



The NSM3P is an online impulse reflectometer designed to locate latent, intermittent faults in low-voltage networks.

This compact three-phase impulse reflectometer is intended for measurements on low-voltage cables containing a latent fault. The instrument continuously injects a TDR (Time Domain Reflectometry) pulse into the cable. Each measurement, including all reflections, is stored in and overwritten within a FIFO (First-In, First-Out) memory buffer.

As soon as the device is triggered, 100 TDR measurements (40 before and 60 after the event) are captured and stored, together with 50 ms of three-phase voltage data. This provides a clear picture of the conditions before and after the event, enabling detailed analysis of the cable fault. The impulse reflection measurements are synchronised with the three-phase voltages, allowing comparison with a TDR trace recorded immediately before the fault occurred.

Using the impulse reflection traces, a fault location analysis can be performed. In addition, the voltage

data can be used to further analyse the nature of the fault. For example, it can help determine whether the fault originated at a higher level within the network. In such cases, a valid impulse reflectometry measurement can be clearly identified.

The secure NSM3P web portal (user interface) can be accessed via a local tablet or smartphone communicating with the NSM3P through an internet connection. The NSM3P is also equipped with GPRS, ensuring that the location of every event is recorded and that event data can be retrieved at a later stage. Communication with any NSM3P installed within the network can therefore be established remotely via the internet. Whenever a trigger or event occurs, an SMS notification can be sent, for example, to the field measurement technician. Fault location results can then be reviewed remotely by technicians on call by logging into the web portal.

A major advantage of this measurement method is that any technician familiar with cable fault location can easily perform and interpret the measurement.

The NSM3P;

- is a compact online three-phase impulse reflectometer
- locates latent (intermittent) faults in low-voltage networks
- continuously injects a TDR (Time Domain Reflectometry) pulse into the cable
- stores 40 TDR measurements before and 60 after events for analysis purposes
- can also be used as a data logger.

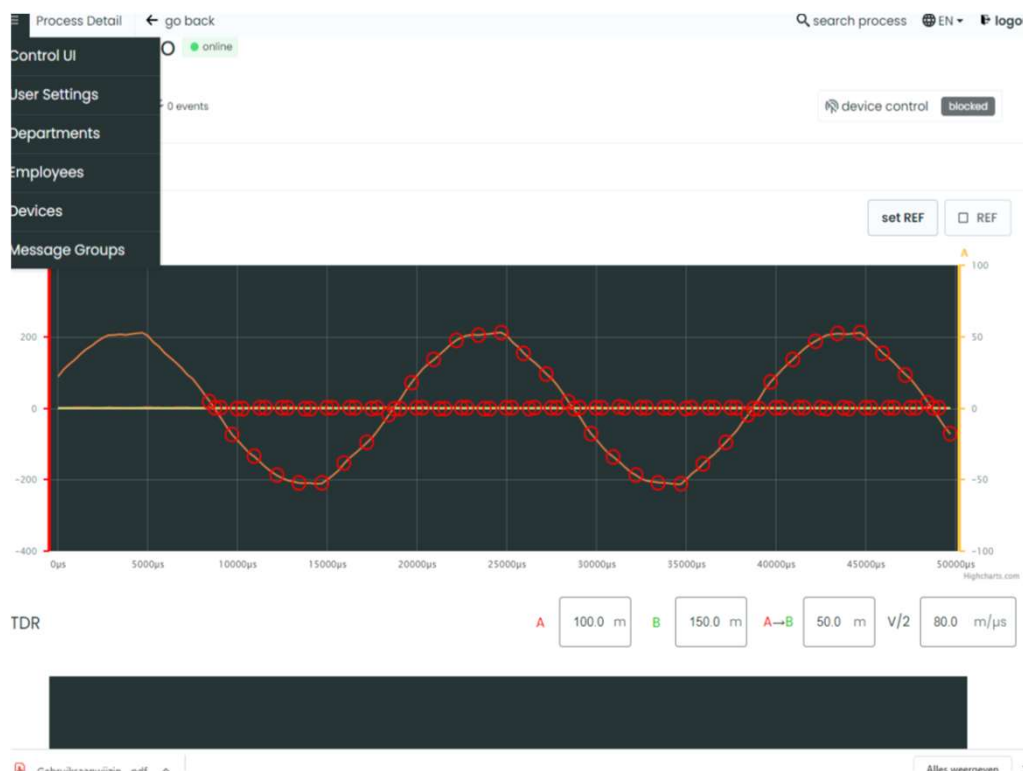


Chart display settings

Overview Chart

- ☒ Save graph visibility for NSG graphs
- ☒ Save graph visibility for NSM graphs

TDR Chart

TDR chart line width

2

- ☒ Save TDR chart line width

save changes

Password

Old password

New password

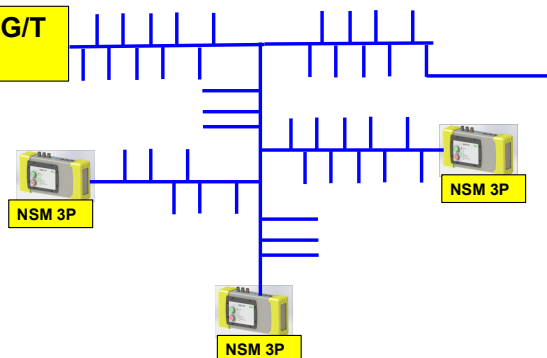
NSM3P Web Portal in Meshed Networks

The NSM3P web portal can also be deployed in meshed network configurations with (longer) branch connections, where the NSG may indicate a distance that could correspond to either the left-hand or right-hand side of the meshed network.

Ideally, the NSM3P should be installed at the end of a cable (not at the feeding side) or at a midpoint location. As an alternative, it can be connected at the feeding side of the cable, but in this case a resistor must be installed to prevent all TDR signals from propagating directly towards the supply side.

Another option is to place the red current loops around the phase conductors on the feeding side. In this configuration, the NSM3P can be configured to trigger based on a predefined minimum and maximum current threshold. These trigger levels can be adjusted using the minimum and maximum current settings.

NSG 7000 G/T



Want to know more?

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Are you looking for equipment to test low- and medium-voltage cables, or would you like to learn more about the other solutions Heynen can offer? If so, please contact Jaap Phaff, Account Manager at Heynen BV.

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