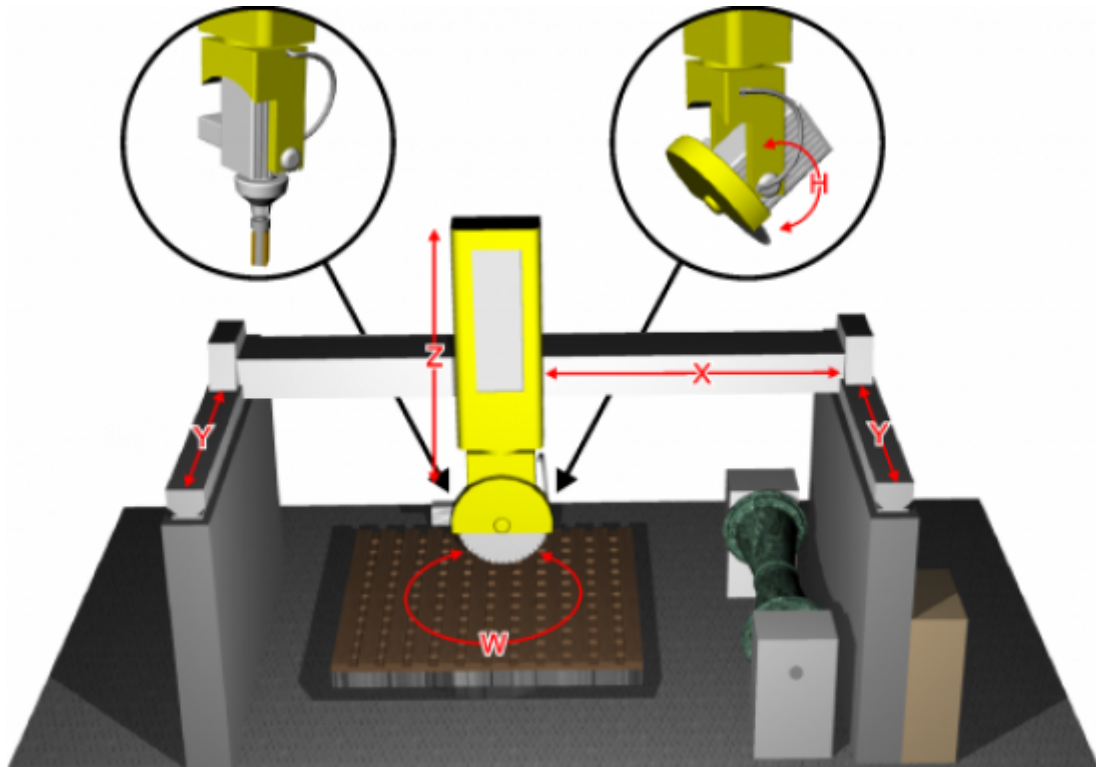


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P1K31FR30-001 - 3 axis bridge saw: Installation Manual



Quality in Electronic
Manufacturing

Document	P1K31FR30-001		
Description	User manual		
Drawn up	Riccardo Furlato		
Approved	Draft		
Link:	http://www.qem.eu/doku/doku.php/en/strumenti/qmoveplus/j1k31/mdu_p1k31fr30-001/funzionamento		
Languages	English		
Release	Description	Notes	Date
01	New Manual		26/05/14

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 - 5.1 Enable

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0.1 Tasti

	Press to confirm
	Select multile parameters
	Previous screen
	Next screen
	General Setup (protected by password)
	Apri da MMC
	Salva

Campi numerici gialli ...possono essere impostati



0.2 Function leds



Led	Icona	Funzione	Led	Icona	Funzione
F4		Barriere	F5	non usato	non usato.
F6		Laser Y ON/OFF	F7		Laser X ON/OFF
F8		EV acqua ON/OFF	F9		Allarme = ON
F10		Esci	F11		Semiautomatico = ON
F12		Alza banco	F13		Abbassa banco
F14		Rotazione antioraria banco	F15		Rotazione oraria banco
F16		Disco ON/OFF	F17		Fresa ON/OFF

0.3 Symbols

Symbol	Description
	Manual
	Emergency
	Automatic
	Function mode
	Not initialized
	Locked/Unlocked setup

0.4 Up-bar

Symbol	Description
	Barra alta (sfondo grigio) • Nome della pagina • Numero della pagina

1. STARTUP PAGE

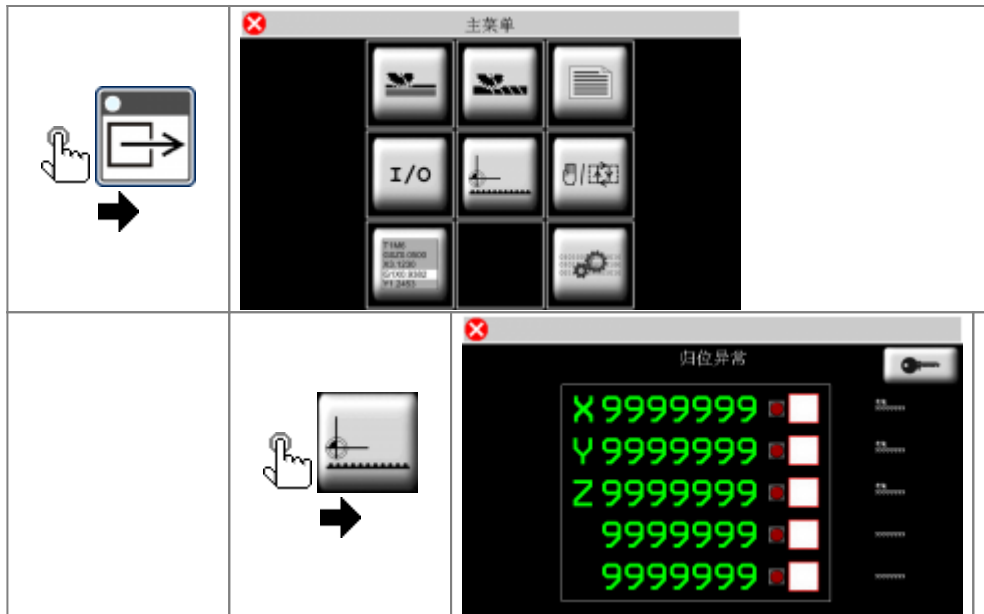


La pagina resta attiva con il messaggio "WAITING FOR POWER SYSTEM" finché non viene tolta l'emergenza.

