OptaNODE™ DTM
Distribution Transformer Monitor

COST EFFECTIVE SOLUTION FOR ELECTRIC DISTRIBUTION UTILITIES

ADVANCED GRID INFRASTRUCURE - ASSET MANAGEMENT - REVENUE PROTECTION

Description

Monitored Parameters	
Instantaneous RMS voltage	[V]
Maximum RMS voltage	[V]
Minimum RMS voltage	[V]
Instantaneous RMS current	[A]
Maximum RMS current	[A]
Minimum RMS current	[A]
Active Power	[W]
Apparent Power	[VA]
Active energy accumulation	[kWhr]
Apparent energy accumulation	[kVAh]
Line cycle period	[ms]
Temperature (by proximity)	[°C]

GRID20/20's **OptaNODE™** ***Distribution Transformer Monitoring*** **(DTM)** solution consists of patented products, developed with utilities input, which incorporates state-of-the-art design, engineering, and manufacturing processes thereby ensuring high versatility, accuracy, and durability.

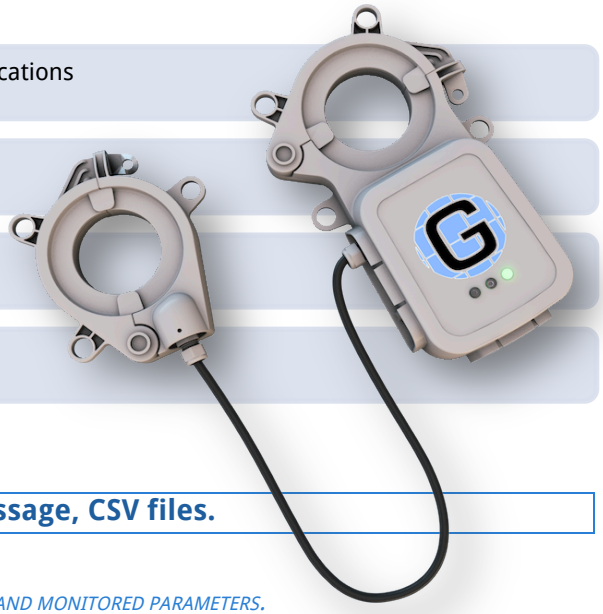
OptaNODE™ DTM products deliver the utilities' need for a device having flexible, compact design, with a safe, simple, and quick installation process. GRID20/20's family of products provides the key enablers for converting standard distribution transformers into Smart Transformers.

Different sensing and metrology features are available depending upon application requirements and communication technology.

Communications Technologies

The **OptaNODE™ DTM** platform has been developed using an **agnostic communications** approach, allowing for the integration of 3rd parties' communications modules. Currently available options include:

PLC	• Narrow Band Power Line Communications • LV 240V AC line connection
GSM	• Wireless Cellular Network • Internal antenna
RF Mesh	• 900 MHz RF Mesh Network • Internal antenna
Wi-Fi	• IEEE 802.11g Wireless • internal antenna



Communications module internally integrated into DTM.

Available Protocols: DNP3 over IP, ANSI c12.22 blurt message, CSV files.

Different communication technologies support different features, protocols and monitored parameters.
Additional features and Communication Technologies under development or available under request.

Key Advantages

- AMI, SCADA, Distributions Automation and Optimization applications
- Self-contained unit: Metering, Sensing and Communications all integrated within the same device
- Flexibility to operate in diverse networks: Wired and Wireless communications options available
- High-accuracy of monitored transformer parameters within all ranges of operation
- Specially designed to lower deployment costs with lightning-fast plug-and-play installation

General Specifications

Operating temperature	-40°C to +70°C
Humidity	0 – 95% relative humidity, non-condensing
Rated AC Voltage	240VAC ± 10%
Rated AC Current	1000A
Maintenance over life	No batteries or moving parts
Power Consumption	1.5 Watts average
System Frequency	50Hz/60Hz ± 5%
Accuracy (Energy Accumulation)	0.5% - Class 0.5, based on ANSI C12.20
Dielectric Withstand	4000VAC, 1 minute

Mechanical Specifications

Approximate Dimensions (L x W x H)	32cm x 19cm x 12 cm (12.5" x 7.5" x 4.8")
Weight	2 kg (4.5 lbs)
IP Rating	IP – 65
Enclosure Material	ABS/PC, UL94V0 rated, UV resistant
Connection	Single Phase 3 wire with connection to hot (X1, X3) only
Maximum Conductor Diameter	16.9 mm (0.667 IN) Max - 336.4 ASC
Conductor type	ANSI Buss Bar or insulated cable

Standards Compliance

Electrostatic Discharge	IEC 61000-4-2, IEEE C62.38-1994
Radiated and EMF Field Immunity	IEC 61000-4-3
Electrical Fast Transient	IEC 61000-4-4
Surge (Combination Wave)	IEC 61000-4-5
RF Conducted Disturbance Immunity	IEC 61000-4-6
Power Frequency Magnetic Field Immunity	IEC 61000-4-8
Pulsed Magnetic Field Immunity	IEC 61000-4-9
Voltage Dips and Interrupts	IEC 61000-4-11

All parameters and specifications are subject to change without notice.

GRID20/20 INC.

7405 WHITEPINE RD.
RICHMOND, VA 23237
USA

INFO@GRID2020.COM

800 KIPLING AVE, UNIT 3
TORONTO, ON M8Z 6C4
CANADA

+1-855-GRID2020 (855-474-3202)