



SENTRON

powermanager

**Software for supporting a power management system
in accordance with ISO 50001**

Detecting potential energy savings with power monitoring

The powermanager power monitoring software reliably and precisely processes and monitors the measured data of the 7KT/7KM PAC measuring devices and the communication-capable 3WL/3VL circuit breakers. Potential energy savings can easily be identified thanks to the transparency of the energy flows. The power monitoring software has been tested by the TÜV Rheinland for its suitability to support a power management system in accordance with ISO 50001.

Greater functionality and user-friendliness

The new version of the power monitoring software offers improved scalability, enhanced report templates, response plans, dimension parameterization, and virtual measuring points for calculating customer-specific characteristics. Another innovative feature is load monitoring, which can be used to monitor preset power limits for freely definable time periods. The system outputs appropriate switching recommendations when a limit is about to be exceeded. Remote switching of circuit breakers is also possible.

Highlights

- Integrated portfolio for efficient power monitoring
- Greater functionality and user-friendliness
- Simplified engineering thanks to extensive default settings in the power monitoring software

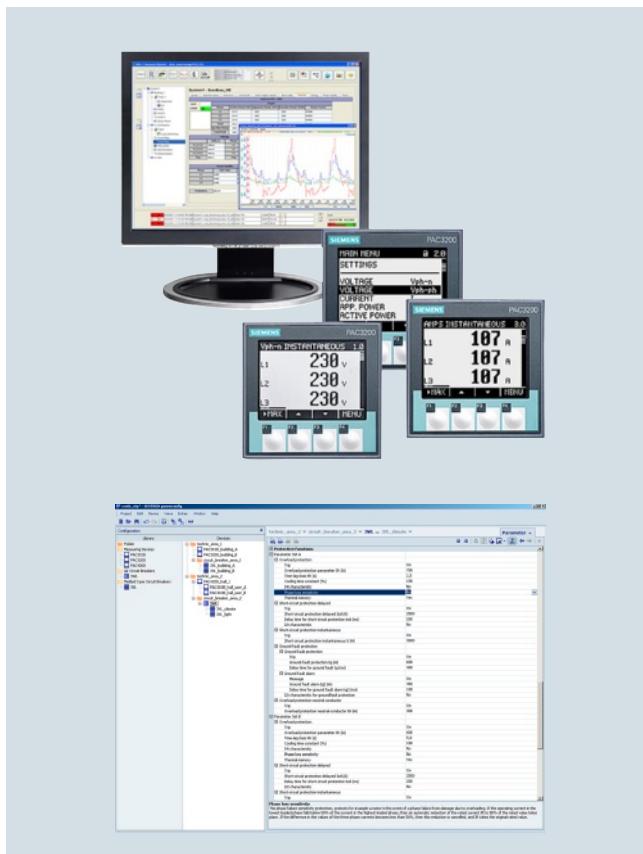


Software

Configuring, Visualizing and Controlling with SENTRON

General data

Overview



powermanager

Power monitoring software for the SENTRON-based power monitoring system with the following main points:

- to identify savings potential
- to reduce power costs
- to ensure power availability

powerconfig

Commissioning and service tool for communication-enabled measuring devices and circuit breakers from the SENTRON product family with the following main points:

- Facilitates parameterization of the devices, resulting in considerable time savings, particularly when several devices have to be set up.
- With powerconfig, the 3WL and 3VL circuit breakers and the 7KM PAC3100 / 3200 / 4200 measuring devices can be parameterized, documented, operated and monitored using various communication interfaces.

More information

You can find more information on the Internet at:

www.siemens.com/lowvoltage/powermonitoring

Overview



Components of the PC-based power monitoring system

Power monitoring system with the SENTRON product family

The SENTRON product family offers the user not only power monitoring software in the form of the powermanager, but also the corresponding hardware in the form of 7KT/7KM PAC measuring devices and 3WL/3VL circuit breakers for implementing a plant power monitoring system.

The components are optimally coordinated with each other. For example, special drivers for the SENTRON devices are integrated in the powermanager power monitoring software so that, on the one hand, power data acquisition can take place without any great configuration effort and, on the other, the most important measured values or states are indicated by predefined displays.

This reduces the engineering work for the customer and gives the user the assurance of knowing that the device functions are optimally supported in the software.

