=D02 =D05 =D06 =D07 =D08 =D09

220,0 kV

0,0 kV

0 A

600 A

0 A

0 A

600 A

600 A

SICAM STATION UNIT

SICAM Station Unit – 6MD91

Energy Automation

Catalog SICAM 4.1.3 · 2008

Answers for energy.

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For some years now, power generation and distribution have been undergoing major changes. The innovation cycles (where operating equipment and communication media are concerned) are getting shorter, and the market is becoming increasingly deregulated.

The systems used to monitor power supply equipment and processes must take account of these changes.

When new products are used, user-friendliness and interfacing to various communication media are important features.

SICAM Station Unit is the standard hardware platform for the substation automation software SICAM PAS. SICAM Station Unit meets all requirements of hardware of a substation automation control system – both now and in future.

Benefits

- No fan, no rotating parts
- Maintenance free
- Type test with certificates by independent laboratory
  - Safety tests
  - Tests for Electromagnetic Compatibility (EMC), CE mark

Environmental conditions

- RoHS conformity
- Manufactured according to DIN EN ISO 9001 and DIN EN ISO 14001
- High industrial standards
- Ambient air temperature for uninterrupted operation: 0 °C to 55 °C
- Storage temperature: –40 °C to 80 °C

Station unit

Power supply

- 2 modules are available
  - 24 to 60 V DC – ± 10%
  - 110 to 230 V DC & V AC, 50/60 Hz (all in one) – ± 10%
- Single or redundant (only one power supply module supplies power at a time)
- Switchover without reboot
- The non active power supply can be removed during operation
- Modules mixable (e.g. one for battery and one for station power)
- Status LEDs (shows active power supply)
- Rating: 120 W
- 40 ms buffer for voltage sags and dips

Description

Technical data

- 1.86 GHz Intel mobile processor (Yonah processor)
- 2 x 2 GB compact flash cards
  (Industrial Grade and Error Correction)
- One card for system and SICAM PAS & DB
- One card for fault records and other write actions
- 2 GB RAM
- 2 x 10 – 1000 MB/s Ethernet RJ45
- VGA interface
- 1 Com Port
- 6 USB 2.0 ports
- Hard reset button
- Status LEDs
- One binary output contact used for live signal

Enhancements

- A PCI bridge is available which provides 4 PCI slots
  - Space left in backplane for longer PCI cards
    (e.g. Hopf GPS6039)
  - Lower 2 slots can be for wider cards
- Status LEDs for different voltage levels

Operational state of SICAM Station Unit can be monitored via SNMP.

Recovery and Backup DVDs

- User-friendly bootable "Recovery DVD for E & D"
  - For factory setting restoration
- User-friendly bootable "Backup DVD"
  - For saving images and restoring these
- Commissioning tools on DVDs available
- USB DVD drives required

Operating system Windows XP Embedded SP2

- Available since November 2002
- Componentized version of Windows XP Pro
- Unmodified XP Pro binaries
- Only required components
  installed
  - Reduced footprint
  - No games, no multimedia
  - Faster boot & shut down
- Specifically tailored for substation automation
- Excellent reliability

Security

- Windows XP embedded platform
  - Componentized version of XP
  - Tailor-made operating system
  - Less vulnerable to virus attacks
- Hardened operating system according to NERC requirements and hacker attacks (Siemens CERT) have been performed
- EWF protected – reboot restores original status
- Security updates included

Advantages

- High performance
- High stability
- Remote desktop access & administration
- Built in HW Watchdog
- Faster boot and shut down processes
- Open and flexible hardware platform, can easily be integrated into IT world
- Warranty may be extended via order number code
- Very long experience in substation automation systems
- Long experience in embedded substation automation systems
- Approximately 1000 SICAM Station Unit systems already in application

The following **documentation** is available:

- Manual
- Product information
- SICAM PAS documentation

Scope of delivery

- SICAM Station Unit V2
  Two sizes are available:
  - Long system rack: 19" rack
    370 mm deep, 4 units high (178 mm)
  - Short system rack: 19" rack
    310 mm deep, 4 units high (178 mm)
- Front cover lockable on both sides, hinged at bottom
- Windows XP Embedded SP2 and latest HFs
- Recovery DVD
- Backup DVD
- Manual
- 10-year repair and delivery support

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Description	Order No.

