIT             | 159-008 | Voltmeter range: 0…500VDC  
Ammeter range: 0…5A  
Output: 230VDC  
Input: AC 230V, 50Hz 1-Phase |
| BULBS                           | 159-013 | Input: AC 230V, 50Hz 1-Phase  
Incandescent Lamp x 3units |
| THERMAL OVERLOAD RELAY          | 191-003 | Rated Voltage : 230VAC  
Rated Current : 2.8A-10A |
| LIMIT SWITCH                    | 159-011 | Rated Voltage : 230VAC  
Limit Switch x 2units |
| SIMULATE SWITCH BOARD           | 159-012 | Rated voltage : 230VAC  
Push Button x 3 units |
**ELECTRICAL MACHINE TRAINER**

**Model Number:** GOTT-EMT-1543

<table>
<thead>
<tr>
<th>THREE PHASE FCCB</th>
<th>CODE 159-009</th>
<th>THREE-PHASE CONTACTOR</th>
<th>CODE 159-014</th>
<th>RHEOSTAT</th>
<th>CODE 159-015</th>
<th>Y-DELTA TIMER RELAY</th>
<th>CODE 159-016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection Fuse 4A x 3 units</td>
<td>Pilot Lamps L1, L2 &amp; L3</td>
<td>Rated Voltage: 415VAC Rated Current: 10A</td>
<td>Coil Voltage: 230VAC 3 Each</td>
<td>Protection Fuse 3A x 2 units Excitation Resistor: 0<del>1kΩ Armature Resistor: 0</del>100Ω</td>
<td></td>
<td>Coil Voltage: 230VAC Contact: NO &amp; NC Time: 0...60 seconds</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DC MOTOR CONTROL UNIT</th>
<th>CODE 192-004</th>
<th>TACHOMETER</th>
<th>CODE 192-008</th>
<th>TACHO GENERATOR (OPTIONAL ITEM)</th>
<th>CODE 159-017</th>
<th>STEPPER MOTOR UNIT (OPTIONAL ITEM)</th>
<th>CODE 159-021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output: 0...230VDC Fixed 230VDC Input: AC 230V, 50Hz 1-Phase</td>
<td>RPM Range: 0...9999rpm Input: AC 230V</td>
<td>Speed: 2000rpm Output: Max. 20VDC</td>
<td>Frequency Ranges: 5Hz, 50Hz, 100Hz, 500Hz, 1kHz &amp; 5kHz Counter Reset function Direction: CW or CCW</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMERGENCY SWITCH</th>
<th>CODE 191-007</th>
<th>U-LINK</th>
<th>CODE 159-019</th>
<th>VERTICAL FRAME</th>
<th>CODE 297-000</th>
<th>ROTATE SPEED SENSOR</th>
<th>CODE 159-018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated voltage: 230VAC Emergency off button with pull-unlatching</td>
<td>For connecting junction point</td>
<td></td>
<td>High level: DIN standard A4 with two shelves Material: Aluminium Side Frame: T shape Size: 3-Layer 1450mm Length</td>
<td></td>
<td></td>
<td>Used with DC Motor Control Unit / Tachometer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SAFETY CONNECTING LEAD</th>
<th>CODE 237-001</th>
</tr>
</thead>
<tbody>
<tr>
<td>4mm connecting leads</td>
<td></td>
</tr>
</tbody>
</table>

**EXPERIMENT TOPICS:**

- Starting control
- Self-Lock Control
- First connection for contactor (KM)
- Second connection for contactor (KM)
- Third connection for contactor (KM)
- Fourth connection for contactor (KM)
- The working principles of forward and reverse rotation control circuits of switch interconnects
- Forward and reverse rotate control circuits of contactor interconnect (1)
- Forward and reverse rotate control circuits of contactor interconnect (2)
- Auto stop control by travel switch
- The connection of changing star to delta
- Operates the DC Motor & DC Generator
- DC Motor & DC Generator Usage

**Manuals:**

(1) All manuals are written in English
(2) Model Answer
(3) Teaching Manuals

**General Terms:**

(1) Accessories will be provided where applicable.
(2) Manual & Training will be provided where applicable.
(3) Design & specifications are subject to change without notice.
(4) We reserve the right to discontinue the manufacturing of any product.

**Warranty:**

2 Years

**ORDERING INFORMATION:**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MODEL NUMBER</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRICAL MACHINE TRAINER</td>
<td>GOTT-EMT-1543</td>
<td>159-000</td>
</tr>
<tr>
<td>TACHO GENERATOR</td>
<td>GOTT-TAGEN-159</td>
<td>159-017</td>
</tr>
<tr>
<td>STEPPER MOTOR UNIT</td>
<td>GOTT- STEPPER MOTOR UNIT</td>
<td>159-021</td>
</tr>
</tbody>
</table>

* Proposed design only, subject to changes without any notice.*