

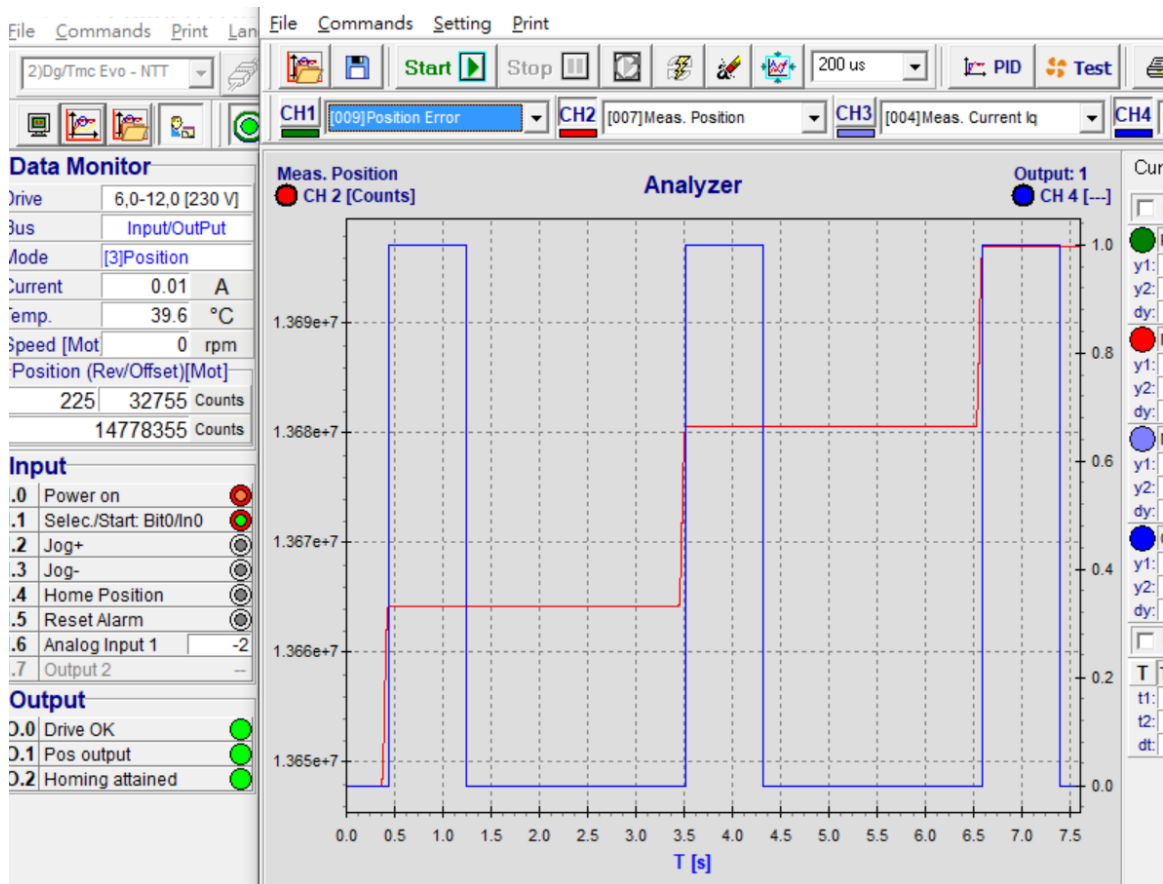
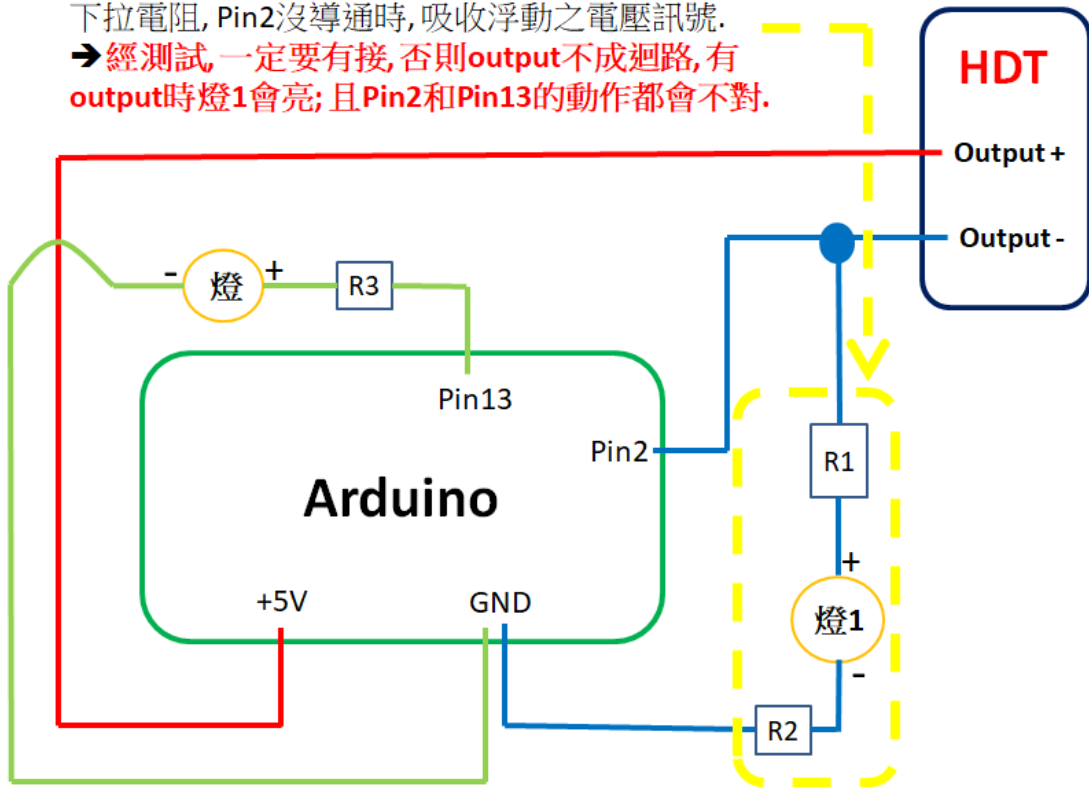
Date: 0626_2020

