BILL OF QUANTITIES			
Sl.No.	**Description**	**Unit**	**Qty.**
A)	**Main Items:**		
1	Traveling Wave Fault Locator as per TS	Set*	2
B)	**Services:**		
	Installation and Commissioning Charges	Lot#	2
* - The breakup of the two (2) sets mentioned in the BOQ is provided in Annexure-1.			
# - 2 Lot comprises of installation and commissioing of items mentioned in the Annexure-1			
Note:			
1. If any additional item as per the specification is required to be supplied for completion of the system over and above the items indicated above, the same shall be indicated clearly in the offer. Otherwise, the same shall be deemed to be included in the offer.			

Annexure-1

Sl.No.	Description	Unit	Qty.
1	**Traveling Wave Fault Locator: FL-8 (2 Lines)** Linear Coupler (3 for Each Line = 2 set) Internal GPS with antenna and 30 mt antenna cable	Nos	2
2	Configuration of Modem along with antenna cable and power supply and networking	Nos	3
3	Supply of IQ + Software # 5 Client 25 devices PC Version	LIC	1
4	DESKTOP- i5 processor, 1000GB HD, 4GB RAM	Nos	1
5	Printer - HP Color Laser MFP 178nw Printer	Nos	1
6	Accessories for each substation	Nos	2

SECTION-II

i. ~~built in feature of line distance relay is acceptable provided the requirements of above clauses are met.~~

31. **DISTANCE TO FAULT LOCATOR-Travelling Wave type (TWFL):**

Distance to Fault locator, based on Traveling wave detection method, shall

a. be microprocessor based, On-line type

b. have programmable triggering thresholds

c. be suitable for breaker operating time of minimum 2 cycles

d. consist of acquisition unit and one central unit

e. provide fault location reading directly in kilo-meter without requiring any further calculations

f. have fault location accuracy of + 150 Meter or better with a least count of atleast 50 meter for fault locator readings

g. The above accuracy should not be affected by followings:

- Line length
- Presence of remote end in-feed
- Series compensation
- Non-uniform line (having Cable & Over head line both)
- Mutual coupling
- Transposition of line
- Fault resistance
- Severe CVT transients

h. Acquisition units shall:

i. be either standalone for each line

or

with the capability to cater to a number of lines emanating from a substation. Incase more than one lines are to be accommodated in one acquisition unit then suitable coupler unit/measuring unit shall be provided in individual line bay C&R panels and only secondary wiring shall be brought to common acquisition unit. While offering this option, bidders are advised to take care of maximum distance between Acquisition unit & line bays C&R panels. In the BPS, total no. of line bays envisaged for Travelling Wave type Fault Locators is mentioned for further assessment by the bidder for no. of Acquisition units required for total functional requirements based on equipment design.

ii. include all required accessories (like couplers, cables, connectors etc) to connect to the secondary wiring of the Instrument transformers (in C&R panels) for detection of traveling wave

iii. have built-in backlit display unit and keypad

iv. have the facility to locally download the data in case of communication failure

v. have minimum 02 nos. binary input per line for line protection trip input. Binary input shall be rated for 220V DC and it shall be possible to set the de-bounce time of the binary input.

vi. have minimum **1GB** of storage space

vii. have facility to transmit the fault record to the Central unit by dialing mode, IEC60870-5-103 or IEC60870-5-104 or TCP/IP net protocol etc. Scope shall include dialup modem, if required with each Acquisition unit.

i. include required GPS time synchronizing units for each substation (internal or external to Acquisition unit)

j. Central data processing unit shall:

i. Consist of a desktop personal computer (including at least 17" TFT color monitor, mouse and keyboard), colour laser jet multi-function printer (A4 size), LAN switches (as required), all special cables and other required accessories. The desktop PC shall have Intel Dual core processor or better. The hard disk capacity of PC shall not be less than 1000 GB and RAM capacity shall not be less than 4 GB.

ii. have all necessary hardware & software for data download from Acquisition units, storage, processing, device (acquisition unit) creation and configuration, and comprehensive viewer for manual analysis of waveform. It will also have diagnostic feature to check the healthiness of connected devices & communication link.

iii. calculate & report the fault location based on the traveling wave data acquired from acquisition units of both end of the line. However, Central data processing unit shall have the facility to calculate the fault location even with only one end acquisition unit data of the line.

iv. be able to communicate to the Master station (Control centre) through IEC60870-5-104 net protocol. Alternate Standard protocol shall also be acceptable subject to fulfilling the functional requirements.

v. be located at local or any remote end based on the availability of communication link. End to end communication link shall be

provided by POWERGRID. However Scope shall also include a dialup modem with central data processing unit.

k. In cases, Central data processing unit of Travelling wave fault locator is existing at a location the Acquisition units under present scope can be integrated with the existing Central data processing unit (Make & Model of existing unit should be mentioned in section-Project) by required augmentation (configuration and up gradation of data base including supply of any additional hardware / software etc.). Alternatively, bidder may offer separate Central data processing unit & associated hardware & software as may be required under the head of augmentation of Central data processing unit.

l. Include required no. of panels to house the offered equipments at various substations & central location. Acquisition units can also be mounted in respective line protection panels.

m. TWFL as built-in feature of Standalone fault recorder or Line Protection IED shall also be acceptable subject to meeting the functional requirement specified.

n. Type test (EMI/EMC) and additional functional test for accuracy shall be submitted for TWFL for review and approval.

