

FEIN MESSTECHNIK

MSM Quick Guide

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1. Introduction

1.1. Welcome

We thank you for you confidence in our SPC software and hardware products and look forward to welcoming you as our new customer. We have put our focus on high functionality, ease of use, saftety, and reliability in the choice of components. Through balanced hardware and software design, we can present you with an advanced measurment technology.

1.2. The use of the manual

For security reasons, you should familiarize yourself with the contents of this manual prior to the creation of programs for the column.

1.3. Symbolism

In the text, symbols are used to simplify the readability or to point out all the important operating and safety conditions.





Note



Warning!



STOP (Hazard)! The device must not be used!



Catuion, electrostatically sensitive devices

1.4. Previous knowledge

The successful use of this manual requires a basic knowledge in the followign:

General Purpose Test Equipment

2. MSM Software

After booting, the instrument automatically starts up in the MSM Program Number 0. To change the program, press the program index button in the upper left corner of the screen. This will bring up a selection of the available programs.

		Shiff C		×				
PU		01.01.2013 01:23:54	Selection					
			P00 =					
			P01 = HSK-A 25 spindle					
			P02 = HSK-A 32 spindle					
			P03 = HSK-A 40 spindle					
		1	P04 = HSK-A 50 spindle					
		-7/	P05 = HSK-A 63 spindle					
			P06 = HSK-A 80 spindle					
			P07 = HSK-A 100 spindle					
WW	w.stotz.com email: info@s	stotz.com	P08 = HSK-A 125 spindle					
			P09 = HSK-A 160 spindle					
			P10 =					
			P11 =					
			P12 =					
			P13 =					
			P14 =					
			P15 =	•				
	F2	F6	Cancel					
			OK Cancel					

Ē

Now you can select the desired program by clicking and upload by confirming with OK. In the attached expample the programs are as follows:

Program 1 : HSK-A 25 spindle Program 2 : HSK-A 32 spindle Program 3 : HSK-A 40 spindle Program 4 : HSK-A 50 spindle Program 5 : HSK-A 63 spindle Program 6 : HSK-A 80 spindle Program 7 : HSK-A 100 spindle Program 8 : HSK-A 125 spindle Program 9 : HSK-A 160 spindle

2.1. Measure

	nen voz opinalo	28.07.2014 10:20:30
Part ID	Part Name HSK-A 32 spi.	nine No. Machine
MG1		N = 3
Waiting f	or <start></start>	
Name	Nom	Value Dev.
d2	23.9980	23.9972 -0.0008
sd3	23.5480	23.5482 0.0002
		set_angle (deg) 2°51'20''
		set_angle (dec) 2.8556
		angle_error (µm) -1.1
Start	F2	F6 Calibrate

After loading the program, the display is shown



In the program start out by pressing the button "Start" and the MSM shows "Measuring progress ...". By pressing the "Stop" button, the measurement is completed. After removal of the measured workpiece a new one can be supplied and a new cycle starts again

A red bar shows the feature is out of tolerance and a green bar shows the feature is in tolerance.

2.2. Calibration

To start the calibration, press the F6 key on the touch panel, the K key on the keyboard or external workers contact the PLC signal "Select Calibration". The display changes to the calibration:

Example: In Program 1, please set the MIN setting master on the mandrel and pressing the START button on the screen or the external keyboard

P2	HS	K-A 32 s	pindle	2	AM Shift 8.07.2014 10:21:04	P2	ня	K-A 32 s	pindle		AM Shift 28.07.2014 10:21:30		
Calibra	ite					Calibrate							
MIN			MIN			MIN	MIN MIN						
Waitir	ng for ·	<start< th=""><th>></th><th></th><th></th><th>Meas</th><th>uring i</th><th>s runr</th><th>ning</th><th></th><th></th></start<>	>			Meas	uring i	s runr	ning				
XXX						xxx							
Feature	lstwert	DIFF	RDIFF	CAL	1	Feature	lstwert	DIFF	RDIFF	CA	L1		
sd3	23.5426	0.0000	0.0000	23.542	6	sd3	23.5426	0.0000	0.0000	23.54	26		
d2	23.9919	0.0000	0.0000	23.991	9	d2	23.9919	0.0000	0.0000	23.99	19		
Sta	rt	F	2		F6	Sti	qu	F:	2		F6		

Please press the STOP button after a few seconds and values are stable. The display switches to the next calibration step.

Please now remove the MIN setting master and replace it with the MAX setting master and press the START button. The MAX-calibration is started.

