# SIEMENS

Preface	
General description	1
Function overview for MOs	2
Login on HMI	3
Functions on the HMI	4
Working on the PC	5

# SINUMERIK 810D/840Di/840D

# ePS Network Services Manual for Machine Operators

**Operating Manual** 

Valid for:

Software Version ePS Network Services 4.2

08/2006

#### Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



## Danger

indicates that death or severe personal injury will result if proper precautions are not taken.



## Warning

indicates that death or severe personal injury may result if proper precautions are not taken.

## Caution

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

#### Caution

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

#### Notice

indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

#### **Qualified Personnel**

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

#### **Prescribed Usage**

Note the following:



## Warning

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended by Siemens. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

#### Trademarks

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#### **Disclaimer of Liability**

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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## Preface

## SINUMERIK documentation

The SINUMERIK documentation is organized in 3 parts:

- General documentation
- User documentation
- Manufacturer/Service documentation

An overview of publications, which is updated monthly and also provides information about the language versions available, can be found on the Internet at:

http://www.siemens.com/motioncontrol

Select the menu items "Support" → "Technical Documentation" → "Overview of Publications".

The Internet version of DOConCD (DOConWEB) is available at:

http://www.automation.siemens.com/doconweb

Information about training courses and FAQs (Frequently Asked Questions) can be found at the following website:

http://www.siemens.com/motioncontrol under menu option "Support".

#### Target group

This operating manual is aimed at machine operators and those who operate plant (systems/machines).

## **Benefits**

The operating manual familiarizes the target group with the control elements and commands. Based on the manual, the target group is capable of responding to problems and to take corrective action.

Utilization phase: Application phase

#### Standard scope

This documentation only describes the functionality of the standard version. Additions or revisions made by the machine manufacturer are documented by the machine manufacturer.

Other functions not described in this documentation might be executable in the control. However, no claim can be made regarding the availability of these functions when the equipment is first supplied or in the event of servicing. For the sake of simplicity, this documentation does not contain all detailed information about all types of the product and cannot cover every conceivable case of installation, operation, or maintenance.

#### **Technical Support**

If you have any technical questions, please contact our hotline:

	Europe / Africa	Asia / Australia	America		
Phone	+49 180 5050 222	+86 1064 719 990	+1 423 262 2522		
Fax	+49 180 5050 223	+86 1064 747 474	+1 423 262 2289		
Internet	http://www.siemens.com/automation/support-request				
E-Mail	mailto:adsupport@siemens.com				

## Note

Country-specific telephone numbers for technical support are provided under the following Internet address:

http://www.siemens.com/automation/service&support

## Questions about the manual

If you have any queries (suggestions, corrections) in relation to this documentation, please fax or e-mail us:

Fax	+49 9131 98 63315
E-Mail	docu.motioncontrol@siemens.com

A fax form is available at the end of this document.

## SINUMERIK Internet address

http://www.siemens.com/sinumerik

## EU Declaration of Conformity

The EC Declaration of Conformity for the EMC Directive can be viewed/downloaded from the Internet at:

http://www.ad.siemens.de/csinfo

under the Product Order No. 15257461 or

at the relevant branch office of the A&D MC group of Siemens AG.

# Table of contents

	Preface	е	
1	Genera	al description	7
2	Functio	on overview for MOs	9
3	Login o	on HMI	
	3.1	User login on HMI	11
	3.2	Accepting the data protection guidelines	12
	3.3	Connect machine	14
	3.4	Change the password on the HMI	16
	3.5	Uploading an alarm model	17
4	Functio	ons on the HMI	
	4.1 4.1.1 4.1.2	Set up a service session Service session with "Use remote access" on the HMI Grant permission to execute functions	21 
	4.2	Synchronize machine	24
	4.3	Report fault to the organization	
	4.4 4.4.1	Execute a series of measurements Contour test	
	4.5 4.5.1	Execute a maintenance job on the HMI Execute a test series in a maintenance job on the HMI	
5	Workin	ng on the PC	41
	5.1	Basic principle of PC operation	41
	5.2	Change the password on the PC	42
	5.3	Request remote access from PC	43
	Index		Index-47

Table of contents

# 1

## **General description**

## What are ePS Network Services ?

The ePS Network Services support machine tool manufacturers and manufacturing companies with maintenance and services. This is done using software services that are available both on the CNC machine and on the PC.

This requires both Internet access and a control on the CNC machine that complies with the specifications.

The ePS Network Services include:

## **Remote access**

Remote access to the control system via a secure Internet infrastructure allows the exchange of information and remote control of the CNC machine control.

- Desktop control
- File transfer
- Chat
- Video ...

## Control monitor services

Recording of an event history with the documentation of the current state of the control device at this time.

This allows the status of the device to be analyzed and compared with earlier states should a fault occur. The current status of the machine is documented using the following events and data:

- · Alarms, PLC events, time intervals, combinations of machine signals
- · Violation of limit value and predefined interval value from Condition Monitoring
- · Series of measurements/tests and operating performance monitors
- · Manual help request by the machine operator in the event of faults
- HMI action log, machine data, NC status data
- PLC trace, PLC data blocks
- Certain files (e.g. log files) of the control

## **Condition Monitoring Services**

The current machine status is acquired and documented on the basis of predefined, standardized tests and continuous recording of status parameters (traverse path, traverse time and traverse operations for one axis). The test parameters can be defined centrally and configured with appropriate warning limits. Using series of measurements, it is also possible to identify trends and apply them as a basis for optimizing maintenance and service activities.

The machine operator can then carry out these predefined tests quickly and easily and without additional test equipment.

The following tests and monitors are available:

- Circularity test
- Synchronous axis test
- Universal axis test
- NC monitor
- PLC monitor

## Data services

The current control archives (NCK and PLC archives) are saved on the ePS server. In the event of an error, the backup copy is loaded back to the control in a controlled process or used as a reference for comparisons of Control Monitors.

