System GSK PLC-less control system

Items

Feature (Simple sequence function (GFB) is incorporated)

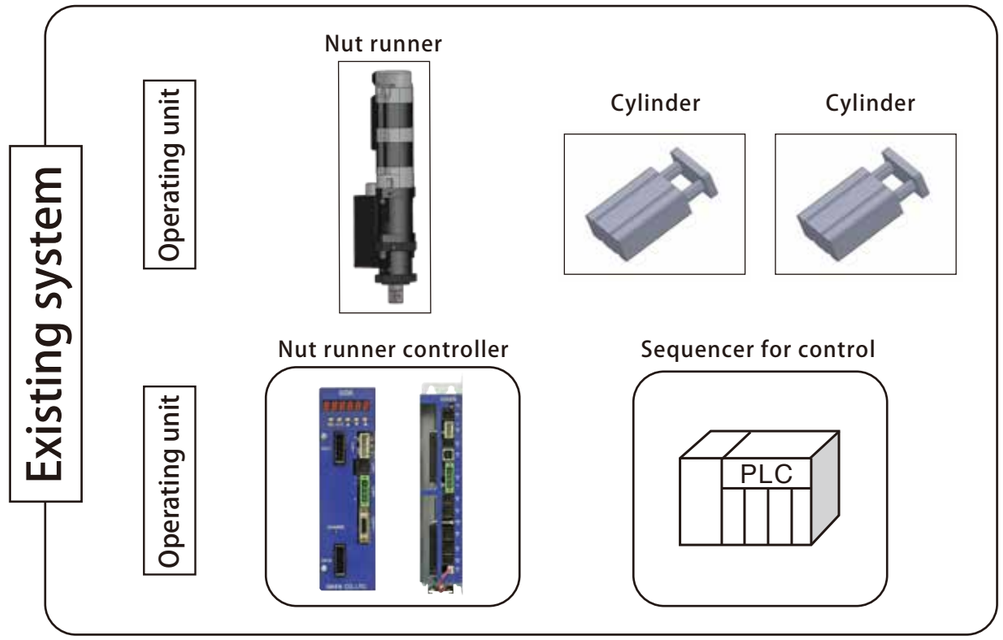
◆GFB is regularly mounted on nut runner controller

Various actuators can be managed and the sequence-less configuration of device is enabled by mounting GFB on nut runner controller

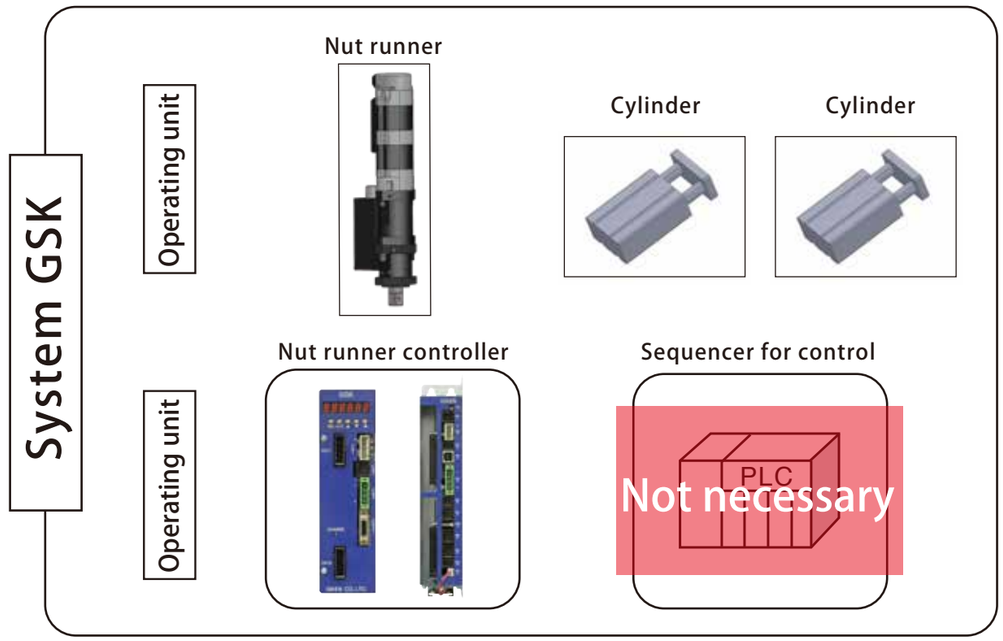
GFB (Giken Function Block)
The behavior of cylinder etc. can be set without PLC by using the setting software of system GSK for GIKEN's original circuit block.

