



MD'S ADDRESS



Watts up Friends,

HAPPY INDEPENDENCE DAY

Welcome to this new communication channel to all Taurians, Taurus partners and well wishers.

Watts Up quarterly magazine is our new initiative to express our Taurus news and developments.

Watts Up is our new way of greeting and this also represents our core contribution of increase of watts in power sector.

Taurus group has been in the industry for over three decades and have a good and friendly reputation in the market.

As part of the tradition at Taurus, we truly believe in customer satisfaction as our primary core value.

As head of this institution it is a pleasure to convey to all that we have been able to keep up the leadership position in all the areas and segments addressed by us from inception.

Continuous innovation by our team mates has made us achieve this position consistently.

The whole world is reeling under the pressure of COVID and lock down.

However at Taurus , The current COVID situation has turned into a boon in enabling us to work inwards and make a lot of course corrections in the way of working, which

would have not been possible if not for this lockdown situation. The team has really done very well in achieving the course correction. Even during the COVID situation, it is very creditable that the team has been more busy than before in serving our customers regularly.

We have been helping our customers online in many ways. Supporting our users to effectively use our Equipments, Seminars, User Group Meetings, CRM meets and many more. The schedule of our engineers are packed and I congratulate the team for their excellent and innovative thoughts in supporting our customers.

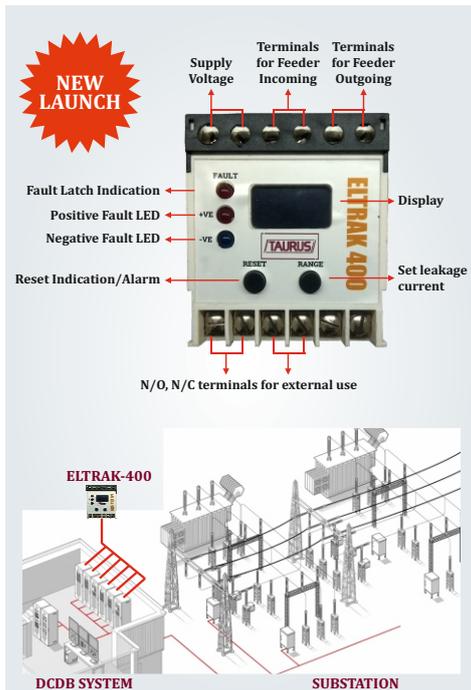
I thank Mr. Anil Deoraj, the editor of our quarterly magazine and his team in this initiative of bringing this up and releasing it on this Independence Day.

Best Wishes

Regards,
M N Ravinarayan
Managing Director

ELTRAK-400 (DC Earth Leakage Monitoring device for un-earthed system)

We would like to introduce our new launch, **DC Earth Leakage Monitoring device for un-earthed system (ELTRAK)** for DC Distribution Board Panel.



Incorporation of the device in DCDB can benefit to resolve the below addressing problems after installation at Client site. DC system grounds can result when a conduction path is formed from either the positive polarity of the system to earth ground or the negative polarity to earth ground. Some common sources of low resistance to ground include Moisture in conduit, Junction boxes or switch/sensor terminations, Wire splices soaking in water, degraded cable or wire insulation caused by aging, Environmental conditions, Sharp objects piercing cable and wire insulation etc.

Application:

Earth Leakage Monitor is one of the most important devices used in DC power systems like battery charger AC-DC converter system, DC-DC converter system and DCDBs. Taurus **ELTRAK enables quick detection of the earth faults hence prompt corrective action can be taken.** ELTRAK is a live DC

earth fault monitoring system. Depending on system voltage, Different models are available. One ELTRAK will be connected to one feeder in the DCDB system and it will be monitoring the condition of the respective feeder. In case of fault, it will be giving LED indication along with the earth leakage current value in the display along with the polarity. External terminals are provided to integrate to alarm or other actuators. It is not a battery operated device. It must be powered from an external source preferably from the same DCDB system. Specialty of ELTRAK is to every outgoing feeder can be monitored individually with selectable leakage current ranges. Local and remote alarm annunciation are incorporated in the ELTRAK for the benefits of the customer to get immediate alert. ELTRAK is reliable and rugged as any short circuit at load end will not affect the system configuration

By Pankaj Kakoti,
Manager-Product & Business Development (North East)

Importance of Tower Footing Impedance

During the monsoon, the most common reason for the Transmission line breakdown is due to lightning striking on the towers.

