

# Acquiring the status of the specified file

## SP.FSTATUS

FX5S FX5UJ FX5U FX5UC

This instruction acquires the status of the specified file or folder in an SD memory card.

Ladder	ST
	ENO:=SP_FSTATUS(EN,U,s1,s2,d1,d2,d3);
FBD/LD	

## Setting data

### ■ Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(U)	Dummy	■FX5S CPU module U1 ■FX5UJ CPU module U1 to U8 ■FX5U/FX5UC CPU module U1 to U10	Device name	ANY16
(s1)	Drive specification	2 (fixed) <sup>*1</sup>	16-bit signed binary	ANY16
(d1)	Start device where the control data is stored	Page 572 Control data (d1)	Word	ANY16_ARRAY (Number of elements: 2)
(s2)	Start device where the file name or folder name is stored	Page 573 File name/folder name (s2)	Unicode string	ANYSTRING_DOUBLE
(d2)	Start device for storing the file status	Page 574 File status (d2)	Word	ANY16_ARRAY (Number of elements: 10)
(d3)	Bit device that turns on upon completion of the processing	—	Bit	ANYBIT_ARRAY (Number of elements: 2)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

\*1 Only drive 2 (for the SD memory card) can be set.

## ■Applicable devices

Operand	Bit	Word			Double word		Indirect specification	Constant			Others (U)
		X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC		K, H	E	\$	
(U)	—	—	—	—	—	—	—	—	—	—	○
(s1)	○	○	—	—	—	—	○	○	—	—	—
(d1)	—	○	—	—	—	—	○	—	—	—	—
(s2)	—	○	—	—	—	—	○	—	—	○	—
(d2)	○*1	○	—	—	—	—	○	—	—	—	—
(d3)	○*2	○*3	—	—	—	—	—	—	—	—	—

\*1 When the bit device digit is specified in (d2), only multiples of 16 (0, 16, 32, 64...) can be specified as the device number. Only K4 can be specified as the number of digits.

\*2 S cannot be used.

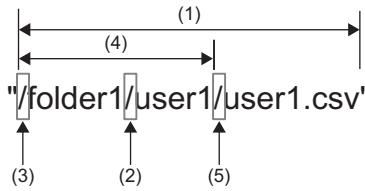
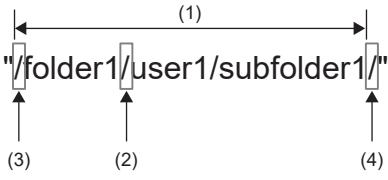
\*3 T, ST, and C cannot be used.

Only bit specification of word device is applicable.

## ■Control data (d1)

Operand: (d1)						
Device	Item	Description	Setting range	Set by		
+0	Application setting area	<p>b15 ... b0</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>0</td> <td>1/0</td> </tr> </table> <p>b0: Target type setting Specify the type of data (file or folder) to acquire the status.</p> <ul style="list-style-type: none"> <li>• 0: File</li> <li>• 1: Folder</li> </ul>	0	1/0	Refer to the "Description" column.	User
0	1/0					
+1	Completion status	The completion status is stored upon completion of the instruction.	—	System		

## ■File name/folder name (s2)

Operand: (s2)				
Device	Item	Description	Setting range	Set by
+0 to +□	File name character string	<p>When specifying a file, specify the folder path where the file whose status is to be acquired is stored and the file name.</p> <ul style="list-style-type: none"> <li>• When the file name has an extension, specify the name without omitting the extension.</li> <li>• The folder path and file name (including an extension) must be within 253 characters in total.</li> <li>• The folder path must be within 244 characters. (Delimiters are not included.)</li> <li>• Specify one character or more for the file name or folder path in addition to a delimiter.</li> <li>• Do not add a delimiter at the end of a string.</li> <li>• Do not specify a half-width space at the end of the character string or just before each delimiter.</li> <li>• Do not put a period (one-byte) at the end of a string or directly before each delimiter.</li> <li>• Do not specify the system folder (\$MELPRJ\$) or any file in the system folder.</li> <li>• The number of folder path hierarchies must be within 10 levels.</li> </ul>  <p>(1): Up to 253 characters  (2): Use "/" or "\\" as delimiters for the folder path and file.  (3): Can be omitted. When it is omitted, (1) is up to 252 characters.  (4): The folder path is up to 244 characters long (243 characters long when (3) is omitted).  (5): The delimiter between the folder path and the file name is not included in the number of characters of the folder path.</p>	Unicode string	User
	Folder name character string	<p>When specifying a folder, specify the folder path of the folder whose status is to be acquired.</p> <ul style="list-style-type: none"> <li>• The folder path must be within 244 characters. (Delimiters at the end of the folder path are not included.)</li> <li>• Specify one character or more for the folder path in addition to a delimiter.</li> <li>• Do not specify a half-width space at the end of the character string or just before each delimiter.</li> <li>• Do not put a period (one-byte) at the end of a string or directly before each delimiter.</li> <li>• Do not specify the system folder (\$MELPRJ\$) or any file in the system folder.</li> <li>• The number of folder path hierarchies must be within 10 levels.</li> </ul>  <p>(1): Up to 244 characters  (2): Use "/" or "\\" as delimiters for the folder path.  (3): Can be omitted. When it is omitted, (1) is up to 243 characters.  (4): Can be omitted.</p>		