~~32. TIME SYNCHRONISATION EQUPMENT~~

~~32.1. The Time synchronisation equipment shall receive the co-ordinated Universal Time (UTC) transmitted through Geo Positioning Satellite System (GPS) and synchronise equipments to the Indian Standard Time in a substation.~~

~~32.2. Time synchronisation equipment shall include antenna, all special cables and processing equipment etc.~~

~~32.3. It shall be compatible for synchronisation of Event Loggers, Disturbance recorders and SCADA at a substation through individual port or through Ethernet realised through optic fibre bus.~~

~~32.4. Equipment shall operate up to the ambient temperature of 50 degree centigrade and 80% humidity.~~

~~32.5. The synchronisation equipment shall have 2 micro-second accuracy. Equipment shall give real time corresponding to IST (taking into consideration all factors like voltage, & temperature variations, propagation & processing delays etc).~~

~~32.6. Equipment shall meet the requirement of IEC 60255 for storage & operation.~~

~~32.7. The system shall be able to track the satellites to ensure no interruption of synchronisation signal.~~

~~32.8. The output signal from each port shall be programmable at site for either one hour, half hour, minute or second pulse, as per requirement.~~

~~32.9. The equipment offered shall have six (6) output ports. Various~~

पावरग्रिड POWERGRID

पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)

संदर्भ/Ref : CC-ENGG-TB202318-1002026-SS3500-TWFL-BOQ **Date :** 07/05/2026

From : Atul Mathur
DGM

To : Bharat Heavy Electricals Limited
Plot No.-7, Sector-142 Noida 201305
201305

Cc : CGM (Projects), RHQ, WR-II

Subject : 765kV Extn Pkg SS-15T for (a) Establishment of 765kV Switching station near Vataman (b)Extn of 765kV Halvad S/s for termination of 765kV D/c Halvad -Vataman TL under Transmission system for evacuation of additional 7GW RE power from Khavda RE park under Phase -III part B

LOA Ref : CC/T/W-AIS/DOM/A04/23/05816/NOA-1 & 2/24-103427/01 & 02 Dated 12/03/2024

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No.	:	TWFL-BOQ
Orgn. Drg. No.	:	TB202318-1002026-SS3500-TWFL-BOQ
Revision No.	:	00
Drg. Title	:	VATAMAN SWITCHING S/S- Travelling Wave Fault Locator BOQ
App. Category	:	CAT-I
Release Date	:	07/05/2026

Scan to verfiy

Comments : Generally in Order

अनुमोदित श्रेणी/App. Category:

I. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु जारी।
Approved/released for fabrication/construction.

II. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु अनुमोदित/जारी बशर्ते दिए गए टिप्पणियाँ एवं आशोधनों की सम्मिलित किया जाये। कृपया रिवाइजड दस्तावेज अनुमोदनार्थ प्रस्तुत करें।
Approved/released for fabrication/ construction subject to incorporation of comments and modification as noted. Revised drawing required for approval.

III. टिप्पणियाँ सम्मिलित करने के उपरांत दस्तावेज को अनुमोदनार्थ प्रस्तुत करें।
To be resubmitted for approval after incorporating the comments.

IV. सूचनार्थ एवं रिकार्ड हेतु।
For information and record.

CATREL/ REL-CON निर्माण हेतु जारी।
Released for construction.

नोट/**Note:**

1. Approval/Comments conveyed herein neither relieve the contractor of his contractual obligations and his responsibilities, weights, quantities, design details assemble fits, performance particulars and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limits the purchaser's right under the contract.
2. The approval conveyed vide this letter does not cover the approval of make for sub-vendor items.

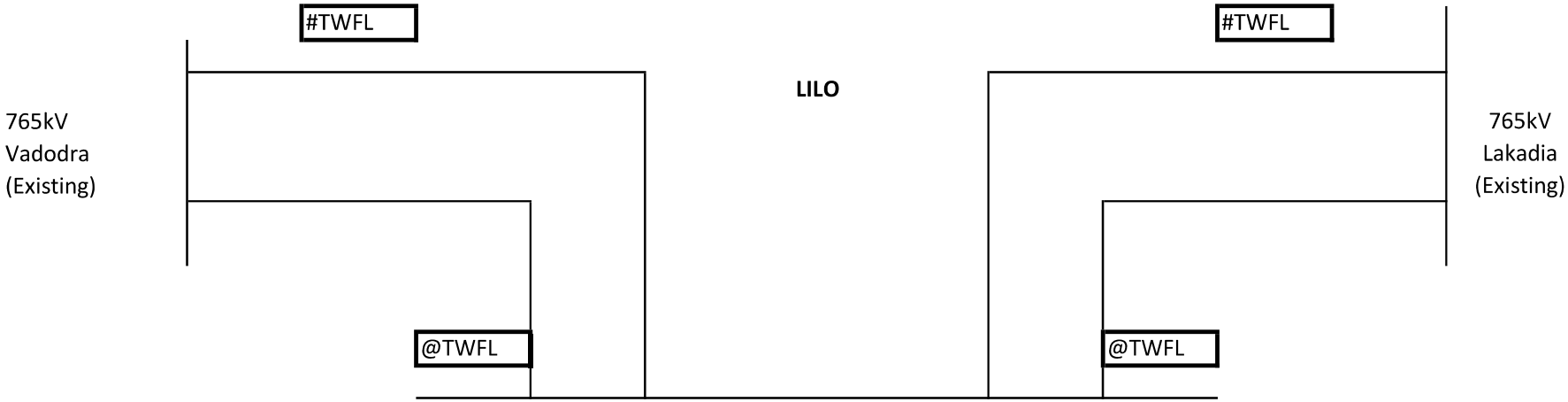
PROJECT TITLE	765kV SS New Pkg-SS-15T (a) Establishment of 765 kV switching station near Vataman (b) Extn. of 765kV Halvad S/s for termination of 765 kV D/c Halvad- Vataman TL associated with "Transmission system for evacuation of additional 7 GW RE power from Khavda RE park under Phase-III Part B" through TBCB route.
OWNER	VATAMAN TRANSMISSION LIMITED
EPC CONTRACTOR	BHARAT HEAVY ELECTRICALS LIMITED (BHEL)
REVIEW OF	VATAMAN SWITCHING S/S- Travelling Wave Fault Locator BOQ Doc no. TB202318-1002026-SS3500-TWFL-BOQ

