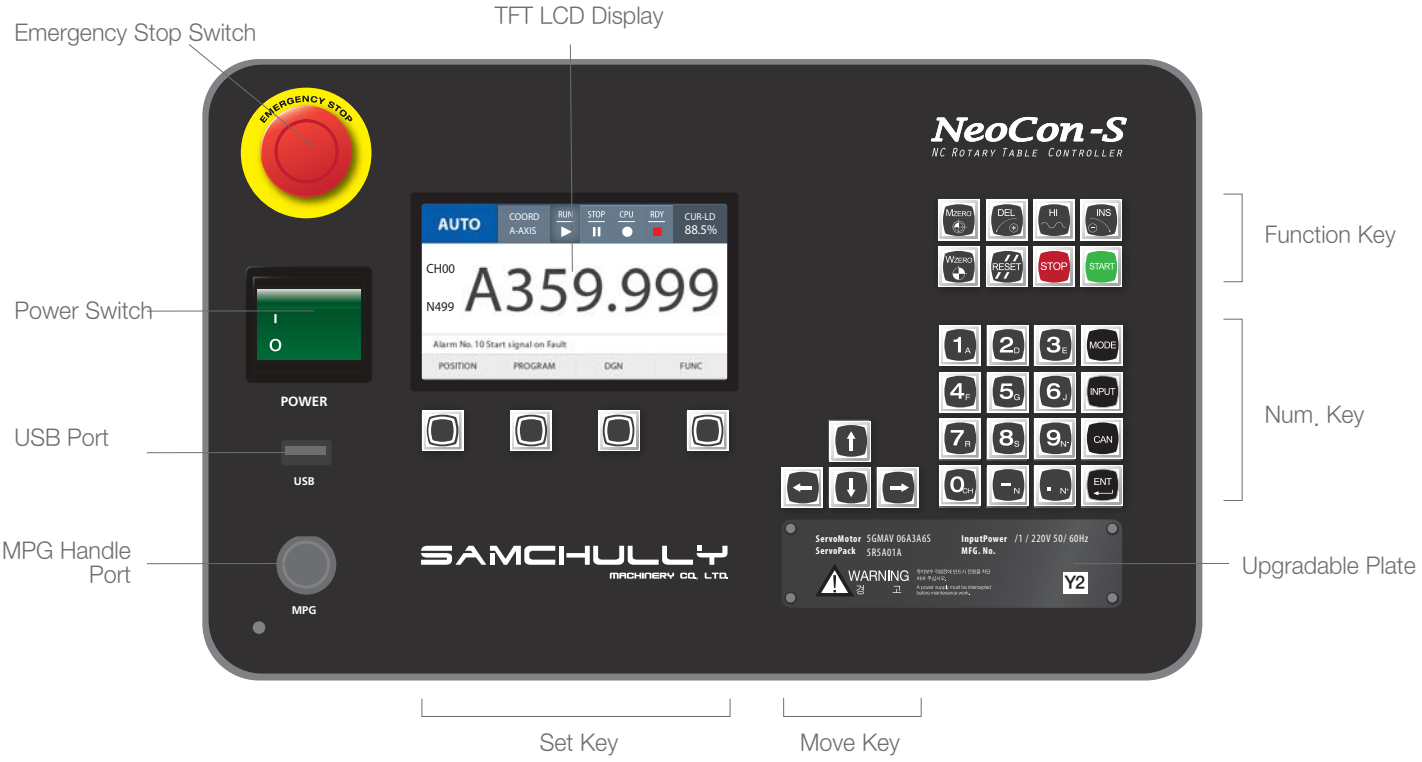
NeoCon

Own NC Rotary Table Controller

- NeoCon Series : 1 axis
- Minimum setting unit: 0.001°
- 100ch 100,000 Block



Ease of use

- Programmable using standard G-codes
- Offers various parameters for convenience
- Zero point adjustment, manual control and various modes including edit(compilation) function

Special Features

- 4.8" Full Color LCD allows display of diverse characters
- Line by line programing is displayed
- Capable of storing 90 channels
- A program may contain up to 100,000 blocks
  : 100ch (0~99), Each Channel 1000 Block (000~999)

Interfacing

- May use as an individual unit
- Ability to store part-specific programs; reduces setup time
- Compatible with drilling/tapping machines and horizontal and vertical machining centers

