

SIEMENS



Products for digital substations

## SIPROTEC 7SC805

Merging Unit for conventional instrument transformer

Integrated  
PRP, HSR



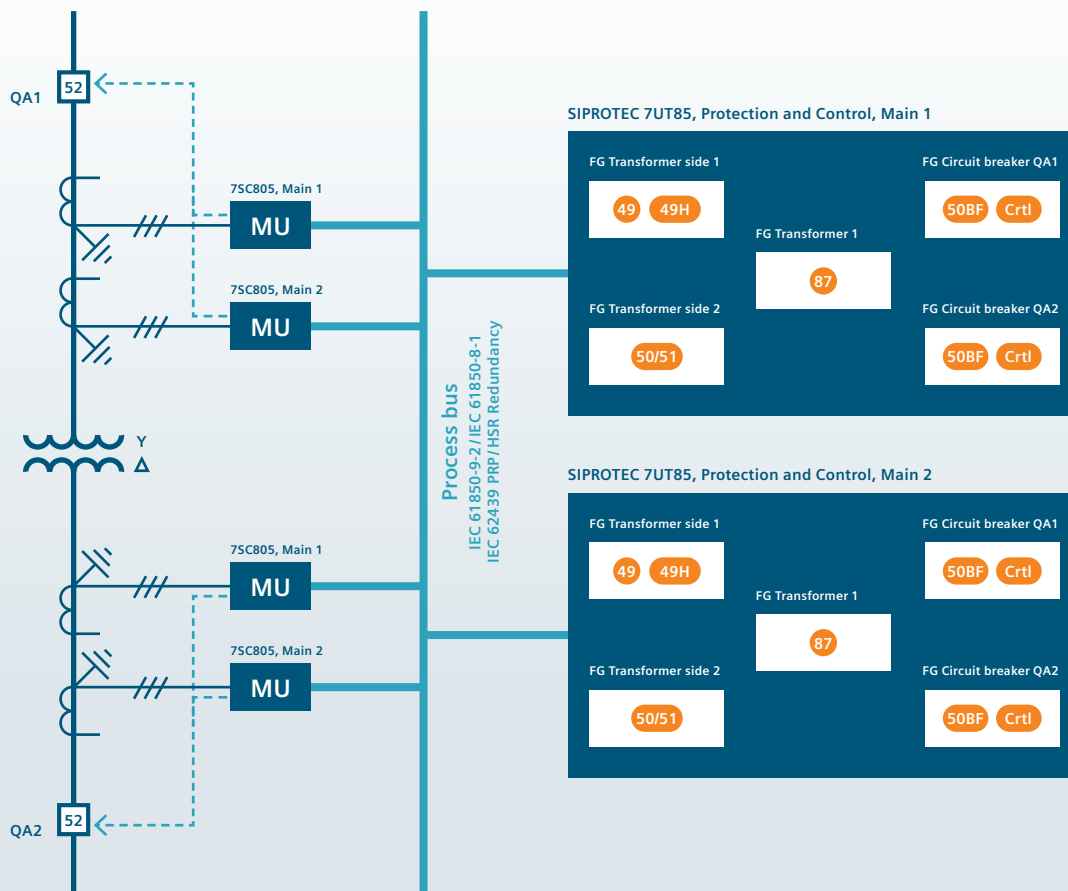
[www.siemens.com/processbus](http://www.siemens.com/processbus)

# SIPROTEC 7SC805 Merging Unit:

built to create digital substations based on IEC 61850-9-2 process bus standard

## Benefits of using a process bus:

- Cost savings as a result of reduced wiring
- Enhanced safety thanks to no exposed wires in protection relays
- Increased flexibility due to easier routing of measured values
- Independent from primary equipment