Sr. No.	Item Description	Qty
1	Traveling Wave Fault Locator: FL-8 (2 Lines) • Linear Coupler (3 for Each Line = 2 set) • Internal GPS with antenna and 30 mt antenna cable	2 Nos
2	Configuration of Modem along with antenna cable and power supply and networking	3 Nos
3	DESKTOP- i5 processor, 1000GB HD, 4GB RAM with Licensed TWFL Software	1 Nos
4	Printer - HP Color Laser MFP 178nw Printer	1 Nos
5	Accessories for each line	2 Nos
6	Installation and Commissioning	2 Lot

Note:
1. Reconfiguration of TWFL at Vadodara and Lakadia end is also in present scope.

2. Any other items/accessories required to ensure successful operation of TWFL after LILO of Line shall be provided

Network Architecture



#TWFL - Existing Travelling wave fault locator (Qualitrol make model TWS-FL8)

@TWFL - New TWFL

QUALITROL®
Defining Reliability

INFO@QUALITROLCORP.COM
+1 585 643-3717
1385 FAIRPORT ROAD
FAIRPORT, NY 14450, USA
WWW.QUALITROLCORP.COM

Date: 27.04.2026

To,
Rajat Kumar
Manager, BHEL TBG
rajat.kumar@bhel.in

Sub: Authorization Certificate for Qualitrol make Travelling Wave Fault Locators (TWFL) for Powergrid Vataman S/S REF NO.: Quotation No. OTSLLP/26-27/Q/TWFL/JK/BHEL/047

Respected Sir,

We hereby authorize M/s. Om Technical Solutions LLP, Office no. 308, Devraj Mall, Harishankar Joshi Road, Dahisar-East, Mumbai-400068 to submit the offer on behalf of Qualitrol against, your enquiry dated 19th April 2026 for the supply of Travelling Wave Fault Locators (TWFL) for Powergrid Vataman S/S

We will supply our product to M/s. Om Technical Solutions LLP as per our standard specification. We will provide services and support to M/s. Om Technical Solutions LLP as per the terms and conditions agreed between us.

I hope this information is useful to you, please do not hesitate to contact me if I can be of any further clarification/assistance.

Yours Sincerely,

Thanks & Regards,
GIRISH SATHE | Senior Sales Manager
QUALITROL®,
Unit No 1108-1111, 11th Floor,
Westgate - 'D', Near YMCA Club,
S.G. Highway, Ahmedabad, Gujarat – 380015 India
Office: +91 79 6617 8822| Mobile: +91 9920804160 | Fax: +91 79 6617 8822
Email: gsathe@qualitrolcorp.com | Web: www.qualitrolcorp.com

TWS FL-8 and TWS FL-1

Traveling wave fault locators

Provides exact fault location to one tower - improved performance

- Reduce downtime by getting to the fault faster
- Track intermittent self clearing faults and focus maintenance at the right spot to prevent a major breakdown
- Accurate results from circuit trips automatically available in the dispatch center within minutes of the event
- Maintenance crews alerted by email notification
- Supersedes the successful TWS Mark VI and DSFL devices

Product Summary

Description A device that provides extremely precise fault location on multiple lines enabling operation and maintenance engineers to respond rapidly to events and correct defects at minimum cost and maximum efficiency

Application Fault location on interconnected overhead lines where high availability is important. Accurate, consistent results for all types of faults quickly displayed in a control room or engineering centre where it is needed to direct maintenance teams and reduce downtime

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TWS FL-8 and TWS-FL-1 Traveling wave fault locators

