

# DTMS

## Distribution Transformer Monitoring System

Smart IoT platform for remote asset management



### Features

- Scalable and secured system based on industry standards
- IEC 80870-5-104 protocol
- 1 x RS-485 port
- 1 x 10/100Base-T RJ-45 ports
- 8-ch Temperature Inputs
- Up to 32-ch isolated Digital Inputs & Outputs
- Built-in Wweb based GUI
- CT, PT inputs for Electrical Parameters
- 3G, WiFi, GPS with secured VPN (Ipsec, L2TP, Open VPN)
- AES Encryption
- Robust outdoor design

### Introduction

Distribution Transformer Monitoring System is an effective asset management device that continuously monitors transformers for over-loading, Voltage, Reactive Power, Load unbalance, Harmonics, oil level, oil temperature, oil deterioration (Optional), Terminations temperature etc. This is a low cost, purpose built solution that can be topped up with various analytics that can provide huge insight into the transformer performance against loads, ambient temperatures and installation quality apart from the load behavior.

The system is designed around IoT framework and can be easily scaled up, integrated into various host systems viz., SCADA/DMS, Outage Management, GIS and Web based dashboards. Can provide (Optional) specially designed hosted solutions which offer massive on site support to the field staff as well as network and system planners.

### Specifications

#### General

- Power Consumption** <10 W (Typical)
- Power Requirements** 24 V<sub>DC</sub>(Typical) (20 V<sub>DC</sub>Min ~ 60 V<sub>DC</sub>Max)

#### Digital Inputs

- Channels** up to 32
- I/O Type** Sink
- Wet Contact** Logic 0: 0 ~ 5 V  
Logic 1: 12 ~ 28 V
- Input Current** 4 mA
- Isolation Impedence** 5.6 K

#### Digital Outputs

- Channels** up to 32
- I/O Type** Relay
- Contact Rating** AC: 2A @ 230 V
- Isolation** 1500 V<sub>DC</sub>
- Connector**

#### Analog Inputs

- Channels** 8 Ch, 3 Wire Compensated
- Resolution** 12 bits
- Excitation current** 0.5 mA
- Power Dissipation** 0.025 mW @ 100 Ohm
- Temperature Range** - 200 to 850° C

#### Environment

- Storage Humidity** 5 ~ 95% @ 55°C (non-condensing)
- Operating Temperature** -0 ~ 70°C (-4 ~ 158°F) @ 5 ~ 85% RH
- Storage Temperature** -20 ~ 80°C (-40 ~ 176°F)
- Ingress Protection** IP 55

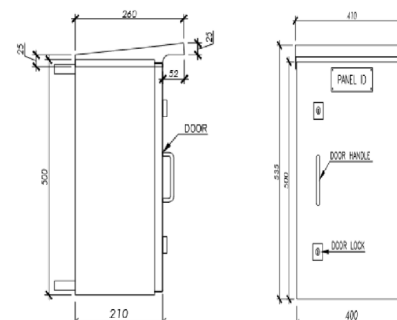
#### Communications Interface

- Serial Ports** 1 x RS-232 / RS-485, RJ 45 (Automatic RS-485 data flow)
- Ethernet Port** 1 x 10/100Base-T RJ-45 ports
- Protocols** IEC 60870-5-101, 103, Modbus RTU - Master IEC 60870-5-104 Server,

#### Standards & Conformity

- CISPR11 - Electromagnetic disturbance
- EN61000-4-2 - ESD Immunity Test
- EN61000-4-3 - Radiated immunity test
- EN61000-4-4 - Electrical fast transient/burst test
- EN61000-4-6 - Conducted immunity test
- IEC 68-2-1 - Cold test
- IEC 68-2-1 - Dry Heat test
- IEC 68-2-6 - Vibration test
- IEC 68-2-30 - Damp heat, cyclic (12+12 hour cycle)
- IP20 Rating - protected against solid objects up to

#### Dimensions



C-504,ATS Bouquet, Sector-132, Noida 201301, India

Phone: 0120-4162100

Email:info@sharikaindia.com

www.sharikaindia.com