◆Various signals of solenoid valve etc. are controlled from actuator

- Nut runner control
- Positioning control
- Control of other signals
- Solenoid valve control
- Number of I/O points 96 points
- Number of blocks 10,000 blocks

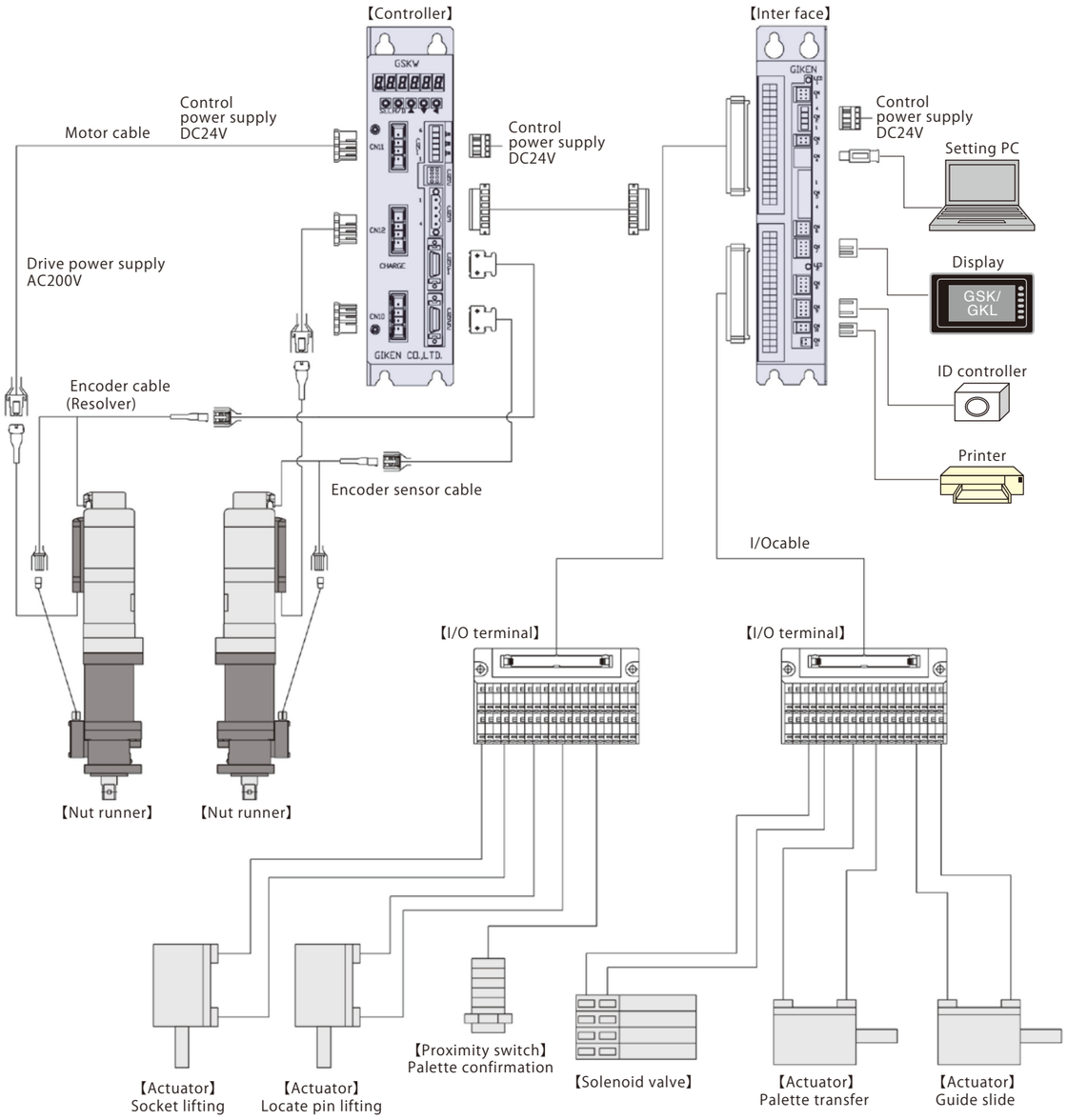


・Simplification of system
・Nut runner + positioning setting + cylinder operation setting is enabled by system GSK setting software.



