

REEL LENGTH MEASUREMENT

AIM - To measure the length of the reel and storing the reel length data.

IDEA – The speed of web feed is available in RTP as mm/second. Our idea is to accumulate this value for every second from the start of reel (Web lead/New reel pasting) to end of reel (Old reel pasting/End of printing).

| CountTime and Date | Reel stand | ARM | Reel number | Start Diameter | End Diameter | Reel length(m) | |
|--------------------|----------------|-----|-------------|------------------|--------------|----------------|--------|
| 1234 | 12345678901234 | AAB | A | ABCDEFGHABCDEFGH | 1234 | 1234 | 123456 |

Reel number Entry

Current: ABCDEFGH — ABCDEFGH

Input: ABCDEFGH

Present reel length

123456 (m)

REEL LENGTH MODIFIED SCREEN

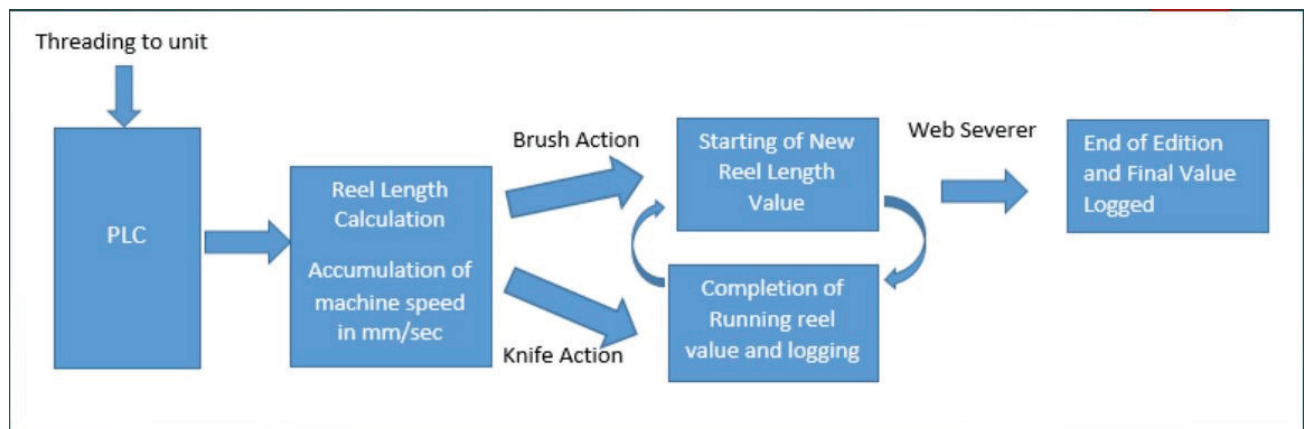
- Keypad is provided for reel number by operators.
- Instantaneous reel length (in meters) can be found in present reel length display.
- Additional details of the particular reel can also be logged with this project such as arm name, press name, start diameter, end diameter with Date and Time.

PLC LOGIC

- Reel length program was written in P365 instruction. Its subroutine is always running.
- Touch screen program is written in screen number 71. So, m9011 is mapped to open the screen.

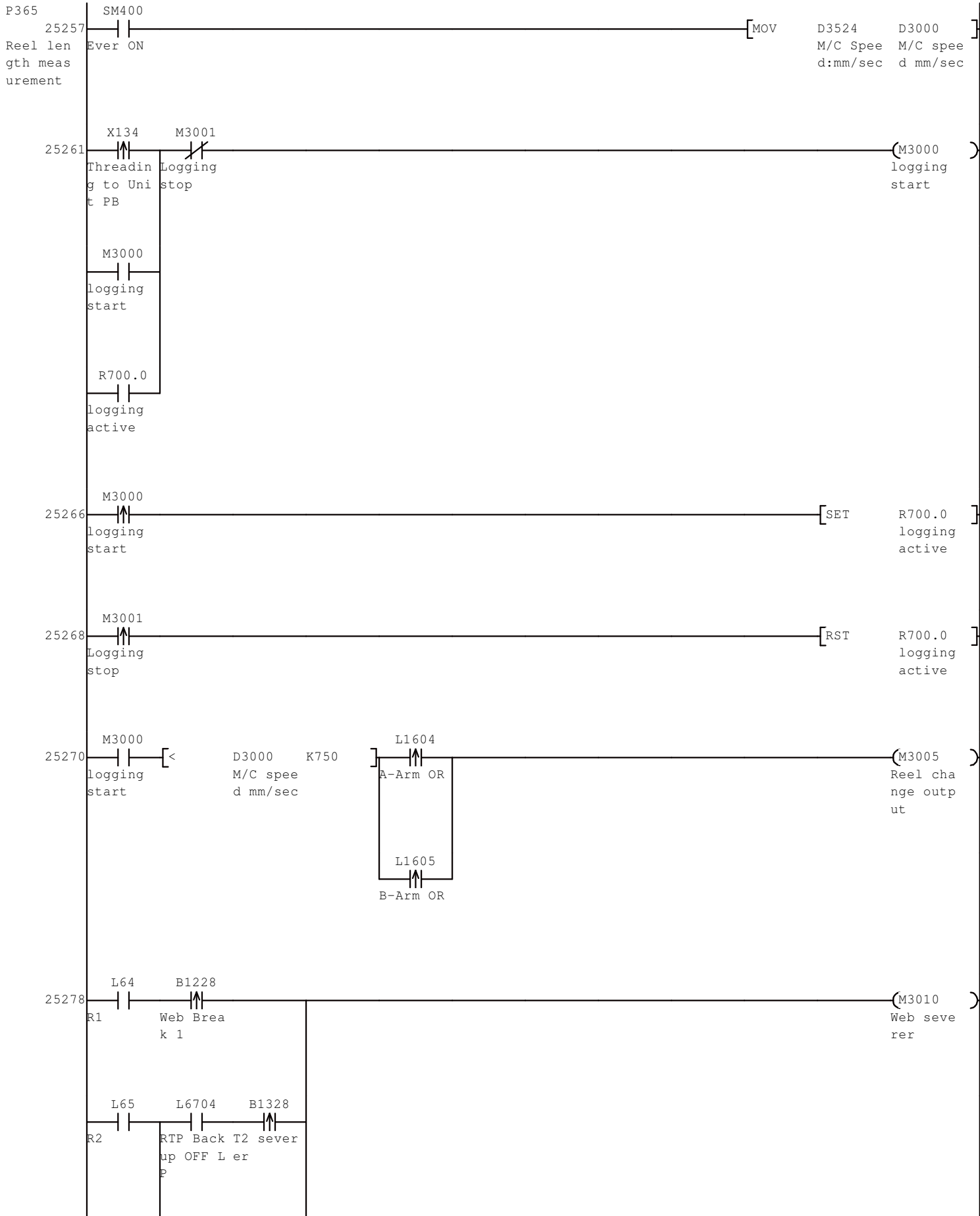


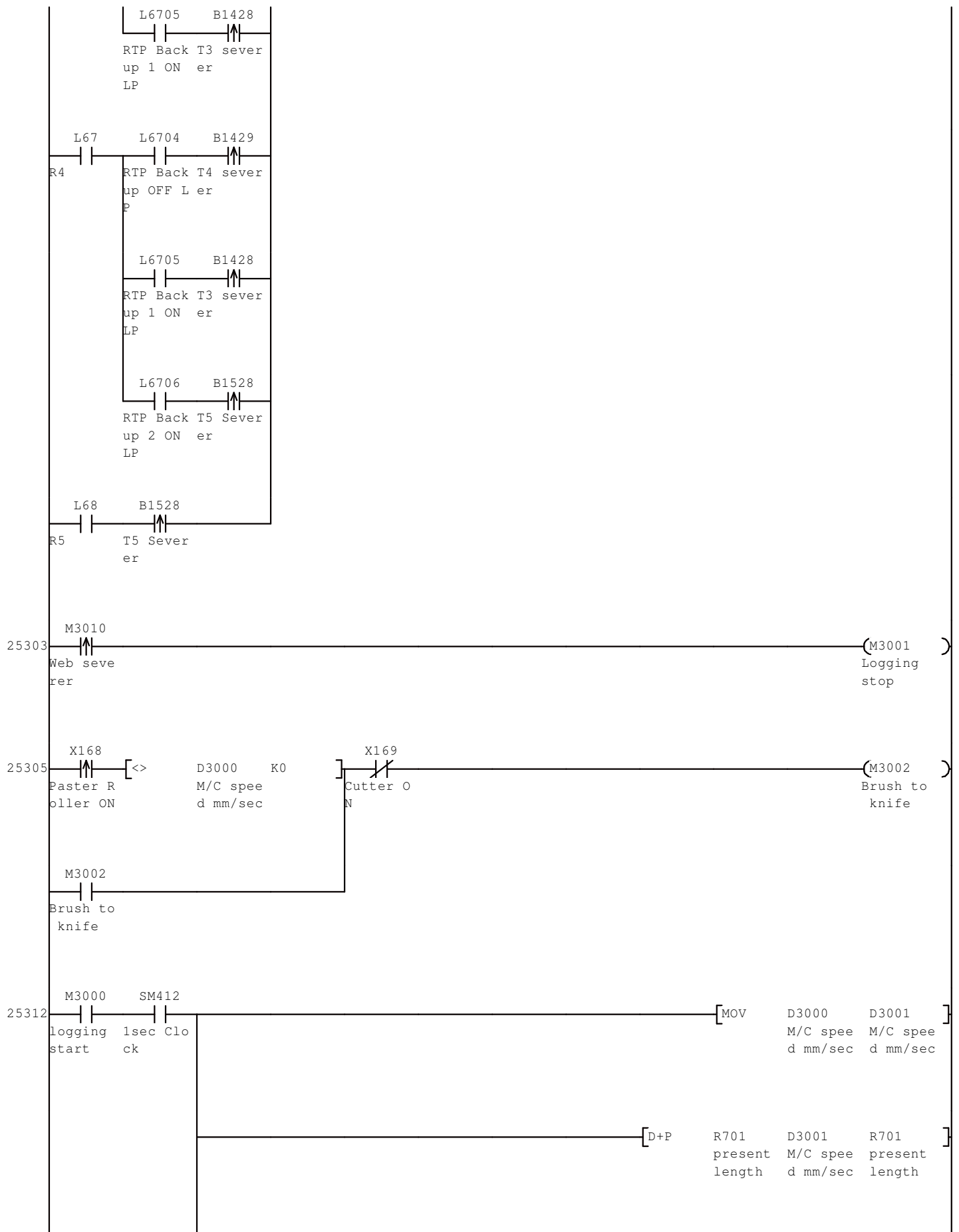
- We have used logging with registers starting from D3000.
- Mm/second (M/C speed) value is obtained from MCON. This value is accumulated every second using 1 second clock (SM412) and stored in a 32-bit register (R701).
- For the duration from brush to knife action, this accumulation must carry on for both old reel and new reel.
- So for the brush to knife action, m3002 will be on and accumulated value will be added to old reel value and stored in D3009 register
- Similarly during brush to knife period, the accumulated value should be added to new reel. So for old reel, accumulation should start from threading and stop at knife action. For new reel, it should start from brush action and stop at web break or next pasting.