## ■File status (d2)

Operand: (d2)			
Device	Item	Range	Set by
+0	File attribute bit0: Turns on for a read-only file. bit1: Turns on for a hidden file. bit2: Turns on for a system file. bit3: Reserved (fixed to 0) bit4: Turns on for a directory. bit5: Turns on for an archive. bit6 to bit15: Reserved (fixed to 0)	Refer to the "Item" column.	System
+1	Reserved	0	
+2 to +3	File size (in units of bytes)	0 to 4294967294*1	
+4	Last update date/time: Year	0, 1980 to 2079*1	
+5	Last update date/time: Month	0 to 12	
+6	Last update date/time: Day	0 to 31	
+7	Last update date/time: Hour	0 to 23	
+8	Last update date/time: Minute	0 to 59	
+9	Last update date/time: Second		

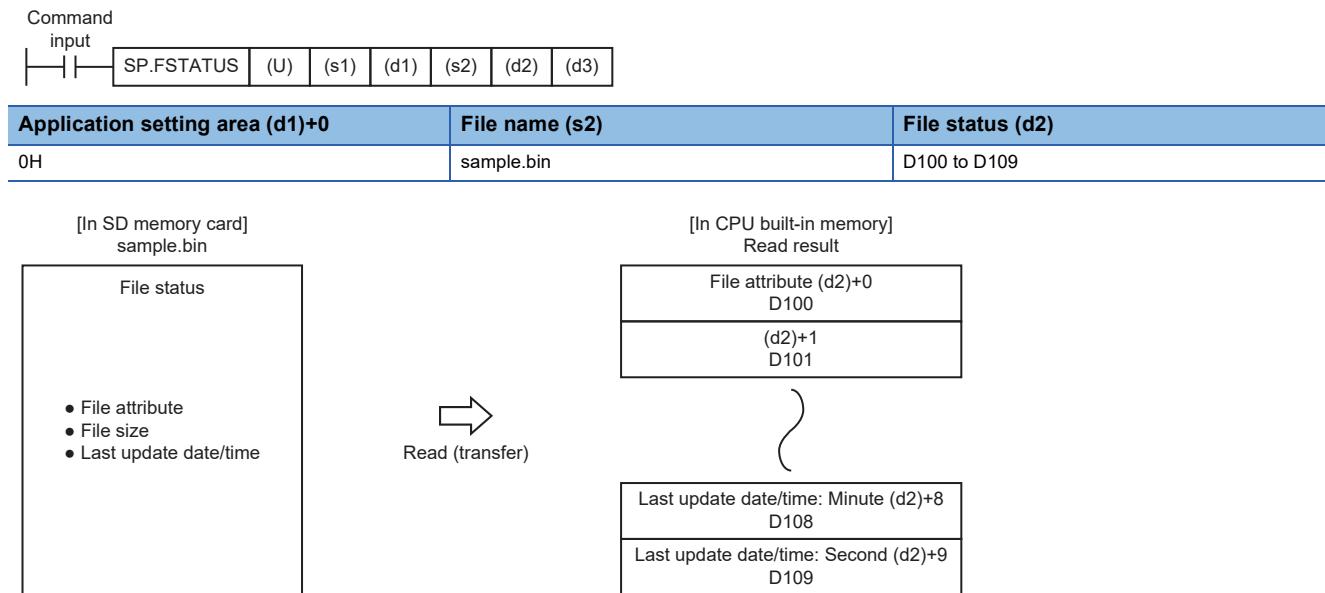
\*1 In the case of files/folders accessed in an environment (OS) other than the CPU module, the range of values to be acquired depends on the environment (OS).