Number of I/O points per I/O board
Input: 24 points　Output: 24 points
Two I/O boards can be attached to system GSK.
※For the standard model, only one I/O board is attached.
The second board is an option.

■System GSK system configuration



■Model configuration

■Interface

GSK-IF SG ① 2 ② – N1 ③

①Corresponding communication specification

SG ：System GSK（I/O）

③Corresponding series symbol

N1 ：Standard

②Number of I/O boards

Blank: One I/O board

2 ：Two I/O boards

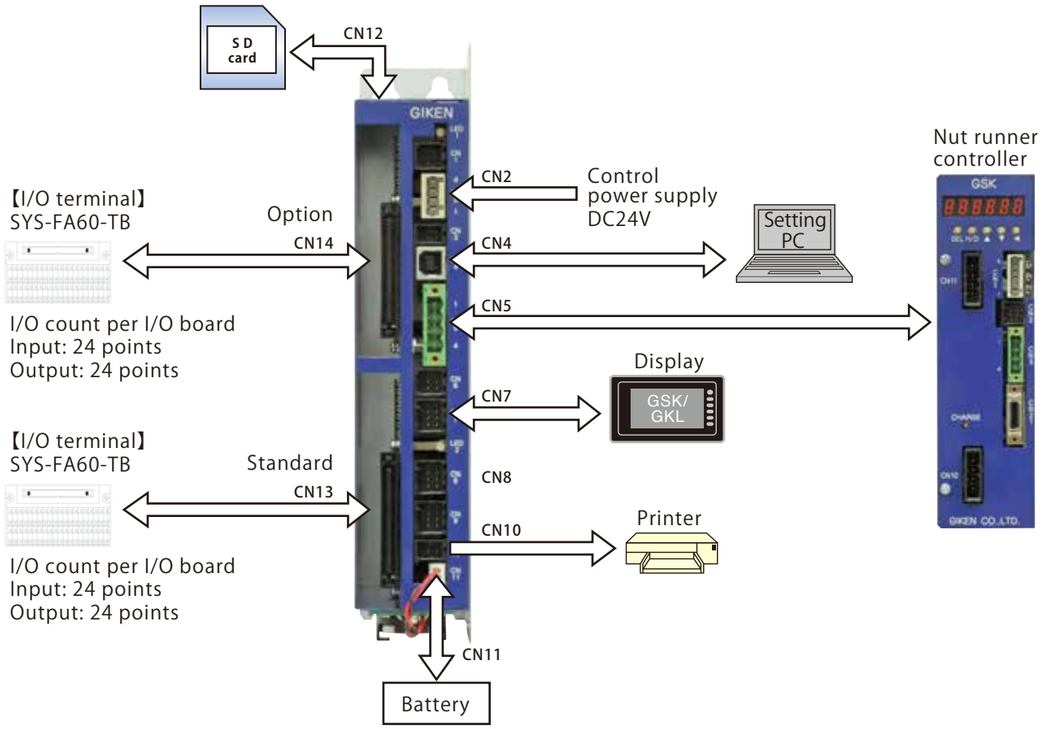
◆Model list

Model	I/O board
GSK-IFSG-N1	One I/O board
GSK-IFSG2-N1	Two I/O boards

※The controller can use GSK · GKL and Positioning GSK that way.