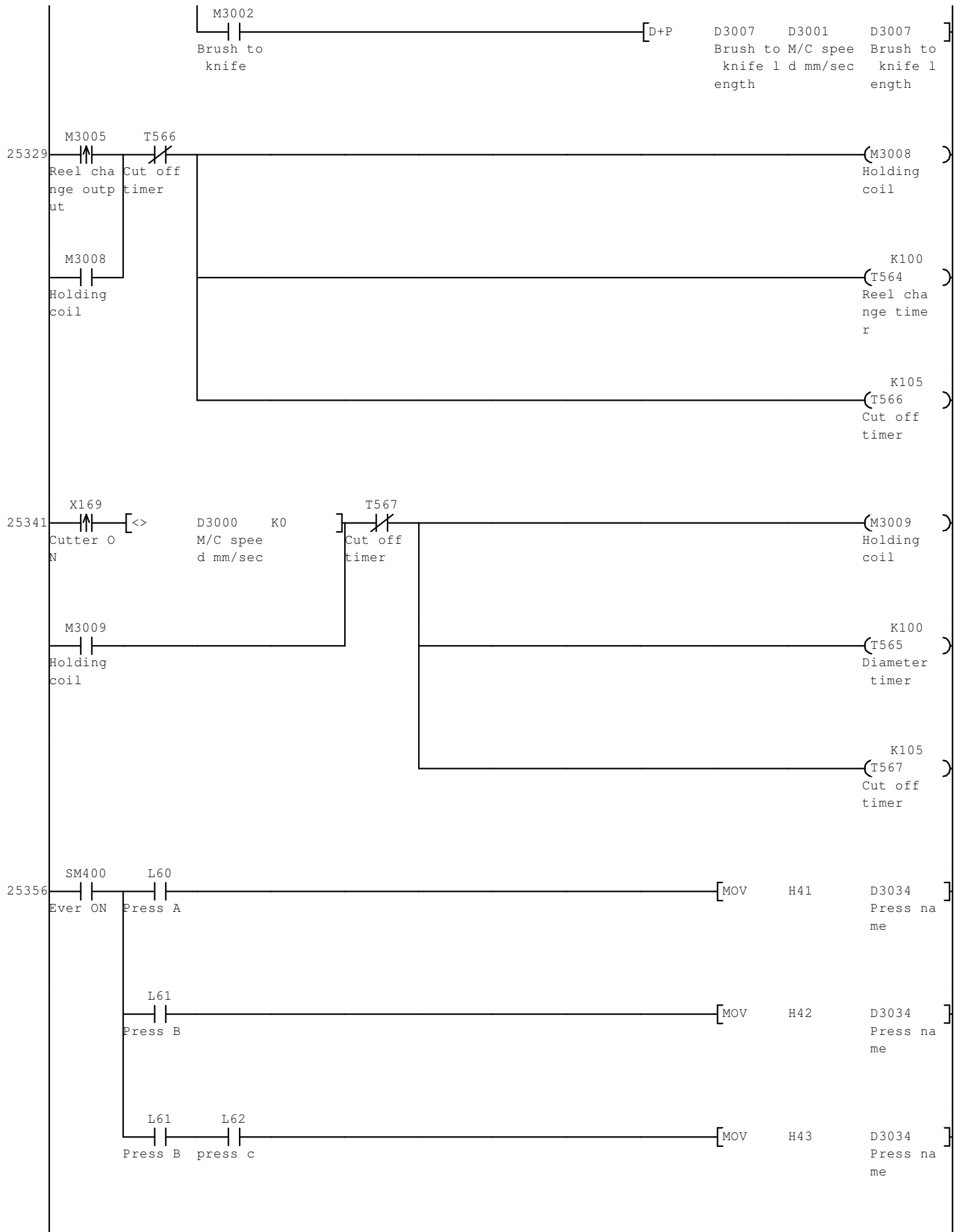


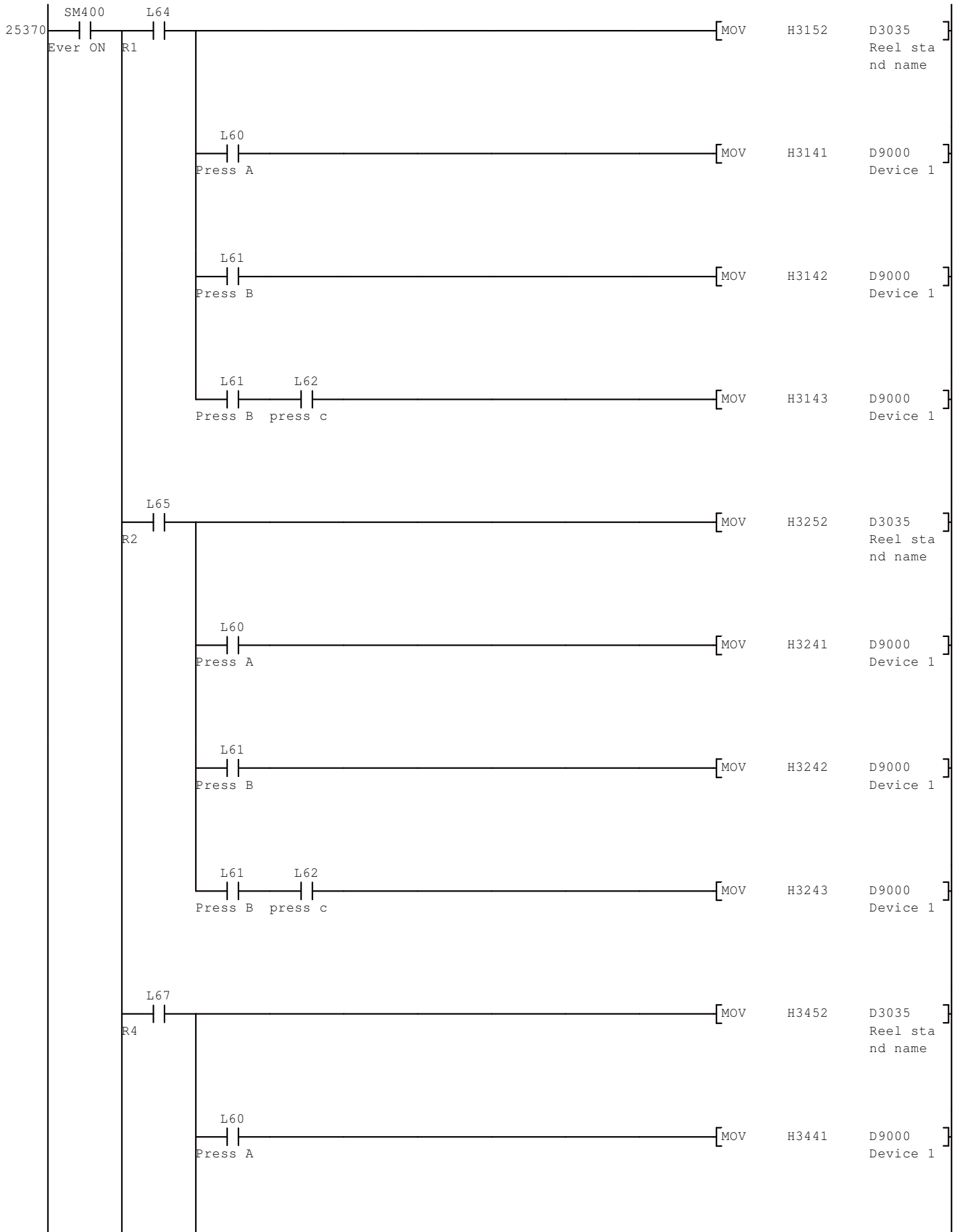
- Present length can be seen in R701. So once the web severer or web break occurs, the present length value is logged and the present value for next reel start from zero.

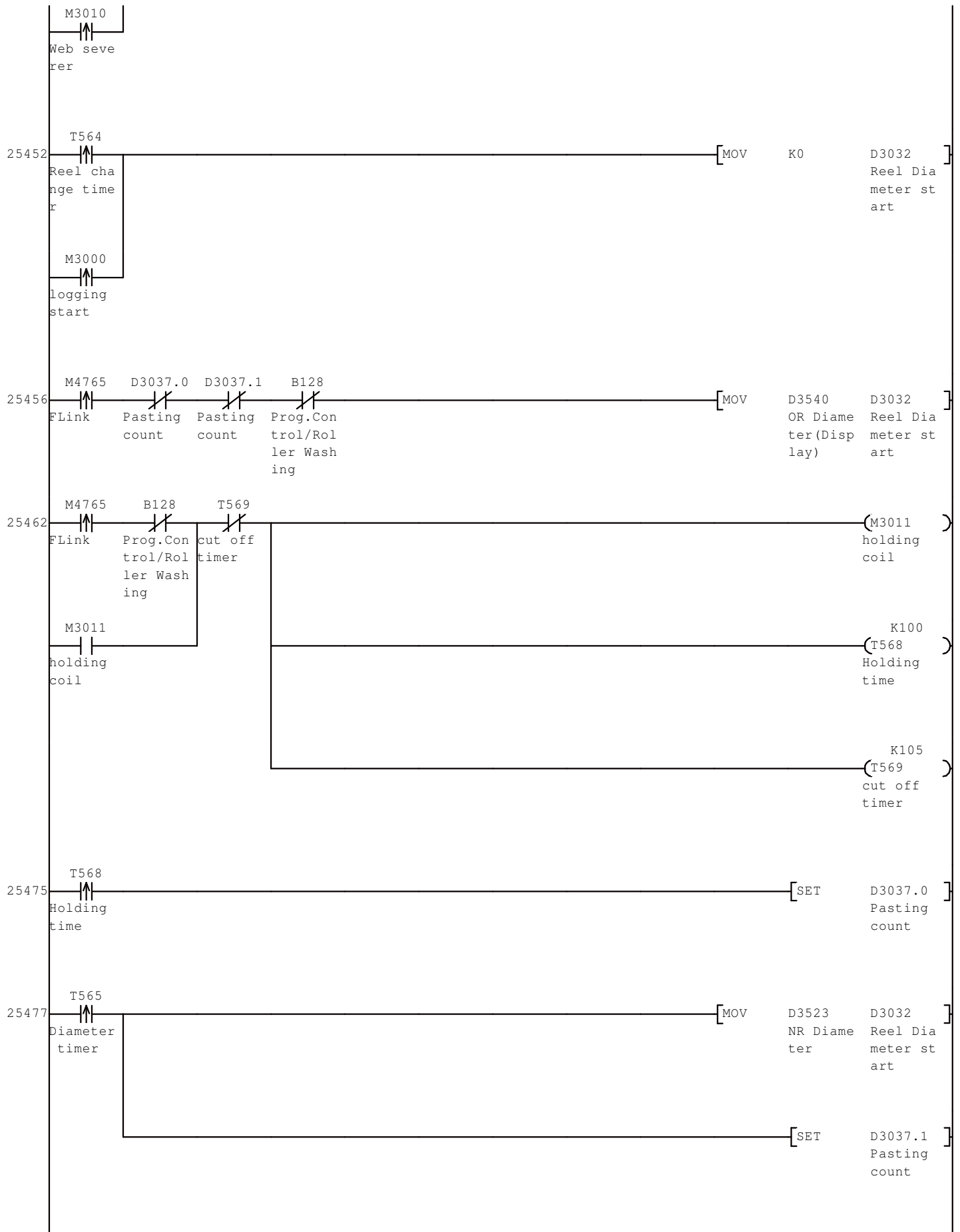
- The accumulated value will be logged with all necessary information for the following cases :
 1. Manual cut by web severer
 2. Web break during printing
 3. Auto pasting (fly pasting)
 4. Manual pasting (zero speed pasting)
- With reel length value, following data are also collected such as Date and Time, count, RTP name, ARM name, Reel number, Start diameter, End diameter, Actual reel length and calculated reel length.
- These status are obtained at various instants.
 1. **Date and Time** – These value is logged in the touch screen itself. The date and time denote the end time of the particular reel.
 2. **Count** – Count denotes the logging serial number.
 3. **RTP name** – Press A,B or C is found in D3034 register. RTP 1,2,4 or 5 is found in the D3035 register.
 4. **Arm name**
 - It is found in D3021 register.
 - It denotes present reel is in A or B arm.
 - Its status is obtained during threading to unit, paster carriage stop, after manual pasting, after fly pasting and during web break/webseverer.
 5. **Reel number**
 - It denotes the reel number of the running reel.
 - It is entered in the touch screen itself. Entry type is programmed in the V7 touch panel. It is transferred from Touch screen to PLC. Operator should enter the Reel number after every reel change (i.e threading/ zero pasting/ fly pasting/ webbreak)
 - It is found in registers from D3022 to D3029 i.e upto 16 characters can be entered.
 - Of the 16 characters, it is split into eight characters plus eight characters as the registers will be overflowing.
 6. **Start Diameter**
 - It is stored in D3032 register.
 - The start diameter status is received during start (3000IPH – m4765), pasting. Initially, its value is zero.
 7. **End Diameter**
 - It is stored in D3033 register.
 - The status is obtained during brush, reel change, web severer.
 8. **Actual length**
 - It denotes the reel length mentioned in the reel cover.
 - It is entered in the touch screen itself. Entry type is programmed in the V7 touch panel. It is transferred from Touch screen to PLC. Operator should enter the Reel number after every reel change (i.e threading/ zero pasting/ fly pasting/ webbreak)
 - It is found in D3036 register.