### Processing details

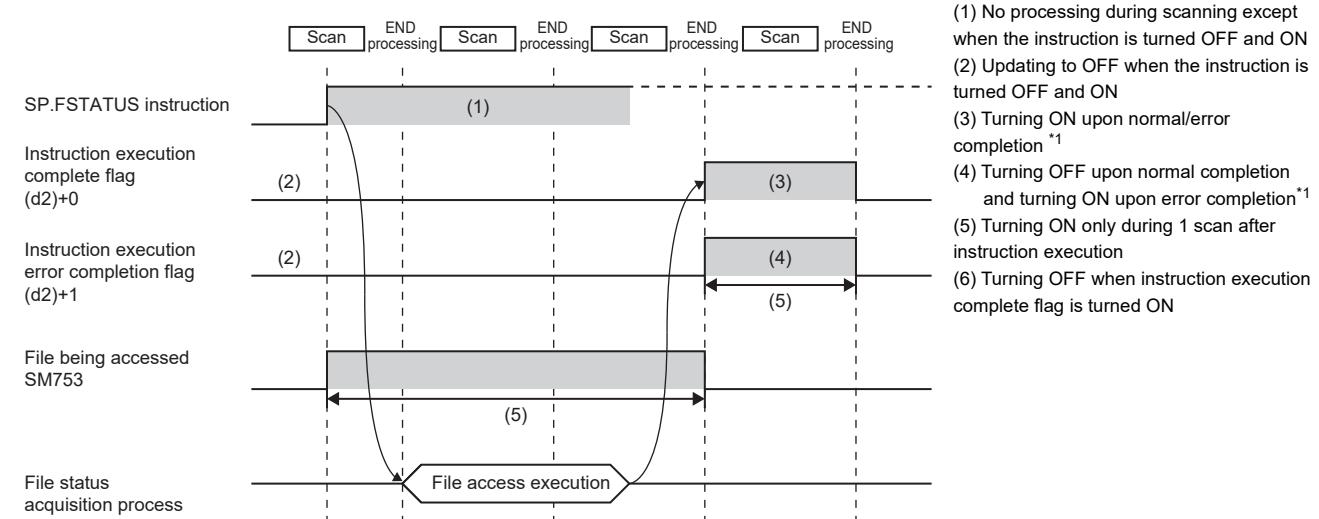
- This function acquires the status of the file or folder specified by (s2) in the drive specified by (s1) and stores it in the device (d2) and after. When a folder is specified by (s2), 0 is stored in (d2)+2 to (d2)+3.
- SM753 (File being accessed) turns on while the SP.FSTATUS instruction is being executed. While SM753 is on, the SP.FSTATUS instruction cannot be executed. (If the instruction is executed, no processing is performed.)
- The processing completion bit device (d3) automatically turns on at the execution of the END instruction in the scan in which the completion of processing of the SP.FSTATUS instruction is detected. The bit device (d3) turns off at the execution of the END instruction in the next scan. If the SP.FSTATUS instruction completes with an error, the error completion device (d3)+1 turns on or off in synchronization with (d3). If the processing completion bit device (d3) is ON, it will automatically turn OFF when the SP.FSTATUS instruction is executed.
- If an operation error is detected during the execution of the instruction, (d2) and (d2)+1 do not turn on.

## ■Timing chart

The operation specifications of the file status acquisition function are shown below.



Below is shown the timing chart (flag updating timing) from the execution of the SP.FSTATUS instruction to the completion.



\*1 The complete flag is not turned ON when an error is detected during instruction execution.

## Program example

When X0 is turned ON, the status of the "sample.bin" file stored in the SD memory card is read to D100 to D109.

[Program operation]

1. Control data is created during RUN.
2. The drive contact of X0 is held in M0. When the drive contact is turned ON, the instruction execution complete flag and instruction error completion flag are initialized.
3. The SP.FSTATUS instruction is executed.\*1
4. Since the instruction execution complete flag and instruction error completion flag are ON only during 1 scan, they are held in the M150 and M151 devices to identify the normal/abnormal completion.

