

5nm feedback stage FS-SPX

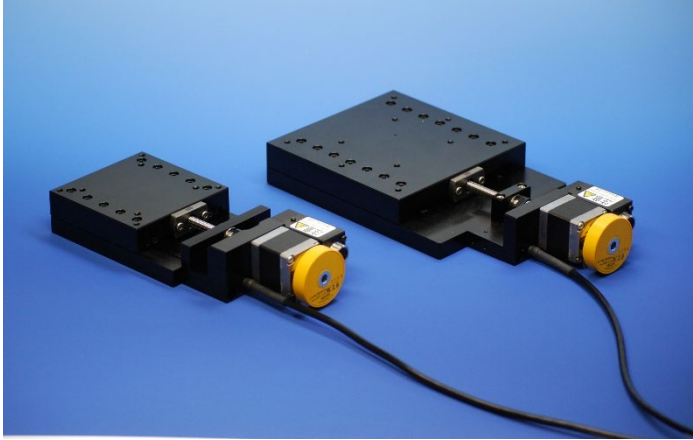
RoHS

FS-SPX is feedback stage with 5nm resolution positioning.

In-house optical linear encoder are built-in at the center of stage to detect position.

Positioning to target position, positioning repeatability and holding the position with high resolution is achieved by feedback control using position information of encoder.

There are two types of the stage which travel of 20mm and 50mm.



Applicable controller and cable

| | |
|------------|---------|
| Controller | FC-611 |
| Cable | PM-CA-* |

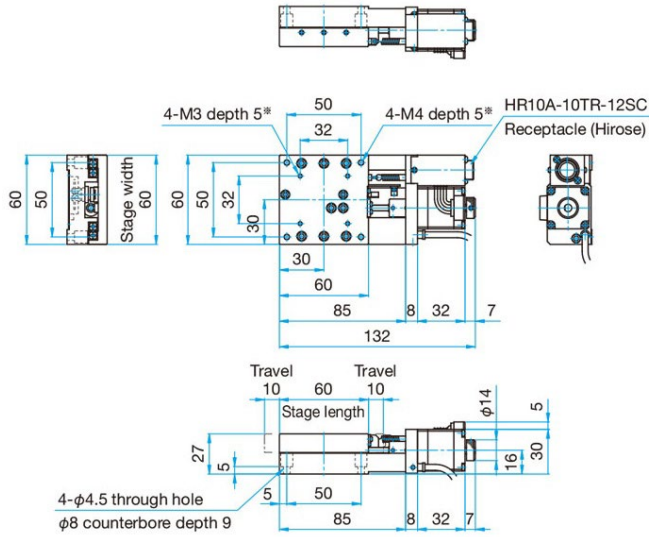
| Specifications | | | |
|-----------------|----------------------------------|------------------------------|-----------------------------|
| Part Number | | FS-1020SPX | FS-1050SPX |
| Mechanical spec | Travel [mm] | 20 | 50 |
| | Size of the stage [mm] | 60×60 | 120×120 |
| | Feed screw [mm] | Ball screw dia. 4, 1mm lead | Ball screw dia. 6, 1mm lead |
| | Positioning slide | Crossed roller | |
| | Primary material | Aluminum | |
| | Finish | Black anodized | |
| | Motor type | □28mm 5 phase stepping motor | |
| | Weight [kg] | 0.5 | 1.6 |
| Accuracy spec | Minimum Resolution [nm] ※1 | 5 | 5 |
| | Positional repeatability [nm] ※1 | +/- 10 | +/- 10 |
| | Load capacity [N] | 49(5kgf) | 98(10kgf) |
| | Running parallelism [μm] | 10 | 10 |
| | Max speed [mm/sec] | 5 | 5 |
| Sensor | Limit sensor | Equipped | |
| | Origin sensor | None | |
| | Proximity origin sensor | None | |
| Equipped scale | Signal cycle | 2μm | |
| | Scale cable (※2) | 2m | |

※1 : Minimum resolution and position repeatability accuracy for built-in scale read.

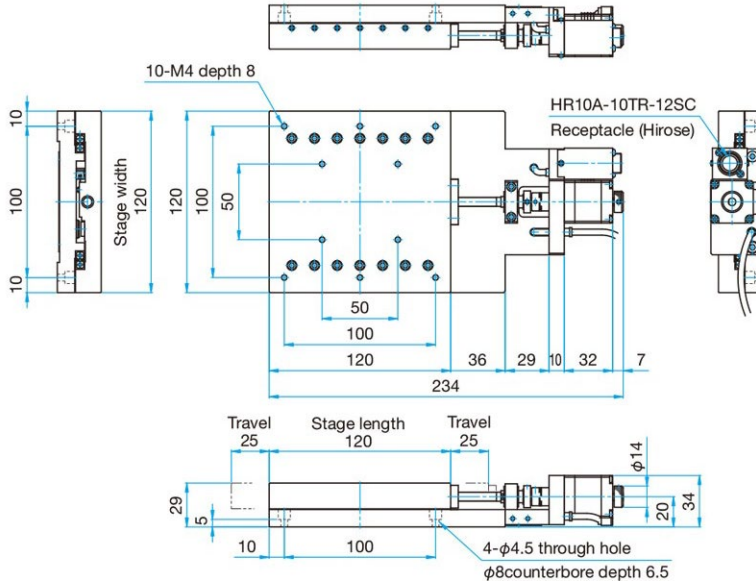
※2 : Scale cable comes directly out of the stage. Please prepare "extension cable for scale" separately if 2m or longer cable are needed.