Every Transmission Utility wants to reduce these trippings as much as possible. To achieve this, first they carry out the Earth Resistance test which is commonly known as TFR – Tower Footing Resistance. In this test, the Earth Resistance value is noted down of all the towers. And as a remedial action the Counter Poise Earthing is done for those towers where the R value is above 10 ohms as a thumb rule.

But during the next monsoon, the number of tripping are not reduced much. The reason is, right medicine was given to the wrong patient. The towers which were prone to give away during the lightning strikes were not identified correctly. The correct method of checking was not followed and only R value of the towers was checked.

To identify the Resistive Towers one should measure the Inductance value of the Tower

Footing. Also the testing method suggested by IEEE ie Injecting high frequency during this test should be followed.

Typical Example of lightening stroke

Voltage Rise on towers

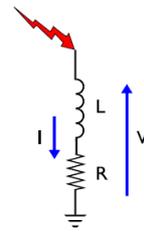
$$V = L \frac{dI}{dt} + IR$$

Consider a Tower having a DC resistance of 5 and inductance of 50μH subject to a typical lightning with peak current and rise time of 50 kA/10μS for 1st pulse and 25 kA / 0.5μS for repeat pulse (as is the case with 75% of lightning condition)

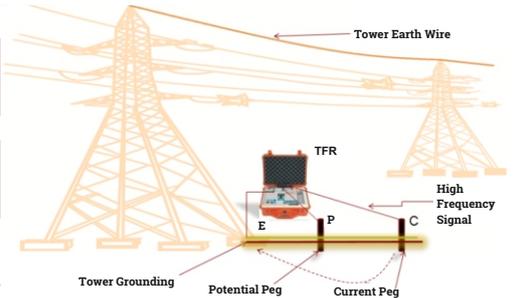
$$V_R = I \times R = 50kA \times 5\Omega = 250kV$$

$$V_L = L \frac{dI}{dt} = 50\mu H \times \frac{50kA}{10\mu s} = 250kV$$

The Voltage rise is sum of Resistive and Inductive term giving a peak voltage rise of 500kV

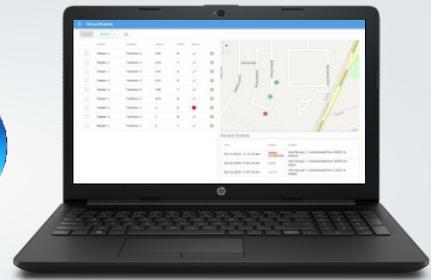


For the repeat pulse, the results are even more dramatic with a total voltage rise of being over 2600 kV, 2500 kV of which is due to inductive term alone. **Thus it is very important to measure impedance and Inductance of the tower rather than measuring the resistance alone**



By Debasish Mukherjee
Assistant Manager-Product

Line Ranger LR-100



Patient No.: US 9,964,583 B2 | Date : May 8, 2018

In today's world, electricity is the major contributor for all life styles and developments. Electricity generation has become very challenging and distribute them to the consumers with reduced loss has become a real ordeal for the utilities. As the power distribution network has become overly complicated mesh network, map them, and identify losses & faults not easy because of the complexity of the network.

Fault passage indicators are evolved to identify the faults on the distribution network, but the over price and limited information shared made them not compatible for the line man. For the mapping and data acquisition of entire distribution network a highly sophisticated

technology is inevitable. SMARTKABLE, has came out with such a technology running on AI based algorithm, which can grab the entire line data and give alarm for any kind of fault events.

