

# Origin return method

Suruga's motorized stages have differences in the existence of the sensors depending on the model number and the wire connections are also different. Therefore, there are several methods of origin return, so it is necessary to select the proper returning type according to the model number of the stage you use. If you select the wrong type, the returning operation and correct origin return may not be implemented. Select the appropriate origin return type for your stage in accordance with the "Recommended origin return method" shown below.

■ Recommended origin return method \* The mark is a case with three sensors.

Stage model number	Origin return type
KRW04/06,KS421,KXG,PG *,KXC,KS101,KX * 07/08/10/12,KH *,KS332 *,KGB *,KG05/07,KS402,KXB,KGW	3, 4, 9, 10
KXS	1, 2, 7, 8
KXL,KRB,KRB04/06	5, 6, 11, 12

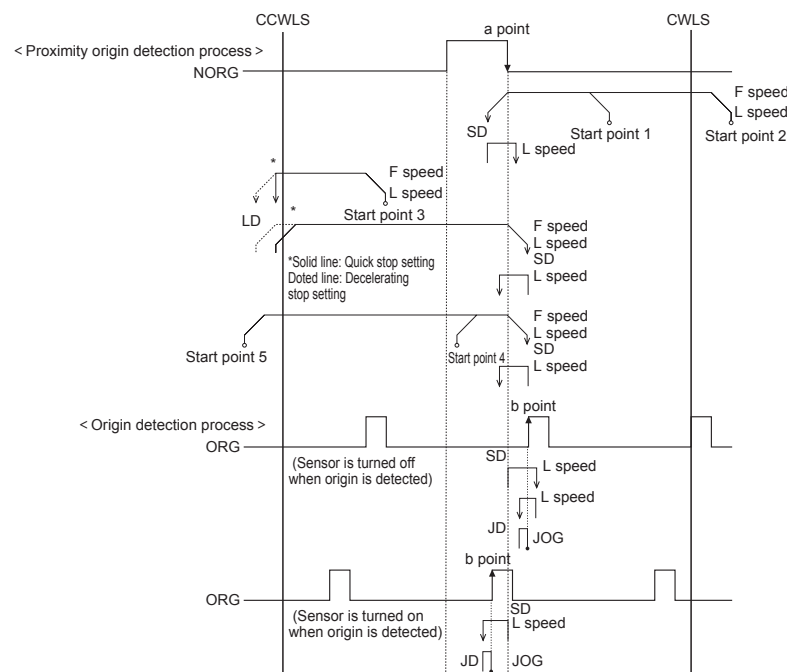
■ Origin return type list

Type	Action
Type 0	No origin return is performed.
Type 1	CCW direction is detected. At first, the NORG signal CW edge is detected. Then, the ORG signal CCW edge is detected.
Type 2	CW direction is detected. At first, the NORG signal CCW edge is detected. Then, the ORG signal CW edge is detected.
Type 3	Detection is implemented on the CCW side and the detection process of the edge on the CCW side of the ORG signal is implemented.
Type 4	Detection is implemented on the CW side and the detection process of the edge on the CW side of the ORG signal is implemented.
Type 5	CCW direction is detected. The CCWLS signal CW edge is detected.
Type 6	CW direction is detected. The CWLS signal CCW edge is detected.
Type 7	Type 1 is implemented first and then the TIMING signal CCW edge is detected.
Type 8	Type 2 is implemented first and then the TIMING signal CW edge is detected.
Type 9	After type 3 is executed, the detection process of the edge on the CCW side of the TIMING signal is implemented.
Type 10	After type 4 is executed, the detection process of the edge on the CW side of the TIMING signal is implemented.
Type 11	After performing Type 5, the TIMING signal CCW edge is detected.
Type 12	After performing Type 6, the TIMING signal CW edge is detected.