Provides exact fault location to one tower - improved performance	• Best accuracy to ±60 meters [±195 feet] independent of impedance methods • Returns quality results for all types of faults, including high resistance ground faults and open circuit • Accuracy is independent of line length, remote end infeed, non uniform line construction, conductor asymmetry and mutual coupling • Can be used on lines with series compensation and tapped loads • It is possible to compensate for lengths of underground cable
Reduce downtime by getting to the fault site faster	• Consistent accuracy eliminates need to send out multiple line patrols and helicopters to identify the fault site • Can save hours of search time and reduce costs • Faster restoration time reduces system risk posed by the possibility of a second or third coincident fault • Faster restoration time reduces the costs of running uneconomic generation needed to maintain system security during the line outage
Track intermittent self clearing faults and focus maintenance at the right spot to prevent a major breakdown	• Most overhead line faults are transient and can be successfully re-closed • Multiple trips can occur at the same place over time due to a damaged insulator, growth of vegetation or conductor clashing • Accurate fault location pinpoints these trouble spots • Planned maintenance can be undertaken to fix the ‘minor’ transient problem before it becomes a ‘major’ permanent one • Fewer line trips reduces the number of voltage dips and subsequent customer complaints
Accurate results from circuit trips automatically displayed in the dispatch centre within minutes of the event	• A line trip is recognized by a change of state on a digital input or a 61850 GOOSE message • A request for poll is sent to the central dispatch centre immediately after a line trip. The central PC polls each end of the line to retrieve data, calculate results and display them in a simple list view on a single screen • Alternatively, the central software can be set to routinely poll all devices to collect data and display results
Maintenance crews alerted by email notification	• Fast, automatic dissemination of results gets the information directly to the maintenance teams • Results can be filtered to select only those associated with a line trip • No need for intervention by protection engineers - saves time
Fast installation and set up on multiple lines - no line or substation outage required	• Most installations completed in one day • FL-8 monitors up to 8 circuits. FL-1 limited to one circuit • Split-core linear couplers are placed around the secondary wiring of the protection current transformers to capture the traveling waves • Can be installed with the circuit still alive • Device configuration via a web page - no special software required
Display, keypad and USB port allow more interaction with the device	• Device status is available from the display - no need for a PC • Can view line module trigger time tags if remote communications have failed • Data can be downloaded onto a memory stick plugged into the USB port • A programmed memory stick can be used to upload device firmware and configurations
Modular, reliable hardware - flexible communications	• Integral dial-up modem and ethernet port. External GSM modem (optional) • Solid state CompactFlash for data storage

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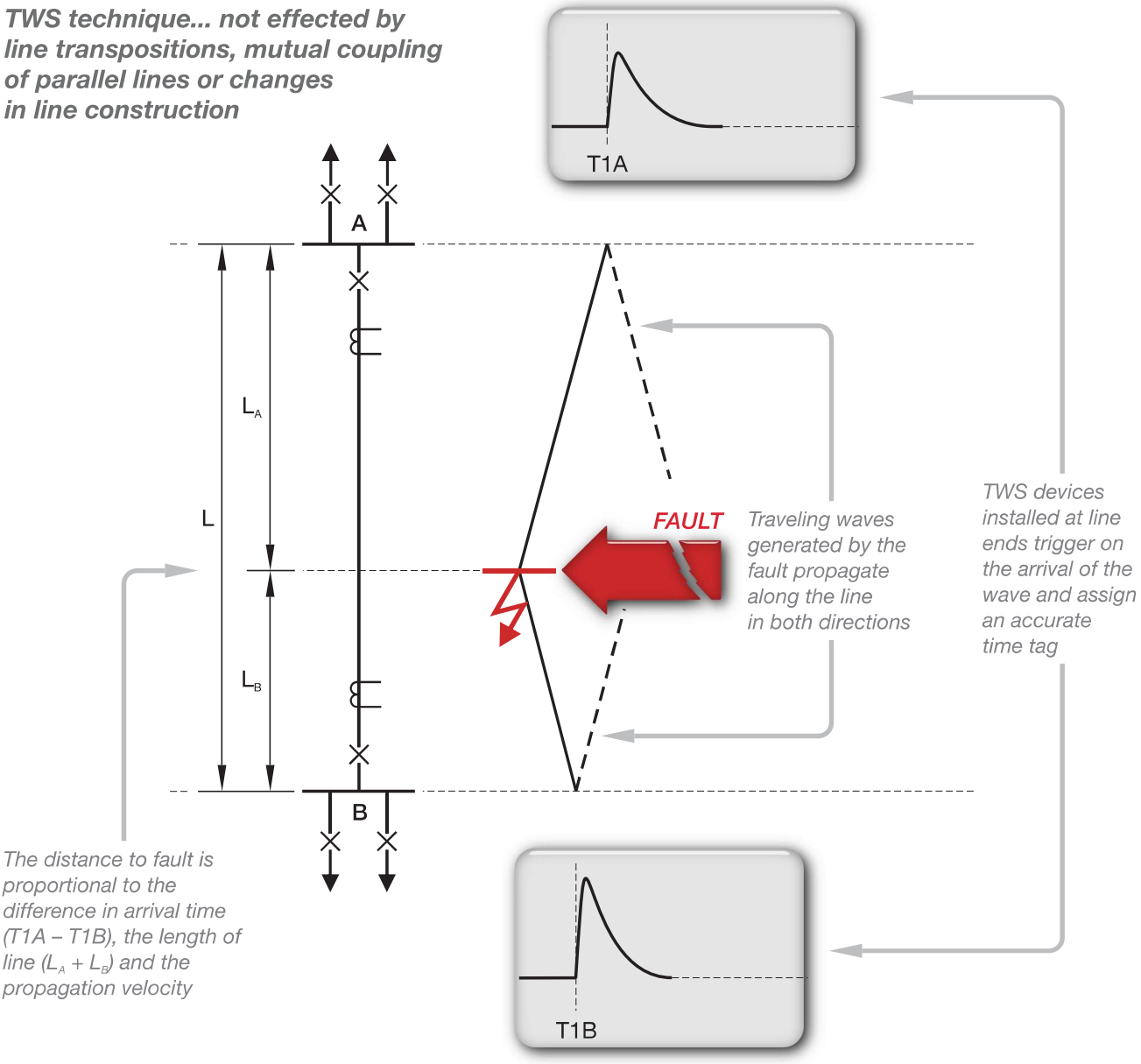
TWS - the traveling wave technique