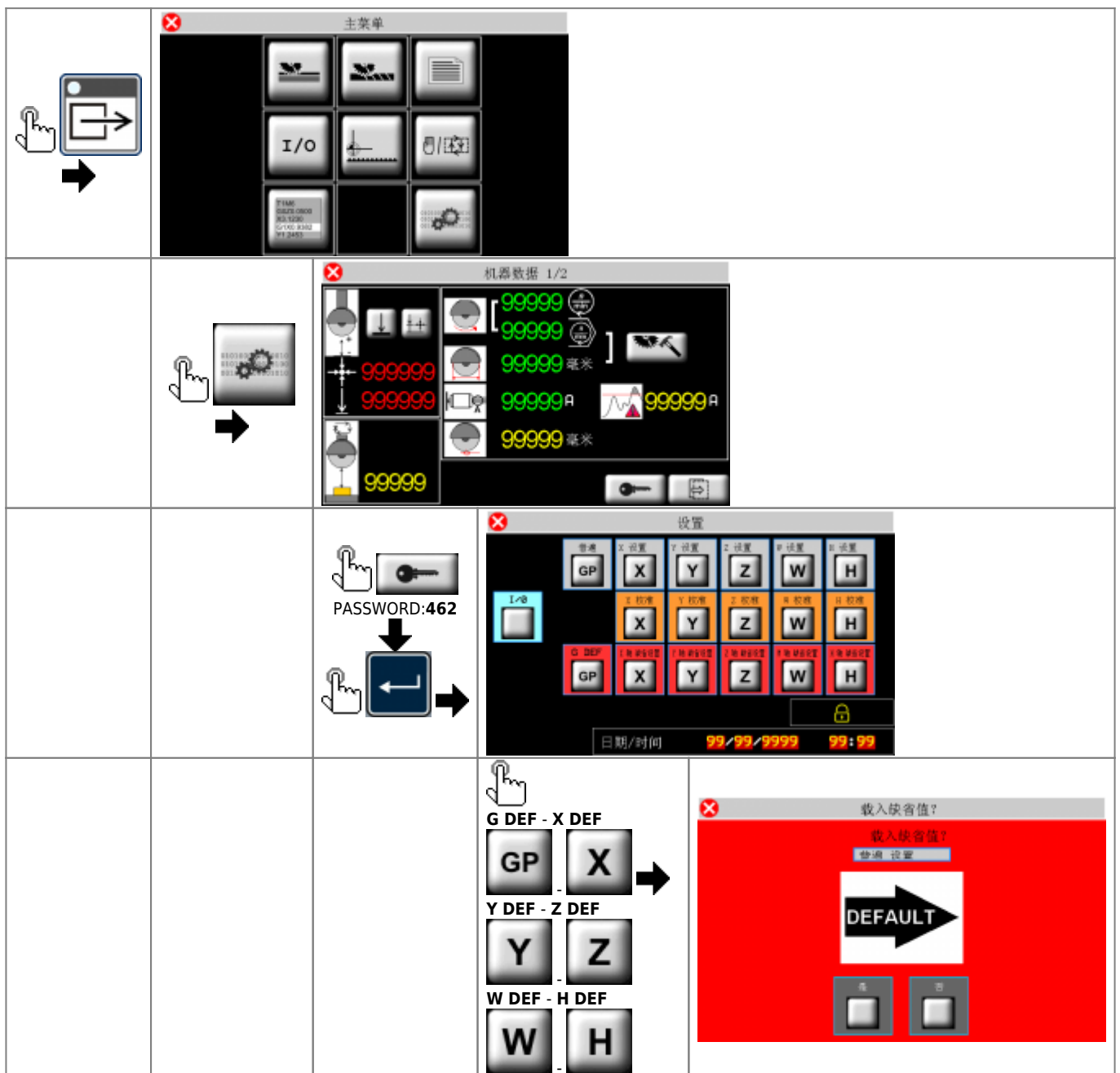


Per proseguire premere

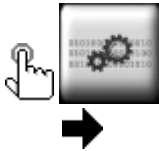
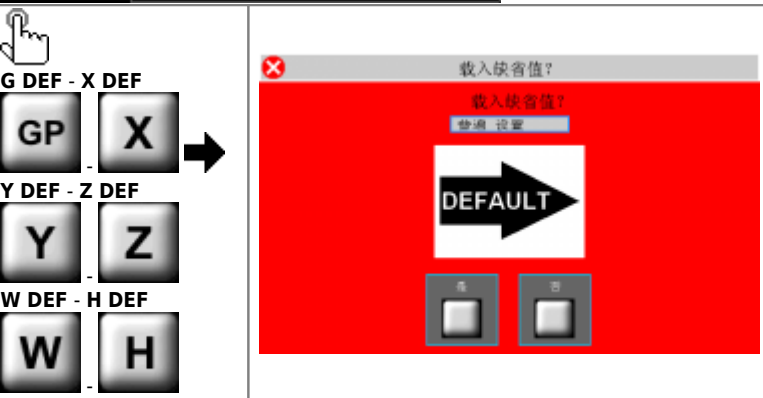
2. HOMING SCREEN



2.1 Pagine installatore - Accesso ai parametri di default

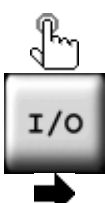
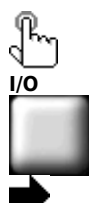
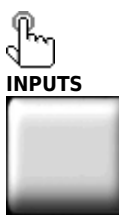
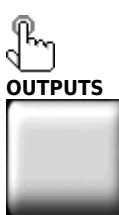


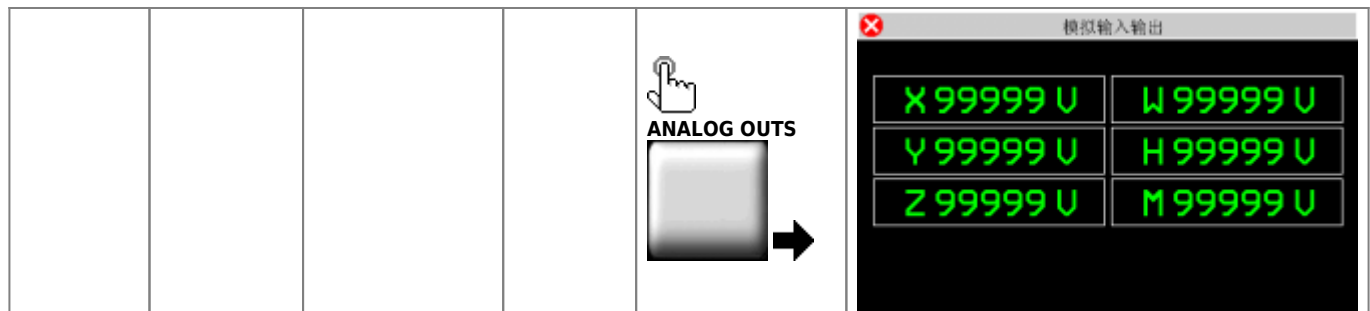
2.2 Pagine installatore - Accesso ai parametri di default

		
		
	 PASSWORD:462 	
		

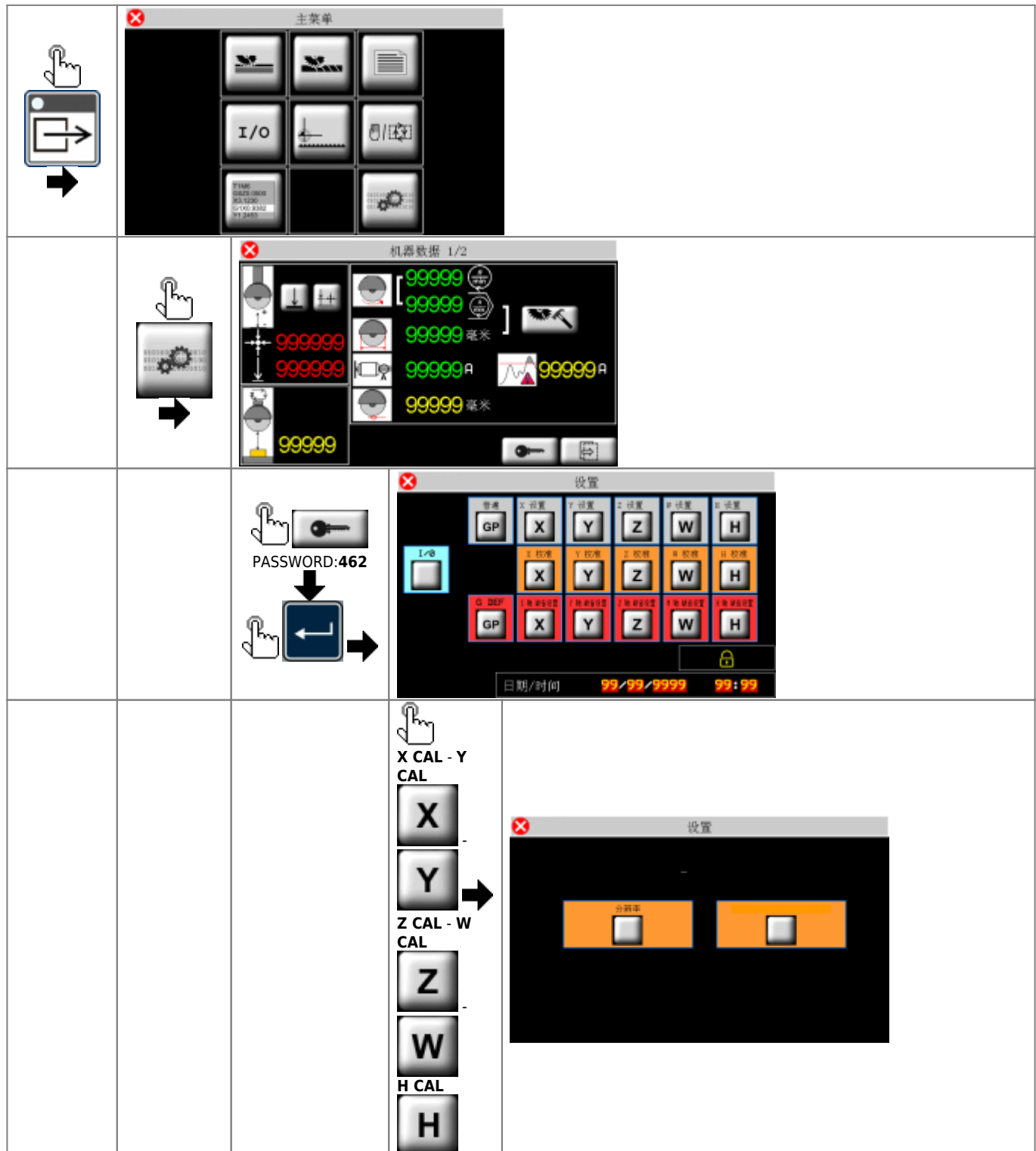
2.3 Pagine installatore - Accesso alla diagnostica

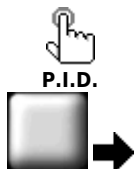
	
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	 PASSWORD:462 		
			
			
			
			



2.4 Pagine installatore - Taratura assi



3. SETUP

Toccare il valore del parametro e modificare con il tastierino numerico.

