



ENERGY AUTOMATION PRODUCTS

SIPROTEC 7SE20 – Travelling Wave Recorder, monitors your transmission and distribution lines

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High-voltage transmission lines are an essential part of our energy supply system. Their availability is increasingly important for transporting renewable energy to where it is needed. Therefore, faults on high-voltage lines must be reliably detected and quickly repaired. Travelling waves help to identify and localize faults on high-voltage transmission and distribution systems.

Basis of the travelling waves

Abrupt changes in the electrical parameters of the primary system, such as lightning strikes, short circuits, arc flashes or switching operations, cause traveling waves.

From the source, traveling waves spread along lines at nearly the speed of light.

Travelling waves can be measured in currents and voltages (e.g., via the normal protection transformers).

The position of the fault can be determined very precisely via a highly accurate time-measurement of the travelling wave.

What makes the Travelling Wave Recorder SIPROTEC 7SE20 unique

- integrated GNSS receiver for highly accurate time synchronization in the range of nanoseconds
- Recording of traveling waves with a sampling frequency of 10 MHz
- Acquisition of voltages and/or currents possible
- Direct connection to existing protection or metering transformers possible
- Storage of fault records in COMTRADE format

Application

Monitoring of high-voltage lines using the travelling wave method.

- Overhead lines for high- and extra high-voltage
- HVDC transmission lines
- High-voltage lines in grounded and isolated systems
- Sea cables

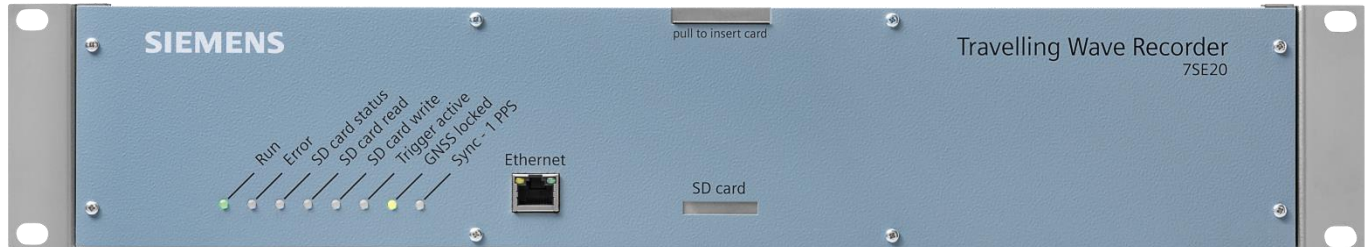
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What are your benefits using fault location with the SIPROTEC 7SE20 Travelling Wave Recorder

- You have a highly accurate and reliable fault location system
- You monitor long line sections even in areas that are difficult to access
- You save time during troubleshooting, regardless of the length of the line
- You benefit from the easy installation of the device
- You do not need to enter complicated line parameters, only the line length is needed

Technical data

SIPROTEC 7SE20 frontside



Indications / LED displays

- 8 Status information via LEDs

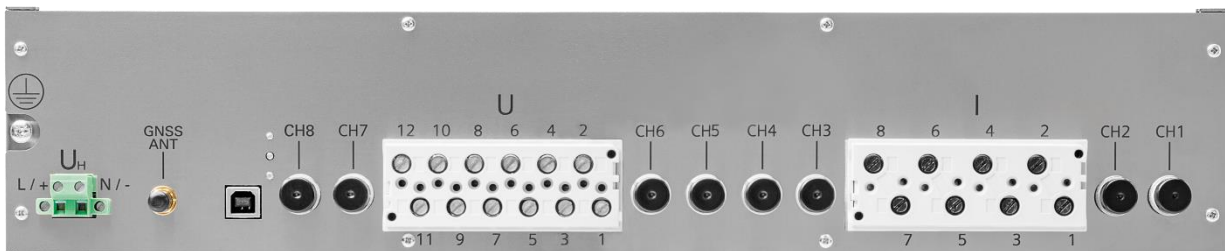
Memory

- SD card for storage of fault records in COMTRADE format

Interface

- RJ45 for connecting to a central PC or control system

SIPROTEC 7SE20 backside (clamping side)



Auxiliary power supply

- 100 V to 230 V AC or 110 V to 250 V DC

Interfaces

- Antenna port for GNSS time synchronization

Range of temperature

- 0°C to +40°C, in operation

Protection class

- Device IP20

Mounting, housing

- Version for panel mounting resp. 19" rack
- Dimensions: 482,6 x 88 x 300 mm (W / H / D)

Electric connections

- 4 voltage inputs, U1 to U8
- 4 current inputs, I1 to I8

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