# SIPROTEC 7SC805 Merging Unit:

## feature overview

- IEC 61850-9-2 sampled values
- IEC 61850-8-1 GOOSE
- Time synchronization via PPS, IRIG-B, or GPS
- Input for 4 currents and 4 voltages
- Free configurable binary inputs and outputs
- Full support of IEC 62439: PRP and HSR redundancy protocols
- Designed for harsh environments, including EMC and dust
- Extended temperature range (from  $-40^{\circ}\text{C}$  and up to  $70^{\circ}\text{C}$ )
- Full remote access for firmware and parameter updates and upgrades
- Web-based HMI for fast and easy remote control
- Low power consumption
- Powerful graphical logic editor (CFC)

### Basic features

USB front interface, status LEDs, labeled ports

Compact design

IEC 61850-8-1, IEC 61850-9-2



Remote control and upgrade Web-based HMI

Detachable HMI

Pluggable current and voltage terminal blocks

# SIPROTEC 7SC805 Merging Unit:

flexible application for digital substations

Our extensive experience gained from a wide variety of process bus pilot projects and our protection experience amassed over 100 years allow us to generate products that not only fulfill the standard but also increase customer value.

## Description

SIPROTEC 7SC805 is a KEMA-certified stand-alone merging unit designed according to the standard IEC 61850-9-2 process bus. The Merging Unit SIPROTEC 7SC805 digitizes the output of conventional instrument transformers synchronized to a time-synchronization signal. The device converts the analog values to sampled measured value telegrams according to the IEC 61850-9-2 standard.

SIPROTEC 7SC805 also supports data exchange and primary equipment control command functions via GOOSE telegrams.

The Merging Unit device SIPROTEC 7SC805 complements the SIPROTEC 5 device with an IEC 61850-9-2 interface for fully digital substations.



# SIPROTEC 7SC805 Merging Unit: everything you need for remote operation and control

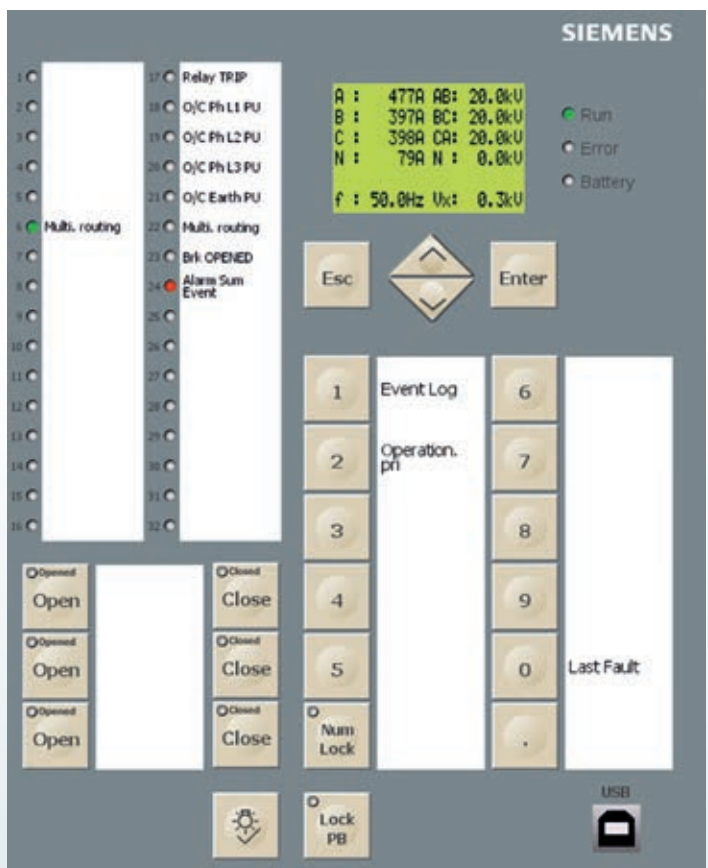
## Comprehensive physical and interactive Web-based HMI

The relay has a physical or Web-based HMI with 32 LEDs and nine programmable keys to configure shortcuts for menus and other applications:

- Large and well-organized display
- 14 function keys plus arrow keys
- 32 configurable LEDs plus operating LEDs
- Automatic LED and keys labeling
- Key for LED acknowledgement
- "Open" and "Close" keys for direct control of equipment
- Lock keys prevent accidental actions