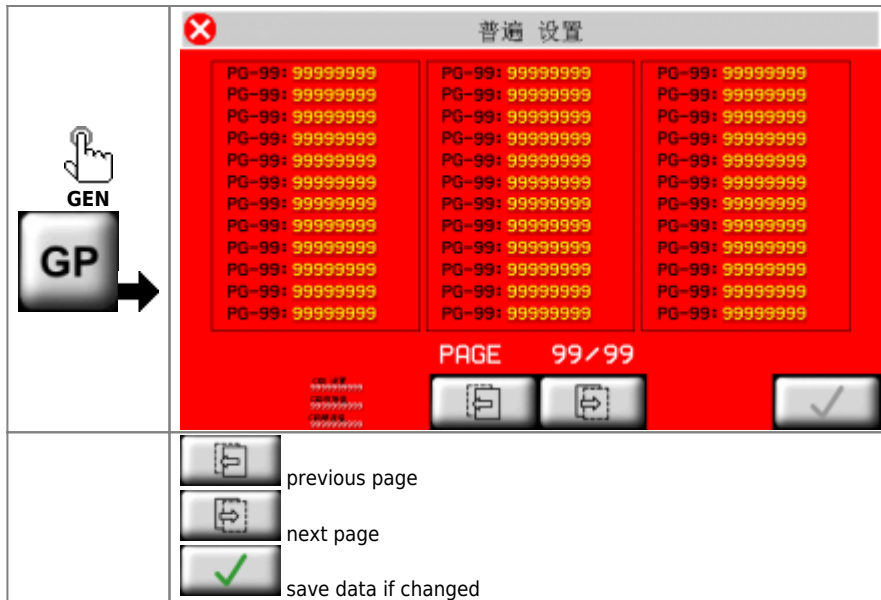


Per confermare premere il tasto

3.1 Caricamento dei parametri di default

 G DEF - X DEF GP X Y DEF - Z DEF Y Z W DEF - H DEF W H		
		Per caricare i dati di default
		Per annullare

3.2 General Parameters



- **PG-XX** = Parameters Generic, **XX** = number
- **U.M.** = Unit Measure
- **Def.** = Default

Parameter	U.M.	Def.	Range	Description	
PG-01	X/Y/Z 小数点	X/Y/Z DECIMAL POINT	-	1	0 ~ 2

S
Inches will show "DECIMAL POINT + 1 |

PG-02	W 小数点	W DECIMAL POINT	-	2	0 ~ 2	Number of decimal points for W axis position
PG-03	H 小数点	H DECIMAL POINT	-	2	0 ~ 2	Number of decimal points for H axis position
PG-04	最大刀碟转速	MAXIMUM DISK RPM	rpm	2480	0 ~ 3000	Maximum limit of disk rpm.
PG-05	标线器时间	LASER TIME	s	30	0 ~ 9999	If > zero the laser is automatic when Y axis moving. When axis stops after this time, laser powers off automatically. If time is zero the laser can only be operated by F7 button
PG-06	水控制时间	WATER CONTROL TIME	s	5	0 ~ 9999	Time waited before a water fault gives an alarm
PG-07	关闭水控制	DISABLE WATER CONTROL	-	0	0 ~ 1	

1= water control disabled |

PG-08	HMI 蜂鸣器	HMI BEEPER	-	0	0 ~ 1	
-------	---------	------------	---	---	-------	--

1= beeper disabled |

PG-09	蜂鸣器报警时间	ALARM BEEPER TIME	s	10	0 ~ 999	Time of Alarm beeper when in alarm state
PG-10	测量	UNIT MEASURE	-	0	0 ~ 1	

1= inch
In Setup all parameters are in mm |

PG-11	语言	LANGUAGE	-	1	01/02/14	
-------	----	----------	---	---	----------	--

2= ITALIAN  |

PG-12	归位模式	HOMING MODE	-	1	0 ~ 3	
-------	------	-------------	---	---	-------	--

1= Homing not necessary, all functions are unlocked
2= Homing necessary for automatic cycle, only manual is unlocked

3= Homing necessary to unlock all functions.  Homing starts automatically without pressing a button |

PG-13	未使用	Not Used	-	0		Not used
PG-14	最少模拟输入	MINIMUM ANALOG INPUT	bit	5	0 ~ 1000	If less all analog inputs are forced to zero.

PG-15	插值速度覆盖	INTERPOLATION SPEED OVERRIDE	-	0	0 ~ 1	
-------	--------	------------------------------	---	---	-------	--

1= override applied to set speed |

PG-16	换向类型	DIRECTION CHANGE TYPE	-	0	0 - 1	
-------	------	-----------------------	---	---	-------	--

1= not implemented |

PG-17	换向调整	DIRECTION CHANGE ADJUSTMENT	mm	0.5	0 - 999.9	Direction change adjustment with curve radius on corner (x)
PG-18	快速	FAST SPEED	mm/min	1000	0 - 9999	Speed for straight cut and default value for other blocks.
PG-19	最大电流 = 10V	MAXIMUM CURRENT = 10Volt	A	100.0	0 - 100.0	Maximum current of analogic input for spindle current
PG-20	主轴速度就需时间	SPINDLESPEED OK TIME	s	0	0 - 99.999	

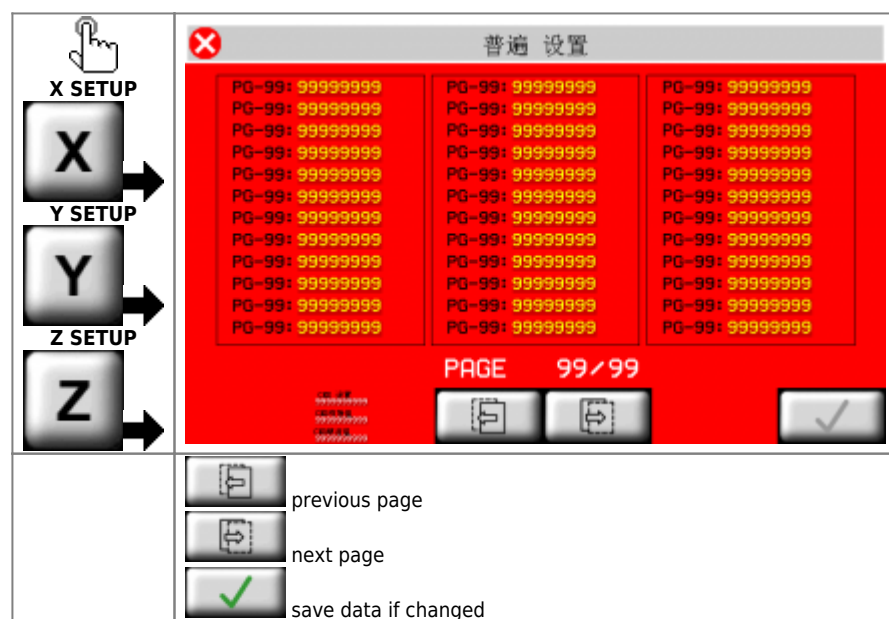
>0= machine waits only this time" |

PG-21	最大磨转速	MAXIMUM MILL RPM	rpm	3000	0 - 3000	Maximum limit of mill rpm.
PG-22	归位序列	HOMING SEQUENCE	-	0	0 - 1	

1= after Z axis homing, the others are done together |

(x) 参数小数点 依赖 PG-01 参数 parameter decimal point depends on PG-01

3.3 X, Y, Z 轴设置 X, Y, Z axis setup



- **PX-XX** = Parameters, **X** = axe, **XX** = number
- **P.ter** = Parameters
- **U.M.** = Unit Measure
- **Def.** = Default

P.ter	U.M.	Def.	Range	Description	
PX-01	测量	MEASURE	mm	0.1	0 - 99999.9
PX-02	脉冲	PULSE	-	1	0 - 999999

Measure/Pulse is the axis resolution. It must be between 1 and 0.000935 |

PX-03	公差	TOLERANCE	mm	0.5	0 - 99.99	Distance around target position that is considered correct.(xx)
PX-04	启用时间	ENABLE TIME	s	0.200	0 - 9.999	Time before axis is ok to start moving
PX-05	关闭时间	DISABLE TIME	s	0.200	0 - 9.999	Time after axis is ok to stop
PX-06	启用轴输出	ENABLE AXIS OUTPUT	-	1	0 - 1	

0= output ON before axis movement and OFF after axis stop, after time set in PX-04 and PX-05

1= always on (except in alarm state) |

PX-07	点动功能	JOG FUNCTION	-	1	0 - 1	Jog function type 0= jog is open loop 1= jog is closed loop
PX-08	最大位置	MAXIMUM POSITION	mm	34463.09.00	-99999.9 - 99999.9	Maximum axis position. Software limit switch(x)
PX-09	最少位置	MINIMUM POSITION	mm	-34463.09.00	-99999.9 - 99999.9	Minimum axis position. Software limit switch(x)
PX-10	归位补偿	HOMING OFFSET	mm	0	-99999.9 - 99999.9	Distance between zero and sensor.
PX-11	归位类型	HOMING TYPE	-	0	0 - 3	0= Axis searches the homing sensor, reverses movement and set PX-10 position 1= Axis searches the homing sensor, inverts movement and set PX-10 position on encoder zero signal 2= Axis homing without movement. Set PX-10 position on homing sensor signal 3= homing disabled
PX-12	归位方向	HOMING DIRECTION	-	0	0 - 1	0= forward 1= backward
PX-13	快速归位	HOMING FAST SPEED	mm/min	10	0 - 9999999	Homing sensor searching speed
PX-14	慢速归位	HOMING SLOW SPEED	mm/min	10	0 - 9999999	Axis speed after reverse movement in homing
PX-15	归位缺省值	HOMING DEFAULT	-	1	0 - 1	0= Axis not included in automatic homing 1= Axis included in automatic homing