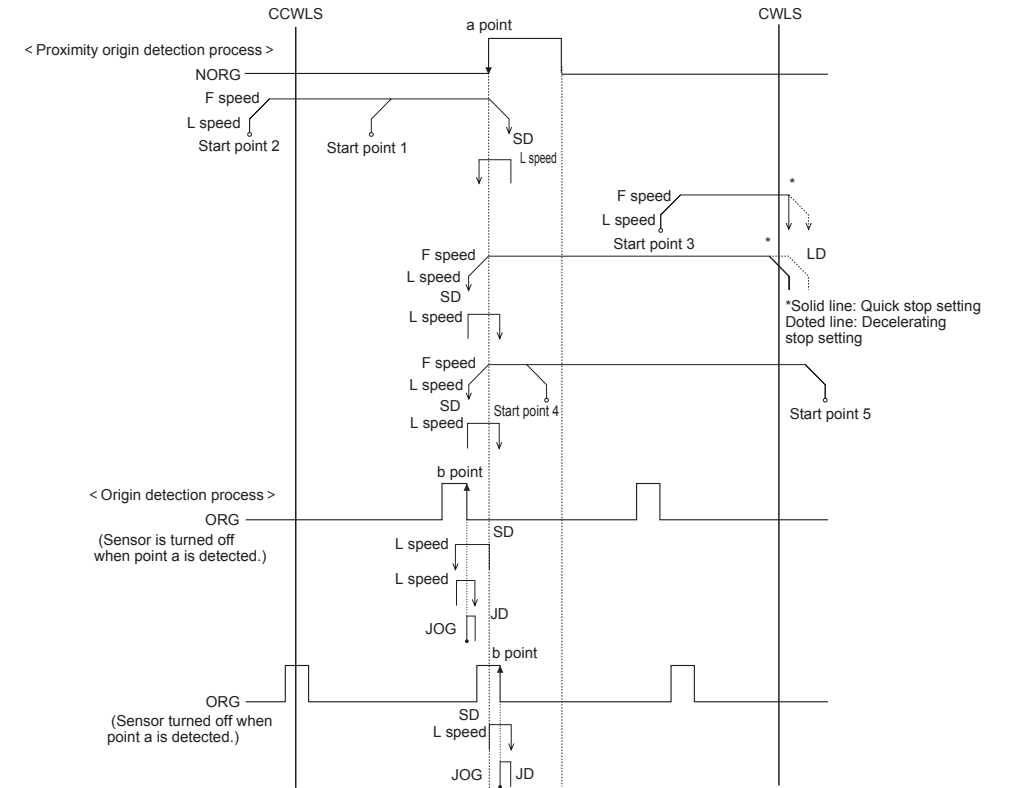
Origin return sequence is performed as follows:

【Type 0】 No origin return is performed.

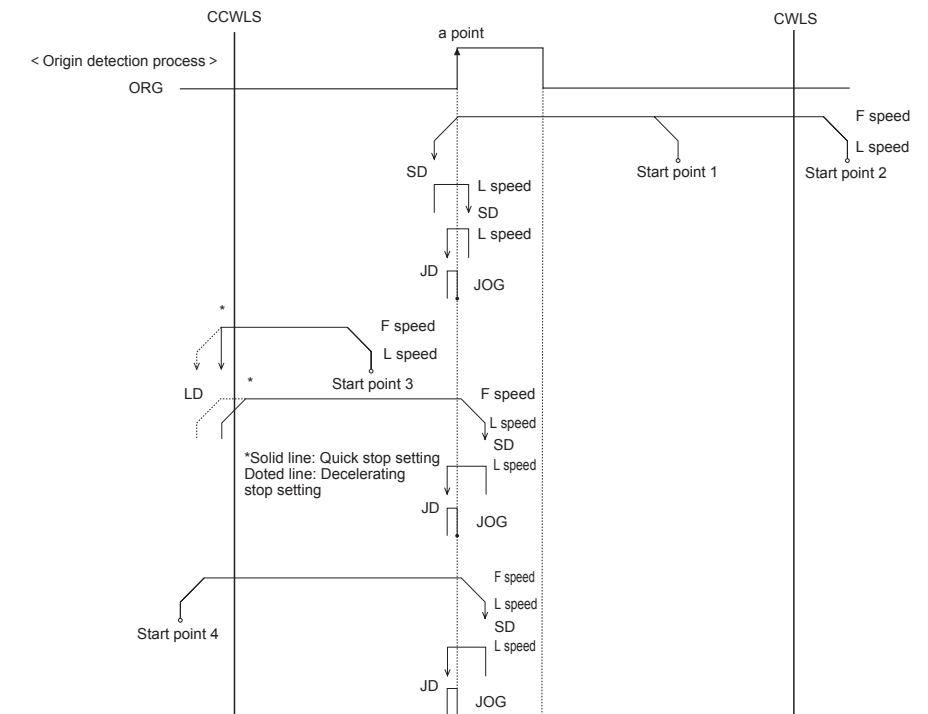
【Type 1】 CCW direction is detected. At first, the NORG signal CW edge (point a) is detected. Then, the ORG signal CCW side (point b) is detected.