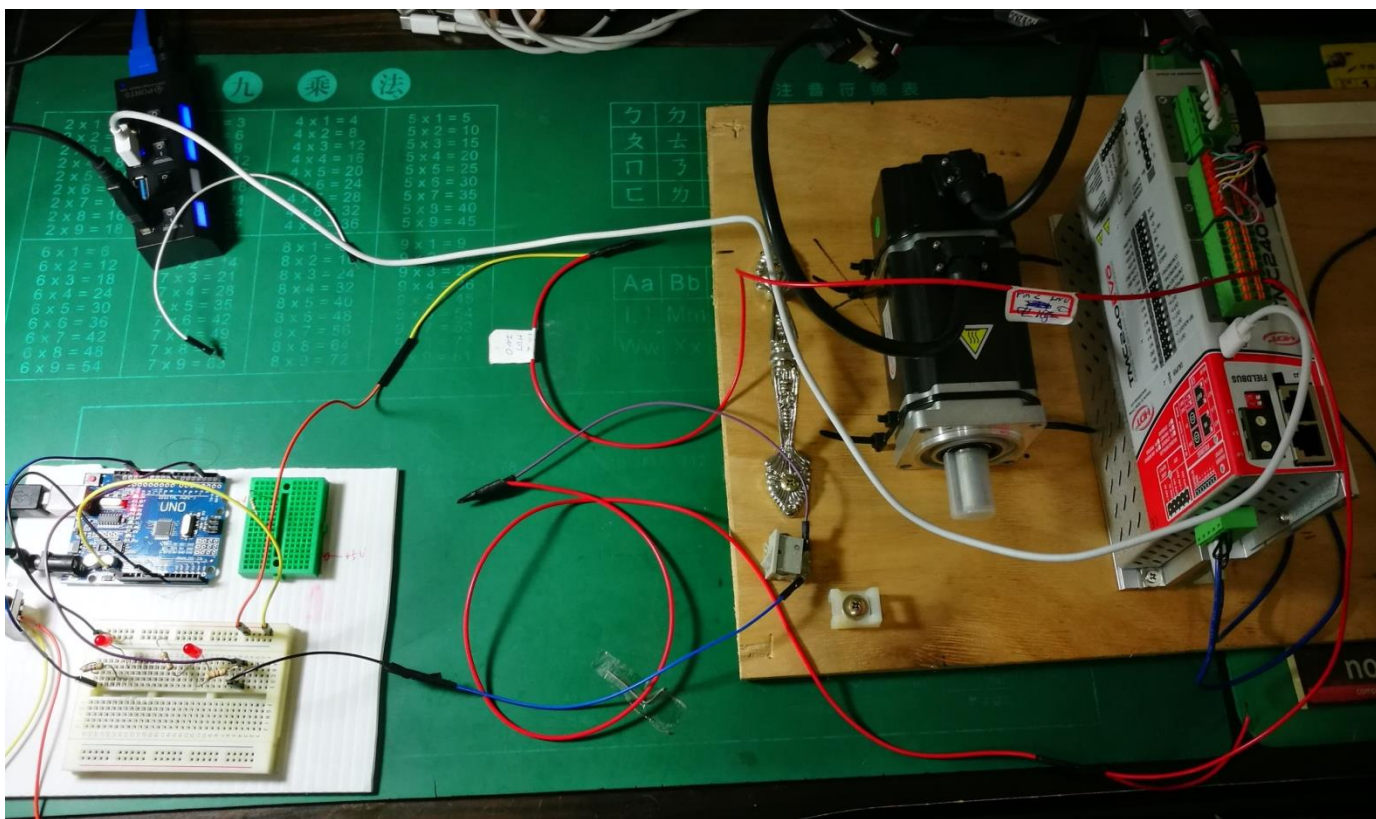
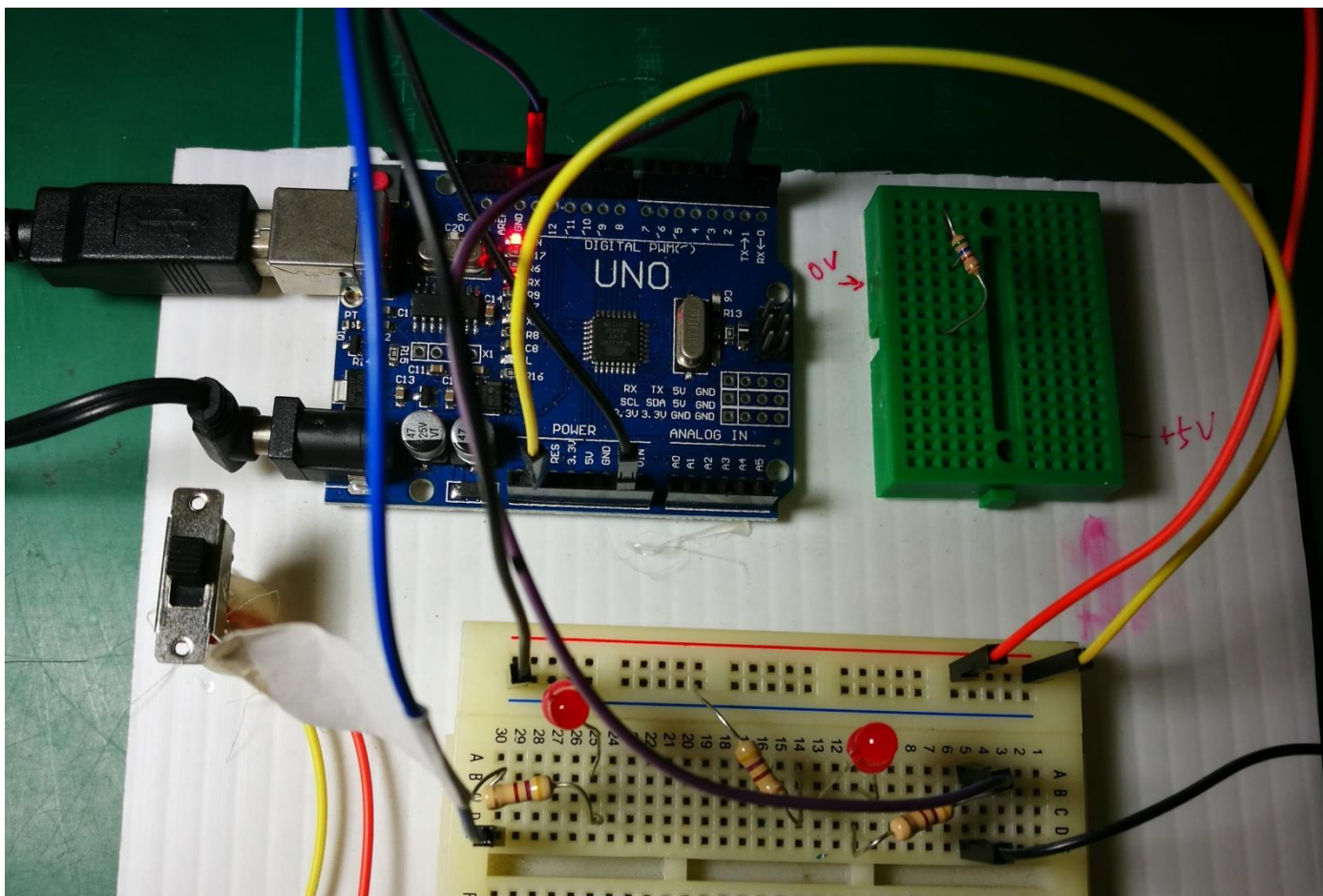
// 利用 Arduino 的數位輸入, 計算 HDT 的 Output 數目