PX-16	自动加速时间	AUTOMATIC ACCELERATION TIME	s	1.00	0 - 9.99	Time from 0 to maximum speed
PX-17	自动减速时间	AUTOMATIC DECELERATION TIME	s	1.00	0 - 9.99	Time from maximum speed to 0
PX-18	手动加速时间	MANUAL ACCELERATION TIME	s	1.00	0 - 9.99	Time from 0 to maximum speed
PX-19	手动减速时间	MANUAL DECELERATION TIME	s	1.00	0 - 9.99	Time from maximum speed to 0
PX-20	公差延迟时间	TOLERANCE CONTROL DELAY	s	0.50	0 - 99.99	Time between axis stop and tolerance control
PX-21	自动向前速度	AUTOMATIC SPEED FORWARD	mm/min	10	0 - 9999999	Axis forward speed in automatic cycle.
PX-22	自动向后速度	AUTOMATIC SPEED BACKWARD	mm/min	10	0 - 9999999	Axis backward speed in automatic cycle.
PX-23	手动快度	MANUAL FAST SPEED	mm/min	10	0 - 9999999	Axis fast speed during manual jog movement.
PX-24	手动慢速	MANUAL SLOW SPEED	mm/min	10	0 - 9999999	Axis slow speed during manual jog movement.
PX-25	最少运动	MINIMUM MOVEMENT	mm	00.01.00	0 - 999.9	Encoder fault control: minimum movement for the axis.(x)
PX-26	最少电压	MINIMUM VOLTAGE	V	01.00.00	0 - 10.0	Encoder fault control : minimum voltage to start encoder control.
PX-27	工作周期终点停放位置	END WORK CYCLE PARKING	-	0	0 - 1	

1= enabled |

PX-28	最大速度	MAXIMUM SPEED	mm/min	100	0 - 9999999	Axis maximum speed with 10Vdc output
PX-29	正反馈	FEEDFORWARD	%	100.00.00	0 - 200.0	Feedforward register for PID regulation.
PX-30	比例增益	PROPORTIONAL GAIN	-	0	0 - 9.999	Proportional gain register for PID regulation.
PX-31	整体的时间	INTEGRAL TIME	s	0	0 - 9.999	Integral register for PID regulation.
PX-32	导数时间	DERIVATIVE TIME	s	0	0 - 9.999	Derivative register for PID regulation.
PX-33	最大追踪错误	MAXIMUM FOLLOWING ERROR	mm	10000.39.00	0 - 9999.99	Maximum error between theoretic and real axis position(xx)
PX-34	驱动器补偿	DRIVE OFFSET	V	0	-99.9999 - 99.9999	Analogic output offset for drive compensation.
PX-35	最大插值速度	MAXIMUM INTERPOLATION SPEED	%	80.00.00	0 - 100.0	Maximum interpolation speed. Percentage of maximum speed in PX-28.
PX-36	归位器检测开关状态	HOMING SENSOR LOGIC	-	0	0 - 1	0= Sensor NO (normally open) 1= Sensor NC (normally close).“
PX-37	靠近位置	APPROACH POSITION	mm	10.00.00	0 - 999.9	If more than 0 enables pulse positioning and where it begins before the target (x)
PX-38	脉冲幅度	PULSE AMPLITUDE	V	00.01.00	0 - 10.0	Pulse amplitude in volt.
PX-39	脉冲时间	PULSE TIME	s	00.20.00	0 - 99.99	Time of a single pulse step
PX-40	脉冲延迟	PULSE DELAY	s	00.20.00	0 - 99.99	Time between two steps.
PX-41	脉冲超时	PULSE TIMEOUT	s	0	0 - 99	Pulse positioning maximum time.

3.3.1 参数 只为 X 轴 Parameters only for X axis

P.ter	U.M.	Def.	Range	Description		
PX-42	台中心	TABLE CENTER POSITION	mm	1000.0	-99999.9 - 99999.9	Axis position of the rotary table center (x)
PX-43	磨-刀碟补偿	MILL-DISK OFFSET	mm	0.0	-99999.9 - 99999.9	Distance between disk center and mill center.
PX-44		RAMP TYPE	-	0	0 - 1	0= Linear ramps 1= Epicyclic ramps

3.3.2 参数 只为 Y 轴 Parameters only for Y axis

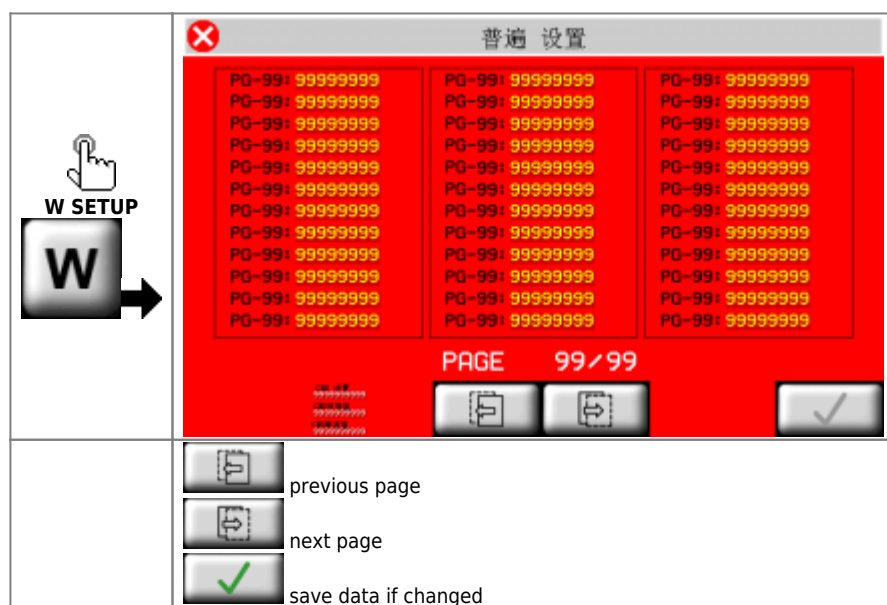
P.ter	U.M.	Def.	Range	Description		
PY-42	台中心	TABLE CENTER POSITION	mm	1000.0	-99999.9 - 99999.9	Axis position of the rotary table center (x)
PY-43	公差报警关闭	TOLERANCE ALARM DISABLE	-	0	0 - 1	0= alarm enabled 1= alarm disabled
PY-44	磨-刀碟补偿	MILL-DISK OFFSET	mm	100.0	-99999.9 - 99999.9	Distance between disk center and mill center.
PY-45		RAMP TYPE	-	0	0 - 1	0= Linear ramps 1= Epicyclic ramps

3.3.3 参数 只为 Z 轴 Parameters only for Z axis

P.ter	U.M.	Def.	Range	Description		
PZ-42	公差报警关闭	TOLERANCE ALARM DISABLE	-	0	0 - 1	"0: alarm enabled 1: alarm disabled"
PZ-43		RAMP TYPE	-	0	0 - 1	0= Linear ramps 1= Epicyclic ramps

(x) 参数 小数点 依赖 PG-01 参数 parameter decimal point depend on PG-01 value. (xx) 参数 小数点 依赖 PG-01 参数 加一
parameter decimal point depend on PG-01 value plus one.

3.4 W axis setup

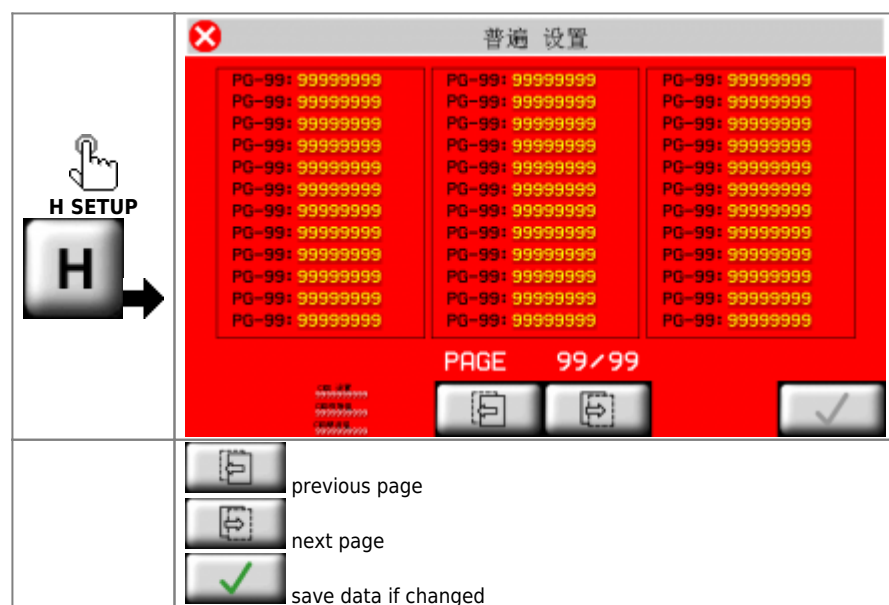


- **PX-XX** = Parameters, **X** = axe, **XX** = number
- **P.ter** = Parameters
- **U.M.** = Unit Measure
- **Def.** = Default

