

DISTRIBUTION AUTOMATION

# Remote Monitoring, Control and Measurement

## RTU520 enables automation of your network



Monitoring, control and measurement solutions are the foundation for automating your network. They enable you to see what happens inside your network, ensuring reliable and uninterrupted operation anywhere and anytime.

RTU520 allows accurate energy measurements, based on advanced fault detection equipment. This detailed information are considered the basis for Fault Detection Isolation and Restoration (FDIR), and Fault Location Isolation and Service Restoration (FLISR) functionality. This solution enables a detailed power flow analysis

with sensors and measurement devices in MV and LV applications, including smart meter integration.

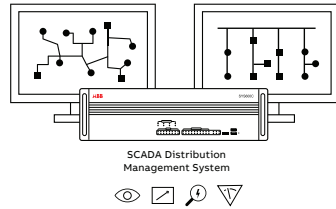
Improving your grid visibility gives you the control you need to take the right decisions at the right time to keep the power flowing.

### Functions

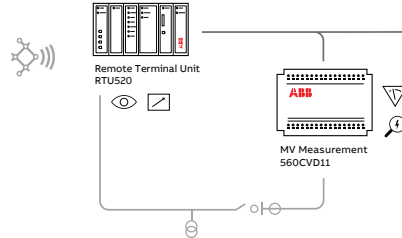
- Remote monitoring and control
- Fault detection information
- Low voltage and medium voltage energy measurements
- Central management of security events and user accounts
- Fault Detection, Isolation and Restoration of power (FDIR)

## APPLICATION EXAMPLE

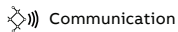
### Control center



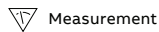
### Secondary distribution substation



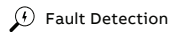
### Legend



Communication



Measurement



Fault Detection



Monitoring



Control

### Benefits

- Utilize existing infrastructure to its full potential
- Accurate situational awareness within the distribution network
- Improve operational efficiency
- Reduce SAIDI (System average Interruption Duration Index),
- Reduce SAIFI (System Average Interruption Frequency Index)
- Minimize outage time
- Reduce non-technical losses
- Grid stabilization

### Reference project in Aargau, Switzerland: RTU-based monitoring and control for substations

The increasing amount of renewable energy sources are instabilizing the electrical distribution networks. This requires closer monitoring and control of the network in the future, as the complex power flows must be taken account in the network control system.

A Swiss utility AEW Energie AG is responsible for a large number of substations and the medium- and low-voltage networks. AEW appointed ABB to develop, engineer and commission a future-proof concept for monitoring a secondary transformer station for extending further transformer stations.

ABB offered a solution, which monitors the transformer station remotely. The status of the control and protection IEDs is made available to AEW's control system in real-time. Commands to the relays can be sent remotely from the control system. The customer AEW says that ABB has provided them with cost-efficient solution for transferring digital and analog values from digital protection devices (IEDs) in transformer stations to their SCADA system.