// 利用序列埠顯示 HDT 的 Output 數目

下拉電阻, Pin2沒導通時, 吸收浮動之電壓訊號.

→ 經測試, 一定要有接, 否則output不成迴路, 有output時燈1會亮; 且Pin2和Pin13的動作都會不對.





// 利用 Arduino 的數位輸入, 計算 HDT 的 Output 數目

// 利用序列埠顯示 HDT 的 Output 數目

```
// This program is receiving the digital input from HDT output,
// and count the number of HDT output, count the numbers.
const byte LED = 13;
const byte SW = 2;
int number = 0;
long number2 = 0; //Output 的數目
void setup() {
  // put your setup code here, to run once:
  pinMode(LED, OUTPUT);
  pinMode(SW, INPUT);
  Serial.begin(9600);
  Serial.println("Receiving HDT OUTPUT is ready!");
}

void loop() {
  // put your main code here, to run repeatedly:
  boolean val = digitalRead(SW); //Many Repeat Receive the OUTPUT from HDT
  if (val){
    digitalWrite(LED, HIGH); // Light on the LED as output come from HDT
    //Serial.print("Receiving HDT OUTPUT boolean is:");
    //Serial.println(val);
    if (number == 0){
      number2++; // means this is a new output, because checked by the number = 0;
    }
    number++; // means the same output kept a longer time, not for a new output
  } else{
    digitalWrite(LED, LOW);
    //Serial.print("Receiving HDT OUTPUT boolean is:");
    //Serial.println(val);
    number = 0; // decise this is a new output
  }
  Serial.print("Receiving HDT OUTPUT number is:");
  Serial.println(number2);
}
```