Parameter			U.M.	Def.	Range	Description
PW-01	轴启用	AXIS ENABLE	-	0	0 - 1	0= axis disabled 1= axis enabled
PW-02	测量	MEASURE	°	0.01	0 - 9999.99	Distance of the axis movement to obtain the pulses set in parameter PULSE
PW-03	脉冲	PULSE	-	1	0 - 999999	Encoder pulses corresponding to the distance in MEASURE. Measure/Pulse is the axis resolution. It must be between 1 and 0.000935
PW-04	公差	TOLERANCE	°	0.050	0 - 99.999	Distance around target position that is considered correct
PW-05	启用时间	ENABLE TIME	s	0.200	0 - 9.999	Time before axis is ok to start moving
PW-06	关闭时间	DISABLE TIME	s	0.200	0 - 9.999	Time after axis is ok to stop
PW-07	慢速距离	DISTANCE IN SLOW	°	5.00	0 - 99.99	Distance when axis speed slows down before final target
PW-08	向前惯性	FORWARD INERTIA	°	0	0 - 99.999	Inertia distance at the end of forward movements.
PW-09	向后惯性	BACKWARD INERTIA	°	0	0 - 99.999	Inertia distance at the end of backward movements
PW-10	惯性模式	INERTIA MODE	-	0	0 - 2	At the end of positioning 0= inertia not calculated 1= calculated if out of tolerance 2= always calculated
PW-11	公差延迟时间	TOLERANCE CONTROL DELAY	s	1.000	0 - 99.99	Time between axis stop and tolerance control
PW-12	反弹模式	BACKLASH MODE	-	0	0 - 4	0= no backlash 1= forward backlash 2= backward backlash 3= forward backlash without speed slow down 4= backward backlash without speed slow down
PW-13	开外位置	OVER POSITION	°	0	0 - 999.99	Over position for backlash
PW-14	自动快度	AUTOMATIC FAST SPEED	%	10.0	0 - 100.0	Axis fast speed during automatic cycle
PW-15	自动慢速	AUTOMATIC SLOW SPEED	%	5.0	0 - 100.0	Axis slow speed during automatic cycle
PW-16	手动快度	MANUAL FAST SPEED	%	10.0	0 - 100.0	Axis fast speed during manual jog movement
PW-17	手动慢速	MANUAL SLOW SPEED	%	5.0	0 - 100.0	Axis slow speed during manual jog movement
PW-18	归位快度	HOMING FAST SPEED	%	10.0	0 - 100.0	Axis speed at the start of homing
PW-19	归位慢速	HOMING SLOW SPEED	%	1.0	0 - 100.0	Axis speed after movement inversion in homing
PW-20	归位缺省值	HOMING DEFAULT	-	1	0 - 1	0= Axis not included in automatic homing 1= Axis included in automatic homing
PW-21	归位补偿	HOMING OFFSET	°	0	-9999.99 - 9999.99	Set position at the end of homing procedure

Parameter			U.M.	Def.	Range	Description
PW-22	归位类型	HOMING TYPE	-	0	0 - 3	0= Axis searches the homing sensor, inverts movement and sets PW-22 position 1= Axis searches the homing sensor, inverts movement and sets PW-22 position on encoder zero signal 2= Axis homing without movement. Set PW-22 position on homing sensor signal. 3= homing disabled.
PW-23	归位方向	HOMING DIRECTION	-	1	0 - 1	0= forward 1=backward
PW-24	最大位置	MAXIMUM POSITION	°	9999.9	-9999.99 - 9999.99	Maximum position for the axis. Software limit switch
PW-25	最少位置	MINIMUM POSITION	°	-9999.9	-9999.99 - 9999.99	Minimum position for the axis. Software limit switch
PW-26	最少运动	MINIMUM MOVEMENT	°	0.10	0 - 99.99	Encoder fault control: minimum axis movement
PW-27	最少时间	MINIMUM TIME	s	2000	0 - 99.99	Encoder fault control: sample time to check minimum movement
PW-28	刹车逻辑	BRAKE LOGIC	-	1	0 - 1	0= Brake output N.O. 1= Brake output N.C.
PW-29	刹车时间	BRAKE TIME	s	1.000	0 - 9.999	Enable time before axis starts moving and after axis stop
PW-30	加速	ACCELERATION	V/s	20.00	0 - 99.99	Acceleration setting
PW-31	减速	DECELERATION	V/s	20.00	0 - 99.99	Deceleration setting
PW-32	脉冲启用	PULSE ENABLE	-	0	0 - 1	0= Pulse positioning disabled 1= Pulse positioning enabled
PW-33	靠近位置	APPROACH POSITION	°	0-30	0 - 999.99	Position before target where pulse positioning begins
PW-34	脉冲时间	PULSE TIME	s	0.100	0 - 9.999	Time of a single pulse step
PW-35	脉冲延迟	PULSE DELAY	s	0.100	0 - 9.999	Time between two steps
PW-36	编号脉冲	NUMBER OF PULSES	-	40	0 - 9999	Maximum number of pulse steps
PW-37	脉冲振幅	PULSE AMPLITUDE	V	0.1	0 - 10.0	Pulse amplitude in volt
PW-38	锁启用	ENABLE LOCKS	-	0	0 - 1	0= Locks disabled 1= Locks enabled
PW-39	锁延迟	LOCK DELAY	s	0.200	0 - 9.999	Time between spine insertion and brake output
PW-40	锁位置1	LOCK 1 POSITION	°	0	-9999.99 - 9999.99	Position for lock 1
PW-41	锁位置2	LOCK 2 POSITION	°	90.00	-9999.99 - 9999.99	Position for lock 2
PW-42	启用线性化	ENABLE LINEARIZATION	-	0	0 - 1	0= position linearization disabled 1= position linearization enabled
PW-43	非线性化位置2	UNLINEARIZED POSITION 2	°	45.0	-9999.99 - 9999.99	Axis unlinearized position in sector 2
PW-44	线性化位置2	LINEARIZED POSITION 2	°	45.0	-9999.99 - 9999.99	Axis linearized position in sector 2
PW-45	非线性化位置3	UNLINEARIZED POSITION 3	°	90.0	-9999.99 - 9999.99	Axis unlinearized position in sector 3
PW-46	线性化位置3	LINEARIZED POSITION 3	°	90.0	-9999.99 - 9999.99	Axis linearized position in sector 3
PW-47	非线性化位置4	UNLINEARIZED POSITION 4	°	135.0	-9999.99 - 9999.99	Axis unlinearized position in sector 4
PW-48	线性化位置4	LINEARIZED POSITION 4	°	135.0	-9999.99 - 9999.99	Axis linearized position in sector 4
PW-49	非线性化位置5	UNLINEARIZED POSITION 5	°	180.0	-9999.99 - 9999.99	Axis unlinearized position in sector 5
PW-50	线性化位置5	LINEARIZED POSITION 5	°	180.00	-9999.99 - 9999.99	Axis linearized position in sector 5
PW-51	非线性化位置6	UNLINEARIZED POSITION 6	°	225.0	-9999.99 - 9999.99	Axis unlinearized position in sector 6
PW-52	线性化位置6	LINEARIZED POSITION 6	°	225.0	-9999.99 - 9999.99	Axis linearized position in sector 6
PW-53	非线性化位置7	UNLINEARIZED POSITION 7	°	270.0	-9999.99 - 9999.99	Axis unlinearized position in sector 7
PW-54	线性化位置7	LINEARIZED POSITION 7	°	270.0	-9999.99 - 9999.99	Axis linearized position in sector 7
PW-55	非线性化位置8	UNLINEARIZED POSITION 8	°	315.0	-9999.99 - 9999.99	Axis unlinearized position in sector 8
PW-56	线性化位置8	LINEARIZED POSITION 8	°	315.0	-9999.99 - 9999.99	Axis linearized position in sector 8