## Workflow services

Messaging provided by internal and external media (SMS, e-mail, servicing) initiates servicing and maintenance procedures. Maintenance activities are planned, monitored and documented directly on the machine.

The advantages of maintenance schedules are:

- · Load- and consumption-based predictive maintenance.
- Automatic triggering of work processes by detected faults
- Planning of the schedule and contents of condition monitors and monitoring of their execution.

The Workflow Services can respond to all event sources of the Control Monitor Services and Condition Monitor Services.

#### **Administration Services**

Functions for the administration of the system:

- · Creation and administration of machines
- · Creation and administration of users
- Assignment of access rights for external organizations
- Access to useful data / invoices

## Function overview for MOs

## Machine Operator (MO)

This manual describes the ePS Network Services functions available to the Machine Operator's (MO) group. The individual functions and procedures are described below.

## Menu structure

The overview tree shows the menu structure of the ePS software on the HMI. The ePS Network Services functions for the MO which are activated only after login ("Online Services") are contained in the border with the dashed line.



Figure 2-1 Menu structure on the HMI

Overview of functions on the PC:



Figure 2-2 Menu structure on the PC

# 3

# Login on HMI

## 3.1 User login on HMI

## Application

To access ePS services, the user must log in to the ePS Network Services after selecting the ePS software. A prompt requesting the user to enter the following data is displayed:

- User name
- Name of user's organization
- Password

The user obtains these data from the relevant in-house contact person.

## **General sequence**

- 1. Press the "ePS Network" softkey on the HMI.
- 2. Press the "Online Services" softkey.
- 3. Enter the user name, password and organization name and confirm your inputs with "OK".

Result: The user is now logged in.

Login on HMI

3.2 Accepting the data protection guidelines

## Visualized input sequence

ePS Netw	ork Services			DS	
Login				network	
	-	-			
User name	mo				
Password	•••••	]			
Organization	eps-sales	]			
					ок
					Help

#### Figure 3-1 User login

## "Auto Login"

If the administrator has activated the "Auto Login" function for the MO when the machine was set up, it will enable the user to log in to the ePS Network Services without specifying a user name or organization.

## 3.2 Accepting the data protection guidelines

## Requirement

After initial login on the HMI or PC, every user must accept the data protection guidelines of the ePS Network Services once. The user confirms that he or she will only enter personal data in the system after having first obtained the consent of the person concerned and will comply with the valid data protection guidelines. The exact wording can be found in the "Data Protection Policy".

#### Login on HMI

3.2 Accepting the data protection guidelines

## **General sequence**

Datenschutzric	htlinien akzeptieren	
E Hauptmenü	network	Beenden
Maschine: eps testm	aschine; Sales; Raum 10G	
Hinweis		
Die Datenschutzrichtlin	ien haben sich geändert und müssen daher ggf. erneut bestätigt werden	
ePS Network Datenso	hutzrichtlinien	
Version	03.02.44	
Gültig seit	29.10.2004	
Erklärung zum Datenschutz	Erklärung zum Datenschutz.	
	Der Schutz der Privatsphäre und Ihrer personenbezogenen Daten ist für uns	
	ein wichtiger Aspekt. Im Folgenden erfahren Sie, welche personenbezogenen	
	Daten und Informationen wir ggf. sammeln und wie wir damit umgehen. Wir	
Ditte wählen		
Bitte Wanien	O Ich bin nicht einverstanden	
	Ich bin einverstanden	ок
Hinweis Scrollen der Dater	ischutzerklärung mit CTRL + Cursor-Tasten	
		Abbruch
		Hobrach
Home		Hilfe

Figure 3-2 Confirming data protection guidelines on the HMI

ePS network data protection	quidelines	
Version	4.02.02	1
Valid since	7/13/2006	
Accepted on	7/24/2006 7:04 AM	
Data protection policy	Erklärung zum Datenschutz Der Schutz der Privatsphäre und Ihrer personenbezogenen Daten ist für uns ein wichtiger Aspekt. Im Folgenden erfahren Sie, welche personenbezogenen Daten und Informationen wir agd. sammeln und wie wir damit ungehen. Wir erheben, versteheten und nutzen personenbezogene Daten über Sie nur mit Ihrem Wissen und Ihrer Einwilligung. Sie haben jederzeit das Recht, Ihre Einwilligung mit Wirkung für die Zukunft zu widerrufen. Sollten Sie uns personenbezogene Daten über die Zukunft zu widerrufen. Sollten Sie uns personenbezogene Daten über die Zukunft zu widerrufen. Sollten Sie uns personenbezogene Daten über die Aufmachten und Ihrer Einwilligung. Sie haben jederzeit das Recht, Ihre Einwilligung mit Wirkung für die Zukunft zu widerrufen. Sollten Sie uns personenbezogene Daten über und hene Zugang zu speziellen Informationen oder Angeboten zu verschaffen, eventuelle Auftrage zu bearbeiten, Ihre Aufragen zu beartworten, auf Ihre Wirnsche Samgeboten zu körnen das wir Ihre personenbezogenen Daten zu Verbezwecken verwenden, um Sie Uber Angebote zu verschaffen um Online-Umfragen durchzuführen, durch die wir Ihren Anfragen verbereden werden. Werden.	
Please select	C I do not agree	
	⊙ I agree	
	OK Cancel	Ì
Exit Service, eps-emo	Copyright Siemens AG, 2005. All rights reserve	ed.

Figure 3-3 Confirming data protection guidelines on the PC

#### Note

A user cannot access the ePS Network Services without first agreeing to the current data protection guidelines.

If the data protection guidelines of the ePS Network Services are modified, all existing ePS Network Services users must confirm their acceptance of the modified guidelines again.

Agreement to the data protection guidelines can be revoked at any time.