\*1 The instruction is executed after confirming that the following special devices are OFF to prevent simultaneous execution of another file operation instruction.  
 - SM606 (Memory card disable request)  
 - SM753 (File being accessed))

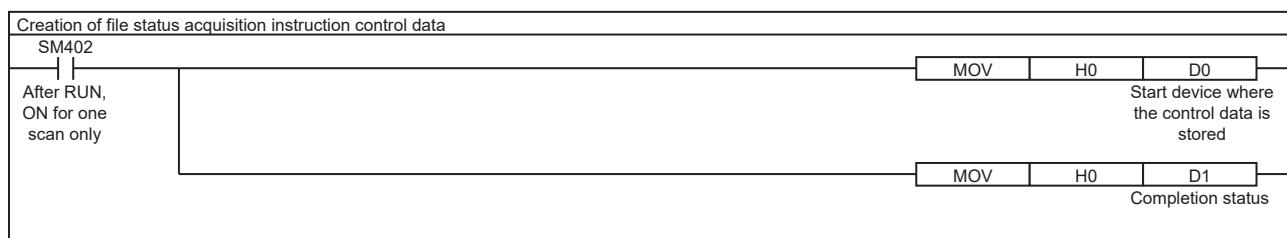
[Devices used]

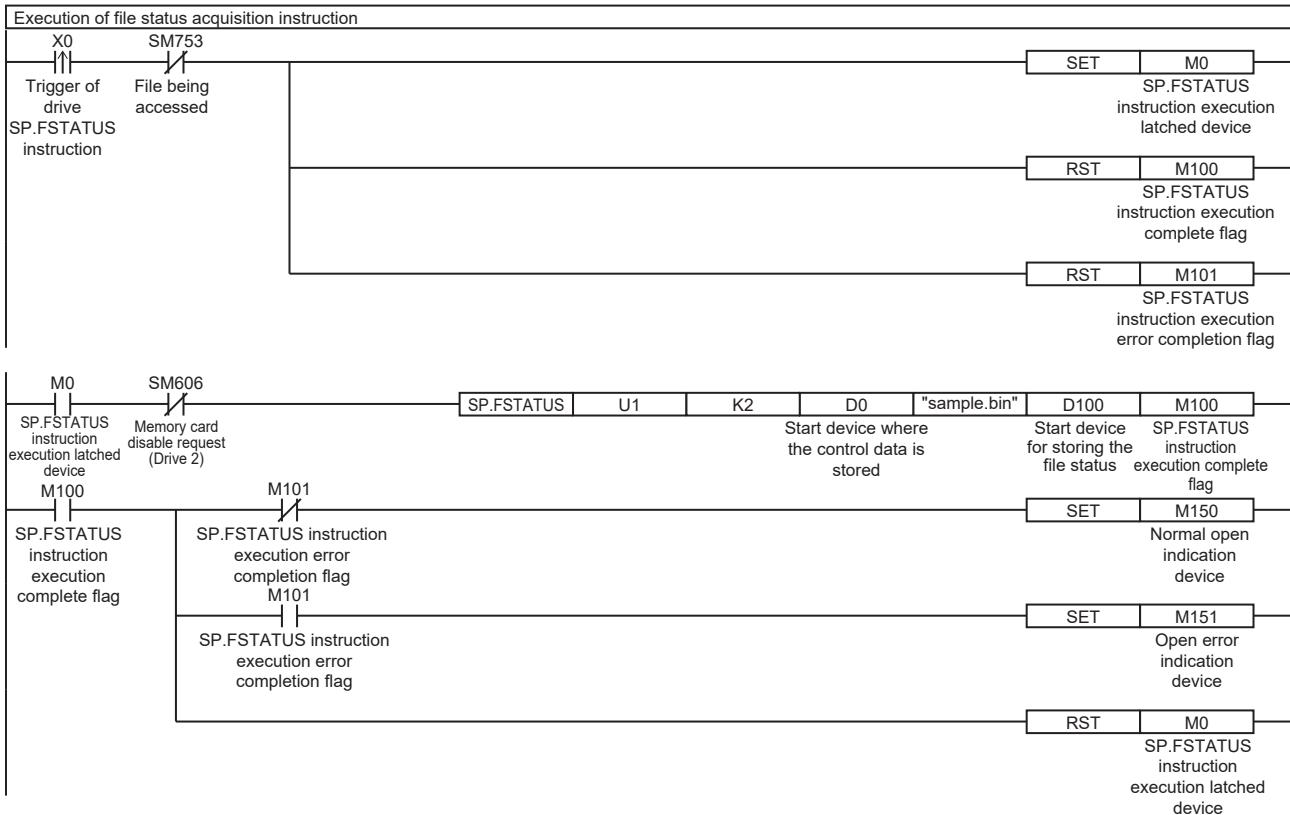
Device	Description
X0	Trigger of drive SP.FSTATUS instruction
D0	Start device where the control data is stored • D0: Application setting area • D1: Completion status
D100	Start device for storing the file status
M0	SP.FSTATUS instruction execution latched device
M100	SP.FSTATUS instruction execution complete flag
M101	SP.FSTATUS instruction execution error completion flag
M150	Normal open indication device
M151	Open error indication device

