SYNTEC TECHNOLOGY CO.,LTD.

SCS Servo Control System

SYNTEC LATHE CONTROLLER MODEL 11TB, 200TB-5, 210TB-H, 210TB-H5, 220TB & 220TB-5

Controller type	Multi – Axis Group Mill-Turn					
	11TB	200TB – 5	210TB – H	210TB – H5	220TB	220TB – 5
Axis no.	8	12(16)	12(16)		12(16)	
DA	2	1	2		–	
Max I/O	128/128	96/96	96/96		128/128	
Display	10.4”	8”/10.4”	8”/10.4”/rear haft		10.4”/15”	
Servo	Pulse	M2	M2/M3/ECAT/RTEX		M3/ECAT/RTEX	
VGA	–	O	O*		–	
Connection	Ethernet RS485	Ethernet RS232 RS422 RS485	Ethernet RS485 SRI		Ethernet RS485 SRI	
Multi-Program No.	2	4	4	4	4	4
Memory	512MB	256MB	4GB	4GB	4GB	4GB
Inclined Plane process		Δ	–	Δ	–	Δ
HPCC		Δ	–	Δ	–	Δ

*VGA is only provided for the rear half

○ Standard

— Not Support

Δ Optional

Category	Items	Multi Axis Group Mill Turn					
		11TB	200TB-5	210TB-H	210TB-H5	220TB	220TB-5
Product specification	Max. Axes group in system	2	4	4		4	
	Max. PLC axes group	1	3	3		3	
	Standard controlled axes (standard)	8	12	12	12	12	12
	Max. controlled axes (option)	8	16	16	16	16	16
	Max. Number of spindles	6	6	6		6	
	Max. Axes in synchronous control (single axes group)	4	5	4	5	4	5
	Min. Control unit-mm	0,0001	0,0001	0,0001		0,0001	
	Max. Number of work coordinates system	100	100	100		100	
	Max. Groups of tool compensation	96	96	96		96	
	Number of multi-channel function groups	4	4	4		4	
	Number of pre-read segments	1000	2000	2000		2000	
	Segment process time	1000	4000	1000	4000	1000	4000

Hardware specification	Storage DISKA (MB)	512	256	4096	4096
	I/O standard	64/64	32/32	32/32	32/32
	I/O optional	128/128	96/96	96/96	128/128
	DA	2	2	2	2
	Display (Inch)	10,4	8/10.4	8/10.4/rear half***	10.4/15
	CF card	—	—	—	—
	USB	2	1	2	2
	RJ-45	1	2	1	2
	VGA output	—	1	1***	—
	PS/2	—	1	—	—
	RS-232	—	1	—	—
	RS-422	—	1	—	—
	RS-485	1	—	1	1
	USB	—	2	—	2
	SRI	—	—	1	1

Servo control	General purpose (A/B phase)	O	—	—	—
	General purpose (CW/CCW)	O	—	—	—
	Mechatrolink II	—	O	O	O
	Mechatrolink III	—	—	O	O
	EtherCAT	—	—	O	O
	RTEX	—	—	O	O
Compensation	Back gap compensation	O	O	O	O
	Pitch error compensation	O	O	O	O
	Spike compensation	O	O	O	O
	Temp. Rise compensation	O	O	O	O
	2D compensation	O	O	O	O
Operation	Handwheel simulation	O	O	O	O
	Program empty run	O	O	O	O
	Selective stop	O	O	O	O
	Segment execution	O	O	O	O
	Virtual handwheel	O	O	O	O
	Pause point start	O	O	O	O
	Tool interrupt point start	O	O	O	O
	Tool retract	—	—	—	—
	Offset setting	O	O	O	O
	Handwheel offset function	—	—	—	—

Program input	Selective jump	O	O	O	O
	B-STOP/ program end	O	O	O	O
	Absolute zero coordinates system (G92/G92.1)	O	O	O	O
	Interrupt MACRO (M96/M97)	O	O	O	O
	M 198 call subroutine	O	O	O	O
	G-code extension	O	O	O	O
High speed high precision	Constant Jerk control	O	O	O	O
	Cross-segment S-curve acceleration/ deceleration	O	O	O	O
	Auto deceleration at corner	O	O	O	O
	Corner radius speed limit	O	O	O	O
	Multiple high speed high precision parameter set	—	—	—	—
	User quick parameter	—	—	—	—
	SPA function	—	—	—	—
	Virtual circle radius function	O	O	O	O
	High speed high precision control mode I (G05.1Q1)	—	—	—	—
	High speed high precision control mode ii (G05P10000)	—	—	—	—
	NURBS interpolation function	—	—	—	—
Tool management	Auto tool align screen	—	—	—	—
	Auto work measurement	O	O	O	O
	Tool lifespan management	O	O	O	O