General description

- The traveling wave uses the double ended method of fault location
- An accurate time reference is provided by GPS time synchronization

TWS technique... not effected by line transpositions, mutual coupling of parallel lines or changes in line construction



TWS FL-8 *- modular - monitors 2, 4, 6, or 8 lines*

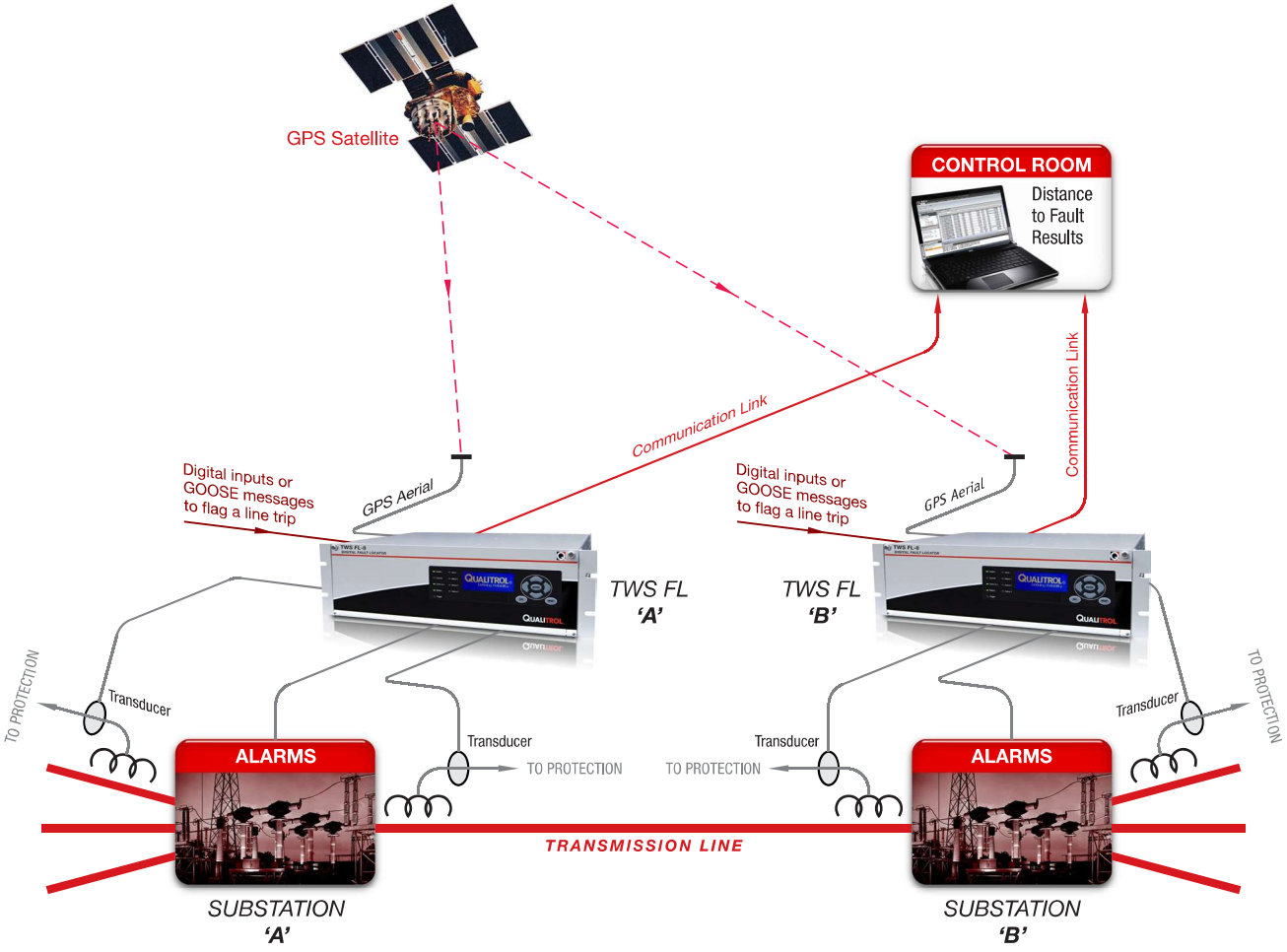
TWS FL-1 *- fixed format - monitors 1 line*

TWS FL-8 and TWS-FL-1 Traveling wave fault locators

TWS - Traveling wave application

General description

- Installation requires minimal cabling
- Mount GPS antenna with a clear view of the sky to ensure good GPS lock and time synchronization
- Fit linear coupler transducers to the secondary of the protection current transformer wiring
- Connect digital inputs or enable GOOSE messaging to detect line trips
- Connect communication channel to allow data to be processed at a central location - essential for correct double-ended operation
- Each TWS FL-8 can monitor up to 8 line ends - for use in centralized relay rooms
- Each TWS FL-1 can monitor one line end - for use in distributed substations