Caliper 的 output 及 Position 相關設定如下:

Caliper[TOMCAT EVO] Version: 4.22

File Commands Print Language About

2)Dg/Tmc Evo - NTT 01-[TMC]Axis 1

[I.0]Power [I.1]Sel/St: B0/I0 [I.2]Jog+ [I.3]Jog- [I.4]Home Pos. [I.5]Reset [I.6]-- [I.7]--

Data Monitor

Drive 6,0-12,0 [230 V]
 Bus Input/OutPut
 Mode [3]Position
 Current 0.01 A
 Temp. 42.4 °C
 Speed [Mot] 0 rpm
 Position (Rev/Offset)[Mot]
 3044 16332 Counts
 199507916 Counts

Input

I.0 Power on
 I.1 Selec./Start: Bit0/In0
 I.2 Jog+
 I.3 Jog-
 I.4 Home Position
 I.5 Reset Alarm
 I.6 Analog Input 1 -1
 I.7 Output 2 --

Output

O.0 Drive OK
 O.1 Pos output
 O.2 Homing attained

Menu

- Field Bus
- Motor Data
- Advanced Setup
 - Speed Regulator
 - Current Regulator
 - Position loop
 - Alarm Memory
 - Alarm Mode
 - Limit
 - Notch Filter
 - Iq Filter
 - Output
 - Generic data
 - Braking resistor
- Control Set
 - Control Setting
 - Digital Input
 - Factors
 - Position Setting
 - Position
 - Main Speed
 - GearBox Mode
 - Torque
 - Eletronic Cam
 - Press

Drive Data

Output

Setting Out2/(Analog2-In. Digit7) Output2 0040h

Setting output

Setting out 0 [5] Drive OK
 Setting out 1 [8] Pos output
 Setting out 2 [9] Homing attained

Output 05h

0 Speed | Motor Brake | Pos-Freq | Time output

Time output0 [s] 0.00
 Time output1 [s] 0.05
 Time output2 [s] 0.10

COM - OK Drive-OK Power On DC-Bus 310V Fir.: 4.22 HW: 0 A

Caliper[TOMCAT EVO] Version: 4.22

File Commands Print Language About

2)Dg/Tmc Evo - NTT 01-[TMC]Axis 1

[I.0]Power [I.1]Sel/St: B0/I0 [I.2]Jog+ [I.3]Jog- [I.4]Home Pos. [I.5]Reset [I.6]-- [I.7]--

Data Monitor

Drive 6,0-12,0 [230 V]
 Bus Input/OutPut
 Mode [3]Position
 Current 0.01 A
 Temp. 42.4 °C
 Speed [Mot] 0 rpm
 Position (Rev/Offset)[Mot]
 3054 49093 Counts
 200196037 Counts

Input

I.0 Power on
 I.1 Selec./Start: Bit0/In0
 I.2 Jog+
 I.3 Jog-
 I.4 Home Position
 I.5 Reset Alarm
 I.6 Analog Input 1 -2
 I.7 Output 2 --

Output

O.0 Drive OK
 O.1 Pos output
 O.2 Homing attained

Menu

- Field Bus
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 - Control Setting
 - Digital Input
 - Filter Inputs
 - Factors
 - Position Setting
 - Position
 - Main Speed
 - GearBox Mode
 - Torque
 - Eletronic Cam

Drive Data

Inputs

Control [3]Position Pos-Tab input-start

Set input An1 Analog 1
 Set input An2 Analog 2
 Setting Out2/(Analog2-In. Digit7) Output2
 Mode power On/Off Level input