SMARTKABLE has evolved Line rangers, which can grab the line parameters such as current, frequency, power factor, impedance, line voltage and temperature with GPS . With these parameters it can detect any fault event and transfer the data over RF/GSM to the substation. Above this it can identify the harmonics in the system, unstable waveform of three phase sinusoidal form all these floats on the lines which can damage the apparatus at

the consumer end as well as substation apparatus. This technology is going to be a revolution in the distribution segment helping the utility to map their network, identify the power consumption, area of power loss and power theft as well. These self-powered devices are 24x7 watch dogs monitoring lines with customized data collection and alerts. Line rangers will suffice the inability of utilities to make a data base of the distribution network, providing enormous line parameters in real time.

By Nijin Paul
Senior Executive - Pre Sales

The Lockdown Advantage

On 24th March 2020 the government announced nationwide lockdown for 21 days and the entire country came to a grinding halt.

The announcement was made at 8 PM and the lockdown came into effect from the midnight of 24th. Hardly there was any time to do anything.

Anticipating this, our MD Mr.Ravinarayan started making arrangements a week before the lockdown.

For him, the topmost priority was making sure that all our employees reach their hometown safely who were travelling in different part of the country. Some of us were far away from our base locations.

Trains, buses, flights, everything was going full. Tickets were not available or exorbitantly charged. Railway stations, bus stands, airports were jam packed.

Our travel desk and HR had a hectic time. Different routes, mode of transport, ticket availability was checked for each employee who was travelling. God only knows how many permutations and combinations they tried. In many cases, when the "Confirm Booking" button was clicked, the available seat was gone.

Our MD gave a Blanket Approval to book the ticket at any price and with whatever mode is available. Even the travelling employees were asked to book their own tickets without following the regular procedure of approval. This helped most of us to reach our homes safely.

Some were very lucky to get the last seat in the last flight. But two of our engineers got stranded at different locations. But they were at safe places. Later, at the first opportunity of transport availability, they were moved to their hometowns.

The next action was moving the computers and other essentials to the respective homes of the employees so that the work can be continued during the lockdown period from home. This arrangement was completed one day prior to the lockdown.

Now our offices at Bangalore, Delhi, Mumbai & Kolkata all were closed. Even our customer's offices were closed. None of us knew what work can be done in this condition.

Our CEO, Mr Ashok Dash took the control of the situation. He formed a core team and asked everyone to attend two Online Meeting every day. One at 9 AM and another at 3 PM.

Huge data of sales, dispatches, Demo MOM's, performance certificates was available with different employees in different formats. We started the Data Mining work-Creating various excel sheets, distributing this data among the all who have laptops with them. Capturing these data in a proper format in individual excels and then putting it together again. We started upgrading our catalogues, PPTs, documents etc.

During this period we learned to use Microsoft Team and other online meetings software. We learned to attend and conduct online meetings and webinars. We learned to work on the shared platform.

We always thought that, the term 'Work From Home' is applicable only for Software industry. But we proved it wrong. We too can do it very effectively. This lockdown brought us closer to each other though we were physically away.

This lockdown did not succeed in putting the Taurus Team Down. Instead, Team Taurus, rose like proverbial Phoenix. And I am sure, it will rise to great heights.

By Anil Deoraj

Business Head-STITAM & Product, Marketing

Photo Gallery - Men at Work



Photo Gallery - CSR



Hidden Talent



*Pichwai painting
its a traditional painting
originated
400 year ago in the town of
Nathdwara near
Udaipur in Rajasthan*

*Made by
Parul Biswal*

Debasish Mukherjee

Parul Biswal



Sanchit Srivastava

Mamatha S P

Paneer Angara Recipe – Chef Zohair



Paneer 250gms, Tomatoes- 5-6 medium sized, Onion (2-3), Cashew nuts (12-15), Garlic cloves (5-6), Ginger (a small piece), Garam masala: Cloves (2-3), Pepper corns (4-5), Bay leaf (1), Cinnamon stick (1), Zeera (1 tsp), Kasuri methi – a pinch, Oil/Ghee and Butter, Coal (a small piece), Capsicum (optional), Red chilly powder to taste, Turmeric powder Haldi (1/4th tsp), Salt to taste.