Multi-modal function

- Auto
Executes line by line upon receipt of start signal

- Manual Control
Rotates the table manually

- Edit
Inputs and edits programs

- Parameter
Checks and sets parameters

- Single
Operates the controller independently

Specifications and Functions

Specifications	Descriptions
Controlled axes	1 axis
Program Capacity	Back up the External SD card (Parameter, Work Program)
Servo Motor Specification	AC servo motor with absolute encoder
Setting Unit	0.001°
Max. setting angle	999 Rotation + 360° (±999.999°)
Programmable capacity	100,000 Block (100 channels, Each Channel 1,000 Block)
Command Method	ABSOLUTE /INCREMENTAL methods (Choice between G90/G91)
Zero position return	Zero and zero point return
Manual Feed	Rapid traverse, slow speed feed and step feed, STEP traverse, MPG traverse
Emergency Stop	Emergency stop button or forced servo stop by external interlock input and master stop
Halt	Halt of rotary table by key input or external SP input
Feedrate override	Settable 1 to 100% (can be notched 1 to 100%)
Preparatory function	DWELL, LEAD CUTTING, BUFFER FUNCTION, CLAMP PRESENCE, DEVIATION CHECK FUNCTION, INTERLOCK START, CONTINUOUS START, MZRN, WZRN, REPEATING FUNCTION, LOOP JUMP FUNCTION, ABSOLUTE/INCREMENTAL, FIN SIGNAL CONTROL COMMAND
Jump to subprogram	Jump to subprogram
Software limit function	Software can be set from machine zero position to prevent interference with the machine by mounting jigs or workpiece
Over travel stop function	Hard limit mode can control the rotary range of rotary table
Pitch error compensation	Pitch error can be compensated per 15° (min. set unit: 0.001°)
Backlash	Backlash compensation is adjustable
Alarm function	When error is detected, alarm number and alarm message are automatically displayed
Self-Diagnosis Function	Machine coordinate, work coordinate (command value, encoder value), remained movement, I/O signal state, position deviation, current %, encoder electric angle
Input Power	Single Phase AC200/230V ±10% 50/60Hz, 3 Phase AC220/230V ±10% 50/60Hz
Apparent Power	1.0 KVA
Net Weight	7.5 kg
Environment	Controller Temperature: 0-45℃ Storage Temperature: -10℃~60℃ C Humidity: below 85% RH Internal Vibration: 0.5 Internal Impact: Below 1G
Display	4.8" TFT LCD
Optional Port	RS232C cable, MPG Handle, USB AM Cable (external equipment can I/O program, parameters, etc.)
External Input Signal	START, STOP, external EMG STOP, external channel selection
External Output Signal	Block completed, 360° comp., optional completed signal, MZRN completed, EMG STOP output signal, alarm output signal

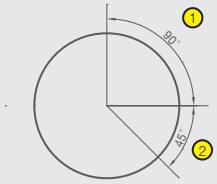
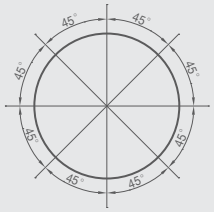
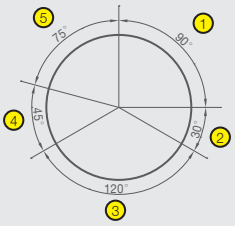
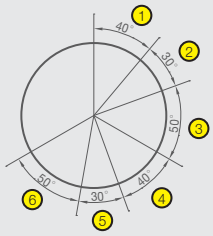
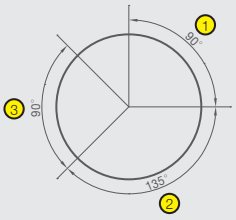
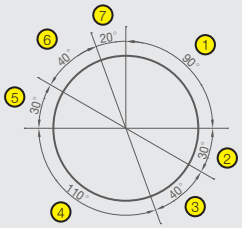
Address Function

Address	Description	Setting Unit	Setting Range	Remark
G	Refer to the G Code function section.			
A	Rotation angle command	degree	±999.999	
	Dwel time command	sec	0.01~999.99	
F	Rotation speed command	0.01min-1	0~5000	1/60 (differ as Gear Ratio)
J	Jump command	Block No.	0~99	Jump prior to the command block
	Subroutine command	Block No.	0~99	Jump prior to the command block
	Return command	Return No.	-1	End of 1 turn subroutine
D	Partition command	No.of partitions	0~999	
S	Beginning block NO. command of repetition function (G27)	Block No.	1~999	
E	End block NO. command of repetition function (G27)	Block No.	1~999	
R	Frequency of repetition function (G27) command	No. of repetitions	1~99	
	G99 command of interlinked start function(G21)	G99 command No.	99	G99 command is executed in the same block as the G21 command.