Digital Input

I.0 [01] - Power on Power on Active high
 I.1 [14] - Selec./Start Selec./Start Bit0/In0 Active high
 I.2 [12] - Jog+ Jog+ Active high
 I.3 [13] - Jog- Jog- Active high
 I.4 [11] - Home Position Home Position Active high
 I.5 [04] - Reset Alarm Reset Alarm Active high
 I.6 [00] - Null-Off Analog Input 1 Active high
 I.7 [00] - Null-Off --- Active high

Current Limit 1 [%] 200.0 Current Limit 2 [%] 200.0

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File Commands Print Language About

2/Dg/Tmc Evo - NTT 01-[TMC]Axis 1

[I.0]Power [I.1]Sel/St: B0/I0 [I.2]Jog+ [I.3]Jog- [I.4]Home Pos. [I.5]Reset [I.6]-- [I.7]--

Data Monitor

Drive 6.0-12.0 [230 V]
 Bus Input/OutPut
 Mode [3]Position
 Current 0.00 A
 Temp 42.4 °C
 Speed [Mot] 0 rpm
 Position (Rev/Offset)[Mot]
 3039 32714 Counts
 199196618 Counts

Input

I.0 Power on
 I.1 Selec./Start. Bit0/In0
 I.2 Jog+
 I.3 Jog-
 I.4 Home Position
 I.5 Reset Alarm
 I.6 Analog Input 1 -2
 I.7 Output 2 -

Output

O.0 Drive OK
 O.1 Pos output
 O.2 Homing attained

Menu

- Field Bus
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- Control Set
 - Digital Input
 - Factors
 - Position Setting
 - Position
 - Main Speed
 - GearBox Mode
 - Torque
 - Electronic Cam
 - Press

Drive Data

Position

Pos. management Pos-Tab input-start

Pos-Tab input-start

Maximum Speed 3000 Selection index 0
 Pos. actual value 1094219 Pos number 2

| Index/N? | Accel. | Decel. | Time | Abso./Rela. | Vel. mode | Setting pos. | Output |
|----------|--------|--------|------|-------------|--------------|-------------------|--------|
| 0 1 | 10000 | 10000 | 100 | Relative | Tab-rec data | Blend next pos. | Out1 |
| 2 | 10000 | 10000 | 100 | Relative | Tab-rec data | Blend next pos. | Out1 |
| 3 | 10000 | 10000 | 100 | Relative | Tab-rec data | Return start pos. | Out1 |
| 1 4 | 10000 | 10000 | 1000 | Absolute | Tab-rec data | Blend next pos. | Out1 |
| 5 | 10000 | 10000 | 1000 | Absolute | Tab-rec data | Return start pos. | Out1 |
| 7 6 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 3 7 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 4 8 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 5 9 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |

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Caliper[TOMCAT EVO] Version: 4.22

File Commands Print Language About

2/Dg/Tmc Evo - NTT 01-[TMC]Axis 1

[I.0]Power [I.1]Sel/St: B0/I0 [I.2]Jog+ [I.3]Jog- [I.4]Home Pos. [I.5]Reset [I.6]-- [I.7]--

Data Monitor

Drive 6.0-12.0 [230 V]
 Bus Input/OutPut
 Mode [3]Position
 Current 0.01 A
 Temp 42.4 °C
 Speed [Mot] 0 rpm
 Position (Rev/Offset)[Mot]
 3064 49093 Counts
 200851397 Counts

Input

I.0 Power on
 I.1 Selec./Start. Bit0/In0
 I.2 Jog+
 I.3 Jog-
 I.4 Home Position
 I.5 Reset Alarm
 I.6 Analog Input 1 -1
 I.7 Output 2 -

Output

O.0 Drive OK
 O.1 Pos output
 O.2 Homing attained

Menu

- Field Bus
- Motor Data
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 - Current Regulator
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 - Alarm Memory
 - Alarm Mode
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 - Output
 - Generic data
 - Braking resistor
- Control Set
 - Digital Input
 - Filter Inputs
 - Factors
 - Position Setting
 - Position
 - Pos Parameters
 - Home Position
 - Position Jog
 - Pos. - Input x