Name of each section

■Interface

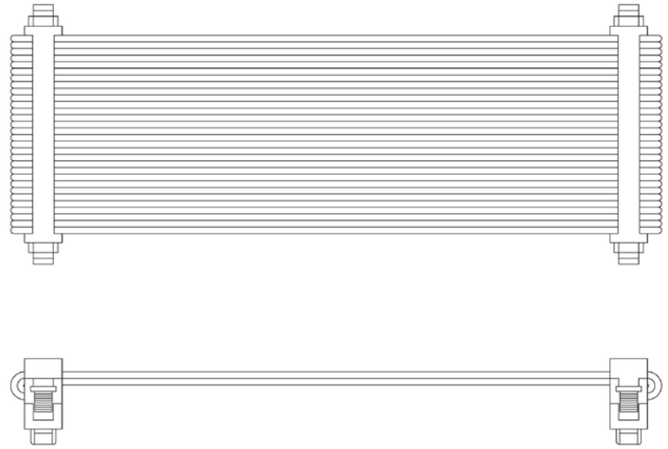


Port NO.	Name	Connector model	Opponent's connector housing	Opponent's connector pin	Opponent's connector Accessories	Communication method	Remarks
CN2	Control power supply input port	734-144 (WAGO)	734-104 (WAGO)	–	○	DC24V	
CN4	Port for connecting setting PC	UBB-4R-D14T-4D (JST)	USB Type B	–	–	USB communication	Cable model：GK-SET-1.8M
CN5	Port for connecting controller	MSTB2.5/4-GF-5.08 (PHOENIX CONTACT)	MSTB2.5/4-STF-5.08 (PHOENIX CONTACT)	–	○	ARC-NET communication	
CN7	Port for connecting display	1-1827876-4 (TE Connectivity)	1-1827864-4 (TE Connectivity)	1827570-2 (TE Connectivity)	–	RS422 communication	Cable model：GSK-DIS-10M
CN8	Port for connecting ID controller	1-1827876-4 (TE Connectivity)	1-1827864-4 (TE Connectivity)	1827570-2 (TE Connectivity)	–	RS422 communication	
CN10	Port for connecting printer	1-1827876-2 (TE Connectivity)	1-1827864-2 (TE Connectivity)	1827570-2 (TE Connectivity)	–	RS232C communication	Cable model：GK-PRN-1.5M ：GK-PRN-3.0M
CN11	Battery	–	–	–	○	–	Battery model:CR2450 / Panasonic Battery included
CN12	SD card slot	–	–	–	–	–	SD/SDHC to 32GB or less supported SD card model: GK-SD-32G
CN13	Port for connecting I/O cable	8830-060-170S-F (KEL)	–	–	○	–	Standard model is equipped with only one port
CN14	Port for connecting I/O cable	8830-060-170S-F (KEL)	–	–	–	–	For the second sheet, an optional IO port: SYS-IO24 is separately required

I/O cable/terminal model

■System GSK I/O cable

◆I/O cable model

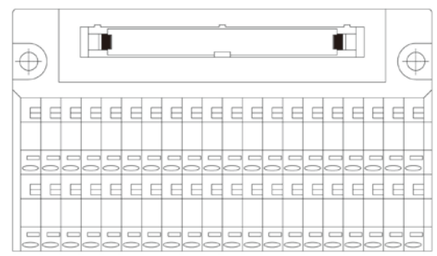


Model	Cable length [m]
SYS-FA60-0.5M	0.5m
SYS-FA60-1M	1.0m
SYS-FA60-2M	2.0m
SYS-FA60-3M	3.0m