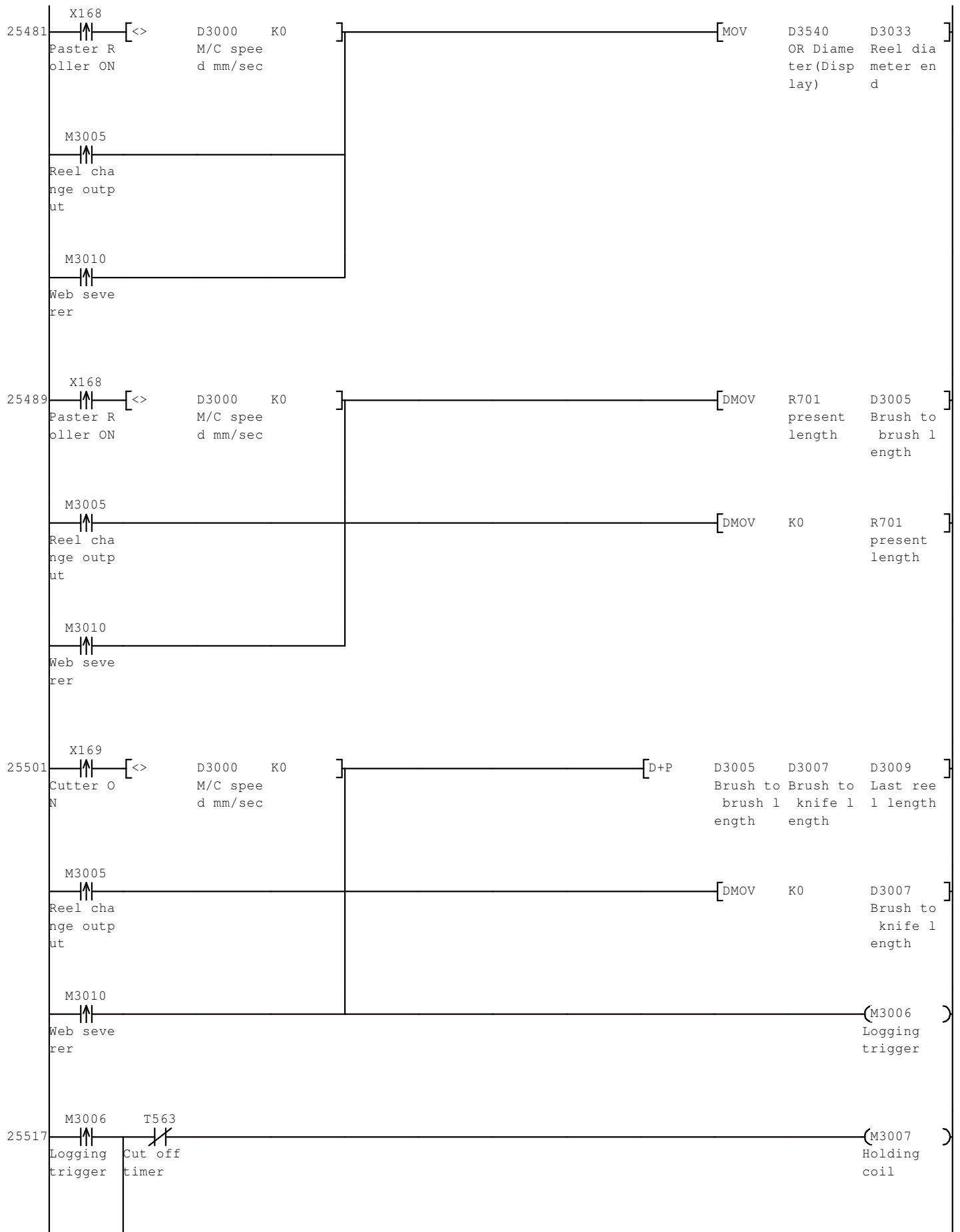


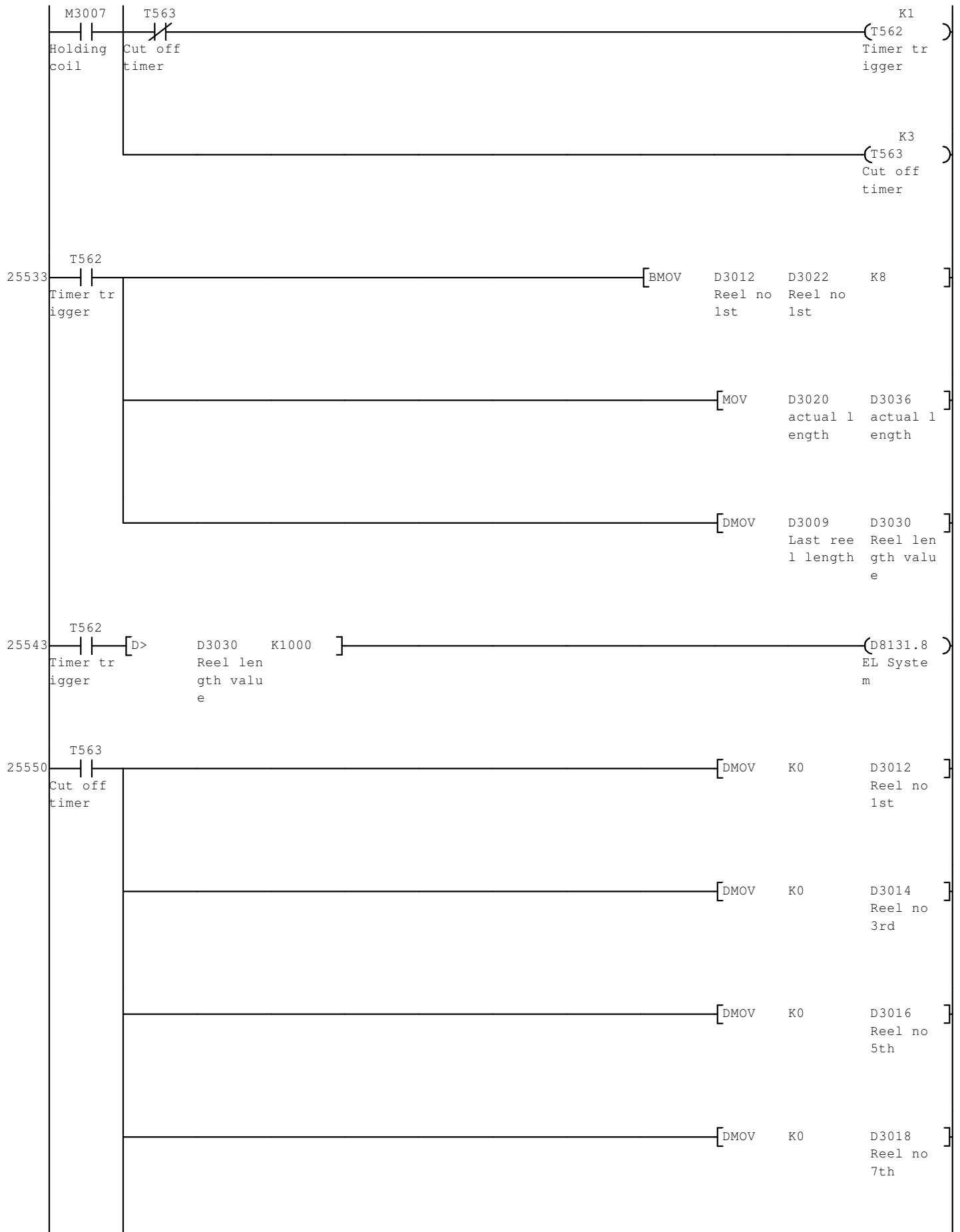


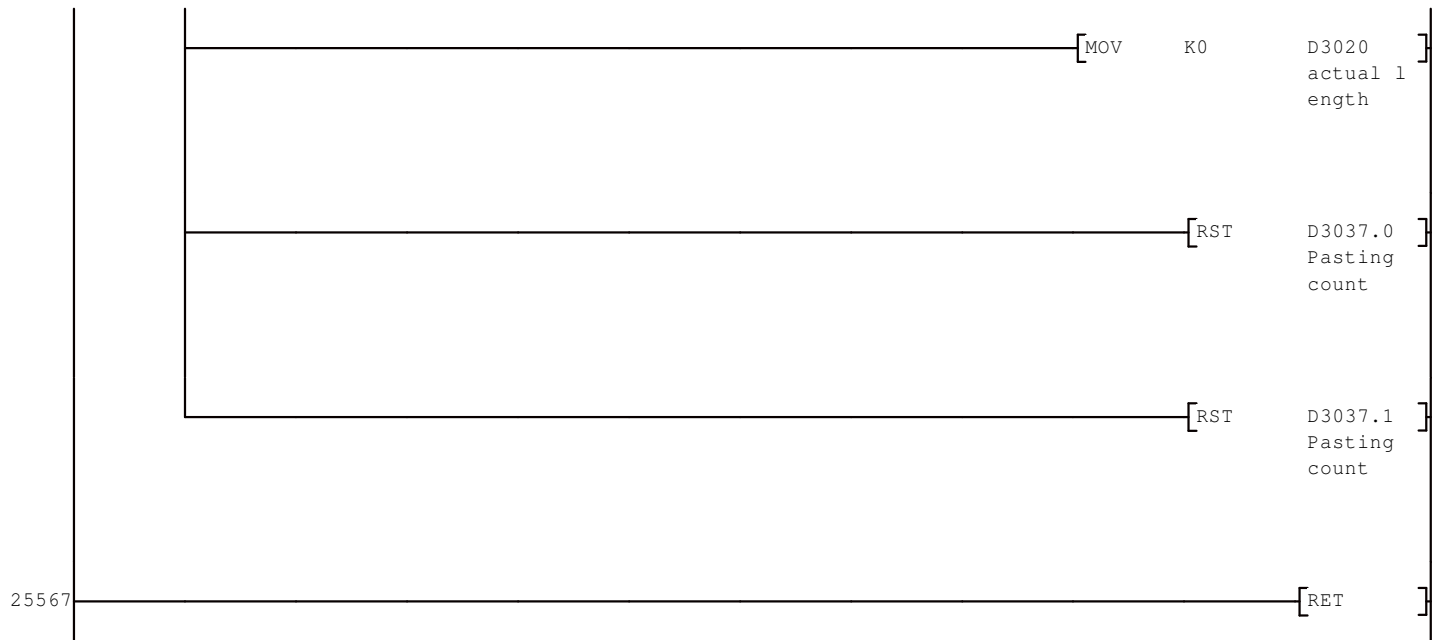








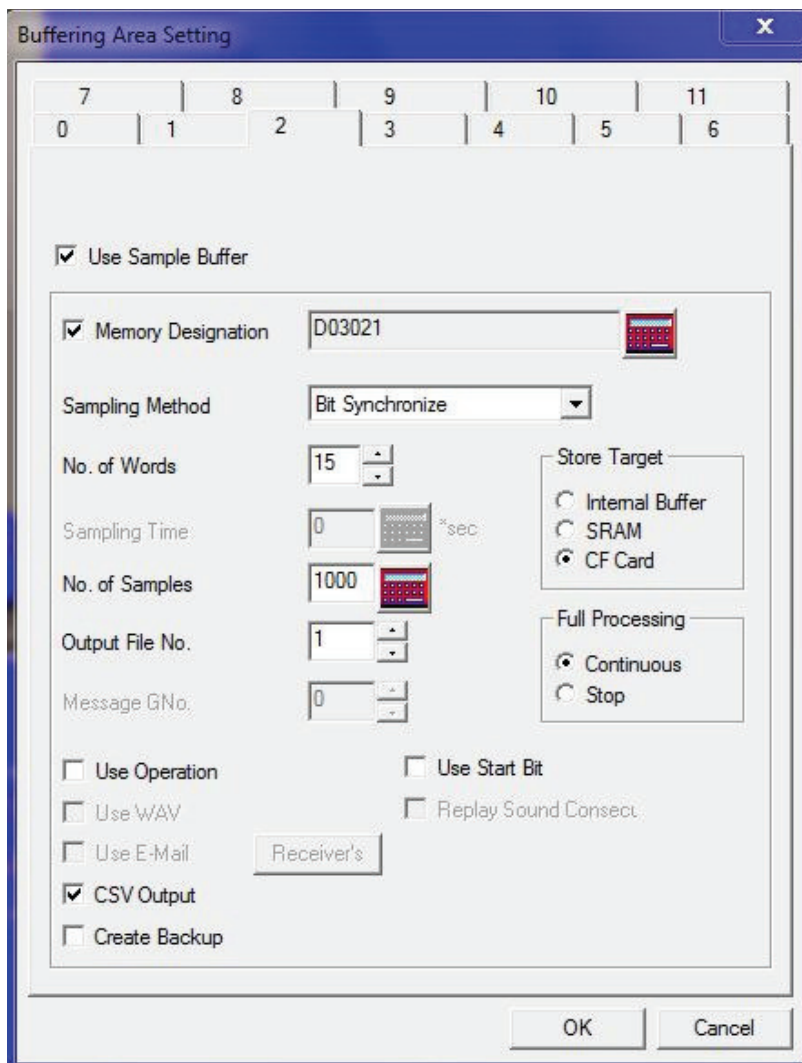




TOUCH SCREEN MODIFICATION

- Reel length logging button with Coil M9010 was mapped and added.
- Mapped coil M9010 was added in PLC program and Screen 71 is used for logging purpose.
- Buffer area setting in system setting toolbar has to be done in software for logging. Data sampling settings have to be done and necessary display, count, date and time icon has to be inserted. Sampling Display settings have to be set by clicking screen. Fourth device from Read area should be used for logging. In this comm parameter D8128 is read area, So D8131 is used.

