ECAM Cursor function

1. Parameter Description

P7.80：Cursor Capture Enable

After the setting is valid, the ECAM function is automatically enabled by the cursor signal (0x3A) (effective mode: parameter valid)

P7.81：Offset Of The Cursor To Cutter

The distance from the cursor sensor to the cutter (must be set in a cut length)

P7.82：Cursor Sensor Window

The cursor signal within the window range around the cursor sensor offset is considered valid.

P7.83：Max. Numbers Of Lost Cursor

When the number of lost cursors reaches the set value, Ecam is turned off, and when set to 0, the function is invalid.

P7.84：Cursor Compensation Method

Mode 0: Cut the length after detecting the cursor;

Mode 1: Cut the cursor after detecting the cursor.

2. Debugging step

(1) Confirm that the fixed length is cut accurately;

(2) Confirm that the spindle pulse direction is positive;

When the ECAM spindle source is pulse input:

R1.11	Pulse input accumulation	0	pulse
R1.12	Pulse input position command	0	pulse
R1.13	Pulse input speed command	0.0	r/min

P0.02	Motor Forward Direction	CCW
P0.24	Pulse input direction reversing	Positive

When the ECAM spindle source is the second encoder:

R0.45	Second encoder speed feedback	0.0	r/min
R0.54	Grating rule (2rd encoder) position feedback	0	pulse

P0.02	Motor Forward Direction	CCW
P4.62	External raster rule direction reversing	Positive

(3) Confirm that the parameter settings are accurate;

P3.00	Digital 1 input selection	0x03A	-
P7.01	ECAM Enable by Parameter	Disable	-
P7.02	ECAM Enable Source	Parameter Enable	-
P7.03	ECAM Spindle Source	Virtual Spindle	-
P7.05	N Revolution of Spindle	19098	spulse
P7.07	ECAM Virtual Spindle Speed Set	15914	spulse/sec
P7.08	ECAM Engage Condition	Engage At Once...	-
P7.14	Number of Spindle Pulses for ECAM...	13528	spulse
P7.24	ECAM Engage Start Point	19098	spulse
P7.44	Feed Speed	1,000.0	mm/s
P7.50	Cutting Length / Length of Order0	1,200.0	mm
P7.53	FlyCutting-Sync Angle	20.0	°
P7.80	Cursor Capture Enable	Enable	-
P7.81	Offset Of The Cursor To Cutter	250.0	mm
P7.82	Cursor Sensor Window	20.0	mm
P7.83	Max. Numbers of lost Cursor	2	-
P7.84	Cursor Compensation Method	Mode1	-

When the rising edge of the cursor is detected, if P7.02 is set to parameter valid, ECAM will be automatically enabled. If P7.08 is set to engaged immediately, ECAM will immediately engage for benchmarking.

(4) Homing;

Confirm that the home sensor is 180 degrees from the cutting point;

P5.10	Homing mode	22	-
P5.11	Automatic homing after power up	Disable	-
P5.12	1st speed setting of high speed homing	100	r/min
P5.13	2nd speed setting of low speed homing	20	r/min
P5.14	Origin setting of homing	0	pulse
P5.15	Homing trigger cmd	Disable	-
P5.16	Homing relevant action	To target posi...	-
P5.17	The speed to target after homing	100	r/min
P5.18	The Acc&Dec time to target after homing	300	ms
P5.19	The target positon after homing	0	pulse

Homing result:

(5) Virtual spindle test;

You can use the virtual spindle for the simulation test, it has no external interference and does not need to be real cut. P7.03 can select ECAM Spindle Source.

P7.03	ECAM Spindle Source		Virtual Spindle		-
P7.07	ECAM Virtual Spindle Speed Set		15914		spulse/sec
P7.44	Feed Speed		1,000.0		mm/s

In the Flying Curve or Shear Curve, Feeding speed (P7.44) will be calculated and written to P7.07.

P8.96	Bit parameter index of 1st channel		0x0(Digital Output:0x3A:Cursor Signal)

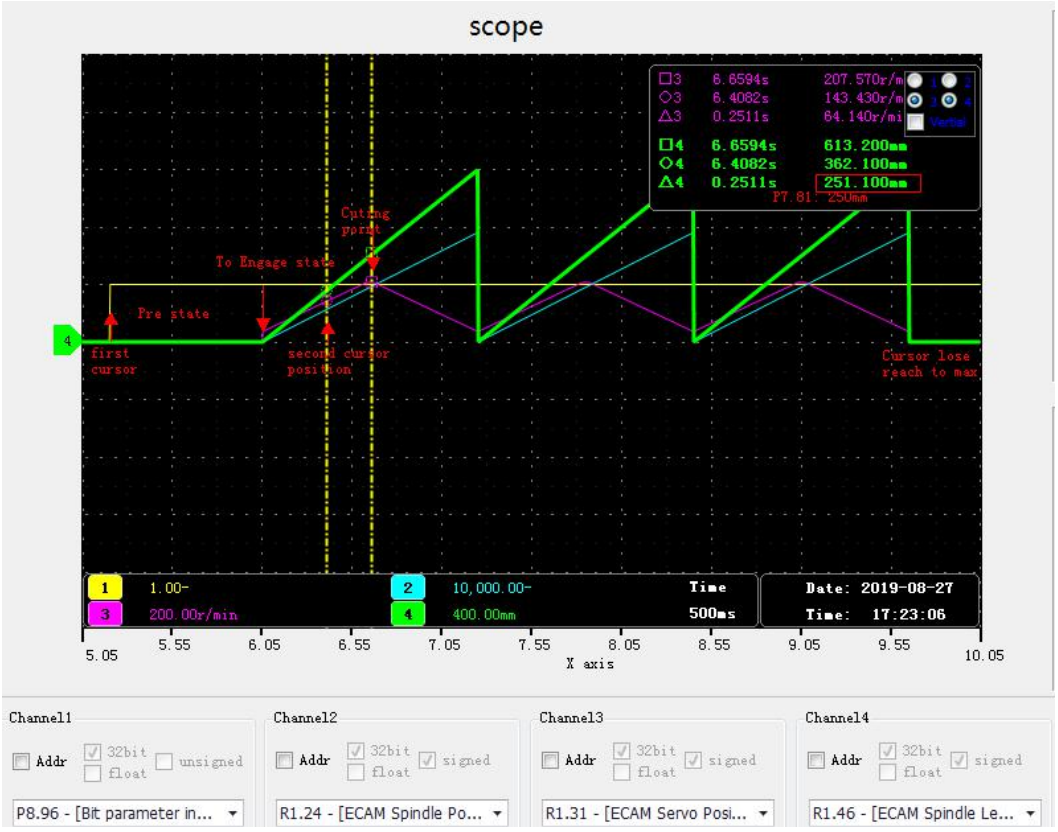
You can set P8.96 to 0x3A: Cursor Signal and monitor this Parameter in software scope, It characterizes the cursor signal. You can also monitor R1.00: Digtial input state.

P2.10	Speed feed-forward gain		100.0

If you want to ensure the follow-up of the sync area, you can set P2.10 to 100.0%

Unable test：

R0.31	IGBT state		Stop



Enable test：

R0.31	IGBT state		Run

(6) Test the cutting accuracy after the material is applied;

Confirm that the position of each cutting point is the same, and correct the cutting position by adjusting the offset of the cursor sensor (P7.81);

This parameter takes effect immediately. Note that each adjustment does not exceed half of the value of the cursor sensor window (P7.82). It can also be modified in the stop state and after the parameter calculation. This method is not limited by the window.