### ELECTRONIC SENSOR TRAINER

**Model Number:** GOTT-ST-01

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**DESCRIPTION**

Electronic sensor trainer GOTT-ST-01 is the Science experiment tool set that contains the microcontroller main board, variety of sensor module, actuator and output with display device and software tools. They work together to make the new concept of science experiment and add programming experiences to develop the ultimate science projects.

**FEATURES**

- Learn and experiment the behavior of each sensor to understanding their operation.
- Include the operation of BASIC Stamp2SX microcontroller.
- Learners can apply all knowledge to develop the new science experiment in different ways.
- Data collection system using GOTT DAQ Software.
- Experimenters can get data from system to collect and send to computer to process or plot the graph.
- Control the actuator device such as Relay, DC motor, Stepper motor, etc.
- To make the automatic control projects, modern science projects.

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**PRODUCT MODULES**

<table>
<thead>
<tr>
<th>PRODUCT MODULE</th>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SMART SCIENCE EXPERIMENT BOARD</strong></td>
<td>010-001</td>
<td>Operation compatible with BASIC Stamp2SX module (BS2SX-IC) Use interpreter from Parallax 16 KByte memory for program and data Plug on 24-pin DIP socket similar BS2SX-IC</td>
</tr>
<tr>
<td><strong>LED INDICATOR</strong></td>
<td>010-007</td>
<td>HIGH : Logic 1 apply, LED lights Red. LOW : Logic 0 apply, LED lights Green. If not : LED turns off</td>
</tr>
<tr>
<td><strong>INFRARED DETECTOR</strong></td>
<td>010-003</td>
<td>Detect the infrared light in analog (voltage) and digital signal by using Photo-transistor</td>
</tr>
<tr>
<td><strong>INFRARED LED</strong></td>
<td>010-004</td>
<td>Drive with logic HIGH TTL level 2-mode operations : Continuous drive Frequency drive</td>
</tr>
<tr>
<td><strong>VERTICAL POTENTIOMETER</strong></td>
<td>010-013</td>
<td>Type of variable resistor. Adjustable : 0...5V</td>
</tr>
<tr>
<td><strong>RESISTANCE MEASUREMENT</strong></td>
<td>010-011</td>
<td>Measure resistance value Output : 1mv/Ω</td>
</tr>
<tr>
<td><strong>38KHz INFRARED MODULE</strong></td>
<td>010-002</td>
<td>Detect modulated 38kHz carrier frequency infrared light</td>
</tr>
<tr>
<td><strong>SOUND DETECTOR</strong></td>
<td>010-008</td>
<td>Detect sound level changing event. Output is logic</td>
</tr>
<tr>
<td><strong>SWITCH INPUT</strong></td>
<td>010-009</td>
<td>HIGH : Logic 1 apply, LED lights Red. LOW : Logic 0 apply, LED lights Green. Not press : LED turns off</td>
</tr>
<tr>
<td><strong>TEMPERATURE SENSOR</strong></td>
<td>010-010</td>
<td>Measure temperature change by Thermistor. 2 outputs voltage : Positive and Negative co-efficiency</td>
</tr>
<tr>
<td><strong>LIGHT REFLECTOR</strong></td>
<td>010-006</td>
<td>Includes Super-bright Red LED as light source and LDR that receive reflection light. Output vary following reflection light density</td>
</tr>
<tr>
<td><strong>MAGNETIC FIELD SENSOR</strong></td>
<td>010-012</td>
<td>Measure magnetic field density. If no detect output: +2.5V Sensitivity : 1.3mV/Gauss.</td>
</tr>
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</table>
**LIGHT DETECTOR**

**CODE 010-005**

Detect light density. 2 outputs: Positive and Negative voltage reaction when detect light.

**CURRENT MEASUREMENT**

**CODE 010-014**

Measure DC current by series connection. Output: ±5 mV/mA. Full range is 1,000mA.

**COMPARATOR**

**CODE 010-015**

Compare apply voltage between ch-A and ch-B. Output is logic 0 with indicator. Vin(max) is 3.5Vdc.

**ATTENUATOR**

**CODE 010-016**

Measure DC voltage. 2 attenuator ratios: 1:1 for 0 to +5V input. 2:1 for 0 to +10V input. Not use to measure SCI-BOX internal system.

**SLIDE VARIABLE RESISTOR**

**CODE 010-017**

Type of variable resistor Adjustable: 0…5V

**CAPACITANCE MEASUREMENT**

**CODE 010-018**

Measure capacitance value in Farad unit by RC time constant operation.

**SERIAL LCD**

**CODE 010-021**

16 Characteristic 2 –Lines x 1

**SERIAL LCD**

**CODE 010-021**

**STEPPE MOTOR**

**CODE 010-020**

Input: ±12 VDC

**DC MOTOR**

**CODE 010-019**

Input: 6-12 VDC

**EXPERIMENT TOPICS:**

- Experiment for serial LCD programming
- Experiment for switch & sound
- Experiment for relay switcher
- Experiment for analog signal via SENSORO to SENSOR7 connector
- Experiment for DC motor
- Experiment for stepper motor

**Manuals:**

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

**General Terms:**

1. Accessories will be provided where applicable.
2. Manuals & Training will be provided where applicable.
3. Designs & Specification are subject to change without notice.
4. We reserve the right to discontinue the manufacturing of any product.

**Warranty:**

2 Years

**ORDERING INFORMATION:**

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