Features of powermanager

The power monitoring software powermanager is the central feature of the PC-based power monitoring system and

- is an independent power monitoring software.
- can be operated using a PC and measuring devices with Ethernet connection.
- is expandable from the simple standard application to a fully flexible customer solution.
- is fully scalable with regard to the number of devices and the software's functions.
- ensures optimum integration of measuring devices from the 7KT/7KM PAC range, as well as 3WL/3VL circuit breakers, but also any Modbus devices.



User interface of powermanager

Standard package and option packs

Even in the standard package, powermanager covers the normal requirements. This package provides users with easy-to-operate power monitoring software which enables the data detected by the measuring devices to be read out, displayed, archived, monitored, and processed in basic analyses, such as cost center allocation, consumption comparison, and duration curve presentation. Reporting is Excel-based and easy to operate.

The "Expert" option pack gives users full flexibility for the presentation of individual graphical interfaces (e.g. single line presentations). E-mails and SMS text messages can also be sent automatically and users can develop their own scripts for any functions.

The "Web" option pack enables users to display data and images using a standard Web browser, with no installation. Several engineering clients can also be used besides these Web clients.

With the "Distributed Systems" option pack it is possible to connect several distributed powermanager servers to form one complete system. This means, firstly, that distributed sites can be managed from a single location and, secondly, that the number of usable devices can thus be increased.

The system is, of course, expandable to the extent that it allows the user to begin with the basic functionality of the powermanager and then add the "Expert" option pack at a later date. Existing data and configurations can still be used after upgrading.

The same also applies as regards the number of devices, which can be increased at any time.

Benefits

- Transparency of power flows
- Exact knowledge of the consumption profile
- Increased power efficiency
- Optimization of power supply contracts
- Compliance with contractual terms
- Allocation of power costs to cost centers

- Optimization of plant maintenance
- Identification of critical plant conditions
- Available languages:
German, English, Spanish, Portuguese
- Support of the various device communication interfaces
(Modbus RTU, Modbus TCP)
- Status display of devices

Software

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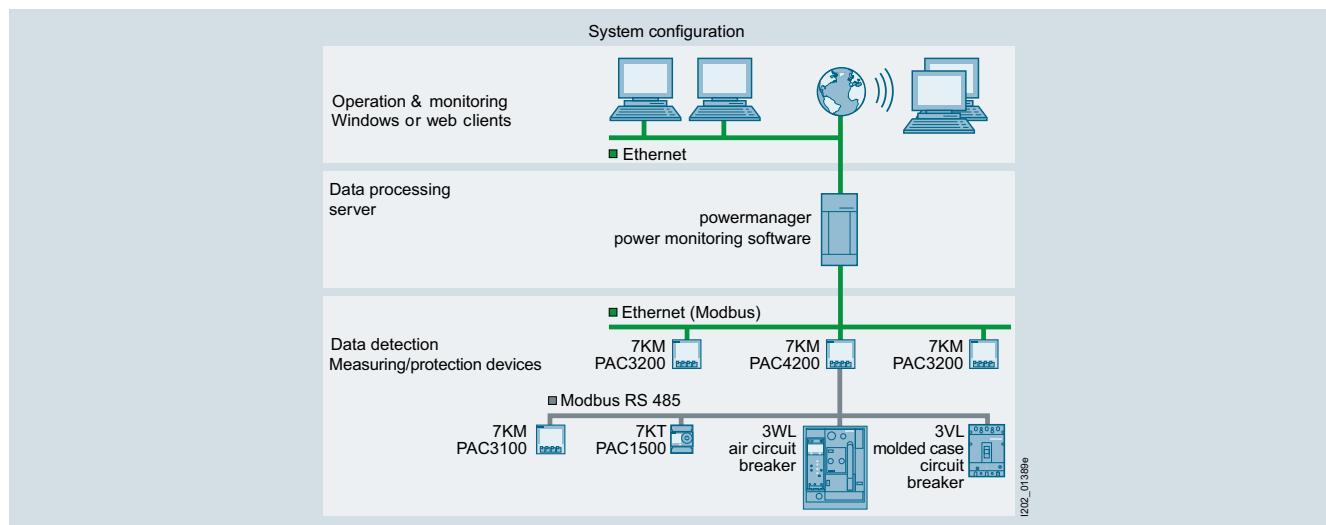
Application