P2	нз	K-A 32 s	pindle	28.07	AM Shift 2014 10:22:11	P2	HSI	K-A 32 s	pindle	28	AM Shift 1.07-2014 10:22:28	
Calibra	ite					Calibrate						
MAX			мах			MAX			мах			
Waitir	ıg for ·	<start< th=""><th>></th><th></th><th></th><th>Meas</th><th>uring i</th><th>s runr</th><th>ing</th><th></th><th></th></start<>	>			Meas	uring i	s runr	ing			
ххх						ххх						
Feature	Istwert	DIFF	RDIFF	CAL2		Feature	Istwert	DIFF	RDIFF	CAL	2	
sd3	23.5528	0.0000	0.0000	23.5528		sd3	23.5528	0.0000	0.0000	23.552	3	
d2	24.0021	0.0000	0.0000	24.0021		d2	24.0021	0.0000	0.0000	24.002	1	
Sta	Start F2 F6					Sto	pp	F	2		F6	

Please wait for measurement to stabilize and then press the STOP button. The display switches to the measured group.

3. MSM MENU

P2	HS	K-A 32 spindle	28.07.2	AM Shift 2014 10:20:03			×
Part ID	нз	Part Name K-A 32 spi.	ine No. N	dachine		i wan wer	iu
MG1			N =	= 2			
Waitin	ig for	<start></start>					
Name		Nom	Value	Dev.	F-Key Layout	MSM	MRA
uz		23.8800	23.5507	0.0007			
sd3		23.5480	23.5482	0.0002	Editor	💓 MSM	MRA
			set_angle 2°51' 2.865 angle_er +0.5	e (deg) 55'' e (dec) 4 ror (µm)	Network	Data Export	
		<i>ii</i> {	F			Cancel	٢
Sta	rt		Calik	orate			

If you touch the field with the program name (top center) then the MSM menu is loaded. Use the Cancel button to leave the menu..

3.1. Hardware Test

If you select the F-key layout MRA they may receive a second series F-keys:



If you press the F8 key the hardware test is loaded. There you can check the measurement channels, and digital inputs, and outputs. You can choose INPUTS / OUTPUTS output AX8 by clicking Enable (measuring air) and then all the measuring probe pressure check (3000 mbar).

P1 MSM 31 mm HBar	Shift A 13.02.2014 10:16:08	P1	MSM	31 mm HBar	Shift A 13.02.2014 10:17:15
I/O Hardwaretest	135	N	lessplatz	z: Alle Messta	aster
Digitale Eingänge Digitale Ausgänge Auso	lrücke Werte	Istwert	Taster	Abw.	NEN
EX601 F11 PRESSED AX1 (A1)		0 12083	Taster1	0 12083	0.00000
EX602 F12 PRESSED AX2 (A2)					
EX701 MOUSE BTN1' AX3 (A3)					
EX1 START Tastel (AX5 (A5)		0.12050	Taster2	0.12050	0.00000
EX2 STOP Taste II (AX6 (A6)					
EX3 Taste III (E3) AX7 (A7)		-0.05170	Taster3	-0.05170	0.00000
EX4 CAL Taste IV (E ZAX8 (A8)					
EX5 (E5) AX9 opto 1/0 (A9)		0.05000	Tester	0.05000	0.00000
EX7 (E7)		-0.05098	raster4	-0.05098	0.00000
EX8 (E8) AX12 opto I/0 (A12)					
EX13 opto I/0 (E9) AX13 opto I/0 (A13)		2995.09790	Druck	2995.09790	0.00000
EX14 opto I/0 (E10) AX14 opto I/0 (A14)					
EX15 opto I/0 (E11) AX15 opto I/0 (A15)					
EX17 opto I/0 (E13)					
EX18 opto I/0 (E14)					
EX19 opto I/0 (E15)					
EX20 opto I/0 (E16)					
Programmwechsel erlauben Alles auf O setzen Freig	abe der Ber				
Alles auf 1 setzen	Freigabe d				
F1 F2 F3 F4	F5 >	F1	F2	F3 F4 ∜⊒ ≪	F5 >
F6 F7 F8	F9		F6	F7 F8	F9

3.2. MSM Editor

If they select the item MSM Menu Editor to customize the feature data of the current measurement program.

	1	×	1			1	×			
P1:MSM 31 mm HBar		P1:M	P1:MSM 2 Dorne HBar							
GlobVars		M1.	M1.1							
M1.1		M1.	E	_	_	>	3			
M1.2		M1.		NEN	/ Value					
M1.3		M2.	14.000	000		•••				
		M2.								
		1412.	1	2	3	«				
Property	Value									
CAL1	31.025100 📤	CAL	4	5	6	≫	9600			
CAL2	31.050800	FOR					ster2			
FORMULA	Taster1	UTG	7	0	0	Dal	0000			
G-LIN	0.001000	NEN		0	3	Dei	0000			
G-MAX	0.100000	OTG					8000			
G-MIN	-0.100000	-	-	0	•	\boxtimes				
G-NUM	0.010000									
UTG	0.00000		•	>	2	Κ.				
NEN	31.025000									
OTG	0.025000 🗸						_			
ок	Cancel		ок		C	ancel				

To select the values to change, you have to double-click the value. An on-screen keyboard then appears so the values can be adjusted. When done click on the green check mark.