※60-pin flat cable

■System GSK I/O terminal

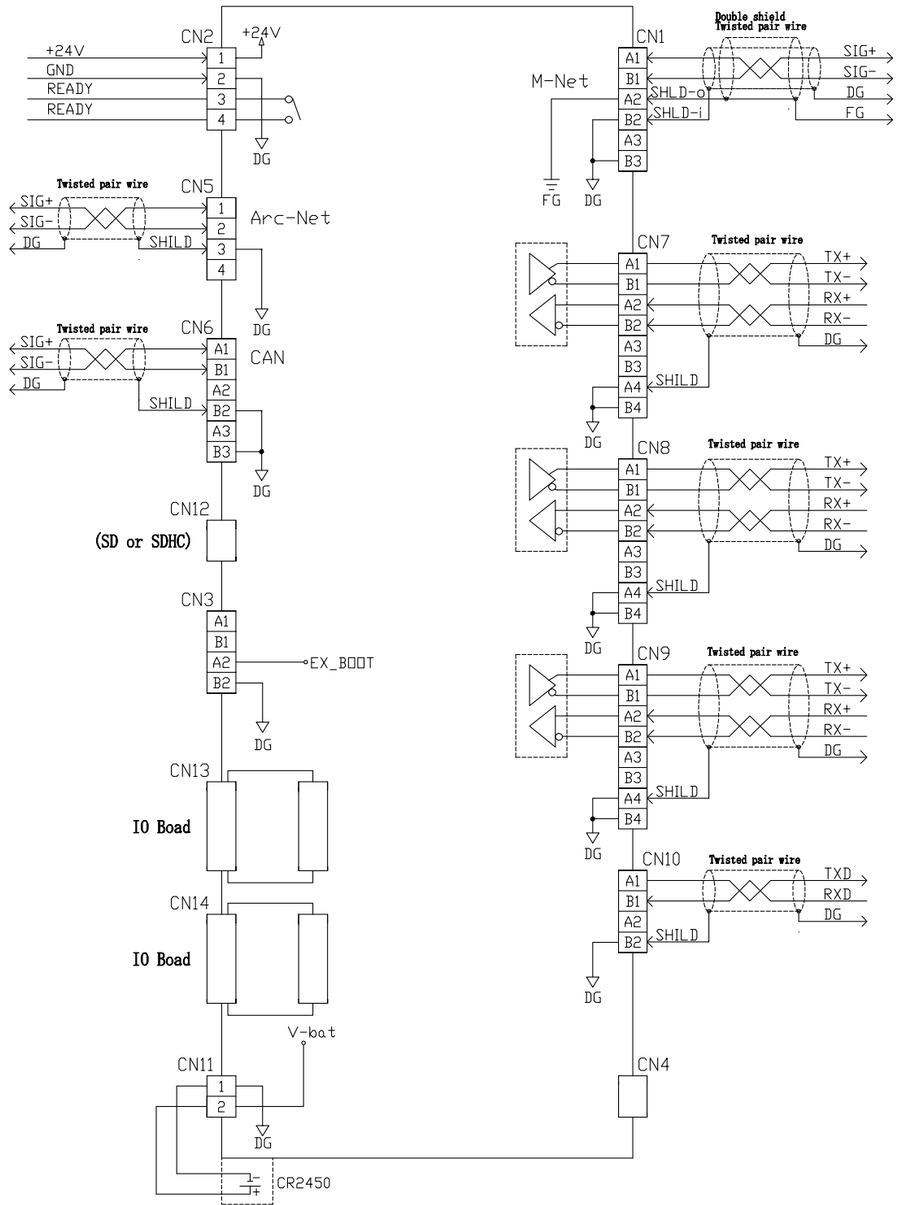
◆I/O terminal model



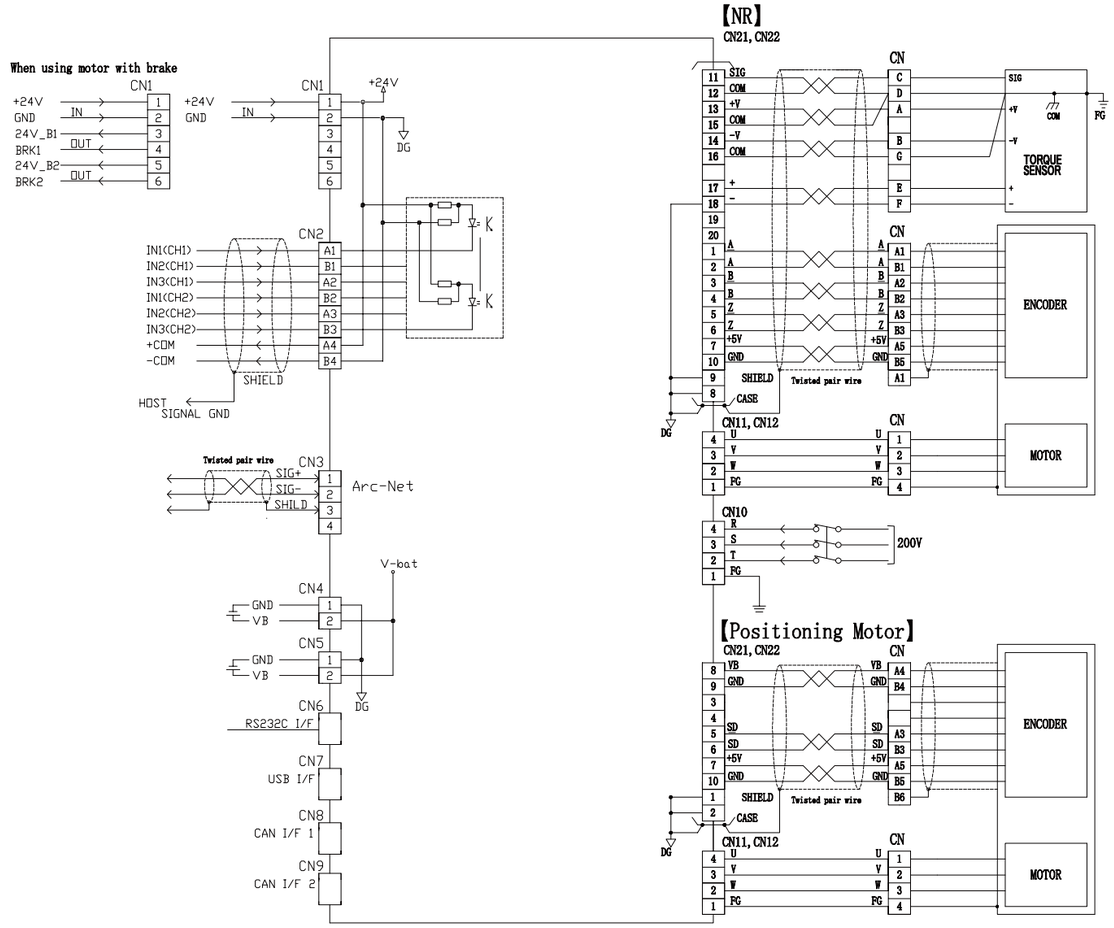
Model
SYS-FA60-TB

※The shape will be changed without notice.
For the latest shape and dimensions, please contact our company.

■Interface



■Controller



■Setting software

To carry out various settings of GSK, a PC in which setting software is installed is required Various