The product offers a standard power monitoring solution which provides the user with the following basic functions:

- Collection of measured quantities from the devices
- Presentation of the measured quantities from the devices in a predefined standard view for the 7KT PAC1500, 7KM PAC3100, 7KM PAC3200, 7KM PAC4200 measuring devices and 3WL/3VL circuit breakers
- Free presentation of measured quantities possible, including from non-Siemens devices, using generic Modbus drivers
- Archiving of measured quantities
- Monitoring of status and limits, with generation of corresponding signals

- Load curve display for visualizing the archived data and online data
- Cost center reports based on predefined rates and the archived consumption data
- OPC server
- Configuration of the system including user management
- Load monitoring for complying with power limits
- Virtual computation

This standard solution is designed with cost-efficiency and simple system start-up in mind.



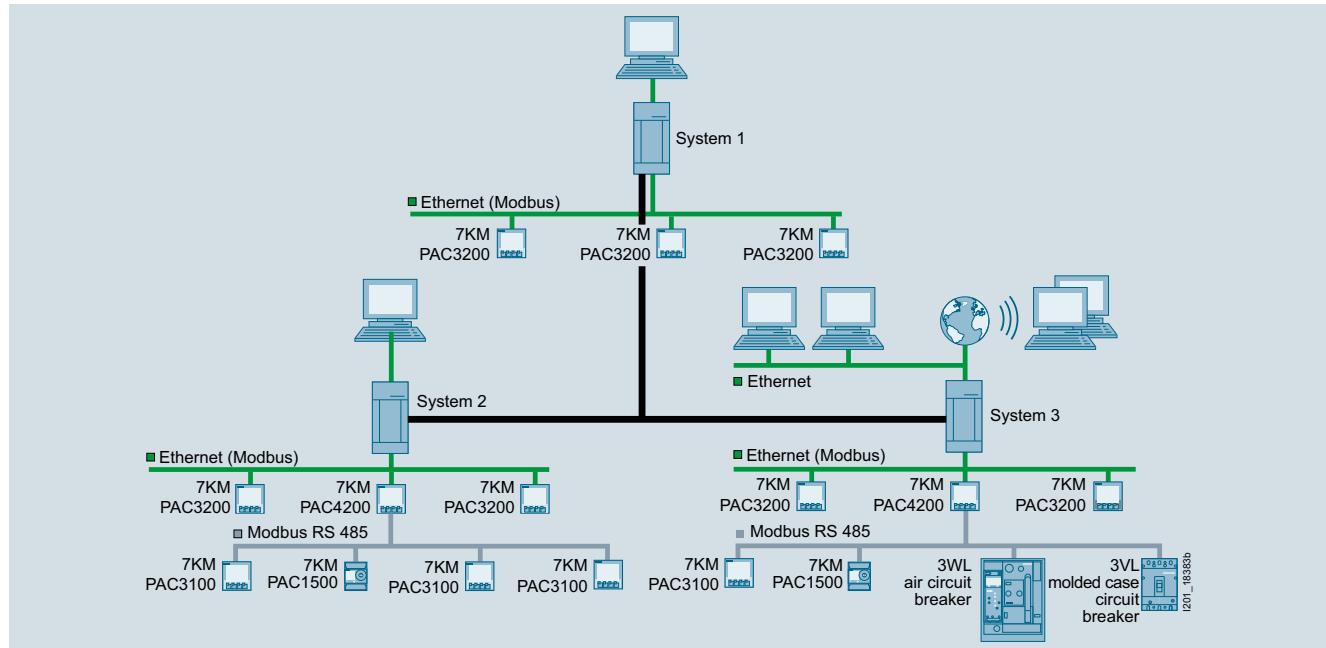
Topology of the power monitoring system

Structure of a distributed system

Cross-site networking is possible with the "Distributed Systems" functionality:

- Linking of several autonomous SENTRON powermanager systems

- Each system can access and display measured variables and alarms of other systems.
- Cross-system report generation
- Increase in the maximum number of devices thanks to load distribution.