◄ GPS antenna and linear couplers ▼

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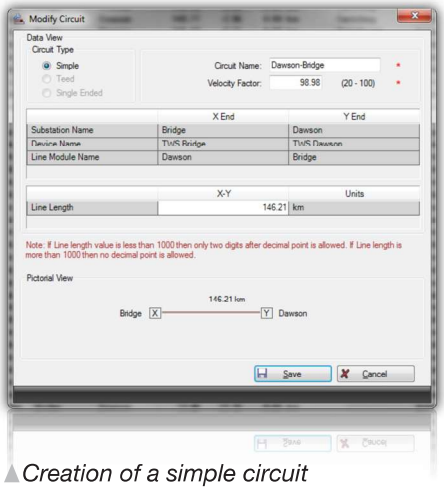
iQ+ - Configuration and analysis software

General description

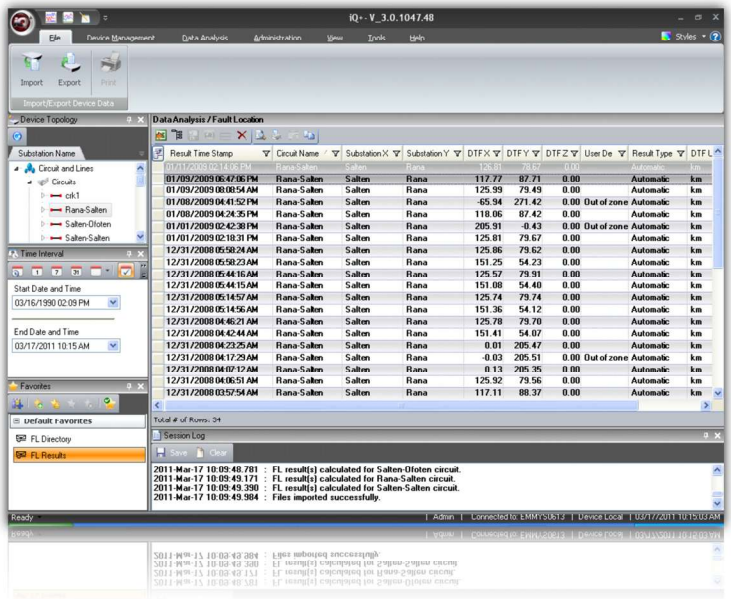
- Full client-server architecture with separate communications manager module
- All data stored in an SQL database
- Ideal for large installations with a central server, remote clients and multiple communication managers to share the burden of collecting data from different types of devices

Features include

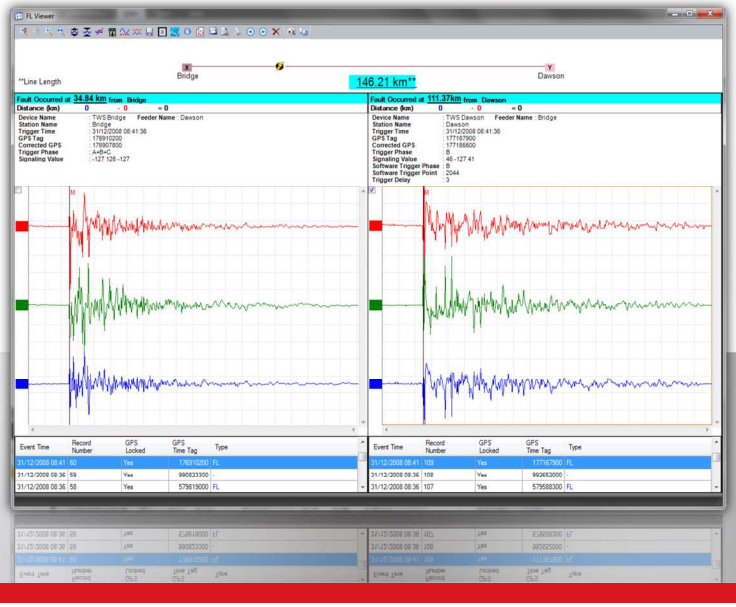
- Data download, storage and processing
- Device creation and configuration
- Comprehensive viewer for manual analysis of waveforms
- Health check overview to quickly identify any device or communication defects
- Full support for legacy TWS and DSFL (Linux and DOS versions)



▲*Creation of a simple circuit*



Circuits and results page for a defined time period ►



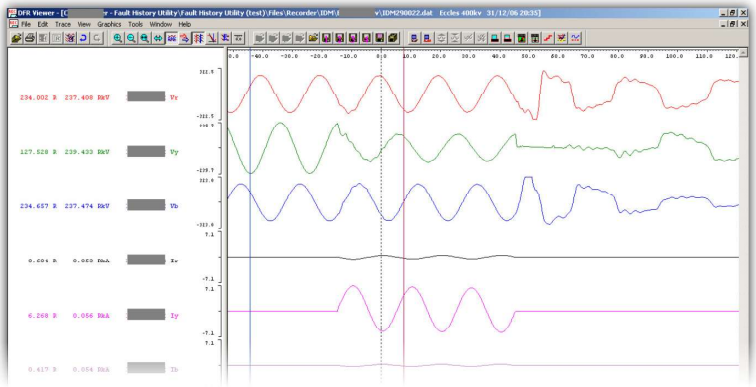
◄*Viewer showing TWS waveforms from each end of the line for a line fault*