➤ The following settings should be kept in touch screen program



The image shows a 'Buffering Area Setting' dialog box with a blue title bar and a close button (X). At the top, there is a grid of 12 buttons labeled 0 through 11, arranged in two rows (7, 8, 9, 10, 11 in the top row; 0, 1, 2, 3, 4, 5, 6 in the bottom row). Below the grid, the 'Use Sample Buffer' checkbox is checked. The 'Memory Designation' section has a checked checkbox and a text field containing 'D03021' with a small calculator icon to its right. The 'Sampling Method' is set to 'Bit Synchronize' in a dropdown menu. The 'No. of Words' is set to 15 in a spinner box. The 'Sampling Time' is set to 0 in a text field with a calculator icon and a '*sec' label. The 'No. of Samples' is set to 1000 in a text field with a calculator icon. The 'Output File No.' is set to 1 in a spinner box. The 'Message GNo.' is set to 0 in a spinner box. On the right side, there are two groups of radio buttons: 'Store Target' with options 'Internal Buffer', 'SRAM', and 'CF Card' (selected); and 'Full Processing' with options 'Continuous' (selected) and 'Stop'. At the bottom left, there are several unchecked checkboxes: 'Use Operation', 'Use WAV', 'Use E-Mail', 'CSV Output' (checked), and 'Create Backup'. There are also unchecked checkboxes for 'Use Start Bit' and 'Replay Sound Connect'. A 'Receiver's' button is located between 'Use E-Mail' and 'CSV Output'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Entry

Main | Detail

Division No. 1

Type Data Display

Command Memory \$u16330

☐ Use Writing Enabled Bit

Info. Output Memory \$u16340

☒ Reverse

☐ Auto writing by Input Target Selection switch.

Target Memory

☒ Direct

☐ Output Memory

Input Item Select

☐ External

☒ Internal

☐ GD80 Compatible 0

OK Cancel Apply

Comm. Parameter

Main 1 | Detail

Baud Rate 115K BPS

Signal Level ☐ RS232C ☒ RS422

Read Area D08128

Write Area D08152

☐ Read/Write Area GD-80 Compatible

Calendar \$u16330

☐ Use Ethernet

Connect To

Default OK Cancel Apply

CF Card [X]

Access Folder Name

☐ Use Cache

☒ DRAM ☐ SRAM

Word

☐ Range of patterns to be saved to CF card

No. to

☐ Store Manual Font to CF Card

☐ Store WAV Files to CF Card

☒ Format Buffering Area Automatically

☐ HDCOPY Macro Store in JPEG format.

OK Cancel

Data Sampling [X]

Division No.

Buffer No.

Message to Print GNo. No.

☐ Print Command Memory

OK Cancel

- D8128 is the read area. The fourth register from read area is used for logging .i.e D8131 is used. Set D8131.8 during trigger. Since D8131.0 and D8131.4 are used for buffering area 0,1.
- Trigger can be set during following conditions
 - Knife action (during pasting)
 - Reel change over (manual pasting)
 - Webseverer / web break

Operation Check

Memory Allocation

The following memory addresses are used in this example.

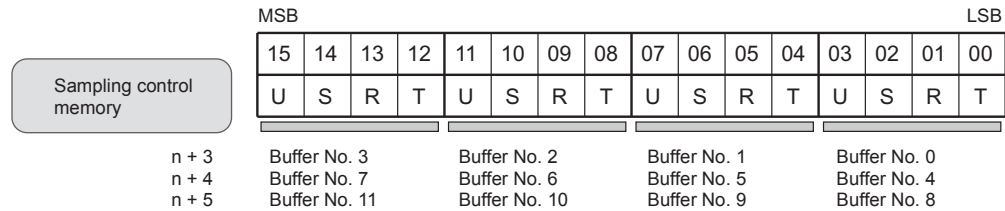
Read area memory address: D00000

| Memory Address | Contents |
|----------------|---------------------------|
| D00003 | Sampling control memory |
| D00004 | Sampling data memory |
| D00310 | Information output memory |

Sampling Control Memory

When any setting is made in the [Buffering Area Setting] dialog, sampling control memory addresses are automatically allocated following the read area memory. The number of allocated words and the contents depend on the number of buffers.

Read area memory addresses: n , $n + 1$, $n + 2$ (3 words)



R: Reset

When this bit is set (1), the buffering area is cleared and no sampling occurs.
When this bit is reset (0), sampling is started.

T: Trigger

This is effective only when [Bit Synchronize] is selected for [Sampling Method] in the [Buffering Area Setting] dialog.

S: Normal Operation Bit / U: Sampling Bit

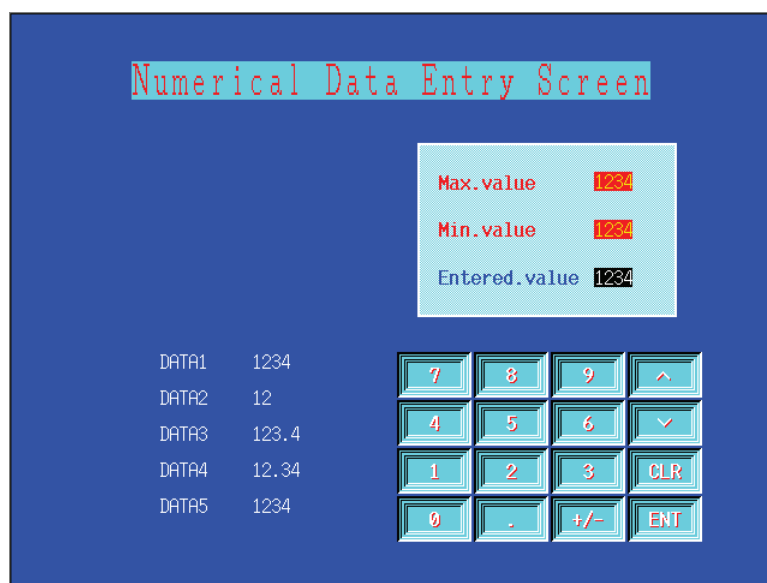
This is effective only when [Alarm Function] is selected for [Sampling Method] in the [Buffering Area Setting] dialog.

Only buffer No. 0 is used in this example. Address D00003 (1 word) is allocated as the sampling control memory.

7. Changing the PLC Memory Data through Keypad

You will create the following screen.

The desired values can be entered through the keypad to change the data in the PLC memory.



Procedure

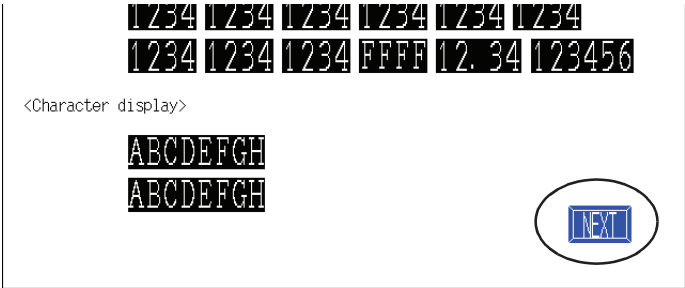
1. Setting up the display environment. P7-3
Set up the display environment before placing parts.
2. Placing the keypad P7-4
Use the entry mode parts tool bar.
3. Placing the entry target parts P7-7
Use the entry mode parts tool bar.
4. Placing the entry display parts P7-10
Use the entry mode parts tool bar.
5. Placing the maximum and minimum value display parts P7-11
Use the entry mode parts tool bar.
6. Setting up entry mode P7-12
Choose the [Detail] icon from the entry mode parts tool bar.
7. Checking the division number P7-18
Check that the same division number is entered for 2., 4., 5., and 6.

Operation

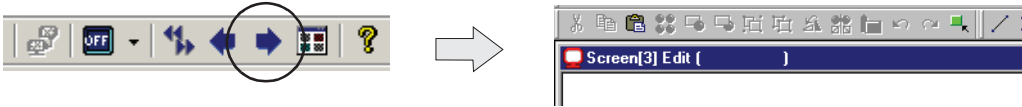
Creating a Screen Change Switch

On the previous screen No. 2, create a screen change switch to bring up the next screen.

- 1. Place a switch part as shown below. Enter [Screen: 3] for [Function] in the [Switch] dialog.



- 2. Click the [Next] icon to open the [Screen [3] Edit] window.



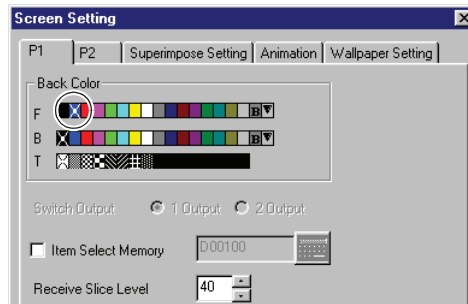
Screen Color Change

- 1. Select [Screen Setting] from the [Edit] menu.



2. Check blue for [F] in [Back Color] and Click [OK].

The screen color is changed to blue.



Setting Up Display Environment

Set up the [Grid] tab window so that screen parts can be placed with ease.

Keyword



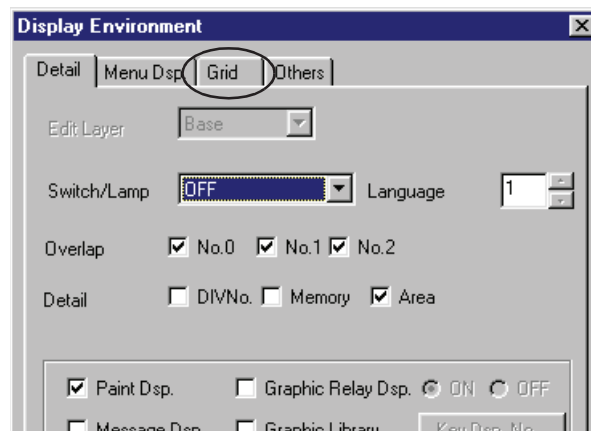
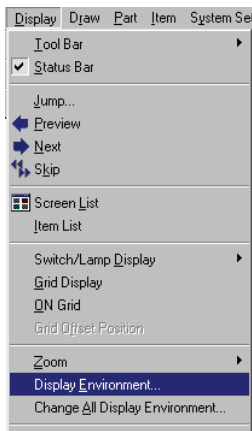
Grids

Grids are small dots placed at regular intervals on the screen for facilitating drawing or aligning.

1-Byte (for character)], [Switch (for switch)], [Mode (for overlap of V7 matrix type) or [Free] can be selected for [Grid Type].

1. Select [Display Environment] from the [Display] menu.

The [Display Environment] dialog is displayed.



