FB5 - <offline>

""

Name: **Family:**
Author: Yetkin **Version:** 1.0
Block version: 2
Time stamp Code: 01/17/2022 12:51:40 AM
Interface: 10/29/2009 07:41:28 AM
Lengths (block/logic/data): 00894 00700 00024

Name	Data Type	Address	Initial Value	Comment
IN		0.0		
Adress_FU	Int	0.0	0	PEW/PAW according to hardware configuration [INTEGER].
right	Bool	2.0	FALSE	Right = Main setpoint[100%]=+16383
left	Bool	2.1	FALSE	Left = Main setpoint[100%]=-16383
Bit_1	Bool	2.2	FALSE	Switch-off logic: SR Stop re&li="0" => Stop_Impulse = "1" for approx.5sec
Bit_7	Bool	2.3	FALSE	Reset FU in case of malfunction
Bit_11	Bool	2.4	FALSE	D6.174 Bit 11 Control word = Ramp 2
Bit_12	Bool	2.5	FALSE	D6.175 Bit 12 Control word = torque limitation active
Bit_13	Bool	2.6	FALSE	
Setpoint_M_Limitation	Real	4.0	0.000000e+000	
Setpoint_M_Preset	Real	8.0	0.000000e+000	
Setpoint_Speed	Real	12.0	0.000000e+000	
Speed_max_in_rpm	Real	16.0	0.000000e+000	
Current_max_in_A	Real	20.0	0.000000e+000	
OUT		0.0		
FU_on_Bus	Bool	24.0	FALSE	Communication with FU_1 ok
Ready_to_switch_on	Bool	24.1	FALSE	If "1" => FU can be started
Operation	Bool	24.2	FALSE	"1" = Operation
Fault	Bool	24.3	FALSE	"1" = Fault
Warning	Bool	24.4	FALSE	"1" = Warning
Control_word	Word	26.0	W#16#0	for analyze only
Status_word	Word	28.0	W#16#0	for analyze only
Main_setpoint	Int	30.0	0	Output to FU -16383 left to +16383 right[INT].
Actual_value_frequency_p	Real	32.0	0.000000e+000	100% right= 16383,-100% left= -16383 ; 200% = 32767,-200% =-32768
Actual_value_perform_p	Real	36.0	0.000000e+000	100% right= 16383,-100% left= -16383 ; 200% = 32767,-200% =-32768
Actual_current_percent	Real	40.0	0.000000e+000	100% right= 16383,-100% left= -16383 ; 200% = 32767,-200% =-32768
Actual_value_torque_proc	Real	44.0	0.000000e+000	100% right= 16383,-100% left= -16383 ; 200% = 32767,-200% =-32768
Actual_value_speed_in_rp	Real	48.0	0.000000e+000	Speed absolute in rpm
Actual_value_current_A	Real	52.0	0.000000e+000	
IN_OUT		0.0		
STAT		0.0		
Adress	Word	56.0	W#16#0	
RET_VAL_Data_Write	Int	58.0	0	
RET_VAL_Data_Read	Int	60.0	0	
Data_to_FU	Array [0..11] Of Byte	62.0		
Data_from_FU	Array [0..11] Of Byte	74.0		
TEMP		0.0		

Name	Data Type	Address	Initial Value	Comment
Auxiliary_variable_speed	Real	0.0		

Block: FB5

Network: 1 Data exchange

```
//Read out data from FU

      CALL  "DPRD_DAT"               SFC14              -- Read Consistent Data of a Standard DP Slave
       LADDR  :=#Adress              #Adress
       RET_VAL:=#RET_VAL_Data_Read   #RET_VAL_Data_Read
       RECORD :=#Data_from_FU        #Data_from_FU


//Send data to FU

      CALL  "DPWR_DAT"               SFC15              -- Write Consistent Data to a Standard DP Slave
       LADDR  :=#Adress              #Adress
       RECORD :=#Data_to_FU          #Data_to_FU
       RET_VAL:=#RET_VAL_Data_Write  #RET_VAL_Data_Write


//FU at the bus

      U(
      L     #RET_VAL_Data_Write      #RET_VAL_Data_Write
      L     0
      ==I
      )
      U(
      L     #RET_VAL_Data_Read       #RET_VAL_Data_Read
      L     0
      ==I
      )
      =     #FU_on_Bus               #FU_on_Bus         -- Communication with FU_1 ok
```