3.3 Connect machine

## 3.3 Connect machine

## Application

Before a machine can use the ePS Network Services for the first time, it must be connected to the ePS Network server. As part of this process, the user receives a machine ID for a machine from the relevant maintenance or service engineer. This ID provides a machine with a unique identification.

The machine is generally connected to ePS Network Services by the machine manufacturer.

## **General sequence**

- 1. Enter the machine ID.
- 2. Confirm with "OK".
- 3. Confirm the prompt for the master data with "OK."

#### **Result:**

If no message appears and the entered machine ID is displayed in the grey line at the top, you can assume that the machine is connected to ePS Network Services.

It is not possible to connect a machine which is already connected. If you wish to do so, you must disconnect the machine from the ePS Network server first (in accordance with the rights matrix of ePS Network Services) and reconnect it again.

## Visualized input sequence

Select machine	Exit
Home Administration Connect machine	
Machine: -	
Select an option	_
Select machine according to machine ID _2 Achs Einheit	Select
Select the machine from a list	Select
Select the machine by company	Select
Home Admin- istration machine	Help

Figure 3-4 Select a machine via its ID and connect

Master data of machine						Exit
Home Administra	Home Administration Connect machine					
Machine:					network	
Master data						
Machine ID	_2 Achs Ei	nheit				Change entry
Company	Siemens					chid y
Location	Nürnberg					
Internal name	SPS & Dirv	res				
Comment	Sinumorik					
Device class	Sinumerik	_	_	_	_	
						OK
						Cancel
Home Admin- istration	Connect machine	Select machine				Help

Figure 3-5 Finish connecting the machine

Manual for Machine Operators Operating Manual, 08/2006, -- Login on HMI

3.4 Change the password on the HMI

## 3.4 Change the password on the HMI

## **Operating sequence**

Start: "Home"

## Application

The "Change password" function can be found on the right-hand softkey menu on the "Home" screen. Every user can change his or her password in accordance with the specified guidelines.

## General sequence:

- 1. Enter the current password.
- 2. Enter a new password.
- 3. Repeat the new password and confirm with "OK".

## Visualized input sequence



Figure 3-6 Change the password on the HMI

3.5 Uploading an alarm model

Change password			20	Exit
E Home			network	
Machine: -				
		1		
User name	Service			
Password				
Organization	eps-emo			
new password:				
confirm new password:				

Figure 3-7 Enter the password on the HMI

## "Auto Login"

If the administrator has activated the "Auto Login" function for the MO when the machine was set up, it will enable the user to log in to the ePS Network Services without specifying a user name or organization.

## 3.5 Uploading an alarm model

## **Operating sequence**

Start: "Home"  $\rightarrow$  "Administration"  $\rightarrow$  "Upload alarm model"

## Application

The alarm model contains all the error messages in all languages installed on the machine. The alarm model must be uploaded before the alarm texts are displayed on the HMI in the selected language or uploaded to the ePS server as events.

3.5 Uploading an alarm model

## **General sequence**

- 1. To load the alarm model, press the "Select" softkey.
- 2. Confirm with "OK" after the model has been loaded.

The error messages are now available on the ePS server in the languages displayed beforehand.

## Visualized input sequence

Maschine verbinden	1
Market Ma	Beenden
Maschine: ens testmaschine: Sales: Raum 100	
Die Maschine ist verbunden	Wählon
Verbinden	wanten
Die Maschine wird mit der Datenbank verbunden	
Alarmmodell hochladen	Wählen
Es wurde noch kein Alarmmodell hochgeladen	
Trennen	Wählen
Die Maschine wird von der Datenbank getrennt	-
Home Verwalt- ung	Hilfe

Figure 3-8 Uploading an alarm model



Figure 3-9 The alarm model is being uploaded.

3.5 Uploading an alarm model

Alarmm	odell hocl	ıladen			205	-
Home	Verwaltung	Maschine verbir	iden		network	Beenden
Maschine: (	eps testmasc	chine; Sales; Raum	10G			
Diese Alarn	r information	en wurden ermitte	əlt			
	Alarme	4518				
	Sprachen	Deutsch Englisch Spanisch				
		Französisch Italienisch				
				Ν		ок
				14		
Home	Verwalt- ung	Maschine verbinden				Hilfe

## Result

The alarm model has been uploaded, the displayed languages are installed on this HMI and the messages are available in the selected language on the ePS server.

Login on HMI 3.5 Uploading an alarm model

# Functions on the HMI

## 4.1 Set up a service session

## 4.1.1 Service session with "Use remote access" on the HMI

#### **Operating sequence**

Start: "Home" → "Fault services" → "Remote access"

## Application

The MO can use remote access to request Internet support from the manufacturer of the production installation.

In the event of a fault, the service organization of the machine manufacturer has fast access to important control data and diagnostic functions. This allows the manufacturer to acquire and analyze the current machine status immediately.

## **General sequence**

- 1. Confirm with the "Use remote access" softkey.
- 2. Call the support representative and ask for a session ID.
- 3. Enter the session ID and confirm with "OK".

The service session is then set up.

- 4. Open a chat window to start communication.
- 5. Grant the support representative permission to control the HMI when the prompt is displayed on your screen.

4.1 Set up a service session

## Visualized input sequence

Use remote access	DS	Exit
Home Fault services	network	
Machine: -		
Please enter the service number		
User name	_	
Service number		
Plance menuest the comics number		
Please request the service number		
		OK
		UK
		Cancel
Home Fault- services		Help

Figure 4-1 Request remote access

## 4.1.2 Grant permission to execute functions

## Requirement

In order to relinquish control of the machine to the support representative, you must grant permission as the machine operator. You can grant permission just for the requested "desktop control" function or generally for all functions to be used during the service session.

For you as the machine operator, it is easier to grant permission to the service engineer for the entire session.