3.3. Time Set

E.	Data Export	×		>		×
-				Network X	<u>12</u>	Network X
L	JATE / TIME SET					
			Device Name:	stotz-msm	Device Name:	stotz-msm
Year	Month	Day	Workgroup:	WORKGROUP	Workgroup:	WORKGROUP
2014 -	2 -	3 -	Domain:	WORKGROUP	Domain:	WORKGROUP
			DNS Server:		DNS Server:	192.168.20.1
Hour	Minute	Sec				
10 -	7 -	22 -	Use DHCP		✓ Use DHCP	
			IP:	192.168.11.128	IP:	192.168.20.100
			Netmask:	255.255.255.0	Netmask:	255.255.255.0
			Gateway:	0.0.0.0	Gateway:	192.168.20.8
ок	Cance	ol		OK Cancel	[OK Cancel

Through the menu, Time and Date and be set:

Under the menu, Network settings of the ethernet are displayed and can be adjusted.

3.4. Data Export

Under the menu, Data Export can export the data of your choosing to as USB stick.

P3	P	ASM 15mm H	lBar	Shift A 03.02.2014 10:06:06	P1	M	SM 2 Dorne	e HBar	Shift A 03.02.2014 13.27:48	P1		MSN	1 2 Doi	rne HE	Bar	9 03.02.2	hift A)14 13:27:46
Werkstück	KID	Werkstück Data Expo	Maschinenn ort	r. Maschine ×	VVerkstück	(ID	Werkstück Data Exp	Maschinenr port	r. Maschine ×	Werk	stück ID	V	Verkstück Data	Export	Maschinen	nr. M	aschine ×
Format Export I /mt/usb0 Auswah Alle V	Datei MP3 II Verte	Data Exp	Text	×	Format Export /mnt/usb0 Auswal Datur	Datei ^{WP1} II	Data Ex Gesamt	Text Text Excel '.' Excel '.' MExcel ',' DFQ	×		/mnt A G M	t/usb0/f B H N	P1	D J P	E K Q	F L R	× × × ×
										äμØ	S	Т	U	v	w	х	\boxtimes
										<u>!& </u>	Y	z					
			Export	Schließen				Export	Schließen					 ,	P01.	00	
Sta	art	F2 Display+		F6 Kalibrierung	Sta	irt	F2 Displa	y+	F6 Kalibrierung		Start		Di	F2 splay+		F6 Kalibrie	rung

P1 MS	M 2 Dorne HBar	Shitt A 03.02.2014 13:27:46	P1	N	ISM 2 Dorne	HBar	Shitt A 03.02.2014 13.28.31	P1	M	ISM 2 Dorne	HBar	Shift A 03.02.2014 13:28:31
Werkstück ID	Werkstück Maschinenn Data Export	r. Maschine ×	VVerkstück	ID	Werkstück Data Exp	Maschinenn	r. Maschine ×	VVerkstück	ID	Werkstück Data Exp	Maschinenr	r. Maschine ×
Format Export Datei /mnt/usb0/P1 Auswahl Datum/Zeit	Gesamt Messwerte	•	Format Export I /mnt/usb0 Auswah	Datei /P1 I Verte	Gesamt 1	Text Messwerte	•	Format Export I /mnt/usb0 Auswah	Datei ^{WP1} II Verte	Gesamt N	Text Aesswerte	•
Alle Werte Letzte Werte Von/Bis Datum/Zeit	•		Dat	ei ist s	Daten Ex schon vorhand Ja	port len, überso Nein	× hreiben?	, <u> </u>	1	Messdaten E Daten gespeichert i OK	xport ns /mnt/usb0/P1	K txt
Bis 2014	• . 02 • . 03 • 10 • : 03 •					For a d	Ochlinder					Ochilio Derr
	Ехроп	Schlielsen	1			Ехроп	Schlieisen				Ехроп	Schlielsen
Start	F2 Display+	F6 Kalibrierung	Sta	rt	F2 Display	+	F6 Kalibrierung	Sta	irt	F2 Display	•	F6 Kalibrierung

3.5. MSM Shutdown

Using the menu option to shutdown (bottom right) can shut down the measuring device. This must be the dialog message "Shut down computer" confirmed "yes". Thereafter, the measuring device can be switched off.