3.5 H 轴设置 H axis setup



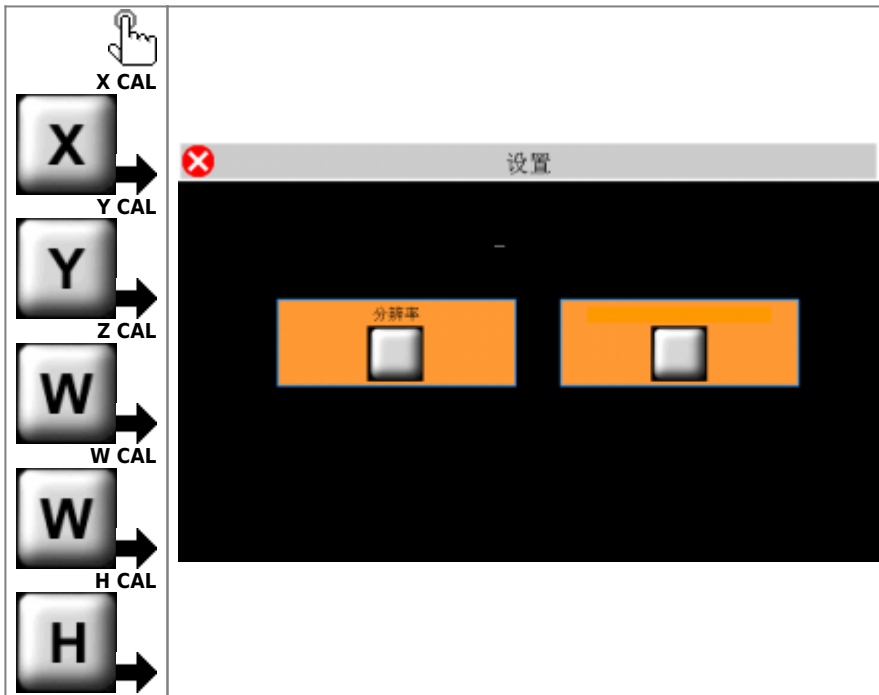
- **PX-XX** = Parameters, **X** = axe, **XX** = number
- **P.ter** = Parameters
- **U.M.** = Unit Measure
- **Def.** = Default

	Parameter	U.M.	Def.	Range	Description
PH-01	斜类型 TILT TYPE	-	1	0 - 1	0: axis tilt with Z axis 1: axis tilt with full head
PH-02	马达 MOTOR	-	0	0 - 1	0: axis without motor 1: axis with motor
PH-03	编码器 NOT USED	-	-	-	Fix Me!
PH-03	编码器 ENCODER	-	1	0 - 1	0: axis without encoder 1: axis with encoder
PH-03	编码器 ENCODER	-	1	0 - 1	0: axis without encoder 1: axis with encoder
PH-04	测量 MEASURE	°	0.01	0 - 9999.99	Distance of the axis movement to obtain the pulses set in parameter PULSE
PH-05	脉冲 PULSE	-	1	0 - 999999	Pulses of the encoder corresponding to the distance set in parameter MEASURE. Measure/Pulse is axis resolution. It has to be between 1 and 0.000935
PH-06	公差 TOLERANCE	°	0.050	0 - 99.999	Distance around target position that is considered correct Fix Me! (xx)
PH-07	启用时间 ENABLE TIME	s	0.200	0 - 9.999	Enable time before axis starts moving
PH-08	关闭时间 DISABLE TIME	s	0.200	0 - 9.999	Disable time after axis stops
PH-09	慢速距离 SLOW DISTANCE	°	5.00	0 - 99.99	Distance when axis speed slows down before final target
PH-10	向前惯性 FORWARD INERTIA	°	0	0 - 99.999	Inertia space at the end of forward movements
PH-11	向后惯性 BACKWARD INERTIA	°	0	0 - 99.999	Inertia space at the end of backward movements
PH-12	惯性模式 INERTIA MODE	-	0	0 - 2	At the end of positioning 0= inertia not calculated 1= calculated if out of tolerance 2= always calculated
PH-13	等待公差时间 WAIT TOLERANCE TIME	s	1.000	0 - 9.999	Time between axis stop and tolerance control.
PH-14	反弹模式 BACKLASH MODE	-	0	0 - 4	0: no backlash 1: forward backlash 2: backward backlash 3: forward backlash without speed slow down 4: backward backlash without speed slow down
PH-15	开外位置 OVER POSITION	°	0	0 - 999.99	Over position for backlash
PH-16	自动快速度 AUTOMATIC FAST SPEED	%	10.0	0 - 100.0	Axis fast speed during automatic cycle
PH-17	自动慢速 AUTOMATIC SLOW SPEED	%	5.0	0 - 100.0	Axis slow speed during automatic cycle

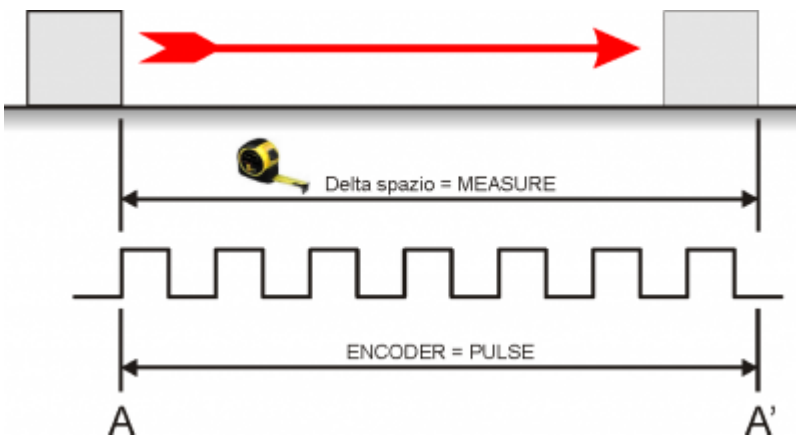
Parameter			U.M.	Def.	Range	Description
PH-18	手动快速度	MANUAL FAST SPEED	%	10.0	0 - 100.0	Axis fast speed during manual jog movement
PH-19	手动慢速	MANUAL SLOW SPEED	%	5.0	0 - 100.0	Axis slow speed during manual jog movement
PH-20	归位快速度	HOMING FAST SPEED	%	10.0	0 - 100.0	Axis speed at the start of homing
PH-21	归位慢速	HOMING SLOW SPEED	%	1.0	0 - 100.0	Axis speed after change of direction in homing
PH-22	归位缺省值	HOMING DEFAULT	-	1	0 - 1	0: Axis not included in automatic homing sequence 1: Axis included in automatic homing sequence
PH-23	归位补偿	HOMING OFFSET	°	0	-9999.99 - 9999.99	Set position at the end of homing procedure
PH-24	归位类型	HOMING TYPE	-	0	0 - 3	0: Axis searches the homing sensor, changes direction and sets PH-24 position 1: Axis searches the homing sensor, changes direction and sets PH-24 position on encoder zero signal 2: Axis homing without movement. Sets PH-24 position on homing sensor signal 3: homing disabled
PH-25	归位方向	HOMING DIRECTION	-	1	0 - 1	0= forward 1= backward.”
PH-26	最大位置	MAXIMUM POSITION	°	9999.9	-9999.99 - 9999.99	Maximum position for the axis. Software limit switch
PH-27	最少位置	MINIMUM POSITION	°	-9999.9	-9999.99 - 9999.99	Minimum position for the axis. Software limit switch
PH-28	最少运动	MINIMUM MOVEMENT	°	0.10	0 - 99.99	Encoder fault control: minimum axis movement
PH-29	最少时间	MINIMUM TIME	s	2.000	0 - 99.999	Encoder fault control: sample time to check minimum movement
PH-30	刹车逻辑	BRAKE LOGIC	-	1	0 - 1	0= Brake output N.O. 1= Brake output N.C.
PH-31	刹车时间	BRAKE TIME	s	1.000	0 - 9.999	Time before axis ok to start moving and after axis stops
PH-32	加速	ACCELERATION	V/s	20.00	0 - 99.99	Acceleration setting
PH-33	减速	DECELERATION	V/s	20.00	0 - 99.99	Deceleration setting
PH-34	脉冲启用	PULSE ENABLE	-	0	0 - 1	0= Pulse positioning disabled 1= Pulse positioning enabled
PH-35	靠近位置	APPROACH POSITION	°	0.30	0 - 999.99	position before target where pulse positioning begins
PH-36	脉冲时间	PULSE TIME	s	0.100	0 - 9.999	Time of a single pulse step
PH-37	脉冲延迟	PULSE DELAY	s	0.100	0 - 9.999	Time between two steps.
PH-38	编号脉冲	NUMBER OF PULSES	-	40	0 - 9999	Maximum number of pulse steps
PH-39	脉冲振幅	PULSE AMPLITUDE	V	0.1	0 - 10.0	Pulse amplitude in volt
PH-40	锁启用	ENABLE LOCK	-	0	0 - 1	0= Lock disabled 1= Lock enabled
PH-41	锁延迟	LOCK DELAY	s	0.200	0 - 9.999	Time between lock engage and brake output
PH-42	锁位置1	LOCK 1 POSITION	°	0	-9999.99 - 9999.99	Lock 1 position
PH-43	锁位置2	LOCK 2 POSITION	°	90.00	-9999.99 - 9999.99	Lock 2 position
PH-44	启用线性化位置	ENABLE LINEARIZATION	-	0	0 - 1	0= position linearization disabled 1= position linearization enabled
PH-45	非线性化位置2	UNLINEARIZED POSITION 2	°	22.50	-9999.99 - 9999.99	Axis unlinearized position in sector 2
PH-46	线性化位置2	LINEARIZED POSITION 2	°	22.50	-9999.99 - 9999.99	Axis linearized position in sector 2
PH-47	非线性化位置3	UNLINEARIZED POSITION 3	°	45.00	-9999.99 - 9999.99	Axis unlinearized position in sector 3
PH-48	线性化位置3	LINEARIZED POSITION 3	°	45.00	-9999.99 - 9999.99	Axis linearized position in sector 3
PH-49	非线性化位置4	UNLINEARIZED POSITION 4	°	67.50	-9999.99 - 9999.99	Axis unlinearized position in sector 4
PH-50	线性化位置4	LINEARIZED POSITION 4	°	67.50	-9999.99 - 9999.99	Axis linearized position in sector 4
PH-51	非线性化位置5	UNLINEARIZED POSITION 5	°	90.00	-9999.99 - 9999.99	Axis unlinearized position in sector 5
PH-52	线性化位置5	LINEARIZED POSITION 5	°	90.00	-9999.99 - 9999.99	Axis linearized position in sector 5
PH-53	非线性化位置6	UNLINEARIZED POSITION 6	°	0	-9999.99 - 9999.99	Axis unlinearized position in sector 6
PH-54	线性化位置6	LINEARIZED POSITION 6	°	0	-9999.99 - 9999.99	Axis linearized position in sector 6
PH-55	非线性化位置7	UNLINEARIZED POSITION 7	°	0	-9999.99 - 9999.99	Axis unlinearized position in sector 7