TWS - Case study (from Europe). Tree contact on a 65.8 km 400 kV overhead line

Impedance distance to fault (DTF) versus traveling wave distance to fault (DTF)

Data From	Time	Voltage Retained	Fault Current	Clearance Time
[redacted]	20:35:42:633	128 kV	6.24 kA	60.8 ms
[redacted]	20:35:42:634	46.3 kV	3.984 kA	61.4 ms

Details of the fault from each end of the line from DFR analysis (substation names blanked out due to confidentiality agreements)



Single phase to ground fault.
DFR record and impedance based distance to fault calculation from end X

*Imepdance method puts fault at **48.4 km** from end X*

iQ+ software and traveling wave distance to fault calculation from end X

*The traveling wave method employed by the TWS FL-8 automatically calculates the distance to fault from end X as **45.3 km***

Summary of results

DTF confirmed by line patrol	TWS FL-8 result	TWS FL-8 accuracy	Impedance based result	Impedance based accuracy
45.2 km [28.09 miles]	45.3 km [28.15 miles]	0.15% of line length or 100 m [328.08 feet]	48.4 km [30.07 miles]	4.7% of line length or 3200 m [1.98 miles]

Note: Even an accuracy of 4.7% produces an error of 3.2 km [2 miles] (approximately 11 tower spans) on a line length of 65.8 km [40.89 miles]. Impedance errors can be up to 20% of line length for certain types of fault equating to a 40km [24.85 mile] error on a 200 km [124.3 mile] line.

TECHNICAL SPECIFICATIONS

Power supply	Voltage range	88 - 300 VDC / VAC, 42.5 to 67.5 Hz (optional 36 - 72 VDC)
	Power	20 VA
	Auxiliary output	DC output 12 VDC at 750 mA
MMI	Display	Backlit LCD, 114 x 49mm - 240 x 80 dots
	Keypad	7 button membrane keypad
	Status	9 LEDs (healthy, alarm, trigger, clock sync, comms, status)
Line modules	TWS FL-1	Fixed format with one line module
	TWS FL-8	2 line modules expandable to 8 in steps of 2
	Channels	3 (one per phase) from external linear couplers - 12 bit ADC
	Gain	Programmable full scale deflection
	Triggering	Programmable threshold level
	Sample rate	20 MHz, 10 MHz, 5 MHz, 2.5 MHz or 1.25 MHz
	Diagnostics	Automatic test of channel front end to prove operation
Digital inputs	2 per line module	Wide ranging input from 48 to 250 VDC - selectable debounce
Storage	CompactFlash	4 GB allowing storage of 2100 records from 8 line modules at a sampling rate of 2.5 MHz (option for 8GB on request)
	Modes	Selectable locked or cyclic buffer
Clock	Internal	Synchronized by internal GPS module (master) or via NTP over LAN and a 1 pps (slave)
	Accuracy	Master 100 ns. Slave 1 microsecond
	Output	IRIG-B out to synchronize other IEDs
GPS antenna	Lead length	10 meters [33 feet] (optional extension leads available)
	Mounting	Via 25mm [1 inch] pipe mast
Comms	Modem (optional)	Internal PSTN (V.90) modem (optional on COM 4)
	Ethernet port	2 x 100 Mbits - one RJ45 for local connection at the front and one RJ45 (with option for fiber) on the rear port
	USB	One port to facilitate firmware upgrade and manual download of data
	Serial	3 x RS 232 provided (one front panel, two on rear). 1 x RS 485 on rear panel
Alarms	4 provided	1 (normally closed) for system healthy 3 (normally open) for lost lock, trigger and high priority trigger and fixed buffer 80% full
Configuration	iQ+ Master station	Edit configuration and view diagnostics
	Web page	Access via browser - edit settings, manual trigger, view last waveform
Environmental	Temperature	Operating: -5 to +50° C [23 to 122° F]. Storage: -30 to +70° C [-22 to 158° F]
	Humidity	0 to 95% non-condensing
Immunity	IEEE, EU and IEC	Conforms to relevant specifications for monitoring / control equipment in HV substations
Mechanical	Enclosure	IP 41, 19" rack-mountable
	TWS FL-8	3U device - H x W x D: 132.5 mm [5.2"] 487 mm [19.2"] x 362.2 mm [14.3"] Weight - 11 kg [24.2 lbs].
	TWS FL-1	2U device - H x W x D: 90 mm [3.25"] x 487 mm [19.2"] x 362.2 mm [14.3"]

TWS FL-8 and TWS-FL-1 Traveling wave fault locators

minimize search time and reduce expensive downtime ...what is your time worth?

QUALITROL® Field Services
QUALITROL® provides on-site commissioning/start-up and comprehensive maintenance contracts to all customers worldwide. To further improve reliability, an extended warranty is available on selected products commissioned by QUALITROL®.

QUALITROL® Educational Services
QUALITROL® professional training (designed to achieve hands-on performance based objectives) prepares operations, maintenance, and engineering personnel to install, test, configure, operate and maintain QUALITROL® products.

QUALITROL® Accelerated Delivery
QUALITROL® provides accelerated delivery on many products and services including replacements, spare parts and repairs.

About QUALITROL®

QUALITROL® manufactures substation and transformer monitoring and protection devices used by electric utilities and manufacturing companies. It is the global leader in sales and installations of transformer asset protection equipment, fault recorders and fault locators. Established in 1945, QUALITROL® produces thousands of different types of products on demand, each customized to customers' unique requirements.