Drive Data

Position

Pos. management Pos-Tab input-start

Pos-Tab input-start

Maximum Speed 3000 Selection index 0
 Pos. actual value 1103309 Pos number 1

| Index/N? | Position | Velocity | Accel. | Decel. | Time | Abso./Rela. | Vel. mode | Setting pos. | Output |
|----------|----------|----------|--------|--------|------|-------------|--------------|-------------------|--------|
| 0 1 | 90 | 500 | 10000 | 10000 | 1000 | Relative | Tab-rec data | Blend next pos. | Out1 |
| 2 | 90 | 500 | 10000 | 10000 | 1000 | Relative | Tab-rec data | Blend next pos. | Out1 |
| 3 | 90 | 500 | 10000 | 10000 | 1000 | Relative | Tab-rec data | Return start pos. | Out1 |
| 1 4 | 270 | 500 | 10000 | 10000 | 1000 | Absolute | Tab-rec data | Blend next pos. | Out1 |
| 5 | 360 | 1000 | 10000 | 10000 | 1000 | Absolute | Tab-rec data | Return start pos. | Out1 |
| 2 6 | 327680 | 1000 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 3 7 | 393216 | 1000 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 4 8 | 458752 | 1000 | 10000 | 10000 | 0 | Absolute | Tab-rec data | Stop position | Null |
| 5 9 | 524288 | 1000 | 10000 | 10000 | 1000 | Absolute | Tab-rec data | Stop position | Null |

COM - OK Drive-OK Power On DC-Bus 310V Fir: 4.22 HW: 0 A

Caliper[TOMCAT EVO] Version: 4.22

File Commands Print Language About

2)Dg/Tmc Evo - NTT 01-[TMC]Axis 1

[I.0]Power [I.1]Sel/St: B0/I0 [I.2]Jog+ [I.3]Jog- [I.4]Home Pos. [I.5]Reset [I.6]--- [I.7]---

Data Monitor

| | |
|----------------------------|-------------------|
| Drive | 6,0-12,0 [230 V] |
| Bus | Input/OutPut |
| Mode | [3]Position |
| Current | 0.00 A |
| Temp. | 42.4 °C |
| Speed [Mot] | 0 rpm |
| Position (Rev/Offset)[Mot] | 3070 16332 Counts |
| | 201211852 Counts |

Input

| | | |
|-----|------------------------|----|
| I.0 | Power on | ● |
| I.1 | Selec./Start: Bit0/In0 | ● |
| I.2 | Jog+ | ○ |
| I.3 | Jog- | ○ |
| I.4 | Home Position | ○ |
| I.5 | Reset Alarm | ○ |
| I.6 | Analog Input 1 | -1 |
| I.7 | Output 2 | - |

Output

| | | |
|-----|-----------------|---|
| O.0 | Drive OK | ● |
| O.1 | Pos output | ○ |
| O.2 | Homing attained | ● |

Menu

- Position loop
- Alarm Memory
- Alarm Mode
- Limit
- Notch Filter
- Iq Filter
- Output
- Generic data
- Braking resistor
- Control Set
 - Control Setting
 - Digital Input
 - Filter Inputs
 - Factors
 - Position Setting
 - Position
 - Pos Parameters
 - HP Home Position**
 - Position Jog
 - Pos. - Input x
- Main Speed
- GearBox Mode
- Torque
- Electronic Cam
- Press

Drive Data

Home Position

Homing method: 34-Index Pulse CW

Velocity/Acceleration

| | |
|---------------------|------|
| Speed switch search | 10 |
| Speed zero search | 20 |
| Acceleration | 1000 |

Mechanic stop data

| | |
|-----------------|------|
| Current max [%] | 70.0 |
| Time [ms] | 1000 |
| Home shift | 337 |

COM - OK Drive-OK Power On DC-Bus 310V Fir.: 4.22 HW: 0 A