#### Note

The machine manufacturer can change the defaults for prompts and windows. In other words, some of the dialogs described here might not be visible on the HMI.

## Grant desktop control

The support representative clicks on option "Request Desktop Control..." on the "Desktop" card



Figure 4-2 Request permission

You are shown the following display for your information. You can acknowledge it with "OK". As soon as permission has been granted at the machine end, the window is acknowledged automatically.

The following dialog box is displayed on the operator's interface:



Figure 4-3 Grant permission

In this dialog box, you, as the machine operator, allow the support representiative control of the machine control and via "Grant Permissions for all actions …", general execution of all functions without prior confirmation. As the machine operator, you cannot independently take back control of the desktop, but must wait for the support representative to relinquish control again. When the session is ended, desktop control is automatically transferred back to you.

#### Note

You will not find it easy to operate the chat window without a mouse. You can place the chat window in the background or foreground via softkeys during a desktop control session. The chat window on the machine control is automatically placed in the foreground if a text message is received.

If you send a text message on your own initiative and the chat window is minimized, you can place the chat window in the foreground via a softkey.

Welcome to Sup	port Center	
		Chat zeigen
Support Center	Dirk Campmann will assist you through an interactive support session. If you would like to leave the session, click the <b>Leave Session</b> button below. $I_{\!$	Chat schließen Filetransf. zeigen
Chat		Filetransf. schließen
	To view our privacy policy, <u>click here</u> .	Sitzung
		schließen
Figure 4-4 Open	the chat window	

## 4.2 Synchronize machine

## **Operating sequence**

Start: "Home" → "Administration" → "Synchronize machine"

## Application

During synchronization, the currently defined configurations for the specific machine are downloaded from the ePS Network server to the control and thus activated immediately, irrespective of any preset synchronization time.

## General sequence:

- 1. To start synchronization, press the "Select" softkey.
- Confirm with "OK" when the machine is synchronized. The currently defined configurations are now active.

## Visualized input sequence

Verwaltung	
Home network	Beenden
Maschine: eps testmaschine; Sales; Raum 10G	
Maschine verbinden und Alarmmodell hochladen	Wählen
Maschine mit dem ePS-Server verbinden	
Stammdaten	Wählen
Stammdaten einsehen und bearbeiten	
Funktionen einrichten	Wählen
Synchronisation, Wiederholstrategie, Vor- und Nachspann der Messdurchführung festlegen	
Maschine synchronisieren	Wählen
Veränderte Konfigurationen werden auf der Maschine wirksam	
	· · · · ·
Home	Hilfe

Figure 4-5 Synchronizing on the HMI





4.3 Report fault to the organization

Maschi	ne synchronisieren	DC	Doondon
E Home	Verwaltung	network	Beenden
Maschine:	eps testmaschine; Sales; Raum 10G		
Sunchronis	sation wurde erfolgreich ausgeläst		
i	Veränderte Konfigurationen werden auf der Maschine wirksam werden, wenn die Synchronisation abgeschlossen ist		
	A.		ок
A Home	Verwalt- ung		Hilfe

Synchronization on the HMI has been successful and is finished with "OK".

## 4.3 Report fault to the organization

## **Operating sequence**

Start: "Home" → "Fault services" → "Report fault"

## Application

In the event of a fault, the user can write a brief fault report to the manufacturer's service organization. This report is then sent to the service organization and the service department then contacts the author of the report.

## Note

Please note the information in the machine manufacturer's documentation regarding "Fault reporting" via ePS Network Services and remote access.

4.3 Report fault to the organization

## General sequence

Press the "Report fault" softkey and write a short fault report.

Result: The support representative receives a service message in his system.

The operator can optionally request remote access. The service organization then initiates remote access.

## Visualized input sequence

Störung melden	
Home Störungsdienste	Beenden
	<b>`</b>
Maschine: eps Testmaschine; Beispiel; Raum 4 1 OG	1
Bitte schreiben Sie einen kurzen Fehlerbericht	
Hallo Herr Meier,	
am Werkzeugwechsler steht der Fehler 710000 an und die Greiferzange faehrt nicht mit zurueck.	
Gruss	
	1
Fernzugriff	
Fernzugriff anfordern	
	ок
	Abbruch
Home Störung- dienste	Hilfe

Figure 4-7 Report a fault on the HMI

## 4.4 Execute a series of measurements

#### **Operating sequence**

Start: "Home"  $\rightarrow$  "Maintenance services"  $\rightarrow$  "Measurement series"  $\rightarrow$  "Select measurement series"

## Application

You can execute a preprogrammed series of synchronous axis tests, circularity tests or universal axis tests.

Once you have selected a series of measurements, you have the option of performing a collision test on unchecked measurements, i.e. those which have not been executed on the machine before.

To perform a contour test, the machine traverses the exact path of the measurement program, applying the parameters defined in the prolog/epilog (freely configurable measurement leader and trailer).

If the contour test is successful, the measurement can be started directly afterwards.

When the measurement is completed, the system offers you the option of repeating the series. This can be useful if the measurement has been influenced by disturbance which could falsify the result, e.g. if the guideway covers on the machine were not closed as the measurement was taken.

#### Note

Measurement series are individual, identical measurements which share a common history and reference. Single measurements outside of "measurement series" have no shared history or reference. They cannot be subsequently integrated into a measurement series, even if the single measurement is identical to others in the series.

#### General sequence

The sequence is not dependent on the type of measurement:

- 1. Select a series of measurements or tests.
- 2. Enter a comment text relating to the series measurement.
- 3. Perform a contour test as a collision check before the actual measurement.
- 4. Set AUTO mode on the control and adjust the feedrate override to 100%.
- 5. Press "NC START" on the control.
  - A machine-specific leader is executed: During this process, the machine can retract the axes or change pallets and/or millheads.
  - The measurement motions are executed and the measurement data recorded.
  - The machine-specific trailer for the measurement motion is executed. The machine returns to its original state before the measurement was taken.