2. Open the [Grid] tab window and set up as shown below:

☒ [Grid Dsp.] ☒ [ON Grid]
 [Grid Color: White]
 [Grid Type: Free]
 [X Offset: 0] [Y Offset: 0]
 [X Pitch: 10] [Y Pitch: 10]
☒ [Place Switches on Switch Grids]

Keyword



ON Grid

When this option is selected, a part/figure placed on the screen is snapped to the nearest grid.

However, an overlap part is moved by selecting [Mode] for [Grid Type] and a switch part is moved by selecting [Switch] for [Grid Type], irrespective of the selection of [ON Grid].

(A switch part can be moved by selecting any other option for [Grid Type], but switch grids may be deviated. It is recommended to select [Switch] to move switches.)

[ON grid] can be selected also from the pop-up menu which appears by right-clicking the mouse.

3. Click [OK].
Grids are displayed on the screen.

Creating a Screen Title

1. Click the [Text] icon in the draw tool bar. Key in "Numerical Data Entry Screen".
2. Set up text properties and place the text as shown below:

| | |
|--------------------------|--|
| [Foreground: Red] | [Enlarge X: 2] |
| [Background: Light blue] | [Enlarge Y: 2] |
| [Rotate: Normal] | [<input type="checkbox"/> Transparent] [<input type="checkbox"/> Italic] |
| [Direction: RGT] | [<input checked="" type="radio"/> Normal] |



Placing a Keypad

1. Check that "0" is entered for [Division No.] at the top right of the screen.



When the above [Division No.] is set first, the same division number is automatically set for the parts to be placed afterwards.



For information on the division number, refer to P7-19.

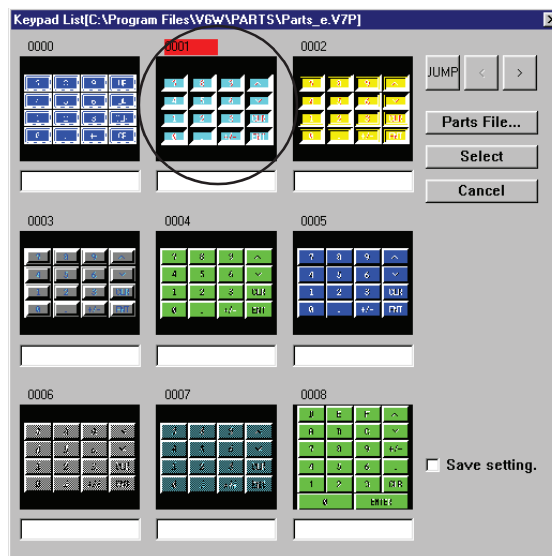
2. Click the [Entry Mode] icon in the tool bar.



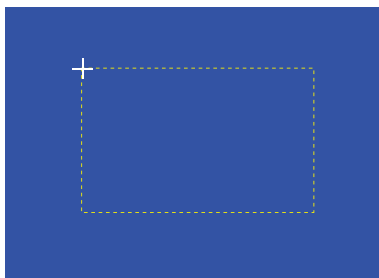
3. The entry mode parts tool bar is displayed on the right of the draw tool bar. Click the [Keypad] icon on the extreme left.



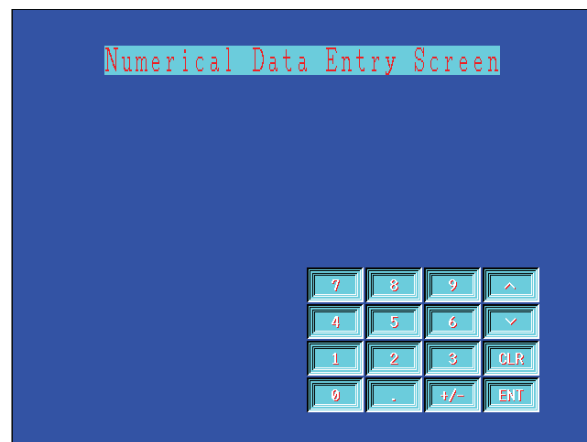
4. [Keypad List Parts_e.v7p] is displayed. Click [0001] and [Select].



5. A keypad-size dotted box with cross cursor is displayed on the screen. Drag the box and click the mouse in the position as shown below. The keypad is placed.



Drag the cross cursor and click it in the desired position.





When the keypad has been placed, it is grouped.

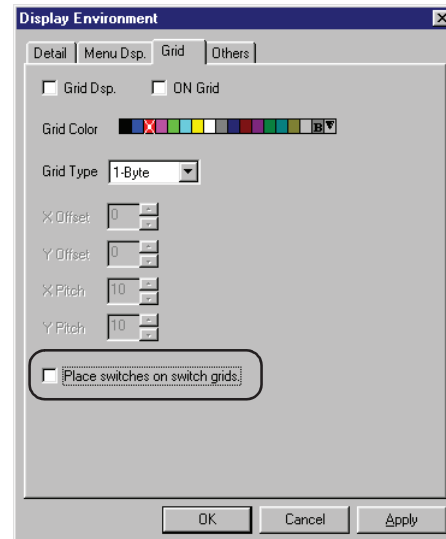
To modify each switch position, click the keypad (handles are shown), and select [Ungroup] from the [Edit] menu or click the [Ungroup] icon.



How to Enlarge/Reduce a Keypad

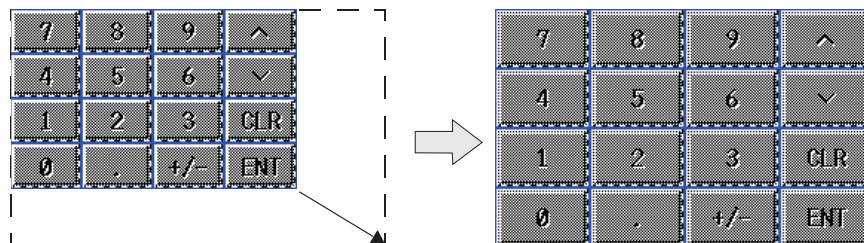
When changing the size of the placed keypad, operate as follows:

1. Place a keypad.
2. Select [Display Environment] from the [Display] menu. The [Display Environment] dialog is displayed.
3. Open the [Grid] tab window.
4. Uncheck [☒ Place switches on switch grids.], and click [OK].



5. Select the placed keypad by clicking it, and change the size by dragging a handle around the keypad.

The keypad can be enlarged or reduced freely.

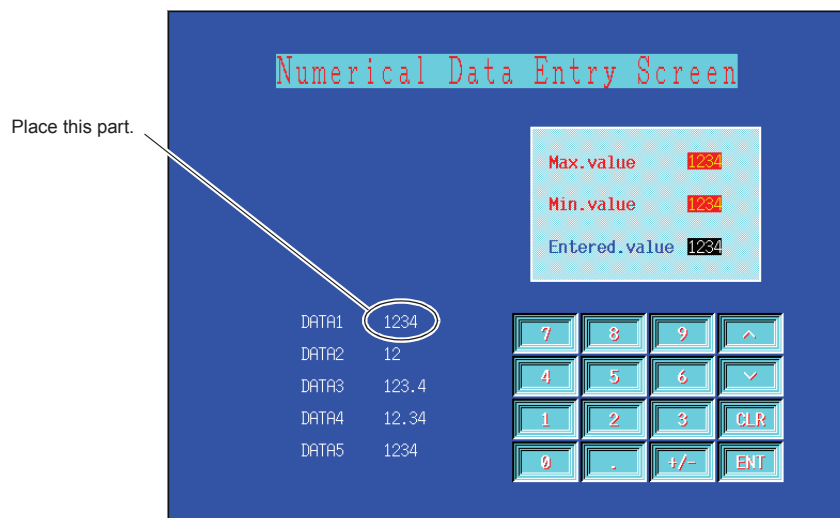


In case of V7 matrix type, the above procedure can not be recommended because there is possibility that the switch operating area error will occur in a V7 matrix type.

When enlarging/reducing a keypad for V7 matrix type, ungroup a keypad and change the size of each switch part.

Placing a Numerical Data Display Part (Entry Target)

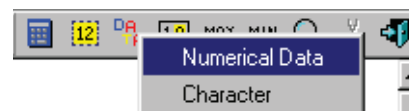
Place a numerical data display part to which data should be written.



1. Click the [Data Display] icon in the entry mode parts tool bar.

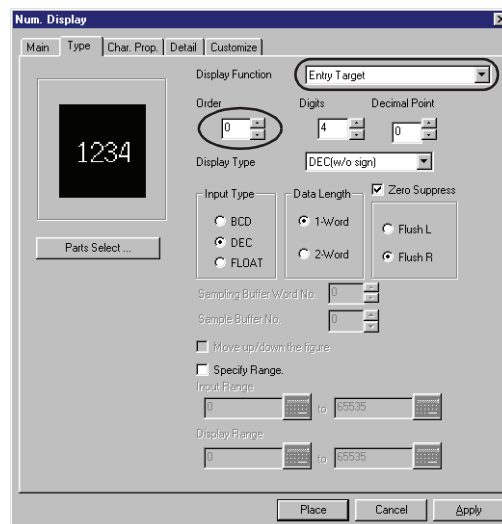
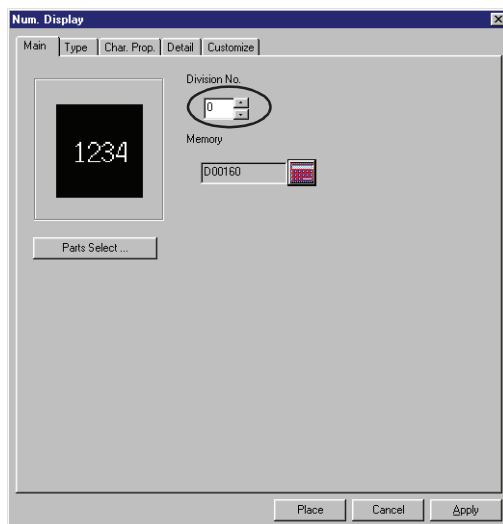


2. Choose [Numerical Data].



3. The [Num. Display] dialog is displayed.

Open the [Main] tab window. Check that "0" is entered for [Division No.].
Open the [Type] tab window. Check that [Entry Target] is selected for [Display Function], and "0" is entered for [Order].



Keyword

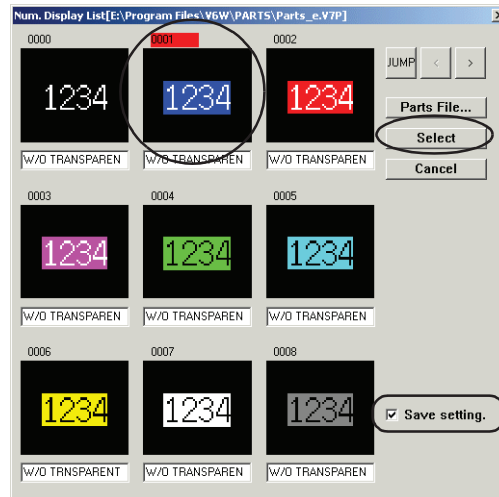


Order

This option determines the order of the cursor [△] [▽] moving between data display parts. The cursor appears at the numerical data display part specified with "0" when the screen is opened.

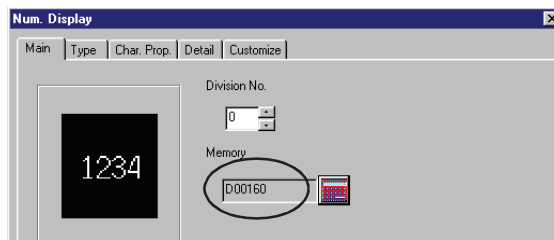
4. Click the [Parts Select] button. [Num. Display List] is displayed.
5. Click [0001] and make sure that the [Save Setting] box is checked (☒). Click [Select].

Part No. 0001 is displayed in the [Num. Display] dialog.



When the [☐ Save Setting] box is not checked, the previously set data for [Division No.], [Display Function], [Memory], etc. are cleared. This should be noted whenever a part is selected from [Num. Display List].

6. In the [Main] tab window, enter "D160" for [Memory].
Numerical data entered through the keypad is to be written to this address.