Topology of a distributed power monitoring system

Selection and ordering data

Version	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
							kg
powermanager V 3.0							
• Trial license up to 10 devices incl. "Expert" and "Web" option packs full product license limited to 30 days		3ZS2711-0CC30-0YA7		1	1 unit	133	0.217
• Basic package full product license up to 10 devices, installation for client/server		3ZS2711-0CC30-0YA0		1	1 unit	133	0.230
• Device pack (20) device expansion license for up to 20 devices		3ZS2711-0CC30-0YD0		1	1 unit	133	0.141
• Device pack (50) device expansion license for up to 50 devices		3ZS2712-0CC30-0YD0		1	1 unit	133	0.137
• Device pack (100) device expansion license for up to 100 devices		3ZS2713-0CC30-0YD0		1	1 unit	133	0.147
• Device pack (200) device expansion license for up to 200 devices		3ZS2714-0CC30-0YD0		1	1 unit	133	0.147
• Device pack (500) device expansion license for up to 500 devices		3ZS2715-0CC30-0YD0		1	1 unit	133	0.148
• Device pack (1000) device expansion license for up to 1000 devices		3ZS2716-0CC30-0YD0		1	1 unit	133	0.134
• Update license from V2.0 Lean to V3.0 (10)		3ZS2711-0CC30-0YE0		1	1 unit	133	0.229
• Update license from V 2.0 Standard to V 3.0 (50)		3ZS2712-0CC30-0YE0		1	1 unit	133	0.235
• Update license from V 2.0 Advanced to V 3.0 (100)		3ZS2713-0CC30-0YE0		1	1 unit	133	0.229
• Update license from V 2.0 Maximum to V 3.0 (200)		3ZS2714-0CC30-0YE0		1	1 unit	133	0.231
powermanager V 2.0							
• Upgrade license from Lean to Standard		3ZS2712-0CC20-0YD0		1	1 unit	133	0.144
• Upgrade license from Standard to Advanced		3ZS2713-0CC20-0YD0		1	1 unit	133	0.143
• Upgrade license from Advanced to Maximum		3ZS2714-0CC20-0YD0		1	1 unit	133	0.141
Option packs							
• Option pack "Expert" Option for creating/presenting any number of freely configured images		3ZS2710-2CC20-0YH0		1	1 unit	133	0.142
• Option pack "Web" Option for access over the web (e.g. Internet Explorer) for up to 10 clients		3ZS2710-1CC20-0YH0		1	1 unit	133	0.142
• Option pack "Client (5)" expansion for up to 5 clients		3ZS2710-3CC00-0YD0		1	1 unit	133	0.139
• Option pack "Distributed Systems (2)" Option for the connection of 2 autonomous powermanager systems for the exchange of measured values and alarms		3ZS2718-1CC00-0YH0		1	1 unit	133	0.145
• Option pack "Distributed Systems (5)" Option for the connection of 5 autonomous powermanager systems for the exchange of measured values and alarms		3ZS2718-2CC00-0YH0		1	1 unit	133	0.140
• Option pack "Distributed Systems (10)" Option for the connection of 10 autonomous powermanager systems for the exchange of measured values and alarms		3ZS2718-3CC00-0YH0		1	1 unit	133	0.145
System packages							
• System 1 NEW Package consisting of - 1 x powermanager V3.0 Basic Package - 1 x 7KM PAC4200 (+RS 485 module) and - 1 x 7KM PAC3100		3ZS2812-5CC20-0AY0		1	1 unit	133	1.310
• System 2 NEW Package consisting of - 1 x powermanager V3.0 Basic Package - 1 x 7KM PAC4200 (+RS 485 module) and - 1 x 7KT PAC1500 (+Modbus module)		3ZS2812-6CC20-0YA0		1	1 unit	133	1.230
• System 3 NEW Package consisting of - 1 x powermanager V3.0 Basic Package - 3 x 7KM PAC 3200		3ZS2813-2CC20-0YA0		1	1 unit	133	1.610

Overview of the system packages: [see next page](#)

Software

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More information

System configuration

- Integration of measuring devices by means of predefined device templates for the 7KT/7KM PAC measuring devices and the 3WL/3VL circuit breakers
- Easy integration of existing Modbus-enabled measuring devices
- Communication through Standard Ethernet
- Integration of devices with RS 485 interface (ModbusRTU) through Modbus gateway, e.g. the 7KM PAC4200 can be used as the gateway

Industries

The energy efficiency that can be achieved with consistent power monitoring and the derived optimization measures is crucial for all industries, e.g. in the manufacturing industry, in non-residential buildings, in the field of services, and in infrastructure projects. This has a particular impact on competitiveness, especially in view of rising energy prices.

