

# Function of Relay Protection Merging Unit



## Overview

Merging units are a key element of the process bus concept, enabling the digitization of analogue, binary and command information into the IEC 61850 format so that end-to-end digitization can be achieved, contributing to a full digital substation. MU360 is the Process Interface Unit (PIU) with. Mega trends, such as digitalization and integration of renewables, are driving power systems to the next level. Is the next innovation a digital substation completely without wires?

Or is it a substation with only basic measurement products, while the protection and control algorithms are computed. SIPROTEC 6MU85 merging unit offers versatile solutions and migration concepts for new and existing systems. Compliant to IEC 61869-9, IEC 61869-13 and IEC 61850-9-2. Contact us for sales and pricing information.



## Article Content

Hot

Protection relays

Numerical relays are based on the use of microprocessors. Numeric relays are programmable. Most numerical relays are also multi-functional.

Mar 16, 2026 Hot

Merging unit - an essential building block of the future digital medium ...

The merging unit functionality is available in today's modern IEC 61850-based protection relays. Future centralized protection and control systems will also be enabled by merging units.

May 08, 2026 Hot

Operation Manual SMU615 Substation Merging Unit

the merging unit once it has been commissioned. The manual provides instructions for monitoring, controlling and setting the merging unit. The manual also describes how to identify disturbances and

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Products Detail | NYR Engineering

You can combine currents within the merging unit from two sets of CTs for protection functions but keep them separately available for monitoring and station

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Figure 9 -Protection Functions Inside or Outside

Download scientific diagram | -Protection Functions Inside or Outside Merging Units from publication: REDUNDANCY IN DIGITAL SUBSTATIONS | The introduction

Apr 23, 2026 Hot

Substation merging unit SMU615

The merging unit measures the current and voltage signals from the instrument transformers, merges and sends them to the protective devices in a standard-based digital output format.

Nov 30, 2025 Hot

Remote I/O and merging units

Remote I/O and merging units The remote I/O unit RIO600 expands the number of digital and analog inputs and outputs of Relion® protection and control relays as well as the substation management

Sep 01, 2025 Hot

Merging unit - SIPROTEC 6MU85 | Siemens

It functions as a central data node with automation at the process level, providing flexibility for your operational needs. Integrate primary and secondary equipment. Support various communication

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Merging Units

Merging units are a key element of the process bus concept, enabling the digitization of analogue, binary and command information into the IEC 61850 format so that

Jan 07, 2026 Hot

6MU805\_Manual\_A4\_V040200\_us.book

The main feature of a Merging Unit is generating sample values synchronized by an external synchronization signal PPS, GPS or IRIG-B. When digitizing sample values, the synchronization of

Aug 28, 2025 Hot

Siprotec 6MU805 Merging Unit: Improve Grid Connectivity

Siemens Numerical Relays How Does Siemens Siprotec 6MU805 Merging Unit Improve Grid Connectivity and Performance? Maintaining a stable, efficient, and

May 09, 2026 Hot

SIPROTEC Protection Relays | Siemens

SIPROTEC leads the way in integrating protection, control, measurement, and automation functions in one device. Secure your grid with

Jul 21, 2025 Hot

What is Digital Substation? □ Protection relay

The merging unit reads the output values of the instrument transformers, converts to digital signals and sends to the secondary equipment (BCU, protection relays) via

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SEL-401 Protection, Automation, and Control Merging Unit

Use this feature to gain a broad perspective of merging unit and relay element operation. Items that trigger an SER entry are selectable and can include input/output change of state, element

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### SAM600 Process Interface Unit

SAM600 can be configured as a merging unit, a switchgear control unit, or both — supporting different installation philosophies and feeder layouts. Its modular

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### SEL-401 Protection, Automation, and Control Merging Unit ...

Apply the SEL-401 for substations with IEC 61850-9-2 sampled values (SV) systems. Sample analog data, such as currents and voltages, then publish that data to a fiber network for use in other IEDs

Jun 10, 2026 Hot

### Substation merging unit SMU615

Protection relays in the substation with phase voltage-based functions can receive the SMVs over Ethernet and use them instead of physically measured voltages (using a VT or voltage sensor).

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### Sampled Values Solution with Protection Functions

SEL merging units have integrated, local protection that works even if communications are lost between the merging unit and the relay. They can be

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### Technisches Handbuch SMU615 Stations-Merging Unit

Die Merging Unit verfügt über einen Kondensator mit einer Sicherungsleistung von 48 Stunden und ermöglicht somit die Aufrechterhaltung einer korrekten Zeitnahme bei Ausfällen der

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### Protective Relay Basics Part 2

Part 1: Protective relay compared to low voltage circuit breaker. Review fundamental concepts, components, and terminology using the electromechanical overcurrent relay as a foundation.

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### SEL-401 Protection, Automation, and Control Merging Unit

These features also aid in testing and troubleshooting merging unit and relay settings and protection schemes. Oscillograms are available in binary COMTRADE and ASCII COM-TRADE formats.

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### Optimization of Utility Substation with IEC 61869 Merging Unit ...

This paper aims to discuss the implementation of IEC-61869 technology in utility substations to consolidate field measurements and transmit them to a centralized protection relay. Such an

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### Substation Merging Unit SMU615 RELION

2. Application configurations SMU615 is fully configured to perform its designed primary function in the system as a merging unit and it includes only the relevant functions needed for maximum simplicity.

Feb 22, 2026 Hot

### Merging Units: The Cornerstone of Modern Digital Substations

Discover how merging units are transforming digital substations, improving reliability, and enabling smarter grid protection and control. Merging units have emerged as a foundational

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### Merging Units

A Process Bus that allows the mapping of measurement made in the switchyard to protection relays located in the control house using IEC 61850 communication

Mar 12, 2026 Hot

### Sampled Values Solution with Protection Functions

The new SEL-401 Protection, Automation, and Control Merging Unit and SEL-421 Protection, Automation, and Control Merging Unit digitize analog signals from

Jan 24, 2026

## Contact Us

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