7. Set up the [Char. Prop.] tab window as shown below:

[Char. Type: Normal] [☐ Transparent] [☐ Italic]
 [Char. Size: ● 1-Byte]
 [Rotate: Normal] [Direction: RGT] [☐ Spacing]
 [Enlarge: X : 1 Y : 1]
 [Foreground: White] [Background: Blue]

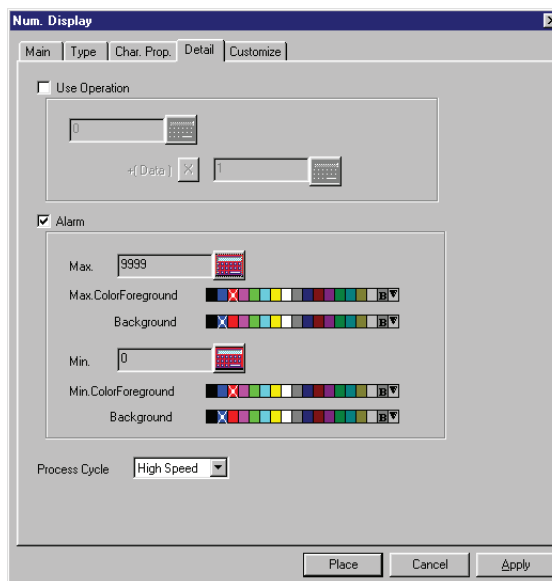
8. Open the [Detail] tab window. Set up the maximum and minimum values. Check the ☐ Alarm box (☒) so that [Max.] and [Min.] setting becomes valid. Set up as shown below:

- [Max.: 9999]

Max. Color [Foreground: Red] [Background: Blue]

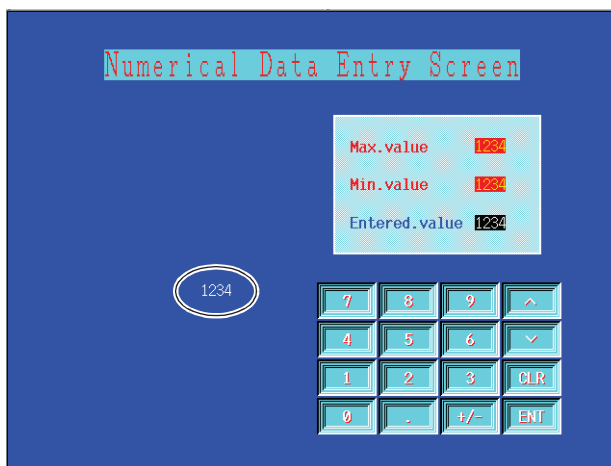
- [Min.: 0]

Min. Color [Foreground: Red] [Background: Blue]



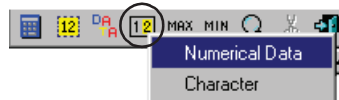
If an entered value is not in the range from specified min. value to max. value, the value is shown in the color selected for [Max. Color] or [Min. Color]. This function is valid only when such a value is entered from PLC. When a value not within the range is entered through the keypad, the entry is rejected.

9. Place the numerical data display part as shown below by clicking the [Place] button.



Placing a Numerical Display Part (Entry Display)

Place a part for displaying the data keyed in through the keypad (before being written to the memory).



1. Click [Entry Display] icon in the entry mode parts tool bar.
2. Choose [Numerical Data]. The [Num. Display] dialog is displayed.

Open the [Main] tab window. Check that "0" is entered for [Division No.].
Open the [Type] tab window.

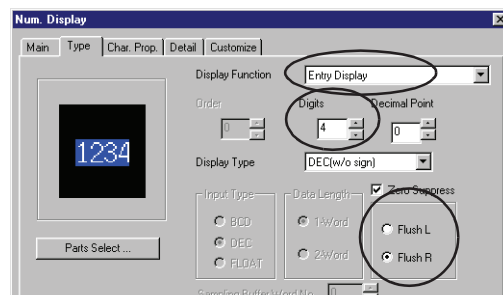
Set up as shown below:

[Display Function: Entry Display]

[Digits: 4]

☒ Zero Suppress]

[☒ Flush R]



Specify the maximum number of digits for the placed entry target parts. In this example, enter "4" for [Digits].

3. Open the [Char. Prop.] tab window. Set up as shown below:

[Char. Type: Normal]

☐ Transparent]

☐ Italic]

[Char. Size: ☒ 1-Byte]

[Rotate: Normal]

[Direction: RGT]

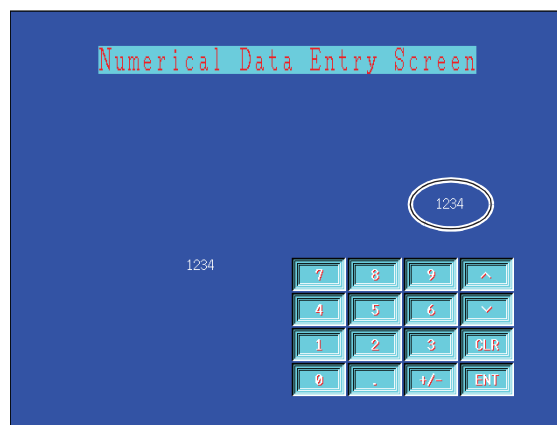
☐ Spacing]

[Enlarge: X : 1 Y : 1]

[Foreground: White]

[Background: Black]

4. Place as shown below by clicking the [Place] button.



Placing Max. and Min. Value Display Parts

Place max. and min. value display parts.

1. Place a max. value display part.

Click the [Max. Display] icon in the entry mode parts tool bar.



2. The [Num. Display] dialog is displayed. Set up as shown below:

| | |
|-------------------|----------------------------------|
| [Main] tab window | [Division No.: 0] |
| [Type] tab window | [Display Function: Max. Display] |
| | [Digits: 4] [Decimal Point: 0] |

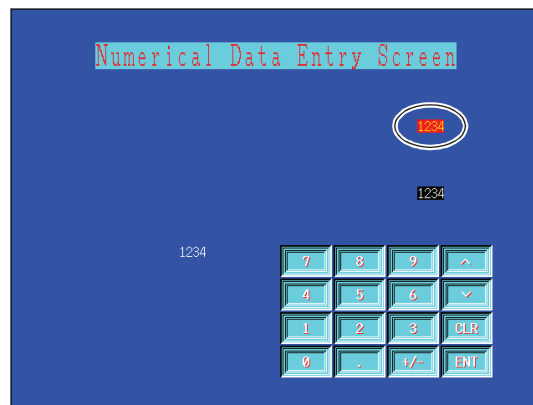


Specify the maximum number of digits for the placed entry target parts. In this example, enter "4" for [Digits].

3. Open the [Char. Prop.] tab window. Set up as shown below:

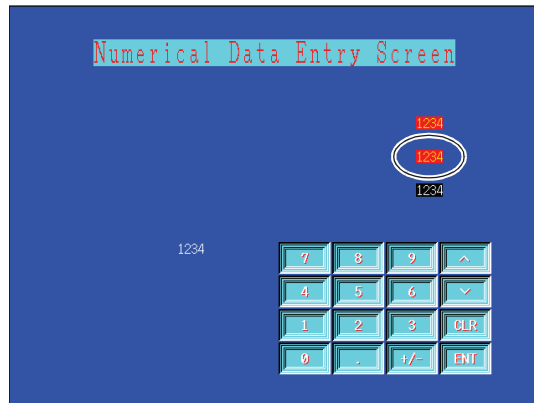
| | | |
|------------------------|---------------------------------------|-----------------------------------|
| [Char. Type: Normal] | <input type="checkbox"/> Transparent] | <input type="checkbox"/> Italic] |
| [Char. Size: 1-Byte] | | |
| [Rotate: Normal] | [Direction: RGT] | <input type="checkbox"/> Spacing] |
| [Enlarge: X : 1 Y : 1] | | |
| [Foreground: Yellow] | [Background: Red] | |

4. Place the part as shown on the right by clicking the [Place] button.



- Place a min. value display part. Click [Min. Display] icon. Set up the [Num. Display] dialog and place the part as shown below:

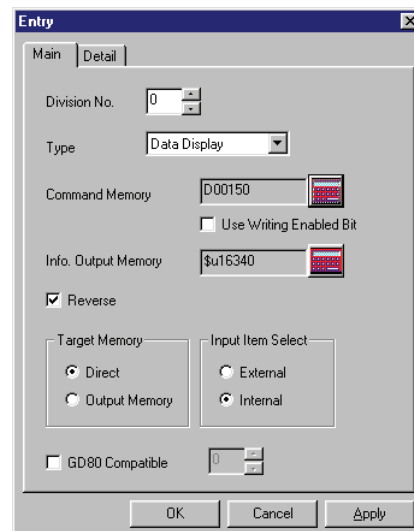
| | |
|-------------------------|--|
| [Main] tab window | [Division No.: 0] |
| [Type] tab window | [Display Function: Min. Display] |
| [Char. Prop] tab window | As same as the setting for the max. value display part |



Setting Up Entry Mode

Set up entry mode for controlling the screen.

- Click [Detail] in the entry mode parts tool bar.
The [Entry] dialog is displayed.



2. Set up as shown below:

| | |
|---------------------|--|
| [Main] tab window | [Division No.: 0] [Type: Data Display] [Command Memory: <u>D150</u>] [<input type="checkbox"/> Use Writing Enabled Bit] [Info. Output Memory: \$u16340] [<input checked="" type="checkbox"/> Reverse] [Target Memory: <input checked="" type="radio"/> Direct] [Input Item Select: <input checked="" type="radio"/> Internal] [<input type="checkbox"/> GD80 Compatible] |
| [Detail] tab window | [<input type="checkbox"/> Use Graphic] [<input type="checkbox"/> Default to 0] [<input type="checkbox"/> Lines/Columns Output] [Process Cycle: Low Speed] |



Type: Data Display --- Data display parts for entry targets are placed on the base screen.

Command Memory: D150

This is used as a control memory for releasing the keypad interlock, etc.

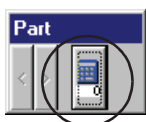
Info. Output Memory: \$u16340

The selection order of the numerical data display part currently selected by the cursor is written. (When it is not necessary, select [Internal Mem.])

☒ Reverse = This option determines whether to highlight the data display area (in reverse video) currently selected as the entry target.

Target Memory: Direct = Data in the selected data display area is written directly to the specified memory address.

Input Item Select: Internal = Up/Down [\uparrow/\downarrow] switches on the screen are used to move the cursor.



3. Click [OK].

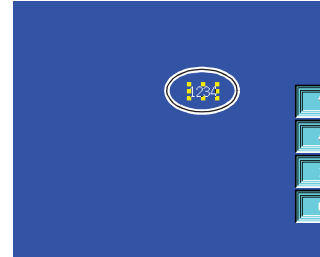
The [Entry] dialog is reduced to an icon and stored in the [Part] auxiliary tool box in the lower left corner of the screen.

This step completes setting up entry mode.

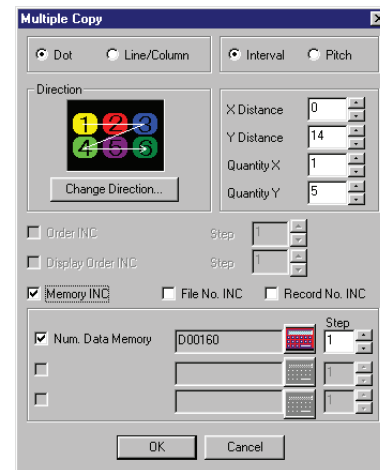
Copying the Numerical Display Part (Entry Target)

Make four copies of the numerical data display part to which data should be written.

1. Click the numerical data display part (for which [Entry Target] is selected for [Display Function]). Handles are shown around it.