System packages

The powermanager system packages enable simple and low-cost entry to power monitoring systems. At the same time, the system offers a sound basis for additional expansion with a host of 7KM/7KT PAC measuring devices and/or other expanded versions of powermanager.

The following system packages are available:

- powermanager System 1 for applications in infrastructure, comprising:
 - powermanager V3.0 Basic (3ZS2711-0CC30-0YA0)
 - 7KM PAC4200 (7KM4212-0BA00-3AA0)
 - 7KM PAC3100 (7KM3133-0BA00-3AA0)
 - 7KM PAC RS 485 (7KM9300-0AM00-0AA0)
- powermanager System 2 for applications in buildings, comprising:
 - powermanager V3.0 Basic (3ZS2711-0CC30-0YA0)
 - 7KM PAC4200 (7KM4212-0BA00-3AA0)
 - 7KT PAC1500 (7KT1540)
 - 7KM PAC RS 485 (7KM9300-0AM00-0AA0)
 - 7KT PAC RS 485 (7KT1907)
- powermanager System 3 for applications in industry, comprising:
 - powermanager V3.0 Basic (3ZS2711-0CC30-0YA0)
 - 3x 7KM PAC3200 (7KM2112-0BA00-3AA0)

System requirements

- ##### Hardware requirements
- Processor: Intel core 2 (or better)
 - RAM: at least 2 GB
 - Hard disk: min. 10 GB free
 - Graphics: VGA with at least 1280 x 1024 pixels and 16-bit color intensity

Supported operating systems

- Windows XP: XP with SP3 (32 bit)
- Windows 2003: Professional SP3 (32 bit)
- Windows 7: Professional (32/64 bit)
- Windows Server 2008: Enterprise SP2 (32/64 bit)

Supported Excel versions (required for reporting)

Excel 2003, Excel 2007, Excel 2010 (32 bit)

Internet

For a free download for powermanager V 3.0 trial license [go to http://support.automation.siemens.com/WW/view/en/64850998](http://support.automation.siemens.com/WW/view/en/64850998)

For more information, [go to www.siemens.com/powermanager](http://www.siemens.com/powermanager)

TÜV Certificate of Conformity ISO 50001

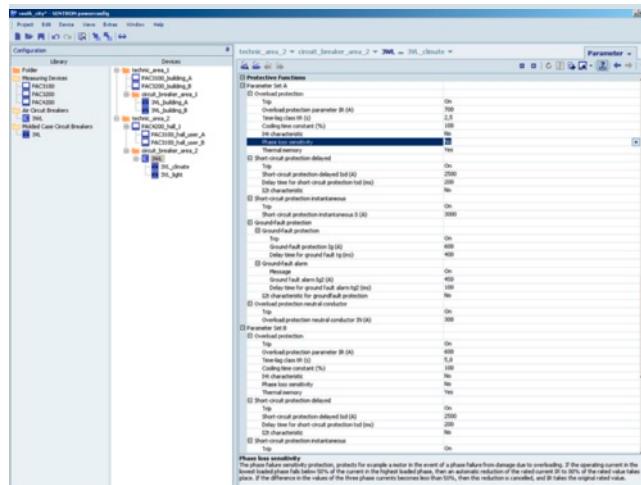
The TÜV Certificate of Conformity ensures that the 7KM/7KT PAC measuring devices, the 3VL molded case circuit breaker, the 3WL air circuit breaker and the powermanager power monitoring software support the introduction of an operational power management system in accordance with ISO 50001. The ISO 50001 energy saving standard defines binding criteria for companies for sustainable energy management.