## With DIGSI 4 and SIGRA 4, you have everything under control

- Easy configuration of flexible protection functions
- A matrix instead of nested dialogs means less time and fewer errors
- With DIGSI 4, you read all process data from a device and store it centrally
- With SIGRA 4, you can analyze every network fault



# SIPROTEC 7SC805 Merging Unit:

## function overview

### Control functions/programmable logic

- Commands for the control of CB, reclosers, disconnect switches (isolators/isolating switches)
- Control through keyboard, binary inputs, DIGSI 4, or SCADA system
- User-defined PLC logic with CFC (for example, interlocking)

### Communication interfaces

- Ethernet, optical LC multimode
- Sampled measured values (IEC 61850-9-2)
- GOOSE (IEC 61850-8-1)
- PRP, HSR redundancy protocols (IEC 62439)
- USB front interface for DIGSI
- SNTP for logging

### Hardware

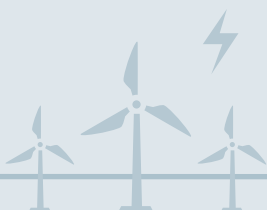
- 4 current transformers
- 4 voltage transformers
- 12 binary inputs
- 8 binary outputs
- 1 life contact
- Pluggable terminals
- Detachable HMI
- Low-power CTs

### Mandatory for process bus according to IEC 61850-9-2 LE

- IEC 61850-9-2 sampled values
- Input for 4 currents and 4 voltages
- Time synchronization via PPS

### Additional features of SIPROTEC 7SC805

- IEC 61850-8-1 GOOSE for integrated breaker control
- 12 binary inputs and 8 binary outputs
- Compliant with current draft of Merging Unit Standard IEC 61869-9/-13
- Time synchronization via IRIG-B or GPS
- Full support of IEC 62439: PRP and HSR redundancy protocols
- Integrated Web server for easy access
- Integrated in DIGSI for holistic engineering
- Extended temperature range (from  $-40^{\circ}\text{C}$  and up to  $70^{\circ}\text{C}$ ) for harsh environments



# Product description:

## Merging Unit for conventional instrument transformers SIPROTEC 7SC805

		5	6	7	8	9	10	11	12	13	14	15	16
<b>Order No.:</b> 7 S C 8 0		□	□	-	□	□	□	□	-	□	□	□	□
<b>Basic functions</b>		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Housing, 12 BI, 8 BO, 1 Life contact	5												
<b>Specification of CT and VT measuring inputs</b>	4												
4xI 1 A/5A, 4xV													
<b>Rated auxiliary voltage</b>	1												
DC 60V to 250V; AC 115V, AC 230V													
DC 24V/48V	2												
<b>Unit version</b>													
Surface mounting housing													
Surface/Flush mounting housing with HMI													
Surface mounting housing with detached HMI													
<b>Region-specific default- and language settings</b>													
Region DE, IEC, language German <sup>1)</sup>													
Region World, IEC/ANSI, language English <sup>1)</sup>													
<b>System interface</b>													
100 Mbit Ethernet, with integrated switch, optical, 2 x LC connector multimode													
<b>Protocol for system interface</b>													
IEC 61850-9-2, IEC 61850-8-1													
<b>Additional interfaces</b>													
Optical PPS/IRIG-B 005/B007 module													
GPS module													
<b>Basic function</b>													
Standard													
<b>Additional function</b>													
Standard													
<b>Function package</b>													
Merging Unit													
<b>Function package</b>													
None													

<sup>1)</sup> language selectable



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Siemens AG  
Infrastructure & Cities Sector  
Smart Grid Division  
Energy Automation  
Humboldtstr. 59  
90459 Nuremberg, Germany  
[www.siemens.com/siprotec](http://www.siemens.com/siprotec)

For more information,  
please contact our  
Customer Support Center.  
Phone: +49 180 524 84 37  
Fax: +49 180 524 24 71  
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Order No. IC1000-G220-A232-X-4A00, SIMC-0000-44042  
Printed in Germany | AL=N ECCN=N  
Dispo 6200  
HL 14079179 WS 08141.0  
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