2. Select [Multi Copy] icon in the tool bar.
The [Multiple Copy] dialog is displayed.



3. Set up as shown below:

[☒ Dot]

[☒ Interval]

[X Distance: 0]

[Y Distance: 14]

[☒ Order INC]

[☒ Memory INC]

[☒ Num. Data Memory: D160] [Step: 1]

[Direction

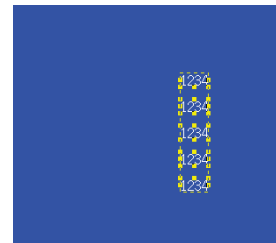
| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |

]

[Quantity X: 1]

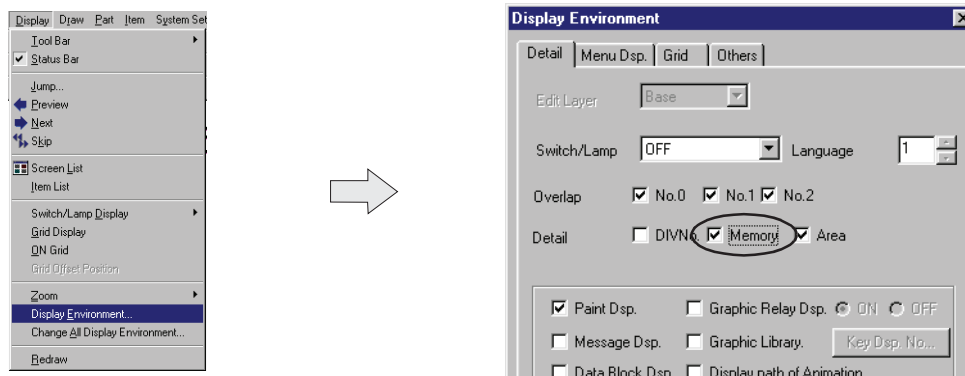
[Quantity Y: 5]

4. Click the [OK] button. Four copies are placed under the top part vertically.



5. Check the memory addresses allocated to the display parts.

Select [Display Environment] from the [Display] menu. The [Display Environment] dialog is displayed. Open the [Detail] tab window. Check the [Memory] box and click [OK].



6. Check that D00160 - D00164 are entered for the five parts respectively.

Changing the Display Format for Entry Targets

Open the [Main] tab window for each part and set up as shown below:

| | Display Type | Digits | Decimal Point |
|----------|----------------|--------|---------------|
| 1st part | DEC (w/o sign) | 4 | 0 |
| 2nd part | DEC (w/o sign) | 2 | 0 |
| 3rd part | DEC (w/o sign) | 4 | 1 |
| 4th part | DEC (w/o sign) | 4 | 2 |
| 5th part | DEC (w/o sign) | 4 | 0 |

Changing the Max. and Min. Values for Entry Targets

1. In the [Detail] tab window for each part, the [Alarm] box is checked, "9999" is entered for [Max.], and "0" is entered for [Min.].
2. Change the data for [Max.] and [Min.] in each window.

| | [Max.] | [Min.] |
|----------|--------|--------|
| 1st part | 9999 | 0 |
| 2nd part | 99 | 22 |
| 3rd part | 555.5 | 111.1 |
| 4th part | 77.77 | 33.33 |
| 5th part | 9999 | 0 |

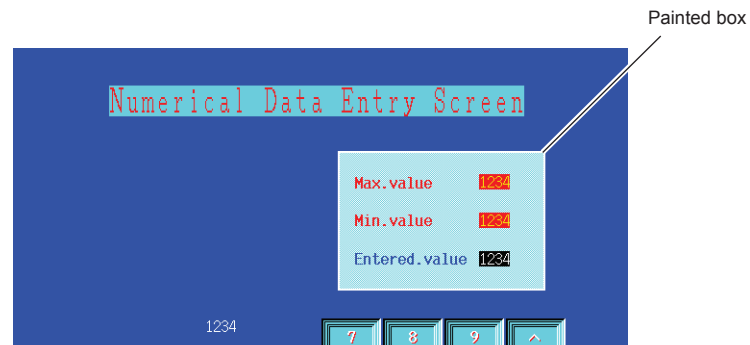


When the [☐ Alarm] box is not checked in the [Detail] tab window, [Max.] and [Min.] are not set up. However, the max. number of digits for the numerical data display part is set up for [Digits].

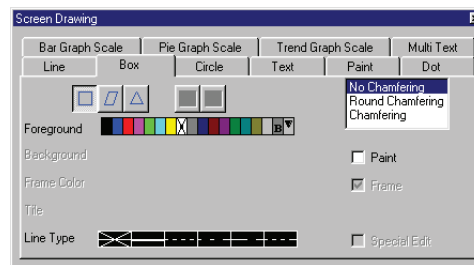
Placing a Painted Box Behind the Parts

Drawing a Painted Box

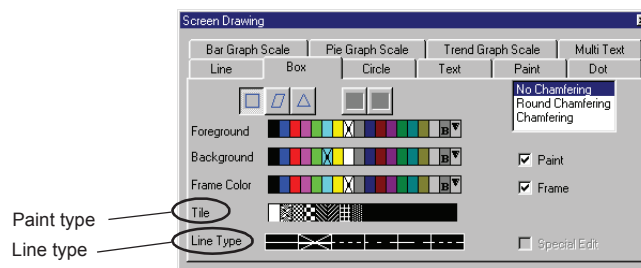
Draw a painted box in the position as shown below:



1. Click the [box] icon in the draw tool bar. The following [Screen Drawing] dialog is displayed.

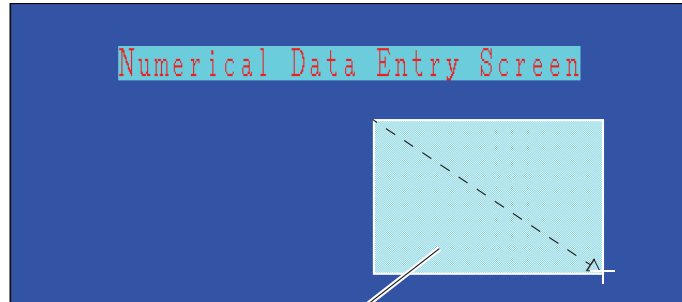


2. For drawing a painted box in this example, open the [Box] tab window and check the [☐ Paint] box (☒). The following options appear in the window.



3. Set up as shown below:
 - [Foreground: White]
 - [Background: Light blue]
 - [Frame Color: White]
 - [Tile: No. 1 (2nd from the extreme left)]
 - [Line Type: No. 1 (thick line: 2nd from the extreme left)]

4. Drag the cross cursor and draw a dotted box to enclose the placed parts on the screen. A painted box is drawn as shown below:

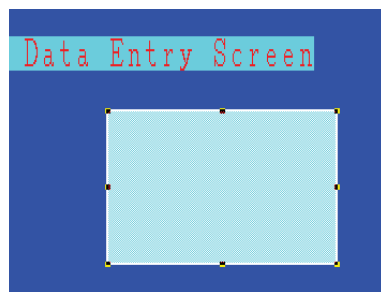


Draw a dotted box to enclose the parts.

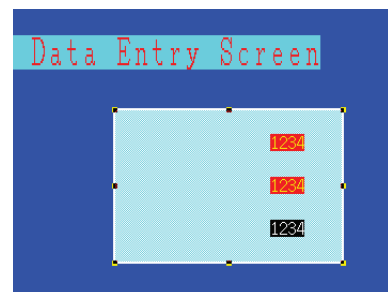
5. The parts are placed behind the painted box.
Click the [Select] icon and click the box (handles are shown). Click the [Move to Back] icon.
Now the parts appear on the painted box.



Click the [Move to Back] icon.



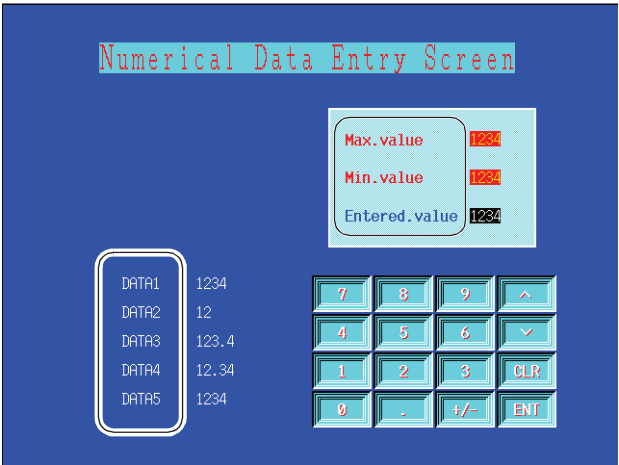
Click the box (handles are shown).



The parts appear on the box.

Creating Texts

Create the following texts.



1. Click [Text] icon in the draw tool bar.
The dialog for text entry is displayed.
2. Set up as shown below and place the texts as shown in the above figure.

| Prop. \ Text | "Max. value" | "Min. value" | "Entered value" | "Data 1 (-5)" |
|--------------|--------------|--------------|-----------------|---------------|
| Foreground | Red | Red | Blue | White |
| Enlarge X | 1 | 1 | 1 | 1 |
| Enlarge Y | 1 | 1 | 1 | 1 |
| Rotate | Normal | Normal | Normal | Normal |
| Direction | RGT | RGT | RGT | RGT |
| Transparent | Checked | Checked | Checked | Checked |
| Italic | Unchecked | Unchecked | Unchecked | Unchecked |
| Char. Type | Bold | Bold | Bold | Normal |

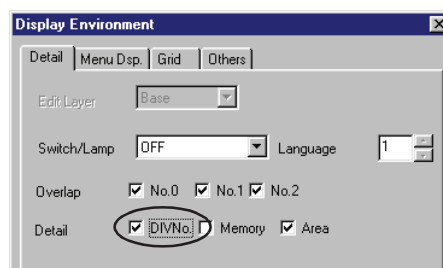
Division Number Check

Check that the division number is set up correctly.

1. Select [Display Environment] from the [Display] menu.

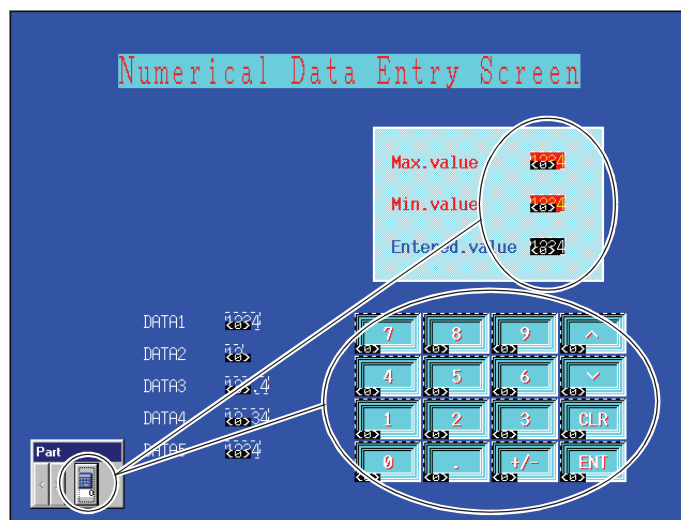


- The [Detail] tab window is displayed in the [Display Environment] dialog. Check the ☒ Div No.] box and click [OK].



- The division number is entered for each part on the screen. Check that all parts on the screen and the icon in the [Part] auxiliary tool box have the same division No. 0.

If not, correct data setting so that all division numbers are set to "0".



Set all division numbers to "0".

Keyword



Division Number

A maximum of 256 divisions (No. 0 to 255) can be set up for the base screen and each overlap respectively. You can imagine that 256 transparent sheets are laid on top of each other.

When several parts (switch, numerical data display, display area) are combined to establish a function, such as an entry mode, relay mode, and sampling mode, the parts must be set to the same division number.

Because the same division number is entered for the placed parts (keypad, max. value display part, etc.) in the above example, they are linked with the entry mode and can function correctly.

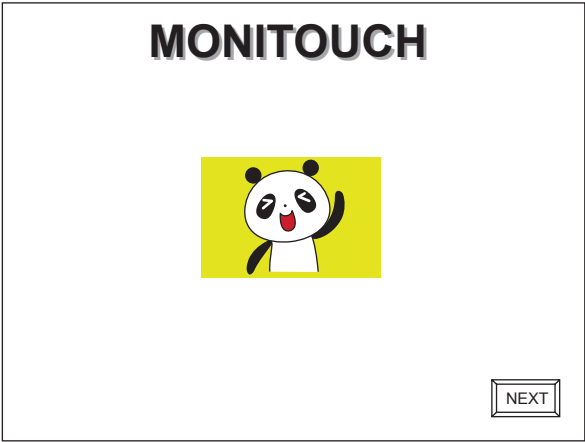
The "Numerical Data Entry Screen" has been completed.

Save the file and transfer the screen data to V7.