Cut the paneer into small cubes. Take a pan and sauté the paneer and keep it aside.

Take a Wok (kadai) and put 2 tblsp of ghee or oil. Once the oil is hot put cumin (zeera) and the garam masalas mentioned above.

Add the onions and sauté a bit until they turn pink. Add garlic cloves and ginger. Sauté for two minutes.

Add the tomatoes and cashew nuts. Cook the tomatoes until they become soft.

Once the tomatoes have softened close the stove and let it cool down.

Now blend this sauce which was left to cool into a paste and keep it aside.

Take a kadai add 1tblsp of oil and add little cumin (zeera) again, once the cumin (zeera) releases its aroma add the masala, salt, red chilly powder, turmeric powder and cook it leaves oil.

Add half a cup of water and add small pieces of capsicum(optional).

Close the lid and let it cook for 5 mins until the capsicum is done.

Add Kasuri methi (a pinch) and cover the lid again for 5 mins.

Switch off the gas.

Place a steel bowl (katori) in the middle of the kadai.

Light a piece of coal and put it in the bowl (katori) and pour a pinch of hing and 1tsp ghee on it and close the lid of the Kadai which will lead to the smokey flavor in the paneer dish.

Last but not the least add butter before serving.

Birthday Wishes this Quarter

Rajesh Acharjee	18-Aug	Puneeth K G	30-Sep
S Ajaya Kumar	22-Aug	Rinku Karmakar	06-Oct
Mamatha S P	27-Aug	Jyothi Prakash	13-Oct
Karre Vishwanadh	16-Sep	Debasish Mukerjee	14-Oct
Siri Acharya	18-Sep	Sneha V	24-Oct
Ranjith Gowda R	19-Sep	Anil Deoraj	29-Oct
Naushad Ansari	27-Sep	Nimitha KK	04-Nov
Aravind Choudhary	29-Sep	Vijayan KA	05-Nov

Love Letter from an Electrical Engineer

Dear,

From the very minute I saw you I have synchronized my self into the infinite bus of love. My heart started hunting towards you like an alternator.

My eyes are crawling behind you! You have disturbed my minds Field as a sudden load in an alternator!

Dear, I have adjusted my heart's DC receiver for the maximum transfer of my love for you to understand in better way. Though we are like electrons from two different atoms let us be the same current for the single love source. Life without you is like an open circuited mesh!

Without you I am like a Grounded Capacitor. Charge me with you ideal supply of Love. You are stricken me like a lightning flash which broken my heart's dielectric strength to avoid back flash over.

My dear, my love for you is, as pure as fundamental coded pulse. Let us be two current carrying wires attracting each other.

Waiting for you near the transformer NCT-1

Shivaraj T S, Sr. Manager-Pre sales

From Editor's Desk



Dear Taurus Team,

All of you have contributed with your articles, data, photos, suggestions enthusiastically and helped me in publishing this quarterly magazine Watts up on time. I thank you all.

I thank Mr Bharat Kumar who made enormous changes in this edition again and again without losing his patience. I thank Mr. Suraj who went through each and every article and suggested corrections. And finally my special thanks goes to our MD Mr Ravinarayan for giving me an opportunity to build this first ever edition of our quarterly magazine Watts Up. He always comes out with innovative ideas and suggestion. The name Watts Up suggested by him for this magazine itself makes one feel younger and energetic.

I am sure that, irrespective of any resistance or impedance, the frequency of the Watts generated currently will be increasing constantly day by day at Taurus.

Once again I thank you all.

By Anil Deoraj

Business Head - STITAM & Product Marketing

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