XIN_SR.TDD

This driver reads byte(s) from the XPort I/O extension system with a status bit, which controls the flow of the data.

Installation of the driver

INSTALL DEVICE #*D*, "XIN_SR_xx.TDD" [, *P1, ..., P27*]

D	is a constant, variable or an expression of data type BYTE, WORD, LONG in range of 0...63 and is the device number of the driver.
xx	in the file name of the device driver represents the driver's input buffer size (R1 = 256 bytes buffer, K1 = 1024 bytes buffer).
P1...P5	are more parameters, which changes the settings of the XIN_SR_xx.TDD driver.

	Default	Description of parameters
P1	-	Number of samples per 1 ms
P2	-	Busy time
P3	-	XPort address status bit
P4	-	XPort address data byte
P5	-	Bit number of status bit

User Function Codes

User-Function-Codes of XIN_SR_xx.TDD for requesting parameters (Instruction GET, secondary address 0):

No.	Symbol Prefix UFCI_	Description
01H	UFCI_IBU_FILL	No. of bytes in input buffer (Byte)
02H	UFCI_IBU_FREE	Free space in input buffer (Byte)
03H	UFCI_IBU_VOL	Size of input buffer (Byte)
93H	XIN_XPADR_STATUS	XPort address of status bit
94H	XIN_XPADR_DATA	XPort address of data byte
95H	XIN_BITNO_STATUS	Bit number of status bit
96H	XIN_ACTIVE	Active Flag 0: driver is active <>0: driver inactive
97H	XIN_BYTES_PER_MS	Maximum number of bytes read per ms
98H	XIN_BUSY	Maximum number of samples of status bit

User-Function-Codes of XIN_SR_xx.TDD for setting of parameters (Instruction PUT, secondary address 0):

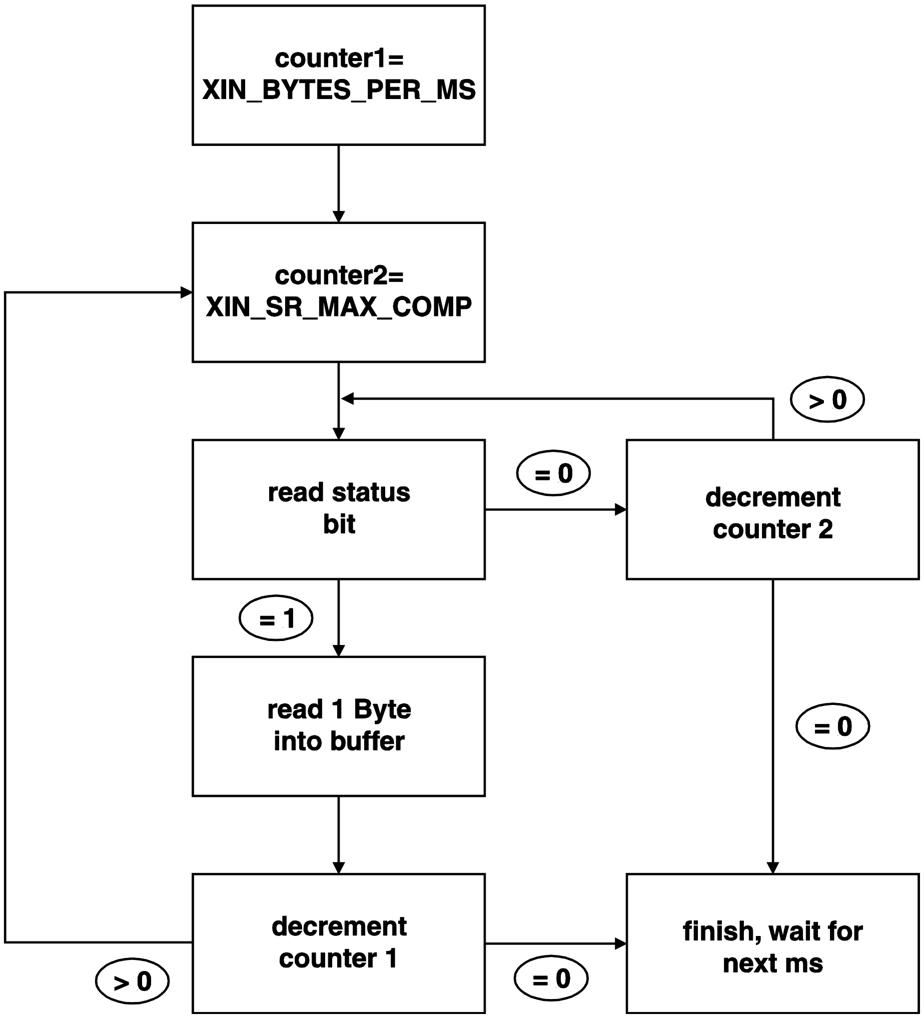
No.	Symbol Prefix: UFCO_	Description
01H	UFCO_IBU_ERASE	Delete input buffer
93H	XIN_XPADR_STATUS	XPort address of status bit
94H	XIN_XPADR_DATA	XPort address of data byte
95H	XIN_BITNO_STATUS	Bit number of status bit
96H	XIN_ACTIVE	Active Flag 0: driver is active <>0: driver inactive
97H	XIN_BYTES_PER_MS	Maximum number of bytes read per ms
98H	XIN_SR_MAX_COMP	Maximum number of status bit comparisons (retries)