QUALITROL®
Defining Reliability

Email: info@qualitrolcorp.com
www.qualitrolcorp.com

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No:

Date:

To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited [1] (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at BHEL House Siri Fort New Delhi-110049 through its Unit at BHEL, TBG, Noida having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at_____[2] hereinafter referred to as the 'Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No PO No……dated ……[3] valued at Rs……[4] (Rupees ----------)/FC……(in words……..) for ……[5] (hereinafter called the 'Contract') and the Contractor having agreed to provide a Contract Performance Guarantee, equivalent to ……% (…. Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, ……, (hereinafter referred to as the Bank), having registered/Head office at ……. and inter alia a branch at …… being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs ---------- (Rupees ----------) without any demur, immediately on a demand from the Employer, .
Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the contractors/supplier shall have no claim against us for making such payment.

We the ……bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We …….. BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

This Guarantee shall remain in force upto and including…….. [6] and shall be extended from time to time for such period as may be desired by Employer.
This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the ……[7]we shall be discharged from all liabilities under this guarantee thereafter.

We …….. BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.
Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceed…… [8]
b) This Guarantee shall be valid up to ……[9]
c) Unless the Bank is served a written claim or demand on or before _____[10] all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated……..

Place of Issue…….

[1] *NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited*

[2] *NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.*

[3] *DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE*

[4] *PROJECT/SUPPLY DETAILS*

[5] *BG AMOUNT IN FIGURES AND WORDS*

[6] *VALIDITY DATE*

[7] *DATE OF EXPIRY OF CLAIM PERIOD*

[8] *BG AMOUNT IN FIGURES AND WORDS.*

[9] *VALIDITY DATE*

[10] *DATE OF EXPIRY OF CLAIM PERIOD*

Note:

1. **Units are advised that expiry of claim period may be kept 2/3 months after validity date.**

2. **In Case of Bank Guarantees submitted by Foreign Vendors-**

   a. **From Nationalized/Public Sector / Private Sector/ Foreign Banks (BG issued by Branches in India)** can be accepted subject to the condition that the Bank Guarantee should be enforceable in the town/city or at nearest branch where the Unit is located i.e. Demand can be presented at the Branch located in the town/city or at nearest branch where the Unit is located.

   b. **From Foreign Banks (wherein Foreign Vendors intend to provide BG from local branch of the Vendor country's Bank)**

   b.1 In such cases, in the Tender Enquiry/ Contract itself, it may be clearly specified that Bank Guarantee issued by **any of the Consortium Banks only** will be accepted by BHEL. As such, Foreign Vendor needs to make necessary arrangements for issuance of Counter- Guarantee by Foreign Bank in favour of the Indian Bank (BHEL's Consortium Bank). It is advisable that all charges for issuance of Bank Guarantee/ counter- Guarantee should be borne by the Foreign Vendor. The tender stipulation should clearly specify these requirements.

   b.2 **In case, Foreign Vendors intend to provide BG from** Overseas Branch of our Consortium Bank (e.g. if a BG is to be issued by SBI Frankfurt), the same is acceptable. However, the procedure at **sl.no. b.1** will required to be followed.

   b.3 The BG issued may preferably be subject to Uniform Rules for Demand Guarantees (URDG) 758 (as amended from time to time). In case, of Foreign Vendors, the BG Format provided to them should clearly specify the same.

   b.4 The BG should clearly specify that the demand or other document can be presented in electronic form.

Sl.	Name of the bank	
1	State Bank of India	
2	Canara Bank	
3	Axis Bank	
4	Bank of Baroda	
5	Central Bank	
6	Citi Bank N.A.	
7	Deutsche Bank **	
8	Exim Bank	
9	Federal Bank Limited	
10	HDFC Bank Limited	
11	Hongkong and Shanghai Banking Corporation Ltd	
12	Indian Bank	
13	ICICI Bank Limited	
14	IDBI Bank Limited	
15	IndusInd Bank Limited	
16	Indian Overseas Bank	
17	Kotak Mahindra Bank Limited	
18	Punjab National Bank	
19	RBL Bank Ltd.	
20	Standard Chartered Bank	
21	Union Bank of India	
22	Yes Bank Limited	
	TOTAL	

भारतीय स्टेट बैंक
State Bank Of India

(17313) - CORPORATE ACCOUNTS GROUP NEW DELHI
4TH & 5TH FLOOR REDFORT CAPITAL PARSVNATH TOWERS,BHAI VEER SINGH MARG
GOLE MARKET NEW DELHI 110001
Tel: 11-23475566 Fax: 23475566 IFS Code : SBIN0017313

केवल 3 महीने के लिए वैध / VALID FOR 3 MONTHS ONLY

D	D	M	M	Y	Y	Y	Y

PAY

को या उनके आदेश पर OR ORDER

रुपये RUPEES

Cancelled.

अदा करें ₹

खा. सं.
A/c No.

30206227732

VALID UPTO ₹ 50 LACS AT NON-HOME BRANCH

CURRENT A/C

PREFIX:
0523500062

BHEL TRANSMISSION BUSINESS DIVISION

MULTI-CITY CHEQUE Payable at Par at All Branches of SBI

Please sign above

25-05-2019

⑈ 266265⑈ ⑆000256 2⑆ 000139⑈ 29