

# ADF

Advanced directional fault detector





IEC61850 based IED for Automatic Circuit Breaker automation in secondary substation



**Distribution Protection** and **Automation** solution for **Secondary Circuit Breakers**.

Suitable for **IEC61869** standard compliant combined **Low Power Voltage** and **Current Transformers** (sensors).

According to ENEL DV7070 specifications.



## **Characteristics**

#### **GOOSE messages for Protection Coordination**

ADF allows the implementation of a new protection coordination scheme among the several devices installed along an MV line. This mechanism is based on the transmission of IEC61850 GOOSE messages with topological hierarchy identifier and the fault indication information. These messages are shared by all devices installed in the distribution network to implement a distributed FLISR mechanism in the Distribution network.



#### WebUI for Diagnostics and Maintenance

Complete diagnostics of GOOSE subscriptions and the status of objects included in the IEC61850 data model are available via WebUI.

No proprietary software tools are required.

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Web Server

#### **Communication Protocols & Cybersecurity**

Built-in IEC61850 MMS server enables communications with control centers or SCADA systems using the IEC 61850 protocol, supporting both GOOSE and MMS reports.

Multiple operations like remote firmware update or communication setting configuration, can be performed through the WebUI.

All operations are transmitted over cybersecure transport protocols like HTTPS or SSH.

### **DER Management Service**

ADF has been designed to allow a utility Control Center to receive and transmit information of the control systems and other IEDs in the customer facilities with Distributed Energy Resources (DER). ADF operates as a IEC61850 communications bridge between both agents.

#### **Key Features**

- ✓ Designed for any Distribution Grounding System (solidly grounded, impedance grounded, isolated or compensated Petersen-coil grounding)
- Powerful programable logic engine via ZIVeNet tool
- ✓ 6 digital inputs
- ✓ 5 configurable digital outputs for alarm signalling or ACB control commands
- ✓ Analog input interface compatible with Smart Terminations and IEC61869 sensors
- ✓ Oscillography recorder function (sample rate 4800 Hz)
- ✓ Diagnosis and Maintenance WebUI
- ✓ Cybersecurity: authentication and encryption

**ZIV Automation Headquarters**