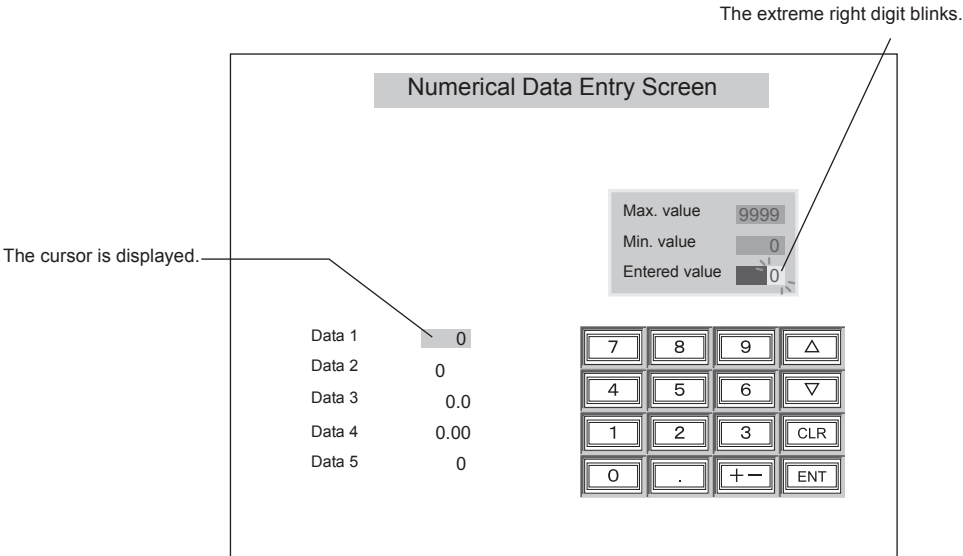
Operation Check

Opening Screen No. 3

1. Connect V7 to PLC, and start communication. Screen No. 0 including the bit map data is displayed.

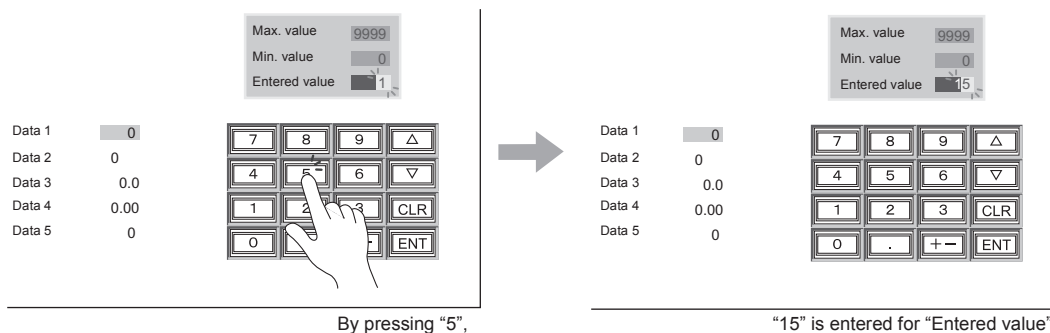


2. Press the NEXT switch.
- Screen No. 1 is displayed. Press the NEXT switch on the screen. Repeat these steps until screen No. 3 "Numerical Data Entry Screen" is displayed.



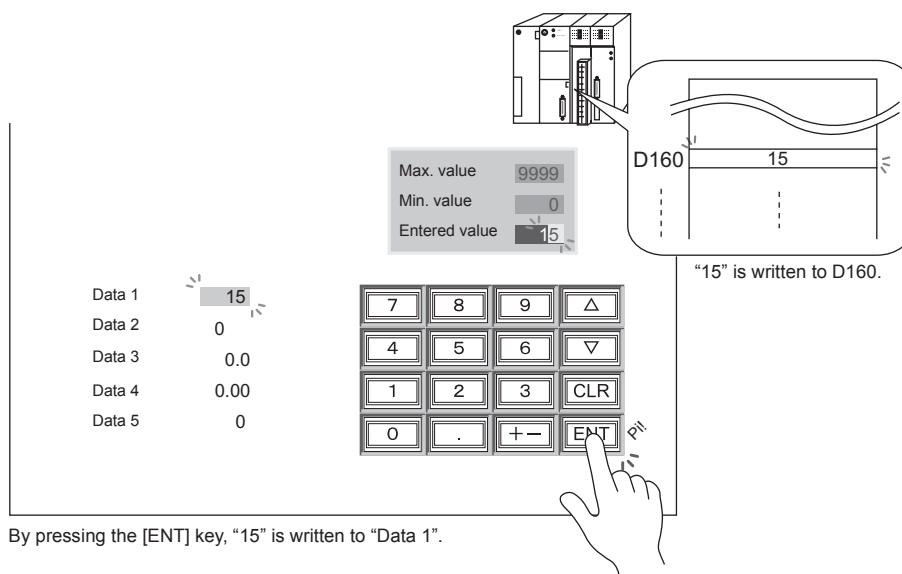
3. Locate the cursor on the "Data 1" part. Press "1" on the keypad. "1" is entered for "Entered value".

Press "5". "15" is entered for "Entered value".



4. Press the ENT key. "15" is written to "Data 1".

Check that "15" is written to D160 (at [Memory] in the [Num. Display] dialog set up for "Data 1").

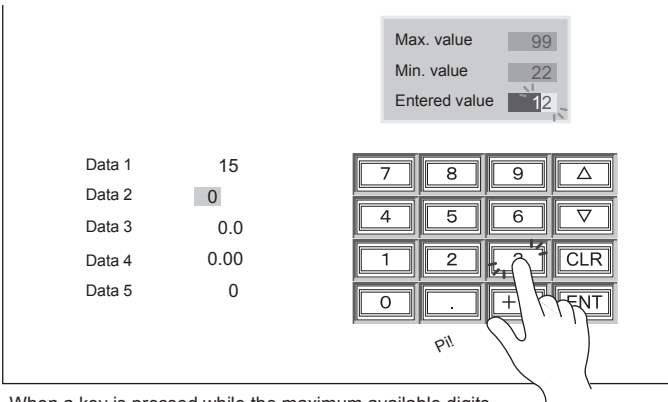


5. Locate the cursor on the "Data 2" part. "Max. value" indicates "99" and "Min. value" indicates "22".

Press "12" on the keypad. "12" is entered for "Entered value".

When one more key ("3" for example) is pressed, the key makes an error sound (beep) and does not work because the maximum available digits have already been entered.

7. Changing the PLC Memory Data through Keypad



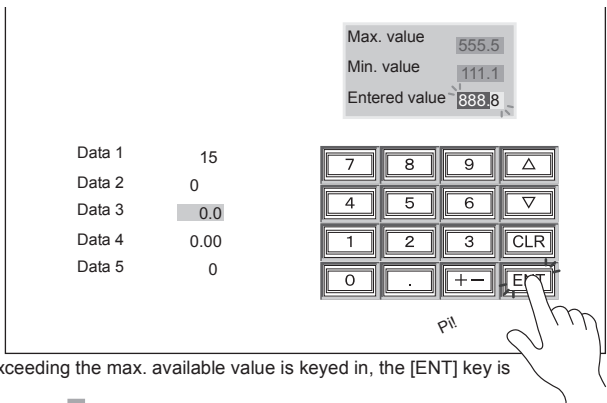
When a key is pressed while the maximum available digits have already been entered, the key does not work.

6. If the cursor is moved to the "Data 3" part before the [ENT] key is pressed, "Data 2" still indicates "0".

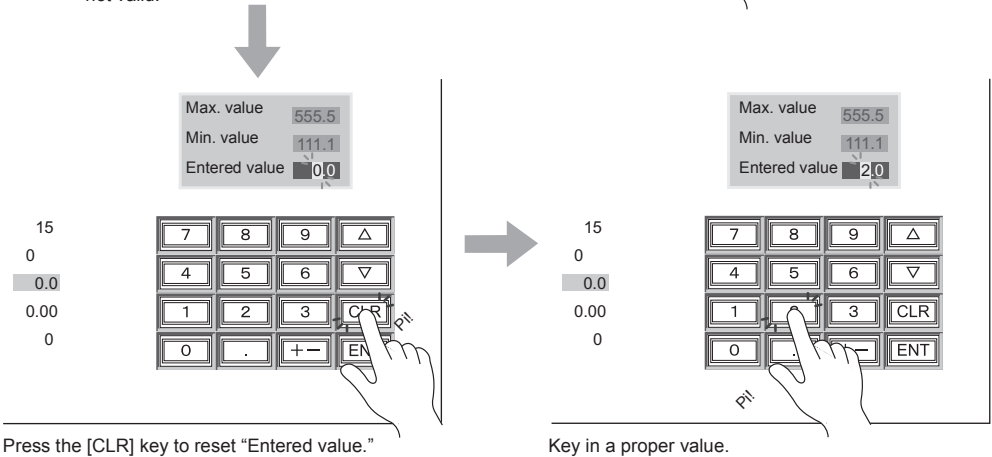
When "888.8" is keyed in and the [ENT] key is pressed while the cursor is located on the "Data 3" part, the key makes an error sound (beep) and the entry is not valid.


Any value exceeding the maximum available value cannot be entered.

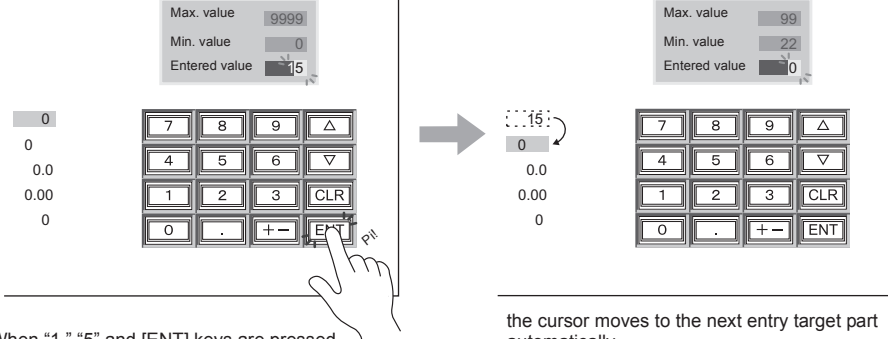
Press [CLR] key to reset "Entered value" and key in a value within the allowable range.



If a value exceeding the max. available value is keyed in, the [ENT] key is not valid.



 About bit 14 (movement between entry items) of [Command Memory]
It is recommended to set bit 14 (= H C000) when bit 15 of D150 (set up for [Command Memory]) is set. After a value is entered for an entry target part and the [ENT] key is pressed, the cursor moves to the next part automatically.



When "1," "5" and [ENT] keys are pressed,

the cursor moves to the next entry target part automatically.

Memory for Entry Mode

The screen uses the following memory addresses:

| Option | Address | Contents | Direction | Set in: |
|------------------|-------------|---|-----------|-----------------------|
| [Command Memory] | D150 | Control memory for releasing the keypad interlock, etc. | PLC → V7 | [Entry] dialog |
| [Memory] | D160 - D164 | Memory to which values entered through the keypad are written | V7 → PLC | [Num. Display] dialog |

Questions and Answers

The following describes possible keypad problems and measures.

- None of the keys on the keypad work.
 - The same division number may not be entered for the keys and the [Division No.] in the [Entry] dialog. (Refer to P7-19.)
- The cursor does not appear on the screen.
 - A memory address may be entered for [Item Select Memory] in the [Screen Setting] dialog for the screen.

When a memory address is entered for [Item Select Memory], the cursor is displayed only for the corresponding part. Delete the address entry.

Keyword



[Item Select Memory] (in [Screen Setting] dialog)

When the entry mode is used, whether entry target parts on the base screen are valid is controlled by [Item Select Memory].

Bits from 0 of the memory address “n” respectively correspond to the numbers entered for [Order] (in the [Num. Display] dialog) for entry target parts.

By setting a bit, the entry target part of the corresponding [Order] number becomes valid for data entry and the cursor is displayed.

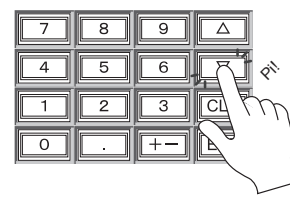
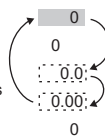
Any entry target part having an [Order] number which corresponds to a reset bit becomes invalid and the cursor is not displayed.

When bits of the [Item Select Memory] address “n” are set as follows:

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |

Ignored

Corresponding to [Order] numbers



The cursor moves between the entry target parts as indicated by the arrows.