Functions on the HMI

4.4 Execute a series of measurements

6. The measurement result is displayed.

You have the option of repeating the process by selecting "Delete and repeat", or deleting the measurement completely.

7. Save the result.

#### Notice

Please note the information in the machine manufacturer's documentation regarding measurements and measurement series.

Please observe the information displayed on the operator panel while the measurement is in progress.

## Visualized input sequence



Figure 4-8 Select the type of measurement series

Gleichlauf-Achs	stest Messr	eihen			2P	Beenden
Home Instandn	aitungsalenst	e lests messre	einen		netwo	rk
laschine: eps Testm	aschine; Beisj	oiel; Raum 4 1 OG				-
leichlauf-Achstest N	1essreihen 1-:	2 von 2				
Bezeichnung	Ach	se Startpkt.	End	okt. []	F Anz.	Messung
GLT X Achse		×1	50	150 mm	1000	ausfuhren
GLT Y Achse		Y1	60	150 mm	1000	2
ungeprüfte Messreihe; 🛆	Warngrenze -/ 📥	kritische Grenze erreich	nt		Seite 1 voi	Öffnen
						-
	2					
						Zurück
ome Instand	lh - Tests	Messreiher		Rückwär	ts Voewäets	Hilfe
dienste				blättern	blättern	

Figure 4-9 Select the measurement series

Parameter bestäl Home Instandhal Maschine: eps Testmas	tigen und Kommer tungsdienste Tests f cchine; Beispiel; Raum 4	n <b>tar</b> Messreihen + 1 OG		2PS network	Beenden
Bidirektionaler Gleichla Kanal Achse Startpunkt Endpunkt	uf-Achstest mit indirekt CHAN1 X1 50 mm 150 mm	em Messsystem Drehmoment Maximal Minimal	WG KG 1 0.5	[] 1.5 Nm 0.25 Nm	Parameter ändern
Vorschub Kommenter	1000 mm/min	WG =	: Warngrenze; K	G = kritische Grenze	
ungeprüfte Messreih	e GLT X Achse				ок
∕∆ Home Instandh	Tests Mess	sreihen			Abbruch Hilfe

Figure 4-10 Start the measurement series

Gleichla	auf-Achstest	vorbereit	en			205	
E Home	Instandhaltun	gsdienste T	ests Messreih	en		network	Beenden
Maschine:	eps Testmaschi	ne; Beispiel;	Raum 4 1 OG			_	
Konturtest	oder Messung k	ann gestarte	et werden				
$\wedge$	Parameter, Vor- Achtung Kollision	und Nachspar sgefahr	nn sind ungeprüft				Konturtest
-	wählen Sie "Kont	urtest" um die	8 Kollisionsgefahr	zu prüfen	]		Messung
+	wählen Sie "Mess	sung" um die N	Aessung zu starte	en G	Ĩ		
				- 11			
							Abbruch
A	Instandh	Tests	Messreihen				Hilfe
	dienste						

Figure 4-11 Start the contour test or measurement series

Gleichlauf-Achstest läuft	
Home Instandhaltungsdienste Tests Messreihen	Beenden
Maschine: ens Testmaschine: Beispiel: Raum 4 1 OG	
Messung wird durchgeführt	
Bitte beobachten Sie die Bewegung der Achsen	
Alarm kein Alarm	-
<i>\</i> 2	
	Abbruch
Home Instandh Tests Messreihen dienste	Hilfe

Figure 4-12 Measurement series in progress

Home	Instanc eps Test	lhaltun maschi	gsdien: ne; Bei	ste Te	sts Messi aum 4 1 00	reihen				netw	ork	Paramet
												Kommen
se: X1							Messur	ng vom 2	24.05	.06, 1	5:21	
	Po	sition X1 [mr	m] ->					Wert	WG	KG	[]	Löschen
40	60 80	100	120 1	140 160		Drehmoment						und neu
					1	Maximal →		0	1	1.5	Nm	
					5 🧃	Maximal ←	1	0	1	1.5	Nm	2018 10
				1 1 1 1 1 1 1	10	Minimal →	<b>A</b>	0	0.5	0.25	Nm	Löschen
						Minimal ←		0	0.5	0.25	Nm	
						ø →		0	-	-	Nm	
E						Ø ←		0			Nm	
Z						σ→		0		24	Nm	Messreit
	-					σ ←		0	12	85	Nm	
				0		M. Rampe →		0	-		Nm	
					5 4	M. Rampe ←	2	0	1	15	Nm	
[ <sup>uu</sup> N] W <b>40</b>	60 80	100	120 1	140 160					4			ок
	<	Position X1 [	imm1	1. 1940 (1977 A)						27.02.50 (Article	Contraction of	
			CLTY			- 11/-	-	WO I V	with a abo	Groom	- IVO	8

Figure 4-13 Measuring result

- You can repeat the measurement by selecting "Delete and repeat", e.g. if disturbance has affected the measurement quality.
- The last measurement is deleted when you click on "Delete".
- Click "OK" to save the measurement series.

## 4.4.1 Contour test

#### Application

A dry run is possible to ensure measurements can safely be performed on the machine. This allows you to execute an optional dry run with reduced velocity before the test run configured for the specific measurement type. The purpose of the dry run is to allow you to check the path motions (contour monitoring) of the machine axes to ensure that collisions are avoided.

When the contour test is finished, you can start the measurement series, or end it, for example, if the contour test detects a collision.

## **General sequence**

The contour test sequence is not dependent on the type of measurement:

- 1. Select a series of measurements or tests.
- 2. Enter a comment text relating to the series measurement.
- 3. Perform a contour test as a collision check before the actual measurement.
- 4. Press "NC START" on the control.
  - A machine-specific leader is executed: During this process, the machine can retract the axes or change pallets and/or millheads.
  - The measurement motions are executed and the measurement data recorded.
  - The machine-specific trailer for the measurement motion is executed. The machine returns to its original state before the measurement was taken.