	Mechanical lock (R-Bit)	O	O	O	O
	Software travel limit	O	O	O	O
	Spindle speed detection	O	O	O	O
	Axial coupling function	O	O	O	O
	Axial dynamic coupling function	O	O	O	O
	Feedback coupling function	O	O	O	O
	Threading quick tool retract	O	O	O	O
	Virtual axis function	O	O	O	O
	Axle exchange function	O	O	O	O
	Axial torque control	—	O	O	O
	Serial adjustment function (CNC axis)	—	O	O	O
	Driver data display (CNC axis)	—	O	O	O
Auxiliary function	Spindle adaptation function (CNC axis)	—	O	O	O
	Serial PLC axis	—	O	O	O
	High speed spindle positioning (SYNTEC spindle required)	—	O	O	O
	ROT element	—	O	O	O
	Dipole foreground/ background configuration	O	O	O	O
	Data backup and recover	O	O	O	O
	Start-up screen customization	O	O	O	O
	My favorite (Only support ARM 8-key system)	O	—	O	O
	Project protection function	O	O	O	O
	Access management	O	O	O	O
	Remote AP monitoring	O	O	O	O

Programming	Background edit	O	O	O	O
	Edit protection	O	O	O	O
	Real time syntax check of processing program	O	O	O	O
PLC	PLC diagnosis function (FORCE I-point)	O	O	O	O
Data transfer function	NETWORK	O	O	O	O
	FTP	O	O	O	O
	RS-485	O	O	O	O
	DNC(Network)	O	O	O	O
	DNC(USB)	O	O	O	O
Data display	Operation history display	O	O	O	O
	Graphic simulation	O	O	O	O
	Partial graphic simulation	O	O	O	O
	Dynamic multi-language switch- over	O	O	O	O

	Oval cutting (clockwise) (G02.1)	O	O	O	O
	Parabolic cutting (clockwise) (G02.2)	O	O	O	O
	Cylinder interpolation (G07.1)	O	O	O	O
	Start-up polar coordinates (G12.1)	O	O	O	O
	OD/ID turning cycle (G20)	O	O	O	O
	Threading cycle (G21)	O	O	O	O
	Intermediate threading feed cycle (G21.2)	O	O	O	O
	End face turning cycle (G24)	O	O	O	O
	Jump function (G31)	O	O	O	O
	Treading (G33)	O	O	O	O
	Variable pitch threading (G34)	O	O	O	O
G-code	Polygon turning (G51.2)	O	O	O	O
	Work coordinates system setting (G54~G59.9)	O	O	O	O
	Mirror function (lathe) (G68)	O	O	O	O
	Complex turning cycle (G72~G78)	O	O	O	O
	Fixing cycle for drilling (G80, G83~G89)	O	O	O	O
	Absolute zero coordinates system preset (G92.1)	O	O	O	O
	Inverse time feed (G93)	—	—	—	—
	Constant surface cutting speed (G96)	O	O	O	O
	Spindle synchronization function (G114.1)	O	O	O	O
	Spindle load function (G114.3)	O	O	O	O

Option	Option-4 Enable Plugin Function	O	O	O		O	
	Option-11 High Precision Contour Control (HPCC)						
	Option-12 Rotation Tool Center Point (RTCP)		Δ		Δ		Δ
	Option-13 Feature Coordinate System		Δ		Δ		Δ
	Option-14 Parameter learning function						
	Option-15 Tapping Learning						
	Option-16Syntec Vision						
	Option-17 Commercial Vision Software						
	Option-18 CAD/CAM						
	Option-19 3D Arc Interpolation						
	Option-20 Pick and Place (All in one)		Δ	Δ		Δ	
	Option-21 Four Axis Robot						
	Option-22 Five Axis Robot						
	Option-23 Six Axis Robot						
	Option-24 Gantry Robot	Δ					
	Option-25 Advanced Look-Ahead						
	Option-26 Smooth Tool Center Point(STCP)						
	Option-27 Multiple mechanisms for five-axis						
	Option-28 The 2nd coordinate supports feature coordinate system						
	Option-29 Four-axis Rotation Tool Center Point Control (4AXRTCP)						
	Option-31 High Speed Chamfering Contour Control						
	Option-32 ROT Servo Turret		Δ	Δ		Δ	
	Option-34 Wood Software						
	Option-35 3D Laser Scanning						
	Option-36 Wood Built-In CAM Function						

* Only sell in Mainland China
** Only sell in Taiwan
*** VGA is only provided in the rear half
O Standard function
△ Optional function
– Not available function