[SP.FSTATUS instruction operand setting]

Operand	Description	Set value
(U)	Dummy	U1
(s1)	Drive specification	K2 (SD memory card)
(d1)	Start device where the control data is stored	D0: 0H (File) D1: 0H (Completed successfully)
(s2)	Start device where the file name is stored	"sample.bin"
(d2)	Start device for storing the file status	D100
(d3)	Bit device that turns on upon completion of the processing	M100: Execution complete flag M101: Execution error completion flag

[Ladder program]





### [ST program]

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//(1) Creation of control data for file status acquisition instruction
IF SM402 THEN
  D0:=H0; //Application setting area (File)
  D1:=H0; //Completion status
END_IF;

//(2) Processing to start up the drive contact (X0)
IF LDP(TRUE,X0) THEN;
  //Checking that the file being accessed flag is OFF
  IF (SM753 <> TRUE) THEN
    SET(TRUE,M0); //Holds drive contact
    RST(TRUE,M100); //Initialize instruction execution complete flag
    RST(TRUE,M101); //Initialize instruction execution error complete flag
  END_IF;
  END_IF;

//(3) Execution of file status acquisition instruction
IF M0 THEN
  //Checking that the memory card disable request is OFF
  IF (SM606 <> TRUE) THEN;
    //EN = TRUE (Enable Input, always execute)
    //U = U1 (Dummy)
    //S1 = 2 (Drive specification, 2 fixed)
    //S2 = "sample.bin" (Start device where the file name is stored)
    //D1 = D0 (Start device where the control data is stored)
    //D2 = D100 (Start device for storing the file status)
    //D3 = M100 (Bit device that turns on upon completion of the processing)
    SP_FSTATUS(TRUE, U1, 2, "sample.bin", D0, D100, M100);
  END_IF;
  END_IF;

//(4) Checking the instruction execution complete flag
IF M100 THEN
  SET((M101 <> TRUE), M150); //Holds instruction execution complete flag
  SET(M101, M151); //Holds instruction execution error complete flag
  RST(TRUE, M0); //Releasing the drive contact
END_IF;

```

## Precautions

- Do not execute the SP.FSTATUS instruction in an interrupt program. Doing so may cause malfunction of the module.
- The SP.FSTATUS instruction cannot be executed while SM606 (Memory card disable request) is ON. When SM606 is turned ON during execution of the instruction, the program will terminate abnormally.
- The SP.FSTATUS instruction specifying the system folder (\$MELPRJ\$) or a file in the system folder cannot be executed.
- Even though the operating status of the CPU module is switched from RUN to STOP during instruction execution, the CPU module continues the processing of the instruction.
- The SP.FSTATUS instruction cannot be executed simultaneously with the SP.DEVST instruction, the SP.FTPPUT instruction, and the SP.FTPGET.
- Do not disconnect the power or remove the SD memory card during execution of the SP.FSTATUS instruction.

## Operation error

Error code (SD0/SD8067)	Description
2820H	<p>The storage device of the control data (d1) exceeds the end of the device range.</p> <p>The number of bit label digits specified in (s2) is an unallowable setting (the number of digits is not K4).</p> <p>The device to store the read file status in (d2) exceeds the end of the device area.</p> <p>The number of bit label digits specified in (d2) is an unallowable setting. (The device No. is not a multiple of 16 (0, 16, 32, 64...)/the number of digits is not K4.)</p>
3405H	<p>The drive specified by (s1) is not the one for the SD memory card.</p> <p>The file name/folder name string specified by (s2) cannot be read.</p> <ul style="list-style-type: none"><li>• The specified file name string contains no character.</li><li>• The specified file name string contains 254 characters or more.</li><li>• The specified folder path contains 245 characters or more.</li><li>• Unusable characters (prohibited characters) are set.</li><li>• The specified folder path hierarchies contains 11 levels or more.</li><li>• When a file is specified, the file name string ends with a delimiter.</li><li>• The specified file name string has a period (one-byte) at its end or directly before each delimiter.</li><li>• The system folder (\$MELPRJ\$) directly under the root folder or a file/folder under the system folder is specified.</li></ul>
3582H	The SP.FSTATUS instruction is executed in an interrupt program.

If the SP.FSTATUS instruction completes with an error, an error code is stored in the device specified by (d1)+1. (Note that an error code is not stored if the instruction results in an operation error.)

For the error code stored in (d1)+1, refer to the following.

☞ Page 579 Error codes generated for file operation instructions