The contour test is ended once you reach the point where you can choose to start the measurement or abort the action.

## Visualized input sequence

Gleichl	auf-Achstest vorbereiten	06	
E Home	Instandhaltungsdienste Tests Messreihen	3 network	Beenden
		network	
Maschine:	eps Testmaschine; Beispiel; Raum 4 1 OG		
Konturtest	oder Messung kann gestartet werden	_	
	Parameter, Vor- und Nachspann sind ungeprüft Achtung Kollisionsgefahr		Konturtest
⇒	wählen Sie "Konturtest" um die Kollisionsgefahr zu prüfen		Messung
	wählen Sie "Messung" um die Messung zu starten		
1978			Abbruch
Home	Instandh Tests Messreihen dienste		Hilfe

Figure 4-14 Select the contour test

4.5 Execute a maintenance job on the HMI

Gleichlauf-Achstest läuft Home Instandhaltungsdienste Tests Messreihen	app network	Beenden
Maschine: eps Testmaschine; Beispiel; Raum 4 1 OG		
Konturtest wird durchgeführt Bitte beobachten Sie die Bewegung der Achsen		
R		
		Abbruch
Home Instandh Tests Messreihen dienste		Hilfe

Figure 4-15 Contour test in progress

Once the contour test is finished, the display reverts to the previously active selection screen.

## 4.5 Execute a maintenance job on the HMI

## operating sequence

Start: "Home → "Maintenance services" → "Maintenance jobs" → "Select maintenance job"

## Application

As the machine operator, you process maintenance jobs on the HMI:

- Maintenance jobs marked in yellow have not yet been processed or executed.
- Maintenance jobs marked in red are overdue by \* days. The processing intervals for a maintenance job are specified when the job is created on the PC.

4.5 Execute a maintenance job on the HMI

## **General sequence**

Job instructions for the machine operator, plus other relevant files where necessary, are stored in the selected maintenance job.

- 1. Select and open a maintenance job.
- 2. Open the attached file and read its contents.
- 3. Read and follow the job instructions.
- 4. Start the measurement or test series if necessary.
- 5. Type in a comment.
- 6. Change the status of the maintenance job and close it.

## Visualized input sequence

Instandhalt	ungsaufträge	205	
Home Inst	andhaltungsdienste	network	Beenden
		network	
Maschine: eps Ti	estmaschine; Beispiel; Raum 4 1 OG		
Instandhaltungs	aufträge 1-2 von 2		
Auftrags-Nr.	Bezeichnung	Status Termin	Bearbeiten
M-495-1718	Filter wechseln	- 7 d 16.05.2006	
M-496-1731	Kugelumlaufspindel und Lager	* 9 d 01.06.2006	
💻 demnächst fällig	💻 überfällig	Seite 1 von 1	
			190
			1
			<u> </u>
			Zoutlesk
00			2ULUCK
	standh	Diskustere Downline	Lilfa
di	enste	blättern blättern	Time

Figure 4-16 Select a maintenance job

## Functions on the HMI

4.5 Execute a maintenance job on the HMI

Instan Home Maschine:	ndhaltungsau 9 Instandhaltur 1 eps Testmasch	uftrag bea ngsdienste ine; Beispiel	Instandha ; Raum 4 1	altungsauft . OG	räge		netwo	Beenden
M-495-17 Arbeitsan Alle Filterr - Klimager - Schaltso - Hydrauli - Bedienta	718, Filter wechs weisung matten wechseln rät im Schaltschra chranklüfter kaggregat afel vorne	s <b>eln</b> ank		÷	Termin ar	p 16 05 2006 Dateien 1	-1 von 1 -1 von 1 Illationsanl	
Komment	ar				1	Status © offen O schließe O schließe	en, Ok en, Fehler	Datei öffnen
								OK Abbruch
		(and	- 22	(121)		8	(42)	

Figure 4-17 Maintenance job opened, variant without measurements

Instandhalt	ungsauftrag be	earbeiten				
Home Insta	andhaltungsdienste	e Instandhalti	ungsaufträge		networ	Beenden
Maschine: eps Te	stmaschine; Beisp	el; Raum 4 1 O	3			
M-496-1731, Ku	gelumlaufspindel u	nd Lager	🔭 Termin am 01.0	6.2006, überfäl	lig seit 9 Tage	en.
Arbeitsanweisun Kugelumlaufspinde aller Achsen verm Werte dokumentie	<b>ig</b> al und Lager nessen und aren	Ŀ,	A	Dateien 1-1	von 1 tionsanl	Ausführen
Kommentar				Status		Datei
			×.	🖲 offen		öffnen
				C schließen.	Ok	
			<b>V</b>	C schließen,	Fehler	-
고 Testserie 1 2	: <mark></mark> 2 🖸 2 🎶		×	C schließen,	Fehler	
X Testserie 1 2	: 🗖 2 🖸 2 🌆	]	7	C schließen,	Fehler	ок
Testserie 1 2	: 🗖 2 🖸 2 🌆	)		C schließen,	Fehler	OK
A Testserie 1 2	: 🗖 2 🖸 2 🎶	]	×	C schließen,	Fehler	OK Abbruch

Figure 4-18 Maintenance job opened, variant with measurements/test series

4.5 Execute a maintenance job on the HMI

- Start the test series using the "Execute" softkey.
- Close the maintenance job by selecting the status and confirm with "OK".

## 4.5.1 Execute a test series in a maintenance job on the HMI

## operating sequence

Start: "Home" → "Maintenance services" → "Tests" → "Test series"

## Application

A test series comprises one series of measurements, or several series in succession. You can start a test series independently or in conjunction with a maintenance job. The machine operator can execute a test series only from a maintenance job.