settings, communication status with upper device, tightening result, and tightening waveform can be confirmed with setting software.

◆Setting software model

Setting software model	Language	Controller type
S-GSK-SET-SOFT-J	Japanese	System GSK
S-GSK-SET-SOFT-E	English	

Supported OS win7/8/8.1/10

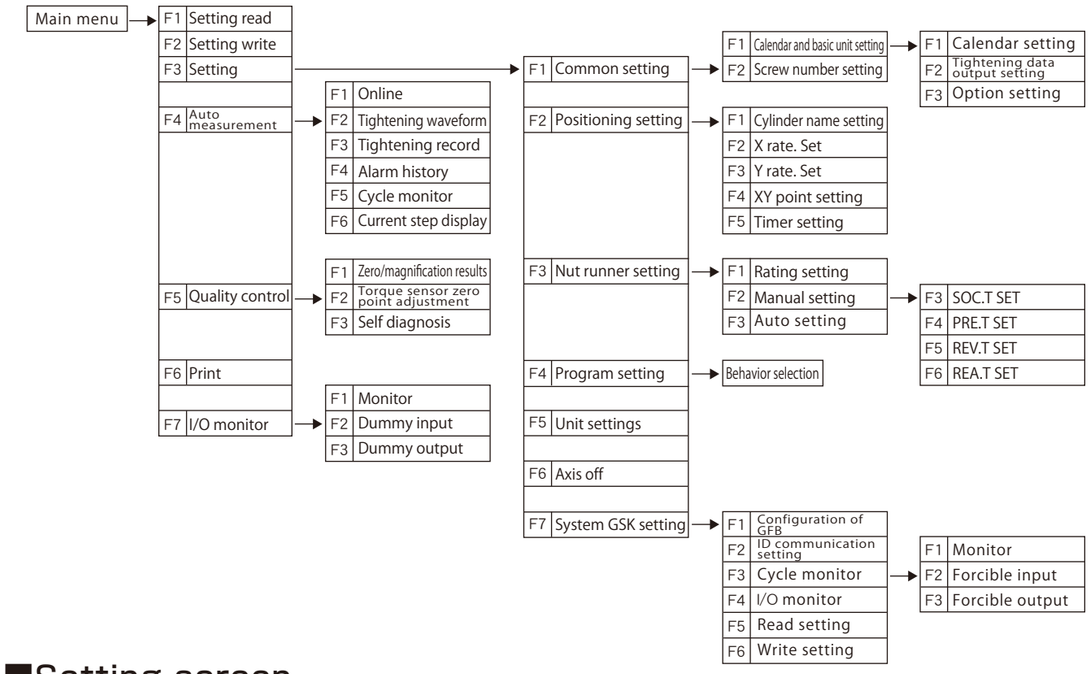
◆Setting cable model

Cable for connecting PC in which setting software of GSK is installed and interface.