Outline drawing

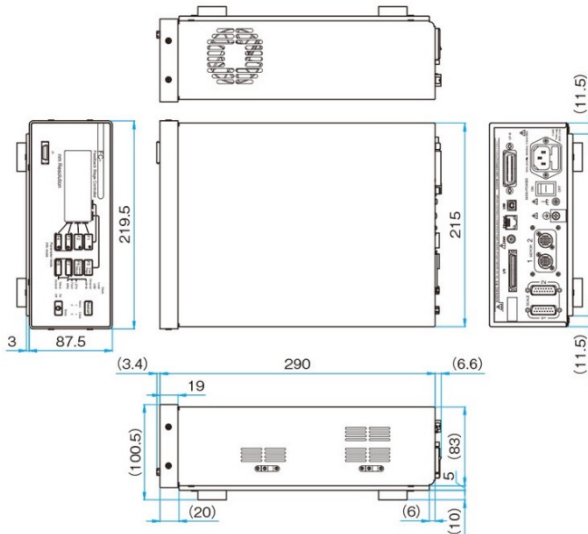
FS-1020SPX



FS-1050SPX



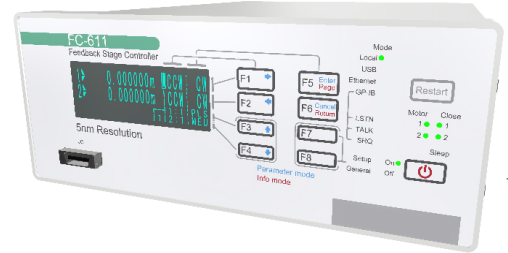
FC-611



FS-SPX dedicated controller for 5nm feedback stage **FC-611**



Dedicated controller for 5nm feedback stage (FS-SPX series) to control with 5nm resolution. Highly safe and easy to operate with various error detection functions, general-purpose I / O, and teaching functions.



| Specifications | | | | |
|--|--|------------------------------|--|--|
| Part number | | FC-611 | | |
| Primary spec | Number of control axes | | 2 | |
| | Minimum command unit | | 5nm | |
| | In position range | | +/- 5nm (+/- 15,+/- 35nm selectable) | |
| | Max operating speed set value | | 30mm/sec | |
| | Max travel range set value | | -671.088640~+671.088635mm | |
| | Number of control interface port | Jog controller | | 1 |
| | | Emergency stop | | 1 |
| | | GP-IB | | 1 |
| | | USB | | 1 |
| | | Ethernet | | 1 |
| | | General I/O | | 1 |
| | Teaching | Number of register channel | | 5 |
| Number of registered lines per channel | | 200 | | |
| Operational interface | | Controller key operation | | |
| | | Jog controller key operation | | |
| | | Communication command | | |
| General I/O | | | | |
| General spec | Power voltage | | AC100~240V 50/60Hz | |
| | Power supply voltage fluctuation allowable range | | AC90V~264V | |
| | Power consumption | | 110VA max | |
| | Fuse | | 250V, 2.5A, time lag, 2 | |
| | Outer dimensions (W×H×Dmm) | | W220×H88×D290mm | |
| | Weight [kg] | | 5.2 | |
| | Operating temperature/humidity | | 0 deg.C to 40 deg.C / 20% to 80%RH(without condensation) | |
| | Storage temperature/humidity | | -10deg.C to 55 deg.C / 20%~80%RH (without condensation) | |
| | Connectable option | | JC-01 | |
| | Communication port | GP-IB | Address | 1~30 |
| | | | Delimiter | CR+LF, EOI, CR, LF |
| | | | Service request | Valid or invalid |
| | | | Flow control | None (fixed) |
| | | USB | Function | Virtual COM port |
| | | | Transfer speed | Full speed transfer(12Mbps max) |
| | | | Delimiter | CR+LF, CR, LF |
| | | Ethernet | Standard | IEEE802.3x standard flow control compliant |
| | | | Transfer speed | 10Mbps and 100Mbps |
| | | | Delimiter | CR+LF, CR, LF |
| | General I/O port | Input | General input | 3 port |
| | | | Teaching | 1 set |
| | | | Busy error cancel | 1 set |
| Output | | General output | 3 port | |
| | | Scale division pulse signal | 1 set for each axis | |
| | | Alarm signal | 1 set for each axis | |
| | | In position signal | 1 set for each axis | |
| Teaching status | | 1 set | | |
| Emergency stop input | | B contact (fixed) | | |