## Notice

Please note the information in the machine manufacturer's documentation regarding maintenance jobs and test series.

## **General sequence**

- 1. Select and open a maintenance job.
- 2. Select the "Execute" softkey.

The measurements included in the test series are displayed.

You then have the following options:

- Check all measurement series.
- Check only the unchecked measurement series (violet) for risk of collision.
- Write a comment for the test series.
- Execute the test series
- 3. Start the test series with "NC Start".

When the test series is complete, both the successful and the unsuccessful measurement series are displayed on the screen.

4. Close the test series with "OK".

4.5 Execute a maintenance job on the HMI

## Visualized input sequence

Testserien						DS	<b>∖</b>
Home Instand	haltungsdienste Te	sts				1 etwork	Beenuen
						ICT WORK	
Maschine: eps Testr	naschine; Beispiel; R	aum 4	1 OG				
Testserien 1-1 von 1			_	_	_		
Bezeichnung	Kanal	Anz.	Messreihen			Datum	
Testserie 1	CHAN1	6	2 0	2 🗖	2 🏧	-	
					Seit	e 1 von 1	
							Öffnen



Testserie						Boondon
	Home Instandhaltung	ysdie	enste To	ests at	work	Deenuen
Maschine: eps Testmaschine; Beispiel; Raum 4 1 OG						Kom- mentar
Test	serie 1 2 🖸 2 🗕 2	₩-		Messreihen 1-6	von 6	
Nr.	Bezeichnung		Achse	Parameter		Messung
1	KFT XY D=50mm	0	X1/Y1	M= 60/60 mm; D= 30 mm; F= 300 mm/min;		ausführen
2	KFT YZ D=200mm	0	Y1/Z1	M= 600/500 mm; D= 100 mm; F= 3000 mm/min;		
4	GLT X Achse	-	×1	S= 50 mm; E= 150 mm; F= 1000 mm/min;		Kontuitect
5	UAT X Achse	1/-	×1	S= 0 mm;		allo
6	UAT Y Achse	11-	Y1	S= 2 mm;		dife
3	GLT Y Achse	Ξ	Y1	S= 60 mm; E= 150 mm; F= 1000 mm/min;		
<b>-</b> 5 υ	ingeprüfte Messreihen			Seite 1	von 1	Konturtest ungeprüfte

Figure 4-20 Overview of measurement series contained in the selected test series

Messung starten		
Home Instandhaltungsdienste Tests	network	Beenden
Maschine: eps Testmaschine; Beispiel; Raum 4 1 0G		
Testserie kann gestartet werden		
entfernen Sie alle Hindernisse aus dem Arbeitsraum		
beobachten Sie die Bewegung der Achsen, Sie können dazu in das Maschinengrundbild wechseln		
drücken sie NC-Start, um die Messungen zu starten	Sycle Start	
	-	

Figure 4-21 Start the test series with "NC Start"

## Functions on the HMI

4.5 Execute a maintenance job on the HMI

Testserie - Messung	g ausführen			2	
Home Instandhaltun	gsdienste Tests		netw	ork	Beenden
-					
Maschine: eps Testmaschi	ne; Beispiel; Raum 4	1 OG			
Testserie 1 2 🖸 2 🗖 2	2 <del>//~</del>		6 Messreil	hen	
keine Messung durchgefül	nrt		Messung, OK	-	
			Messung, Fehler	-	
aktuelle Messung					
Nr. 1 KFT XY D=50mm	O X1/Y1 M=	60/60 mm; D= 30 mm; F= 3	00 mm/min;		
Fortschritt Initializing c	urrent test				
Alarm -					
				[	
6					
ausstehende Messungen :	2-6				
Nr. 2 KFT YZ D=200mm	O Y1/Z1 M= 60	00/500 mm; D= 100 mm; F=	3000 mm/min;		
Nr. 3 GLT Y Achse	- Y1 S= 60	0 mm; E= 150 mm; F= 1000	mm/min;		
Nr. 4 GLT X Achse	- X1 S= 50	0 mm; E= 150 mm; F= 1000	mm/min;		
💻 ungeprüfte Messreihen					

Figure 4-22 Test series during execution of individual programmed measurement series

Testserie - Ergebnis		
Home Instandhaltungsdienste	network	Beenden
Maschine: eps testmaschine; Sales; Raum 10G	,	
Testserie 1 1 🖸 4 🚽 5 Messreihen Daten vom 12.06.2	006, 17:17	
Ergebnisprotokoll		
I GLT 'GLT Z' [Z1 - S= 0 mm; E= 100 mm; F= 1000 mm/min;] 12.06.2006 17:19:00: erfolg: - 2 GLT 'GLT X' [X1 - S= 100 mm; E= 400 mm; F= 200 mm/min;] 12.06.2006 17:23:00: erfolgre - 3 GLT 'GLT Y' [Y1 - S= 0 mm; E= 300 mm; F= 200 mm/min;] 12.06.2006 17:27:00: erfolgre - 4 GLT 'GLT C' [C1 - S= 1 °; E= 60 °; F= 200 °/min;] 12.06.2006 17:28:00: erfolgreich - 5 KFT 'KFT XY' [X1/Y1 - M= 1/1 mm; D= 200 mm; F= 200 mm/min;] 12.06.2006 17:41:00: erfolgreich	reich 🗾 greich eich	
	V	

Figure 4-23 The test series is finished.

Functions on the HMI

4.5 Execute a maintenance job on the HMI

# 5

## Working on the PC

## 5.1 Basic principle of PC operation

## Overview

The functions of the ePS Network Services are divided into five main categories which can be reached via tabs. The "Machine information" tab and "Set up functions" tab always apply to the selected machine.