Model	Cable length [m]
GK-SET-1.8M	1.8m

The setting cable is common to all setting software.

■Hierarchy of setting software



■Setting screen

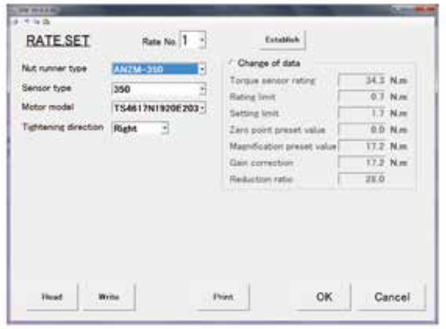
【Main menu】

Initial screen that is displayed when the setting software is activated.

【Setting menu】

Screen for carrying out various settings.

【Rate Setting】



Screen for setting the details of used nut runner .

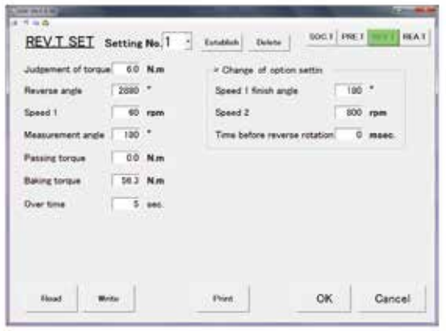
【SOC.T Setting】

Screen for setting the rotation for matching a bolt with a socket.

【PRE.T Setting】

Screen for setting bolt setting status to seating. (temporary tightening)

【REV.T Setting】



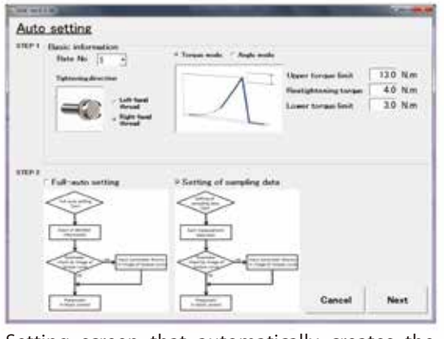
Screen for setting seizure judgment after temporary tightening of bolt.

【REA.T Setting】

Screen for setting the final tightening For the type of final tightening, two types; torque method and angle method are available.

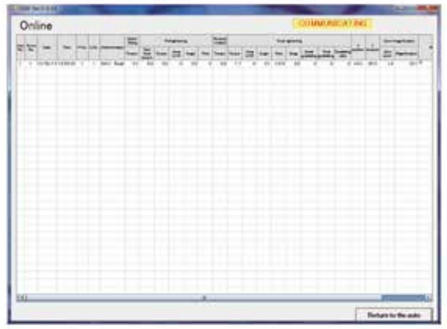
※For the final tightening setting, up to No. 50 can be set.

【Auto setting】



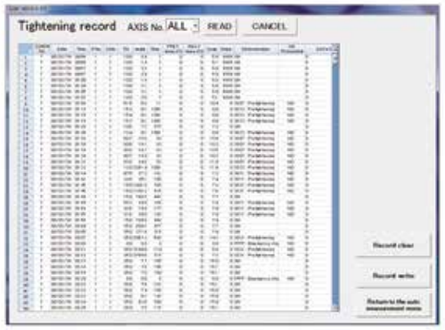
Setting screen that automatically creates the tightening setting by inputting necessary items in case of full auto setting With the sampling setting, detailed setting is enabled by actually tightening a workpiece.

【Online】



Screen for saving the tightening result in PC by making a connection to controller.

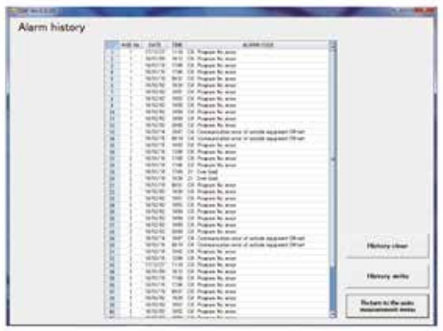
【Tightening history】



Screen for importing the data saved in the controller in PC.

