



R550

**The solution for cable fault location
on very long EHV and HVDC cables**

Megger[®]

Product details

R550 CONTAINER

Centrally controlled automated system for EHV and HVDC cables

The R550 is a high-end cable fault location system designed for subsea cables, long EHV cables and HVDC interconnectors. It integrates all major fault location methods into one high-performance system.

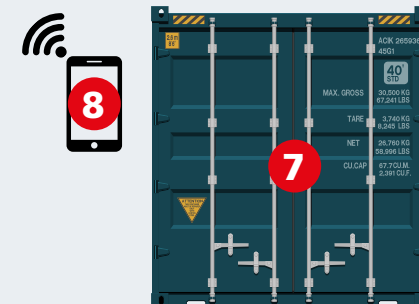
Its fully digital architecture, automated switching and central control replace conventional analogue and electromechanical operation. This significantly simplifies fault locating, minimises manual user interventions and provides exceptional ease of use, even for less-experienced users.

Personnel safety is maximised by the fast-switching, high-energy discharge unit. With a DC output of up to 150 kV DC and up to 20 kW, the R550 has been designed for the most demanding cable fault location applications.

The R550 supports the entire fault locating workflow from fault identification and prelocation to pinpointing and, where required, fault conversion, for both high-resistance and low-resistance.



- 1 High-voltage unit
- 2 High-performance unit
- 3 High-energy discharge unit
- 4 High-voltage surge unit
- 5 Connection compartment
- 6 Operator room incl. air conditioning
- 7 Service access points, hatches, and doors
- 8 Remote access and remote control via LTE



761 km

761 km – Viking Link world record in TDR measurement (Megger 2023)

R550
Case study
Viking Link



R550
Datasheet



HV compartment (full climate control with heating, cooling and dehumidification)

1 | High-voltage unit

The R550 is a centrally controlled, fully automated, and fully integrated extra-high-voltage cable fault location system. All operating modes and system functions are managed from one single central control unit.

An intuitive graphical user interface, combined with the proven „turn-and-click“ rotary control, ensures simple, efficient operation and a high level of user convenience.

HV mode selection, HV mode execution and dialing HV voltage ranges are done, without exception, via automatic switching utilising motorised HV switches.



4 | High-voltage surge unit

The high voltage surge unit combines a surge generator (thumper,) rated up to 100 kV and 4000 J for enhanced subsea pinpointing, with the current decoupling method (ICE) for prelocation at up to 100 kV.

2 | High-performance unit

The high-performance unit features a high-power burn unit and surge generator (thumper) as well as ARM Live Burning (burn arc reflection) for prelocating difficult faults.

Its heavy-duty design is particularly suited to long offshore export cables, HVDC interconnectors and HVDC land cables.



3 | High-energy discharge unit

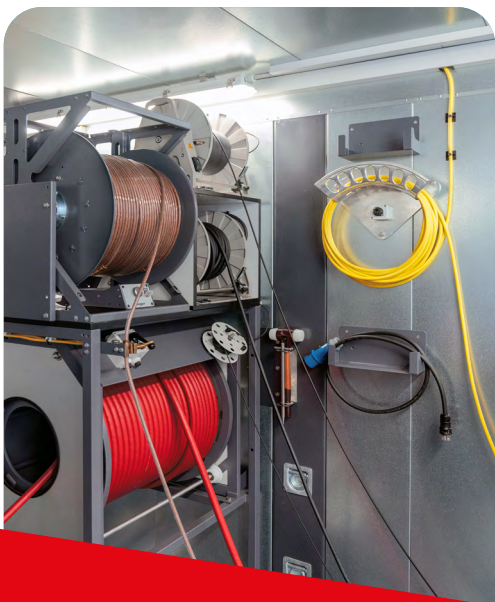
With a discharge capability of 3.6 MJ, the R550's fast-acting discharge unit safely and quickly dissipates the stored energy of even the longest interconnectors. Its robust and fast design protects personnel and equipment during fault-location operations and emergencies while supporting and facilitating an efficient workflow in the field.

The design has been independently verified by a third-party high voltage test laboratory. Scalable energy ratings, such as 282 kJ, 846 kJ and so forth, are available and allow the unit to be matched to the cable length and capacitance.



5 | Connection compartment

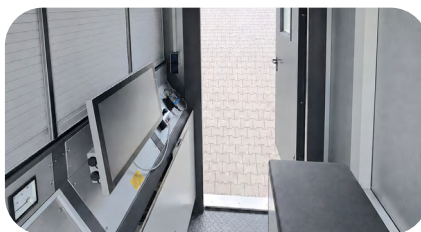
The connection room gives access to the system's output and motorised cable drums carrying long HV test leads. A connection panel ensures an orderly setup between the R550 and the termination of the EHV cable under test.



6 | Operator room

The climatised operator room houses the R550's central control, essentially the digital brain of the system.

The compartment comfortably accommodates three people and can be furnished entirely to customer requirements.



7 | Service access points

Various service doors and hatches provide direct access to designated areas for maintenance and inspection.

8 | Remote access and control

The R550 features remote access via a 4G LTE internet connection. Once authorised locally, supervisors or senior engineers can use an off-site laptop with a TeamViewer Business licence to monitor the graphical user interface, support field personnel or operate the system remotely.

For safety, 'HV ON' can only be activated locally.

Please visit megger.com/transmission for more information about cable maintenance solutions.

Do you have any questions?

To discuss your project or request further information, please contact Marc Seidler at marc.seidler@megger.com



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