#### Note

The individual functions available to machine operators are described in this manual. Please see the descriptions in each section for details of the functions.

Machine information	Configure functions	Organization tasks	Statistic/Export	Administration		
Select machine 🖉 _2 Achs Einheit; Siemens; Nürnberg No synchronization, machine not connected						
Maschineninformationen					Help	network

Figure 5-1 Basic principle of operation

## Functions available to the MO user group

The following functions can be used by the MO user group:

Tab / Section	Description			
Machine information	The "Machine information" tab card cor on a particular selected machine.	The "Machine information" tab card contains important information on a particular selected machine.		
	It is divided into the following areas:			
	Machine overview			
	Maintenance			
	Fault services	for MOs		
	Remote access	for MOs		

## Working on the PC

5.2 Change the password on the PC

Tab / Section	Description
Setting up functions	The "Configure functions" tab card allows you to make all settings that apply to a particular selected machine.
	It is divided into the following areas:
	Maintenance
	Fault services
	Global settings
	Copying function settings
	Client/server communication
Organizational tasks	The "Organizational tasks" tab card contains functions and services that apply to all machines of an organization.
	It is divided into the following areas:
	Maintenance orders
	Service cases

Tab / Section	Description				
Statistics/ export	The "Statistic / Export" tab card contains functions and service apply to all machines of an organization.				
	It is divided into the following areas:				
	Import				
	Export				
	Overviews				
Management	The "Administration" tab card contains function apply to the settings of an organization.	s and services that			
	It is divided into the following areas:				
	Organization management				
	Personal settings	for MOs			

## 5.2 Change the password on the PC

## Application

The "Administration" tab card contains the "Change password" function. Every user can change his or her password in accordance with the specified guidelines.

## **General sequence**

- 1. Enter the current password.
- 2. Enter a new password.
- 3. Repeat the new password and confirm with "OK".

5.3 Request remote access from PC

## Visualized input sequence

	ſ	Machine information	Configure functions	Organization tas	ks	Statistic/Export	Ad	ministration			
Select machine No machine selected											5
Verwaltung									Help	net	work
	Change password										
	wł	hat is a valid password?			U	ser data					
	1.	A password must have between 7 and 127 characters				User	name	Machine Operator			
	2.	<ul> <li>A password may only consist of the following characters: a-z, A-Z, 0-9, ` ~ ! @ # \$ % ^ &amp; * () _ + - / . ? , ; '\: " } { ]   [ =</li> <li>A password must contain at least one of the following characters internally, that is not at the first or last position: ` ~ ! @ # \$ % ^ &amp; * () _ + - / . ? , ; '\: " } { ]   [ =</li> <li>A new password must differ from the previous password and must not contain the user name.</li> </ul>				Pas	sword				*
	з.					Organiz	zation	eps-emo			
						new pass	word:				*
	4.					confirm new pass	word:				*
	5.	5. It is not case-sensitive									
	Please fill in the (*) fields OK Cancel										
	Exit Service, eps-emo Copyright Siemens AG, 2005. All rights reserved										

Figure 5-2 Changing the password

## 5.3 Request remote access from PC

## Application

As an MO, you can request remote access from two different sources, i.e. the HMI and the PC. From the viewpoint of the service personnel, the difference between the two is that they can access the current control data on the HMI. With the PC, however, they can only access the monitors and their uploaded files and values that are stored in the ePS system. The service personnel always have access to the ePS data and, for this reason, remote access requests should be always be executed from the HMI.

On the "Machine Information" tab card, you can send a fault report and request remote access. When the service organization has made contact, you can set up a service session by means of the "Use remote access" function.

If the machine is not connected or the database of ePS Network Services contains an entry (conditions of sale), the remote access is billed on a "Call by call" basis.

The general sequence and available functions are analogous to the HMI.

## Working on the PC

5.3 Request remote access from PC

Machine information	Configure functions	Organization tasks	Statistic/Export	Administration			
Select machine Select machine	<b>inheit</b> ; Siemens; Nürnberg			No synchronization, machi	ne not connected	20	
Machine information Help							
Report fault							
Details of fault						_	
	Error report					*	
Please fill in the (*) fields					OK Cano	el	
Exit Service, eps-emo				Copyright Siemens /	AG, 2005. All rights i	reserved	

Figure 5-3 Report a fault to the service organization using a fault report

Machine information	Configure functions	Organi	zation tasks	Statistic/Expor	Administration		
Select machine			No synchronization, mac	hine not connected			
Maschineninformationen						Help	
Request remote access							
			Please enter	your user name and	the service number		
				User name	Machine Operator		
				Service number			
					Please request the service n	umber	
						OK Cancel	
Exit Service, eps-emo					Copyright Siemen:	s AG, 2005. All rights reserved	

Figure 5-4 Request remote access

## See also

Service session with "Use remote access" on the HMI (Page 21) Report fault to the organization (Page 26)

# 6

# Correction sheet - fax template

Should you come across any printing errors when reading this publication, please notify us on this sheet. Suggestions for improvement are also welcome.

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Suggestions and / or corrections

# Index

## Α

Accept the data protection guidelines, 12 Administration Services, 8 Auto login, 12, 17

## С

Change password (HMI), 16 Change password (PC), 42 Chat window, 24 Condition Monitoring Services, 8 Connect machine, 14 Contour test, 32 Control monitor services, 7

## D

Data services, 8 Desktop control, 23

## F

Fault report, 26 Functions for MOs, 41

## L

Load alarm model, 17

## Μ

Machine Operator (MO), 9

Measurement series, 28 Menu structure, 9

## Ρ

Plan maintenance order, 34

## R

Registers, 41 Remote access, 7, 21, 43 Report a fault, 26, 43

## S

Service session, 21, 43 Synchronize machine, 24

## Т

Test series, 37

## U

User login, 11

## W

Workflow services, 8

Index