

## SIPROTEC 4 6MD63 Bay Control Unit



**Fig. 12/9**  
SIPROTEC 4  
6MD63 bay control unit

### Description

The 6MD63 bay control unit is a flexible, easy-to-use control unit. It is optimally tailored for medium-voltage applications but can also be used in high-voltage substations.

The 6MD63 bay control unit has the same design (look and feel) as the other protection and combined units of the SIPROTEC 4 relay series. Configuration is also performed in a standardized way with the easy-to-use DIGSI 4 configuration tool.

For operation, a large graphic display with a keyboard is available. The important operating actions are performed in a simple and intuitive way, e.g. alarm list display or switchgear control. The operator panel can be mounted separately from the relay, if required. Thus, flexibility with regard to the mounting position of the unit is ensured.

Integrated key-operated switches control the switching authority and authorization for switching without interlocking.

### Function overview

#### Application

- Optimized for connection to three-position disconnectors
- Switchgear interlocking interface
- Suitable for redundant master station
- Automation can be configured easily by graphic means with CFC

#### Control functions

- Number of switching devices only limited by number of available inputs and outputs
- Position of switching elements is shown on the graphic display
- Local/remote switching via key switch
- Command derivation from an indication
- 4 freely assignable function keys to speed up frequently recurring operator actions
- Switchgear interlocking isolator/c.-b.
- Key-operated switching authority
- Feeder control diagram
- Measured-value acquisition
- Signal and command indications
- $P$ ,  $Q$ ,  $\cos \varphi$  (power factor) and meter-reading calculation
- Event logging
- Switching statistics

#### Monitoring functions

- Operational measured values
- Energy metering values
- Time metering of operating hours
- Slave pointer
- Self-supervision of relay

#### Communication interfaces

- System interface
  - IEC 61850 Ethernet
  - IEC 60870-5-103 protocol
  - PROFIBUS-FMS
  - DNP 3.0
  - PROFIBUS-DP
  - MODBUS
  - Service interface for DIGSI 4 (modem)/temperature detection (thermo-box)
  - Front interface for DIGSI 4
  - Time synchronization via IRIG-B/DCF 77

Selection and ordering data

Description	Order No.	Order code
<b>6MD63 bay control unit with local control</b>	<b>6MD63</b> □□ - □□□□□ - □AA0 □□□	
<i>Housing, binary inputs (BI) and outputs (BO), measuring transducer</i>		
Housing ½ 19", 11 BI, 8 BO, 1 live status contact	1	
Housing ½ 19", 24 BI, 11 BO, 4 power relays, 1 live status contact	2	
Housing ½ 19", 20 BI, 11 BO, 2 measuring transducer inputs, 4 power relays, 1 live status contact	3	
Housing ½ 19", 20 BI, 6 BO, 4 power relays, 1 live status contact	4 <sup>1)</sup>	
Housing 1/1 19", 37 BI, 14 BO, 8 power relays, 1 live status contact	5	
Housing 1/1 19", 33 BI, 14 BO, 2 measuring transducer inputs, 8 power relays, 1 live status contact	6	
Housing ½ 19", 33 BI, 9 BO, 8 power relays, 1 live status contact	7	
<i>Current transformer I<sub>n</sub></i>		
No analog measured variables	0	
1 A <sup>2)</sup>	1	
5 A <sup>2)</sup>	5	
<i>Rated auxiliary voltage (power supply, indication voltage)</i>		
24 to 48 V DC, threshold binary input 19 V <sup>3)</sup>	2	
60 to 125 V DC <sup>4)</sup> , threshold binary input 19 V <sup>3)</sup>	4	
110 to 250 V DC <sup>4)</sup> , 115 to 230 V AC, threshold binary input 88 V <sup>3)</sup>	5	
<i>Unit design</i>		
For panel surface mounting, plug-in terminal, detached operator panel	A	
For panel surface mounting, 2-tier terminal, top/bottom	B	
For panel surface mounting, screw-type terminal, detached operator panel	C	
For panel flush mounting, plug-in terminal (2/3 pin AMP connector)	D	
For panel flush mounting, screw-type terminal (direct connection/ring-type cable lugs)	E	
For panel surface mounting, screw-type terminal (direct connection / ring-type cable lugs), without HMI	F	
For panel surface mounting, plug-in terminal without HMI	G	
<i>Region-specific default settings/function versions and language settings</i>		
Region DE, 50 Hz, IEC, language: German, changeable	A	
Region World, 50/60 Hz, IEC/ANSI, language: English (GB), changeable	B	
Region US, 60 Hz, ANSI, language: English (US), changeable	C	
Region FR, IEC/ANSI, language: French, changeable	D	
Region World, IEC/ANSI, language: Spanish, changeable	E	
<i>System interface (on rear of unit/Port B)</i>		
No system port	0	
IEC 60870-5-103 protocol, electrical RS232	1	
IEC 60870-5-103 protocol, electrical RS485	2	
IEC 60870-5-103 protocol, 820 nm fiber optic, ST connector	3	
PROFIBUS-FMS Slave, electrical RS485	4	
PROFIBUS-FMS Slave, fiber optic, single ring, ST connector <sup>5)</sup>	5	
PROFIBUS-FMS Slave, fiber optic, double ring, ST connector <sup>5)</sup>	6	
PROFIBUS-DP Slave, RS485	9	L O A
PROFIBUS-DP Slave, 820 nm fiber optic, double ring, ST connector <sup>5)</sup>	9	L O B
MODBUS, RS485	9	L O D
MODBUS, 820 nm fiber optic, ST connector <sup>5)</sup>	9	L O E
DNP 3.0, RS485	9	L O G
DNP 3.0, 820 nm fiber optic, ST connector <sup>5)</sup>	9	L O H
IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45 connector	9	L O R
IEC 61850, 100 Mbit Ethernet, optical, double, LC connector <sup>5)</sup>	9	L O S
<i>DIGSI 4/modem interface (on rear of unit/Port C)</i>		
No port on rear side	0	
DIGSI 4, electrical RS232	1	
DIGSI 4, electrical RS485	2	
DIGSI 4, optical 820 nm, ST connector	3	
<i>Measuring</i>		
Basic metering (current, voltage)	0	
Slave pointer, mean values, min/max values only for position 7= 1 and 5	2	

- 1) Only for position 7 = 0
- 2) Rated current can be selected by means of jumpers.
- 3) The binary input thresholds can be selected in two stages by means of jumpers.
- 4) Transition between the two auxiliary voltage ranges can be selected by means of jumpers.
- 5) Not with position 9 = "B"; if 9 = "B"; please order 6MD6 unit with RS485 port and separate fiber-optic converter.