Parameter			U.M.	Def.	Range	Description
PH-56	线性化位置7	LINEARIZED POSITION 7	°	0	-9999.99 - 9999.99	Axis linearized position in sector N°7.
PH-57	非线性化位置8	UNLINEARIZED POSITION 8	°	0	-9999.99 - 9999.99	Axis unlinearized position in sector 8
PH-58	线性化位置8	LINEARIZED POSITION 8	°	0	-9999.99 - 9999.99	Axis linearized position in sector 8

3.6 Tarature



3.6.1 Taratura della risoluzione



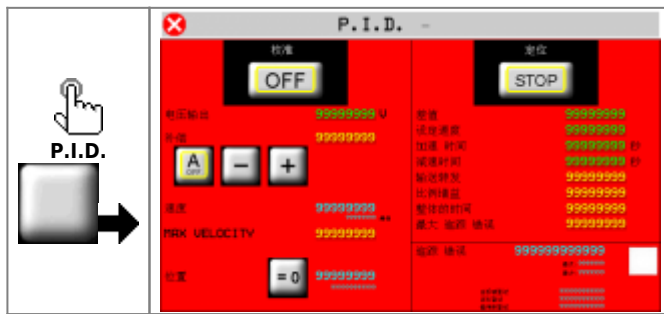
- Premere il tasto  (Out analogica +1 Volt), controllare che il valore del campo **ENCODER** aumenti
- Premere il tasto  (Out analogica -1 Volt), controllare che il valore del campo **ENCODER** diminuisca
- A - A' = Spazio più lungo possibile
- Segnare la posizione di partenza (A)
- Azzerare il valore **ENCODER**: 
- Eseguire il movimento da A ad A'
- Trascrivere nel campo **PULSE**, il valore visualizzato nel campo **ENCODER**

- Misurare il **delta spazio** A - A'
- Scrivere il valore di **delta spazio** A - A' nel campo **MEASURE**

Importante:

- Il valore di **PULSE** dovrà sempre essere superiore al valore di **MEASURE** (il valore ottimale è "MEASURE x 10 = PULSE")
- Introdurre il valore **MEASURE** nell'**unità di misura** scelta. Esempio: se l'unità di misura scelta è 1/10mm e la misura di **delta spazio** è 133.5mm, introdurre il valore 1335 nel campo **MEASURE**
- I valori di **Pulse** e **Misure** qui inseriti , verranno trascritti automaticamente nei parametri *GP-XX*

3.6.2 Taratura P.I.D.



Fix Me!

Descrivere i pulsanti e i parametri

3.6.3 Linearizzazione


LINEARIZATION


线性化

01	0.00 °	0.00 °
02	99999999 °	99999999 °
03	99999999 °	99999999 °
04	99999999 °	99999999 °
05	99999999 °	99999999 °
06	99999999 °	99999999 °
07	99999999 °	99999999 °
08	99999999 °	99999999 °

 **Fix Me!**

Descrivere i parametri e come eseguire la linearizzazione dell'encoder quando non è in asse con il centro banco



Inserire pulsante “ Abilitazioni ”

Inserire descrizione delle abilitazioni ...ovvero come è stata costruita la macchina vedi pagine iniziali sui tipi di macchine che si



possono costruire con questa apparecchiatura



Poi , descrivere come caricare i default

Indicare come settare i parametri che sono specifici per la meccanica predisposta per questa macchina



Quindi si dovrà indicare come verificare gli ingressi e le uscite

4. Diagnostics

4.1 CPU DATA

CPU DATA
Fw name: AAAAA - 99.9.99
(Fw check.:999999999999 dec)
Task time: 99999 ms
Max task time: 99999 ms
Min task time: 99999 ms
CPU time: 99999:99

Fw name : firmware in the controller and relative checksum
Task time : the average cycle time of the CPU with indexing of the **Maximum Time** and the **Minimum Time** for the scan
CPU time : total time from when the CPU is in the RUN state (hh:mm)

4.2 Inputs

INPUTS

輸入

DI 11	DI 12	DI 13	DI 14	DI 15
101	109	117	125	133
102	110	118	126	134
103	111	119	127	135
104	112	120	128	136
105	113	121	129	137
106	114	122	130	138
107	115	123	131	
108	116	124	132	

AI01 **AI02** **AI03** **AI04**

[999999%] [999999%] [999999%] [999999RPM]

BOURNS

[999999%]

Visualizzazione dello stato degli ingressi digitali suddivisi per connettore

= OFF
 = ON

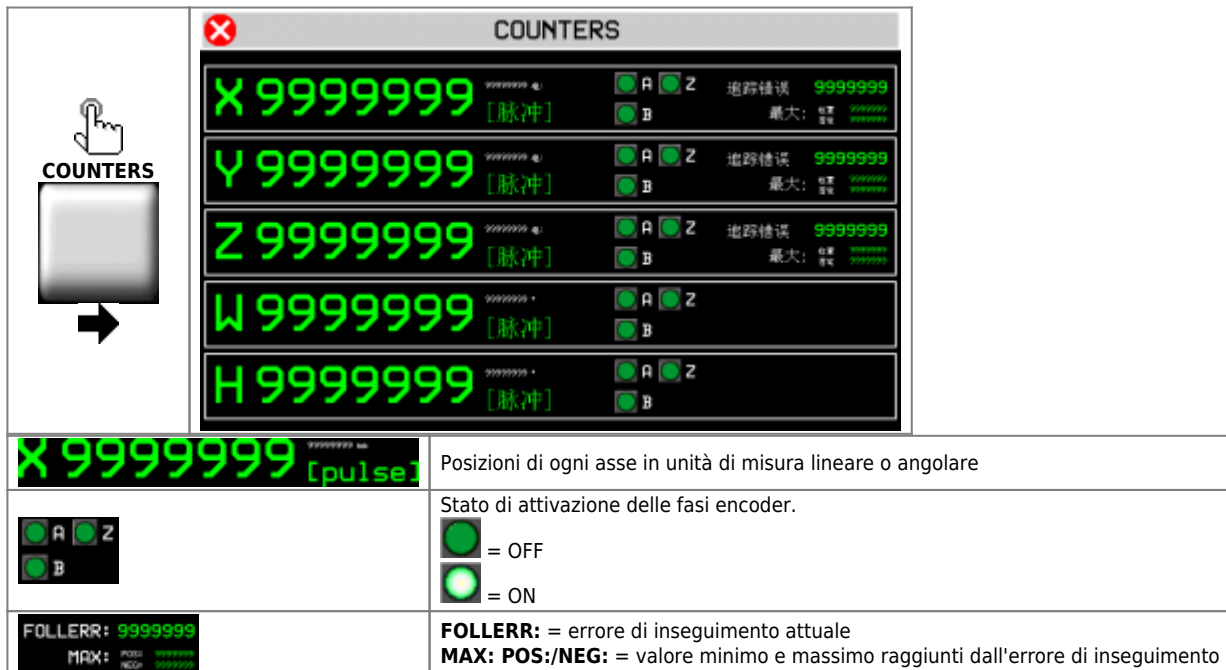
Visualizzazione del valore degli ingressi analogici

Visualizzazione del valore dell'ingresso BOURNS

4.3 Outputs



4.4 Counters



4.5 Analog outputs



★ Sostituire la pagina con quella riportata adattandola a questa specifica applicazione (presa dalla levigatrice)



★ Scrivere : “ **Controllare tutti gli ingressi digitali** ”



Per risparmiare ingressi ho modificato gli ingressi dei fine corsa degli assi
Per ogni asse non ci sono più due ingressi ma bensì uno solo ...a mio avviso più che sufficiente
Poi , ho modificato i Jog ...a mio avviso ...utilizzando il portale ho visto che è facile sbagliare

è meglio selezionare l'asse e avere una unica interruttore a leva per movimentarlo ...questo, a mio avviso favorisce il non fare errori

Poi , non è serio che lo Start e lo Stop macchina sia sullo strumento ...quindi ho previsto due ingressi dedicati

Poi , ho modificato gli ingressi di Feedback dell'asse W e Asse H

...spostandoli dalle fasi encoder a degli ingressi digitali.