※Maximum number of saved items in tightening historyper axis: 5,000items

【Alarm history】



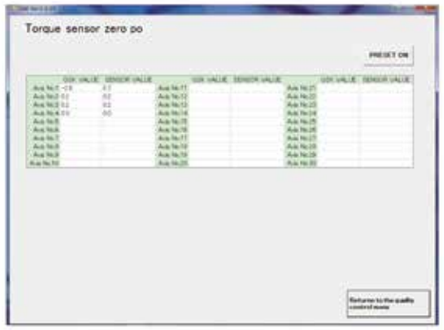
Screen for importing the alarm data saved in the controller in PC.

※Maximum number of saved items in alarm history per axis:16 items

【I/O monitor】

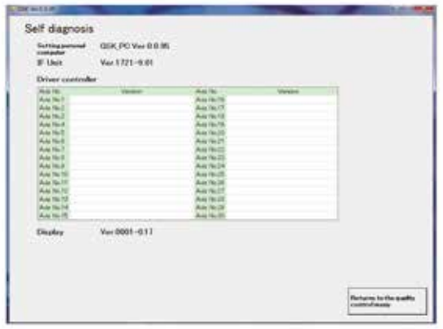
Screen for checking the I/O status with upper link.

【Torque sensor zero point adjustment】



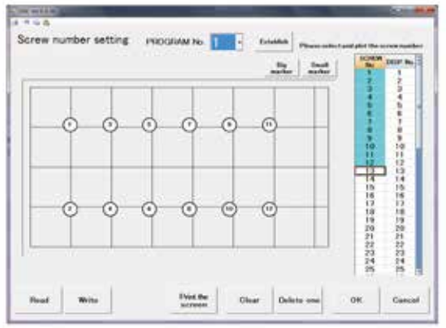
Screen for checking the zero point of current torque sensor.

【Self diagnosis】



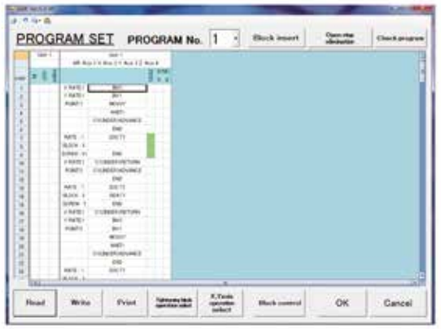
Screen for checking each version of currently configured parts.

【Screw No. array setting】



Screen for setting the screw No. array to be displayed on the display (GSK-D1/ GK-D1 series).

【Program setting】

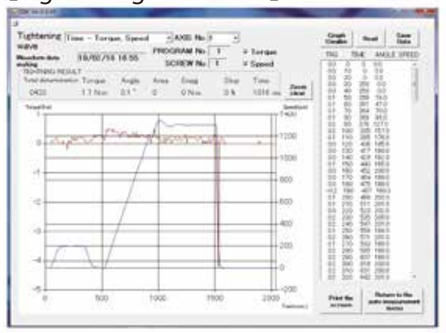


Screen for setting the combination of behaviors related to tightening(socket matching,temporary inversion,final tightening)for each axis tightening, final tightening) for each axis.

※Maximum number of programs

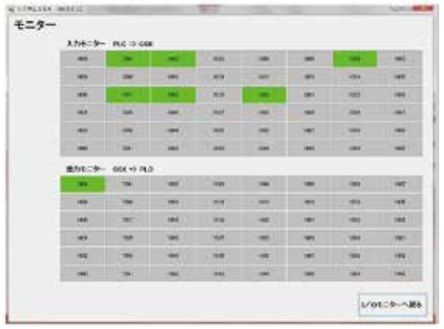
Max.number of axes	Number of programs	Number of steps
30	16	220
30	50	70
8	50	220

【Tightening waveform】



Screen for importing the tightening waveform in PC.

【Monitor】



Screen for checking the input /output status with the I / O board of the I / F.

【GFB configuration】

Screen for setting the basic setting (ladder) of GFB.

【GFB input condition configuration】

Screen for setting the input conditions of GFB.