×	R ×
MSM Main Menu	MSM Main Menu
F-Key Layout	F-Key Layout
Editor 🕅 MSM	Den Rechner herunterfahren?
Data Export	Ja Nein
Network Time Set	Network Set
Cancel	Cancel

3.6. MRA Menu

All of these changes and others are performed in the MRA mode via the menu item Editor MRA. All they need to log in (login)

P3 MSM 15mm HBar 03.02.2014 10.08:38	P1 MSM 2 Dorne HBar Shitt A 03.02.2014 13.29:15	P1 MSM 2 Dorne HBar 03.02.2014 13:29:16
Werkstück ID Werkstück Maschinennr. Maschine	Werkstück ID Werkstück Maschinennr. Maschine	Werkstück ID Werkstück Maschinennr. Maschine
Programmkonfiguration ×	Programmkonfiguration X	Programmkonfiguration X
STOTZ MRA Hauptmenü	STOTZ MRA Hauptmenü 🔀	STOTZ MRA Hauptmenü 🔀
Messmodus Standard	Messmodus Standard 🚫 Test	Messmodus Standard 🚫 Test
Benutzerpasswort	Benutzerpas	Benutzerpasswort
Daten Bearbeiten	Daten Beart	Daten Bearbeiten
PRG Programm	PRG Progra Kennwort	PRG Programm
CLM Einstellnormal	CLM Einste	CLM Einstellnormal
CLA Klassen	CLA Klasse	CLA Klassen
BCD Dig. Output Tabelle	BCD Dig. Output Tabelle	BCD Dig. Output Tabelle
Konfiguration 🔀 Herunterfahren じ	Konfiguration Kerunterfahren	Konfiguration 🔀 Herunterfahren じ
	FI FZ F3 F4 F3	FI FZ F3 F4 F5
Start F2 F6	Start F6 F7 F8 F9	Start F6 F7 F8 F9

Programmkonfiguration (Benutzer–A, Ebene–4)	📜 Programmkonfiguration (Benutzer–A, Ebene–4) 🗙 🖳 Programmkonfiguration (Benutzer–A, Ebene–4)	×
Image: Constraint of the second sec		0:05
P1 PROGRAMMDATEN	P1 MERKMALE 1/6 P1 MESSGRUPPE 1/3	
Prg. Name MSM 2D Prg. Beschr. 1234	Rame M1.1 Speichern Ja - Feature Flow	+
PrgData Werkstück ID Werkstück	PrgData Messformel Taster1 Datenexport - PrgData Name MG1	-
Werkstoffnul Werkstoff	Nennmass 14.000000 mm Einh.	«
Zeichn.Nr SkName	Toleranz Statistik 15 Regelkarte OTG 0.018000 OEG 0.000000	>
CG Maschinennr Maschine	C6 OWG 0.000000 UEG 0.000000 C6 Startverzöger. 0 [ms]	
Arbeitsgang Op. Name	UTG 0.000000 UEGrs 0.000300	۸
MG Gerätenr. Gerätename STOTZ-M	MG Darstellung im Messen u Vumenisch	*
Kundennr. Kunde	Farbmodus 10TG-UTG Stop Formel true /	
Statistik Auftragsnr. Kostenstelle	Statistik Balk. Richt. 1 Mitte v 4 Statistik	⊯
→	Bacia CAL Eigenschaften	≫
	M-Tabelle Grenzen	
Basis Control CAL	Formel XYZ Basis Anzeige	

	×	D4	MONA	Dama	2	Shift A
		P1 Werkstück IE	Werk	Stück	Sar o Maschinennr.	3.02.2014 13:29:15 Maschine
P1 MESSGRUPPE 1/3	ľ	MG1 Dorn 14 mn				N = 3
Feature Flow	+		I			
PrgData Name MG1 M1 M1.1						
Beschreibung Dorn 14 mm	«					
Programmkonfiguration	×Į			Benutzer		×
Önderungen werden venwerfen. Fortfehren 2					* (Level 1)	
Anderungen werden verwonen. Fortramen :		Soll die aktu	ielle Anmeldu	ng beibehalt	en werden ?	(A - Level 4)
Ja Nein			Ja		Nein	
Mg M6 M2 3	~		Ja		Nein	
M3 M6 M2.3 Stop Formel true /	*		Ja		Nein	
Mo Statestik	*		Ja		Nein	
Mo Stop Formel true /	*		Ja		Nein	
MG Stop Formel true /	× ∉)	F1	Ja F2	F3	Nein F4	F5
Mo Statetik Basis Anzeige	*	F1	F2 F6	F3 F7	F4 F8	F5 F9

There is a seperate manual for the MRA menu.

4.0 Appendix

This section is blank on purpose.