Nota : quando l'asse H è manualeper il feedback del punzone potremo utilizzare i fine corsa 24 e 25 ...liberando così l'ingresso 23

A questo punto ..rivisti gli ingressi ...potremo avere due ingressi liberi ...il 23 e il 32 ...e le fasi encodere potremo riservarle solo per casi particolari

4.6 Controllo dei finecorsa

Controllo dei finecorsa hardware

Controllo dei finecorsa 0° - 90° del disco

5. Hardware and connections

5.0.1 I/O List

5.0.1.1 Ingressi digitali (n. 32)

NOME	DESCRIZIONE	MORSETTO	HARDWARE
I 1	JOG X + (move X in + direction)	CN11	J1K31-FR30
I 2	JOG X - (move X in - direction)		
I 3	JOG Y + (move Y in + direction)		
I 4	JOG Y - (move Y in - direction)		
I 5	JOG Z + (move Z in + direction / up)		
I 6	JOG Z - (move Z in - direction / down)		
I 7	Start work	CN12	J1K31-FR30
I 8	Stop work		
I 9	Enable manual state		
I 10	Enable automatic state		
I 11	Reset work and zero axes		
I 12	High speed JOG. (ON = high, LOW = slow)		
I 13	Water pressure OK	CN13	J1K31-FR30
I 14	Auxiliary OK		
I 15	Splindle speed ok		
I 16	Rotation table W in working position		
I 17	Drivers OK		
I 18	Perimetral protection OK		
I 19	X limit switch	CN14	J1K31-FR30
I 20	Y limit switch		
I 21	Z limit switch		
I 22	Feedback for unlock position 1 (usually 0°) axis W		
I 23	Feedback for unlock position 1 (usually 90°) axis W		
I 24	Y position OK for tilting table		
I 25	Horizontal disk	CN14	J1K31-FR30
I 26	Vertical disk		
I 27	X Homing Switch		
I 28	Y Homing Switch		
I 29	Z Homing Switch		
I 30	W Homing Switch		
I 31	H Homing Switch		
I 32	free		

5.0.1.2 Ingressi digitali veloci (n. 4)

NOME	DESCRIZIONE	MORSETTO	HARDWARE
I01	Turn revolution sensor	CN11	J1K31-FR30
I02	Mill inverter on	CN12	
I03	Disk inverter on	CN13	
I04	Inverter ok	CN14	

5.0.1.3 Ingressi digitali index (n. 1)

NOME	DESCRIZIONE	MORSETTO	HARDWARE
IDX	<i>free</i>	CN20	J1K31-FR30

5.0.1.4 Digital outputs (n. 32)

NAME	DESCRIPTION	TERMINAL	HARDWARE
O1	Automatic cycle active state	CN7	J1K31-FR30
O2	<i>free</i>		
O3	Alarm sound (active according with PG-09 parameter)		
O4	Rotary table high		
O5	Rotary table low		
O6	<i>free</i>		
O7	Enable X axis		
O8	Laser 2		
O9	Enable Y axis	CN8	J1K31-FR30
O10	Break Y axis		
O11	Enable Z axis		
O12	Break Z axis		
O13	Enable W axis		
O14	Enable movment W axis		
O15	Break W axis		
O16	Enable H axis		
O17	Enable movment H axis	CN9	J1K31-FR30
O18	Break H axis		
O19	EV water		
O20	Laser 1		
O21	Reset drive. (Active for 2 sec when reset active alarms)		
O22	<i>free</i>		
O23	End automatic work		
O24	Machine OK (active if alarm state is not active)		
O25	Enable Mill inverter	CN10	J1K31-FR30
O26	Enable Disk inverter		
O27	Electrocoil to unlock perimetral protections		
O28	<i>free</i>		
O29	Active lock position 1 (usually 0°) for W axis		
O30	Active lock position 2 (usually 90°)for W axis		
O31	Active lock position 1 (usually 0°) for H axis		
O32	Active lock position 2 (usually 90°)for H axis		

5.0.1.5 Quadrature encoder inputs (n° 8)

Nome	Description	Connector	Hardware
CNT01	position X	CN15	J1K31-FR30
CNT02	position Y	CN16	
CNT03	position Z	CN17	
CNT04	position W	CN18	
CNT05	position H	CN19	
CNT06	interpolation override burns	CN20	
CNT07 (*)	free	CN21	
CNT08 (*)	free	CN22	

(*) Not available in FR hardware version

5.0.1.6 Analog inputs (n. 4)

Name	Description	Connector	Hardware
AI1	Potentiometer to set the X speed in cut direction	CN28	J1K31-FR30
AI2	Potentiometer to set the X speed in opposite cut direction		
AI3	Spindle motor actual current	CN29	
AI4	Spindle actual rotation speed		

5.0.1.7 Analog outputs (n. 8)

Nome	Description	Connector	Hardware
AO1	X Speed	CN26	J1K31-FR30
AO2	Y Speed		
AO3	Z Speed		
AO4	W Speed		
AO5	H Speed	CN27	J1K31-FR30
AO6	Spindle rotation speed set		
AO7 (*)	free		
AO8 (*)	free		

(*) Not available in FR hardware version

(1) or horizontal disk if parameter PH3 ENCODER is zero

(2) or vertical disk if parameter PH3 ENCODER is zero

Note

★ **NC - O** significa contatto Normalmente chiuso (Closed) , l'azione verrà fatta quando il contatto si apre (Open)

★ **NO - C** significa contatto Normalmente aperto (Open) , l'azione verrà fatta quando il contatto si chiude (Closed)

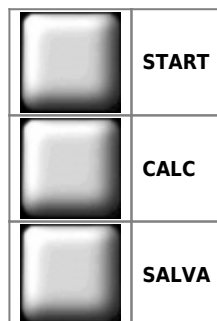
★ **NO - C** significa contatto Normalmente aperto (Open) , l'azione verrà fatta quando il contatto si chiude (Closed) in modo continuo (Continuous)

Uscite digitali

5.0.1.8 Center



Press



Questa pagina offre uno strumento per poter correggere le quote X e Y della posizione del centro banco. Una volta visualizzata questa pagina le coordinate X e Y del centro banco verranno copiate rispettivamente in PC01 e PC02. Le fasi da seguire sono le seguenti:

1. Selezionare la modalità manuale.
2. Assicurarsi che l'asse Z sia stato azzerato sulla superficie da incidere. Eventualmente accedere alla pagina di manuale per farlo.
3. Avviare il disco e attendere che sia arrivato in velocità.
4. Toccare il tasto START sul display e lasciar eseguire l'incisione dei 5 tagli come mostrato in figura. Le incisioni dei lati del quadrato verranno eseguite alla profondità specificata nel parametro Z. L'incisione centrale verrà eseguita a profondità fissa di 5 mm.
5. Una volta eseguita l'incisione si devono eseguire le 3 misure indicate e si devono scrivere nei parametri PC03, PC04, PC05.
6. A questo punto si può premere il tasto CALC sul display per eseguire le correzioni. Si noteranno i valori PC01 e PC02 cambiare. Il tasto CALC può essere usato una sola volta e quindi se si vogliono modificare le misure inserite e ricalcolare le correzioni, bisogna uscire dalla pagina e rientrare.
7. Se si accetta la correzione, allora si devono salvare i nuovi valori premendo il tasto SAVE. Si uscirà automaticamente dalla pagina.
8. A questo punto è possibile rientrare in questa pagina ed eseguire ancora l'incisione (punti 1, 2 e 3) per verificare che PC03 e PC04 siano tra loro uguali e PC05 sia pari a L mm.

Nome parametro	Unità di misura	Default	Range	Descrizione
PC01 : X CENTER	mm	1699.10	0÷999999.99	Copia della coordinata X del centro del banco.
PC02 : Y CENTER	mm	1765.60	0÷999999.99	Copia della coordinata Y del centro del banco.
PC03 :	mm	0.00	-999.99 ÷ 999.99	Misure come da disegno per la correzione della coordinata X del centro.
PC04 :	mm	0.00	-999.99 ÷ 999.99	
PC05 :	mm	0.00	0÷9999.99	Misure come da disegno per la correzione della coordinata Y del centro.
L:	mm	200.00	0÷999999.99	Lato L dell'incisione praticata.
Z:	mm	5.00	0÷999999.99	Profondità del taglio dei lati



Press to exit

5.1 Enable



Premere il pulsante nell'area 1.



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