Data & control pins used for XBus

Pins	Description
Port 6	Data bus
L33	ACLK (Address Clock)
L34	DCLK (Data Clock)
L35	INE (Input Enable)

Read data from XPort

The following flowchart shows the functionality of XIN_SR_xx.TDD. The driver tests the status bit; if the result is 1, one byte is imported into the input buffer. This procedure is repeated every 1 ms. Maximum number of status bit comparisons and maximum number of bytes per ms can be set in the install device or with a User Function Code.



Read out imported data byte(s)

With secondary address 0 you can read out the input buffer of XIN_SR_xx.TDD.

GET #D, #0, Number, Variable

D	is a constant, a variable or expression of the data type BYTE, WORD, LONG in the range from 0...63 and determines the device number of the driver.
Number	is a constant, a variable or expression of the data type BYTE, WORD, LONG and specifies the length of output.
Variable	is a variable of the data type BYTE, WORD, LONG or STRING which contains the data of the input buffer.

Start and stop the device driver

With User Function Code XIN_ACTIVE you can start and stop the activity of XIN_SR_xx.TDD.

PUT #D, #0, #XIN_ACTIVE, Variable

D	is a constant, a variable or expression of the data type BYTE, WORD, LONG in the range from 0...63 and determines the device number of the driver.
Variable	is a variable of the data type BYTE, WORD, LONG or STRING. 0: start device driver <>0: stop device driver

Program example:

```
#include define_a.inc
#include ufunc3.inc
#define XIN_XPADR_STATUS        093H
#define XIN_XPADR_DATA          094H
#define XIN_BITNO_STATUS        095H
#define XIN_ACTIVE              096H
#define XIN_BYTES_PER_MS        097H
#define XIN_BUSY                098H



task main

  long ibu_fill
  string input_data$

  install_device #0, "XIN_SR_R1.TDD", 1, 1, 07H, 06H, 0
'                                      !  !   !    !   !-- Bitno statusbit
'                                      !  !   !    !------ XP addr databyte
'                                      !  !   !----------- XP addr statusbit
'                                      !  !--------------- SR retries
'                                      !------------------ Max bytes per 1ms


  PUT   #0, #0, #XIN_ACTIVE, YES        ' start the device driver
                                        ' YES: start device driver
                                        ' NO: stop device driver


  while 1=1

    ibu_fill = 0                        ' init variable
    while ibu_fill = 0                  ' wait for data <====== LOOP ======>
      GET       #0, #0, #UFCI_IBU_FILL, 0, ibu_fill ' get fill of buffer
    endwhile                            ' wait for data <====== LOOP ======>

    GET #0, 0, input_data$              ' read out data
  endwhile

end
```