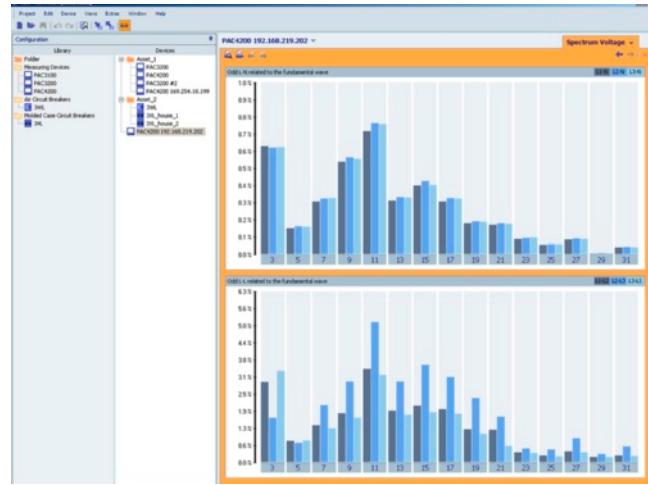
The TÜV Certificate is available at

<http://w3.siemens.com/powerdistribution/global/EN/lv/product-portfolio/software/software-sentron/powermanager/tuev-tested-quality/Documents/certificate-of-conformity-110267.pdf>

Overview



Setting the parameters of a SENTRON device

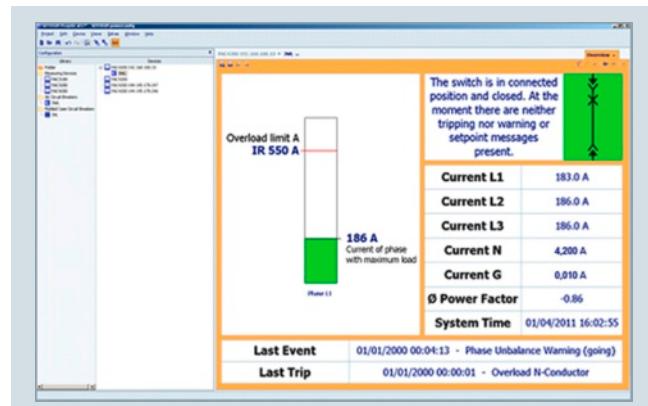


Display of current measured variables (harmonics)

The powerconfig software is the combined commissioning and service tool for communication-enabled measuring devices and circuit breakers from the SENTRON product family.

The PC-based tool facilitates parameterization of the devices, resulting in substantial time savings, particularly when several devices have to be set up.

With powerconfig, the 3WL and 3VL circuit breakers and the 7KM PAC 3100 / 3200 / 4200 measuring devices with expansion modules can be parameterized, documented, operated, and monitored using various communication interfaces.



Display of circuit breaker status

Benefits

- Parameterization, documentation, operation and monitoring in one software
- User-friendly documentation of measured values and settings
- Clear presentation of the available parameters including validity testing of the inputs
- Display of the available device statuses and measured values in standardized views
- Project-oriented storage of device data
- Consistent operation and usability
- Support of the various device communication interfaces (Modbus RTU, Modbus TCP, PROFIBUS, PROFINET)
- Supported languages: English and German
- Read-out and saving of message lists, load curves and characteristics (device-dependent)
- Overview of circuit breaker statuses with currents and events
- Individually designable system documentation
- Update of the device firmware and loading of language packs (device-dependent)
- No programming knowledge required for operation
- Calling powerconfig from STEP7 ≥ V5.5 SP1 and communication with devices through PROFIBUS/PROFINET

Application

System requirements

- Hardware requirements
- Processor: Intel Pentium III, 1 GHz (or better)
 - RAM: at least 512 MB
 - Hard disk: at least 1 GB free
 - Color monitor with a minimum resolution of 1024 x 768 pixels

Supported operating systems

- Windows XP: XP with SP3 (32 bit)
- Windows 7 Professional SP1 (32-bit, 64-bit)
- Windows 7 Ultimate SP1 (32-bit, 64-bit)
- Windows 2008 Server (32-bit)

Required framework

- Microsoft .NET Framework acc. to readme file

More information

powerconfig is available free of charge at

<http://support.automation.siemens.com/WW/view/en/63452759>

You can find more information on the Internet at:

www.siemens.com/sentron

Appendix

Article number index incl. export markings

Overview

Article No.	Page	Export markings	
		ECCN	AL
3ZS2			
3ZS2710-1CC20-0YH0	5	EAR99S	N
3ZS2710-2CC20-0YH0	5	EAR99S	N
3ZS2710-3CC00-0YD0	5	EAR99S	N
3ZS2711-0CC30-0YA0	5	EAR99S	N
3ZS2711-0CC30-0YA7	5	EAR99S	N
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3ZS2812-6CC20-0YA0	5	5D992	N
3ZS2813-2CC20-0YA0	5	5D992	N

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