Network: 2 Communication with FU (DP slave); output data

```
There are 4 protocols, see hardware configuration

Type 3:4 byte without parameterisation (control word,main setpoint/status
word,main actual value)

Type 4:12 bytes without parameterisation (control word, main setpoint, 4
auxiliary setpoints/status word, main actual value, 4 auxiliary actual values).
auxiliary actual values)

With type 3, communication directly via load and transfer commands is
sufficient.

For type 4 (more than 4 bytes of related information), the SFC14/15 must be
used for communication.

Configuration SFC14/15
LAADR [WORD] =PEW/PAW according to hardware configuration [HEX].
RECORD [ANY] =Pointer to data area 12byte
RET_VAL [INT] =Error (see manual SFC modules]
```

```
      L     #Adress_FU                                          #Adress_FU         -- PEW/PAW according
                                                                to hardware configuration [INTEGER].
      T     #Adress                                             #Adress


      L     P##Data_from_FU
      LAR1

      U      [AR1,P#1.0]
```

```
      =     #Ready_to_switch_on                                       #Ready_to_switch_on -- If "1" => FU can
                                                                      be started
      U      [AR1,P#1.2]
      =     #Operation                                                #Operation          -- "1" = Operation
      U      [AR1,P#1.3]
      =     #Fault                                                    #Fault              -- "1" = Fault
      U      [AR1,P#1.7]
      =     #Warning                                                  #Warning            -- "1" = Warning

//Output frequency (speed) in %

      L     W [AR1,P#2.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      T     #Actual_value_frequency_p                                 #Actual_value_frequency_p -- 100% right=
                                                                       16383,-100% left= -16383 ; 200% = 32767
                                                                      ,-200% =-32768

//Output frequency (speed) in rpm absolute

      L     W [AR1,P#2.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      L     #Speed_max_in_rpm                                         #Speed_max_in_rpm
      *R
      L     1.000000e+002
      /R

      T     #Actual_value_speed_in_rp                                 #Actual_value_speed_in_rp -- Speed absol
                                                                      ute in rpm

//Output Power (motor) in percent

      L     W [AR1,P#4.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      T     #Actual_value_perform_p                                   #Actual_value_perform_p -- 100% right= 1
                                                                      6383,-100% left= -16383 ; 200% = 32767,-
                                                                      200% =-32768

//Output current (motor) in %

      L     W [AR1,P#6.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      T     #Actual_current_percent                                   #Actual_current_percent -- 100% right= 1
                                                                      6383,-100% left= -16383 ; 200% = 32767,-
                                                                      200% =-32768

//Output current (motor) in A

      L     W [AR1,P#6.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      L     #Current_max_in_A                                         #Current_max_in_A
      *R
      L     1.000000e+002
      /R
      T     #Actual_value_current_A                                   #Actual_value_current_A

//Output Torque (motor) in %

      L     W [AR1,P#8.0]
      ITD
      DTR
      L     1.638400e+002
      /R
      T     #Actual_value_torque_proc                                 #Actual_value_torque_proc -- 100% right=
                                                                       16383,-100% left= -16383 ; 200% = 32767
                                                                      ,-200% =-32768
```

```
// Output status word for analysis

      L     W [AR1,P#0.0]
      T     #Status_word                                                    #Status_word       -- for analyze only

      U     #FU_on_Bus                                                      #FU_on_Bus         -- Communication with
                                                                             FU_1 ok
      SPB   ok
      L     0
      T     W [AR1,P#0.0]             //Status word
      T     W [AR1,P#2.0]             //Frequency FU
      T     W [AR1,P#4.0]             //Motor speed
      T     W [AR1,P#6.0]             //Current
      T     W [AR1,P#8.0]             //Moment
      T     W [AR1,P#10.0]            //Internal torque setpoint
ok:   NOP   0
```

Network: 3 Communication with FU (DP slave); read in data

There are 4 protocols, see hardware configuration

Type 3:4 byte without parameterisation (control word,main setpoint/status word,main actual value)

Type 4:12 bytes without parameterisation (control word, main setpoint, 4 auxiliary setpoints/status word, main actual value, 4 auxiliary actual values). auxiliary actual values)

With type 3, communication directly via load and transfer commands is sufficient.