【Type 2】 CW direction is detected. At first, the NORG signal CCW edge (point a) is detected. Then, the ORG signal CW edge (point b) is detected.

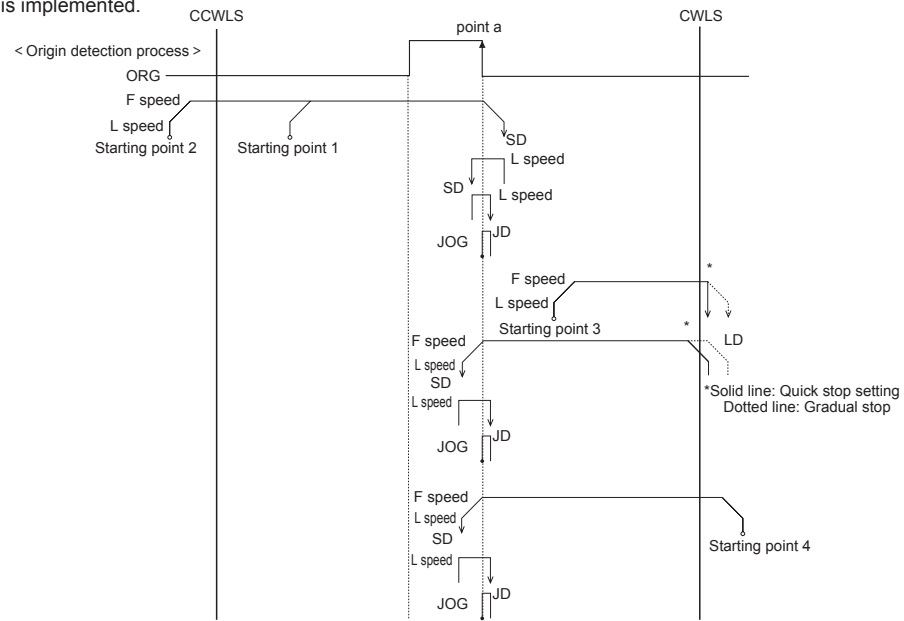


【Type 3】 CCW direction is detected. The ORG signal CCW edge (a point) is detected.

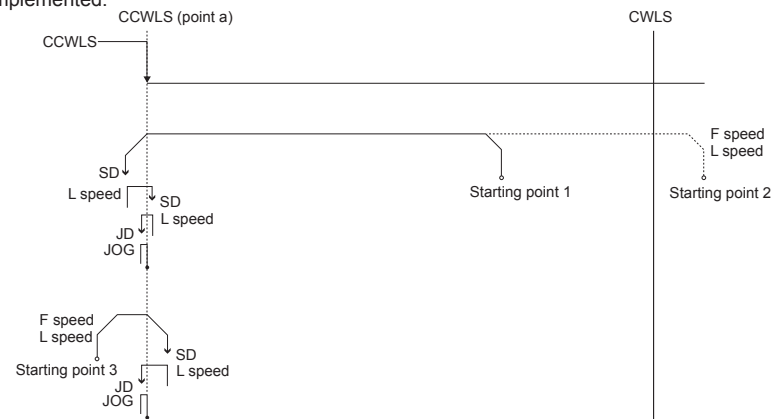


# Origin return method

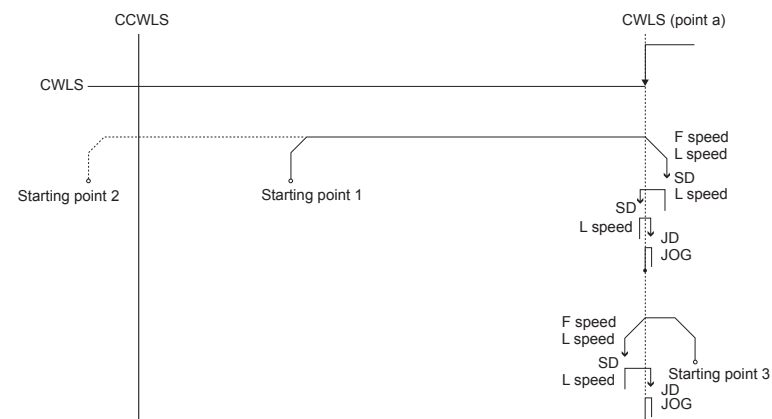
**【Type 4】** Detection is implemented on the CW side and the detection process of the edge on the CW side (point a) of the ORG signal is implemented.