SICAM Station Unit

SICAM Station Unit V2 based on industrial mobile processor; 19" rack system, fanless, without moving components.
With Windows XP embedded service pack 2 with SICAM PAS pre-installed, without license/dongle
Dongle (USB-version) must be ordered separately.
CPU: Yonah M processor, 1.87 GHz
2 GB RAM, 2 x 2 GB Flash, 4 external USB, 2 internal USB,
2 x Gbit Ethernet RJ45, 1 serial port, status LEDs.
Redundant power supplies, switchover without reboot.
Monitored by SNMP, HW Watchdog,
Temperature/voltage monitoring, live contact

Design

Long system rack	0
Short system rack	1

Version

Version 2: 1.87 GHz CPU	1

Primary power supply

24 – 60 V DC	1
110 – 230 V AC/DC	2

Secondary power supply

Without	A
24 – 60 V DC	B
110 – 230 V AC/DC	C

Primary storage medium / operating system

2 GB compact flash card with Windows XP Embedded SP2	A

Secondary storage medium

2 GB compact flash card	1

Language of operating system & SICAM PAS software

German	1
English	2

Function

Full server	1
Device interface processor	2

PCI adapter

Without	A
With	B

Com Port expander

Without	A

Guarantee extension

2 years guarantee	0
3 years guarantee	1

Description			Order No.
Spare parts for Version 2: 1.87 GHz CPU	**Power supply**	24 – 60 V DC 110 – 230 V AC/DC	**6MD9901-0AA00-0AA0** **6MD9901-0AB00-0AA0**
	CPU	Module with 2 x 2 GB flash, 2 GB RAM, Image SU V2 00, **full server English**, licence, recovery DVDs, backup CD	**6MD9901-0BA00-0AA0**
		Module with 2 x 2 GB flash, 2 GB RAM, Image SU V2 00, **DIP English**, licence, recovery DVDs, backup CD	**6MD9901-0BA10-0AA0**
		Module with 2 x 2 GB flash, 2 GB RAM, Image SU V2 00, **full server German**, licence, recovery DVDs, backup CD	**6MD9901-0BA20-0AA0**
		Module with 2 x 2 GB flash, 2 GB RAM, Image SU V2 00, **DIP German**, licence, recovery DVDs, backup CD	**6MD9901-0BA30-0AA0**
	Data storage	2 GB compact flash card Recovery DVD English, German + backup	**6MD9901-0CA00-0AA0** **6MD9901-0CA01-0AA0**
	PCI adapter	PCI adapter Front plate replacement for PCI bridge	**6MD9901-0DA00-0AA0** **6MD9901-0DA00-1AA0**
	Miscellaneous	Front cover Long system rack without modules and power supplies Short system rack without modules and power supplies	**6MD9901-0FA00-0AA0** **6MD9901-0FA00-0AB0** **6MD9901-0FA00-1AB0**

Catalog Index of the Energy Sector, Power Distribution (Energy Automation)		
Energy automation		
SICAM PAS 6MD9	SICAM 4.1.1	E50001-K5604-A111-A3-7600
SICAM PAS – 6MD90	SICAM 4.1.2	E50001-K5604-A121-A3-7600
SICAM Station Unit – 6MD91	SICAM 4.1.3	E50001-K5604-A131-A1-7600
Numerical protection systems and bay control units		
SIPROTEC Numerical Protection Relays (printed catalog)	SIP · 2008	E50001-K4400-A101-A5-7600
SIPROTEC Numerical Protection Relays (CD ROM)	SIP · 2008	E50001-D4400-A107-A5-7600

CE-conformity

This product is in conformity with the directives of the Council of the European Communities on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Council Directive 89/336/EEC) and concerning electrical equipment for use within specified voltage limits (low-voltage directive 73/23/EEC).

This product conforms with the international standard IEC 60255, and the national standard DIN 57435/Part 303.

The product is designed for use in an industrial environment acc. to the EMC standard specification.

Conformity is proved by tests performed by Siemens AG in line with article 10 of the Council Directives in accordance with the generic standards EN 50081 and EN 50082 for EMC directive EN 60255-6 for the "low-voltage directive".

Responsible for

<u>Technical contents:</u> André Suhr
Siemens AG, E D EA 2, Nuernberg

<u>General editing:</u> Claudia Kühn-Sutiono
Siemens AG, E CC MCC R, Erlangen

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