For type 4 (more than 4 bytes of related information), the SFC14/15 must be used for communication.

Configuration SFC14/15
LAADR [WORD] =PEW/PAW according to hardware configuration [HEX].
RECORD [ANY] =Pointer to data area 12byte
RET_VAL [INT] =Error (see manual SFC modules]

```
      L     P##Data_to_FU
      LAR1

      L     2#10000011
      L     W [AR1,P#0.0]
      UW
      L     2#10001111100
      OW
      T     W [AR1,P#0.0]

      O     #right                  #right            -- Right = Main setpoint[100%]=+16383
      O     #left                   #left             -- Left = Main setpoint[100%]=-16383
      O     #Bit_1                  #Bit_1            -- Switch-off logic: SR Stop re&li="0" => Stop_Impulse = "1" for app
                                    rox.5sec
      =      [AR1,P#1.0]
      UN    #Bit_1                  #Bit_1            -- Switch-off logic: SR Stop re&li="0" => Stop_Impulse = "1" for app
                                    rox.5sec
      =      [AR1,P#1.1]
      U     #Bit_7                  #Bit_7            -- Reset FU in case of malfunction
      =      [AR1,P#1.7]
      U     #Bit_11                 #Bit_11           -- D6.174 Bit 11 Control word = Ramp 2
      =      [AR1,P#0.3]
      U     #Bit_12                 #Bit_12           -- D6.175 Bit 12 Control word = torque limitation active
      =      [AR1,P#0.4]
      U     #Bit_13                 #Bit_13
      =      [AR1,P#0.5]

      L     W [AR1,P#0.0]
      T     #Control_word           #Control_word     -- for analyze only

//B6.07 Auxiliary set point2 = M-limit [0-200%, 100%=+16383]

      L     #Setpoint_M_Limitation  #Setpoint_M_Limitation
      L     1.638300e+002
      *R
      RND
      T     W [AR1,P#4.0]
```

```
//B6.08 Auxiliary set point3 = M set point [0-200%, 100%=+16383]

      L     #Setpoint_M_Preset      #Setpoint_M_Preset
      L     1.638300e+002
      *R
      RND
      T     W [AR1,P#6.0]


      UN    #right                  #right             -- Right = Main setpoint[100%]=+16383
      UN    #left                   #left              -- Left = Main setpoint[100%]=-16383
      O     #Bit_1                  #Bit_1             -- Switch-off logic: SR Stop re&li="0" => Stop_Impulse = "1" for app
                                    rox.5sec
      ON    #FU_on_Bus              #FU_on_Bus         -- Communication with FU_1 ok
      SPB   stop


      L     #Setpoint_Speed         #Setpoint_Speed
      L     0.000000e+000
      <R
      SPB   stop
      SPA   re

stop: L     0
      T     W [AR1,P#2.0]
      R      [AR1,P#1.0]
      SPB   end

//B6.06 Main setpoint1 = f-SW AUTO [0-100%, 100%=+16383]

re:   L     #Setpoint_Speed         #Setpoint_Speed
      L     1.638300e+002
      *R
      RND
      T     W [AR1,P#2.0]

      U     #left                   #left              -- Left = Main setpoint[100%]=-16383
      SPB   li
      SPA   end

li:   L     W [AR1,P#2.0]
      L     -1
      *I
      T     W [AR1,P#2.0]
      SPA   end

end:  L     W [AR1,P#2.0]
      ITD
      DTR
      T     #Main_setpoint          #Main_setpoint     -- Output to FU -16383 left to +16383 right[INT].
```

Network: 4

```
      SET
      SAVE
```