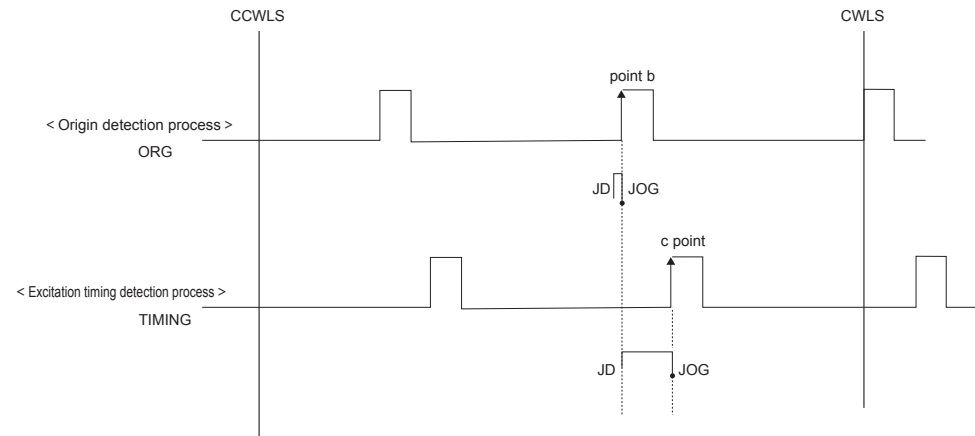
**【Type 5】** Detection is implemented on the CCW side and the detection process of the edge on the CW side (point a) of the CCWLS signal is implemented.



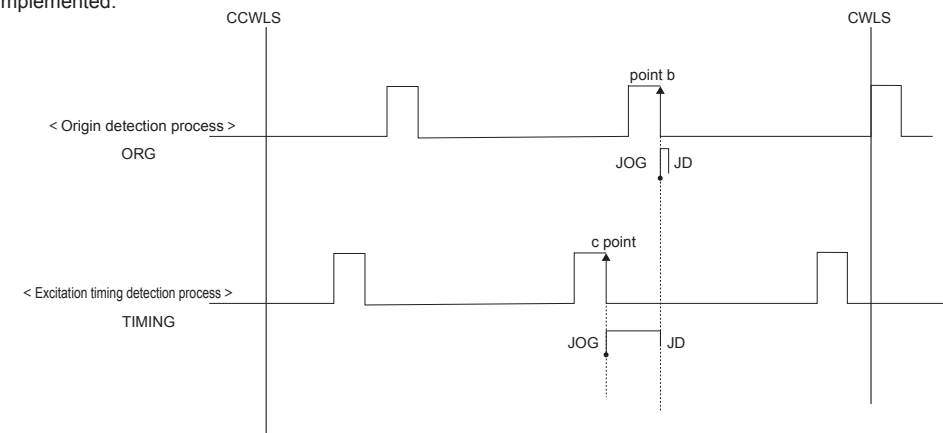
**【Type 6】** CW direction is detected. The CWLS signal CCW side edge (point a) is detected.



**【Type 7】** After Type 1 is executed, the detection process of the edge on the CCW side (point c) of the TIMING signal is implemented.



**【Type 8】** After Type 2 is executed, the detection process of the edge on the CW side (point B) of the TIMING signal is implemented.



**【Type 9】** After Type 3 is executed, the detection process of the edge on the CCW side of the TIMING signal is implemented.

**【Type 10】** After Type 4 is executed, the detection process of the edge on the CW side of the TIMING signal is implemented.

**【Type 11】** After Type 5 is executed, the detection process of the edge on the CCW side of the TIMING signal is implemented.

**【Type 12】** After Type 6 is executed, the detection process of the edge on the CW side of the TIMING signal is implemented.

○	Detection start position
●	Detection completion position
F speed	Drive speed (set speed)
L speed	Start speed (set speed)
JD (JOG)	Detection JOG interval (JD = L speed)
LD	Limit detection stop time 300msec
SD	Sensor detection stop time 300msec