G Code Function

G Code	Function	Description
None	Rotation speed command	Only calculation command is available.
G04	Dwell	No movement, wait for time.
G07	Lead cut	Rotate the table by multiple turns.
G08	Continuous buffer	Executes program block continuously, until the following G09 command.
G09	Continuous buffer cancel	Cancel the continuous befffer of G08, return to the ordinary single block run.
G10	Clamp unused	Set the clamp device at table stop to unused, which is effective until the next G11 command.
G11	Clamp used	Cancel the clamp device of G10 unused state, and apply clamp at table stop.
G15	Emphasizes the interlink	Emphasis the interlink by checking the deviation in the positions of the program blocks when the continuous buffer is effective (G08). The checking of deviation in positioin is effective until the next G16 command.
G16	Position check deviation invalid	Cancel the effectiveness of the position deviation check function. Do not check the deviation in the positions of the programs.
G21	Interlink start	This function outputs block finish signal prior to motion in program running, which is used for the interlinked operation with the machine, etc.
G22	Continuos start	If G22 is commanded, the table rotates continuousy until the next start input.
G23	Machine start point return	Position at the machine origin point of the table.
G24	Process start point return	Position at the origin of the process coordinate system of the table.
G25	Escape loop	Run the program inloop until the process start point is reached. When reached, escape from the loop and execute the next block.
G27	Repetition	Repeat execution of the program by specified number of times, from the designated block to the block.
G90	Absolute	Execute positioning in the absolute coordinates of the process coordinate system.
G91	Incremental	Execute positioning in the relative coordinates.
G92	Process coordinate system setting	Process start point can be set up as desired in the program.
G97	No block finished	Do not output the block finish (BLKFIN).
G98	Block arbitrary finish output	In the program execution, too, provide block finish (BLKFIN) and arbitrary finish (G99 FIN) output.
G99	Arbitrary finish output	Output the arbitrary finish (G99FIN) only, not block finish .

Program

Angle Index		① N000 G91 A90 F1000 Angle Rotation speed ② N001 G91 A45 F1000 J00 Jump function	90° rotation 45° rotation and N000 movement
Equipartition		N000 G91 A360 F1000 D8 J00 Angle Partition	360° angle with 8 partitions and N000 movement
Uneqaul Partition		① N000 G91 A90 F1500 ② N001 G91 A30 F1500 ③ N002 G91 A120 F2000 ④ N003 G91 A45 F2000 ⑤ N004 G91 A75 F2000 J00 Rotation speed	90° rotation 30° rotation 120° rotation 45° rotation 75° rotation, change to rpm 2000 and N000
Repetition		N000 G27 S4 E6 R2 Repetition command, Start End Cycle ①④ N004 G91 A40 F2000 ②⑤ N005 G91 A30 F2000 ③⑥ N006 G91 A50 F2000	N004 ~ N006 2 cycles 40° rotation, 30° rotation, 50° rotation (1 time/cycle) 40° rotation, 30° rotation, 50° rotation (2 times/cycles)
Absolute / Incremental		① N000 G90 A90 F1000 Absolute Angle ② N001 G90 A225 F1000 ③ N002 G91 A90 F1000 Incremental Angle	90° rotation from absolute coordinates 225° rotation from absolute coordinates 90° rotation from opposite coordinate
Subprogram		① N000 A90 F1000 J10 Angle Jump ④ N001 G90 A270 J10 Absolute Jump ⑦ N002 A20 J00 Angle ②⑤ N010 G91 A30 ③⑥ N011 A40 J-1 Return Function	90° rotation, N010 movement 30° rotation from opposite coordinate 40° rotation and return N001 movement 270° rotation from absolute coordinate and N010 movement 30° rotation from opposite coordinate 40° rotation and return (N002 movement) 20° rotation and N000 movement