

# National Grid DFR & PMU Tender

**SATEC wins tender for Fault Recorder and PMU with PM180 analyzer and Expertpower software**

In January 2020 The Israeli Electric Company (IEC) published a tender calling for the implementation of "Transient Fault Recorders" in relay/control rooms of substations for disturbance recording, distance to fault calculating and a

software platform for collection and analysis of data.

This came with a requirement of Phasor Monitoring Unit functionality, complying with IEEE C37.118.



## The SATEC Offer

The [PM180 Power Analyzer](#) was offered with the following functional modules/configuration:

- Fault recording current inputs: recording waveforms up to  $40 \times I_{in}$
- Digital I/O module: external trigger waveform recording
- IEC61850 ed.2 support includes Goose Messages
- Phasor Measurement Unit module, designed to meet IEEE C37.118

Alongside the PM180 analyzer, SATEC offered [Expertpower software suite](#) for the needed analysis and HMI for the system.

## Distance to Fault

The PM180 is an advanced analyzer, featuring a fault locating functionality for overhead power lines, using impedance based calculations. This allows utilities to pinpoint the fault location and direct maintenance teams to the site in an extremely accurate manner, considerably saving resources and mitigating downtime.



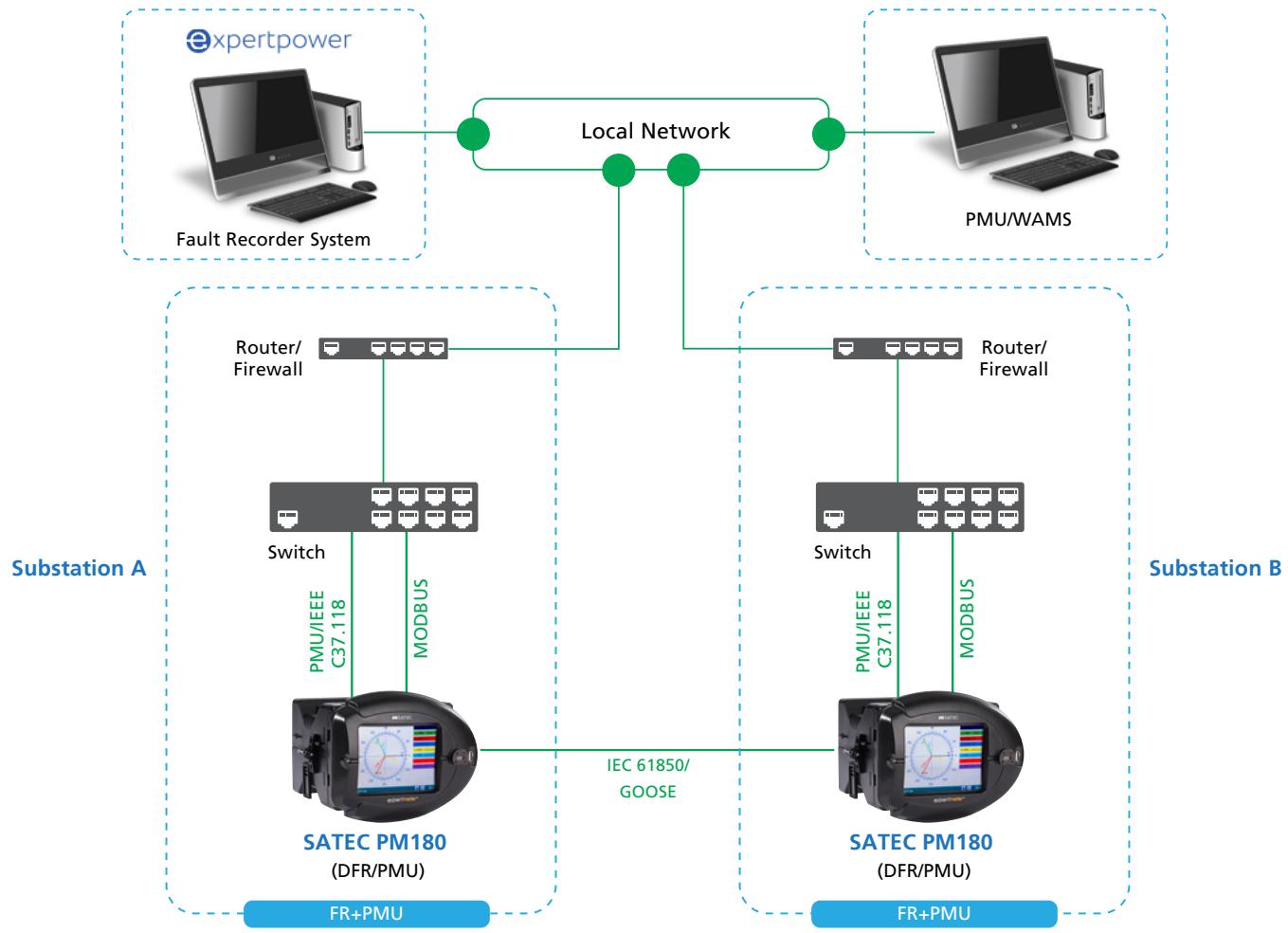
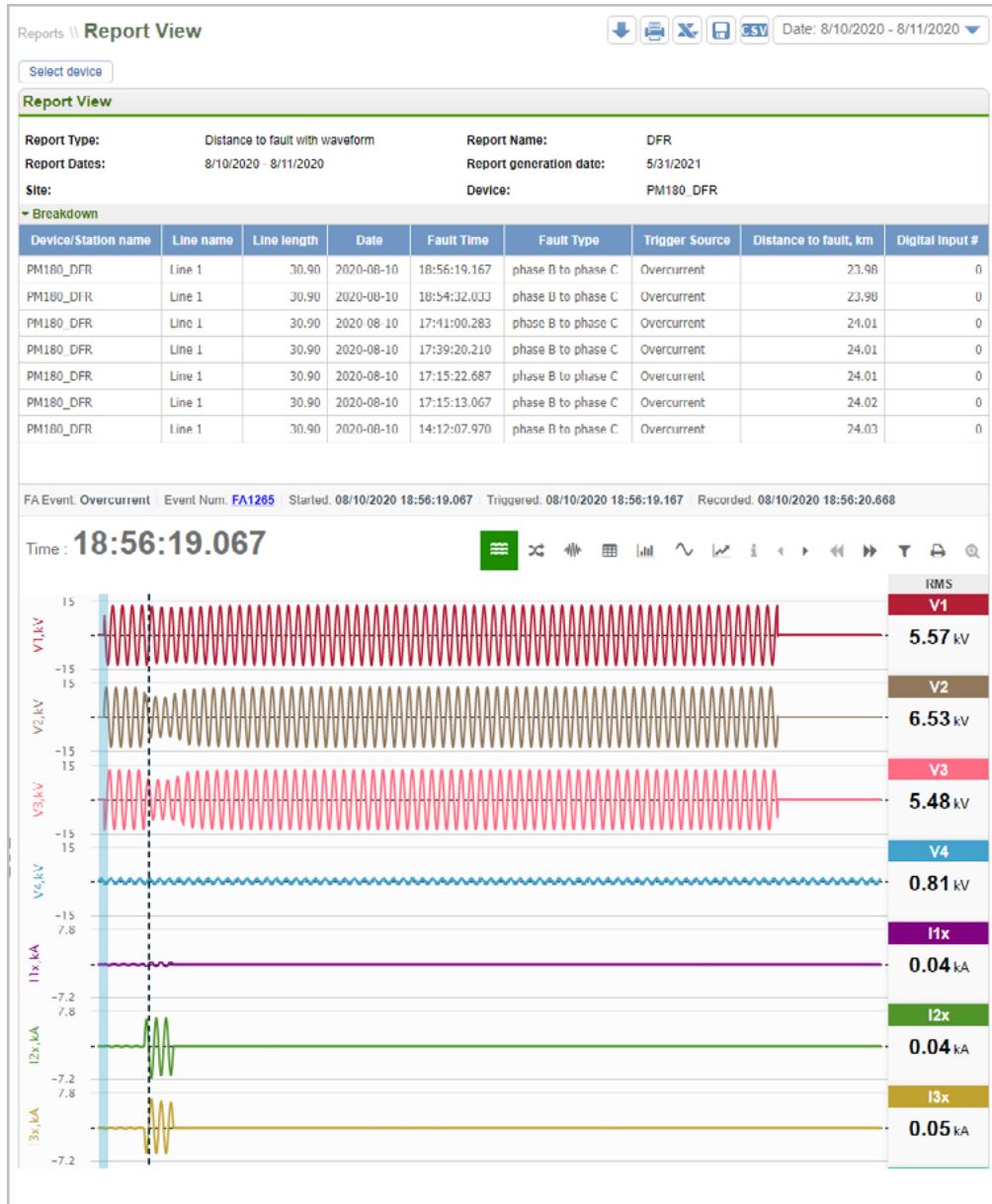


Figure 2 – Block-scheme for implementation of PM180 as DFR and PMU

The Expertpower software generates reports, specifying fault details, such as line, substation, Distance to Fault and fault type.

This way, a full solution is provided, from substation analyzer through diagnostics and actual instructions for field teams.



Expertpower Fault Report

## Award

Following the offer, SATEC's solution was admitted for rigorous POC testing, which entailed several months and countless sessions, demonstrating fault recording and analysis.

Running up as one of the 3 most advanced solutions, SATEC's offer was finally announced during February 2021 as the offer to have won the bid, presenting not only cutting-edge technology but also offering it at extremely competitive terms.