

### Introduction

SCM01 is a sensing and control module that measures transformer temperature, ambient temperature, humidity, door status and has the capability to add other control mechanisms in the system.

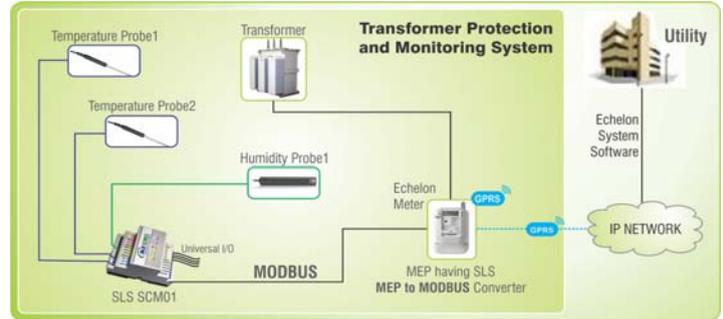
The device has a Modbus interface that is connected to Modbus to MEP converter which then connects to the MEP port of the GPRS based Echelon Meter. Echelon System Software based applications can be developed to sense, monitor and control the transformer parameters like temperature, humidity, oil level, current, voltage and others with the help of this module. As an entire system, the SCM01 module serves as a base for low cost Transformer Protection and Monitoring.

### SCM01 Device



- Temperature
- Humidity
- Door Status
- And more...

### System Diagram



### SCM01 Software



- Monitor
- Control
- Analyze
- And more...

### SCM01 Technical Specifications

The SCM01 module technical specifications are as follows. The module ships with the sensors - Temperature, Humidity and Door Status as mentioned below.

#### 1. SCM01 Module Power

Input Voltage Range	24V DC from MEP
Input Current	40mA

#### 2. Transformer Temperature Sensor

Temperature Measuring Range	-40°C to +125°C
Temperature Settling Time	1 min

#### 3. Ambient Temperature & Humidity Sensor

Temperature Measuring Range	-40°C to +125°C
Temperature Settling Time	1 min
Humidity Measuring Range	0% to 100% RH
Humidity Measurement Time	1 sec

#### 4. Door Status and Universal I/O

Output Type	Digital
Input/Output Voltage	3.3V (Typ)
Input/Output Current	18mA (Max)

### Transformer Protection and Monitoring System

A low cost Transformer Protection and Monitoring System can be developed using SCM01 based modules and SLS MEP to MODBUS Converter. The system can be used to monitor following transformer parameters.

- Tank Vacuum
- Winding Temperature
- Moisture of Transformer cabin
- Oil level
- Fan control
- Ambient temperature
- Input Current and Voltage
- Output Current and Voltage
- Hydrogen gas%



Uses MEP to MODBUS converter developed by SLS

### Benefits

The SCM01 is the basic platform for advanced low cost Sensing and Control Modules, which are critical for transformers. Utilities can have following benefits.

- Improve grid reliability
- Avoid transformer failures and resultant blackouts
- Reduce maintenance cost
- Extend the transformer's useful life

For more detailed information visit <http://energy.slscorp.com> or send us an email to [energy@slscorp.com](mailto:energy@slscorp.com)

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