

SGJT_STRA_PLC_20171212_1636_V15 / PLC01-A101 [CPU 1517-3 PN/DP] / Program blocks / Library / SYC
SYC_FC_ANA_IN [FC40]

SYC_FC_ANA_IN Properties

General

Name	SYC_FC_ANA_IN	Number	40	Type	FC	Language	LAD
Numbering	Manual						

Information

Title	Author	DA_Lib	Comment	Family
ANA.INPUT READING AND SCALING TO ENG.UNITS-REAL OUTPUT				<p>##### ##### ##### ##### # ANA.INPUT READING AND SCALING TO ENG.UNITS-REAL OUTPUT # ##### ##### ##### #####</p> <p>This software is sold with the expressed agreement that the information therein contained is the property of DANIELI AUTOMATION s.p.a.It will not be reproduced, installed, copied or otherwise disposed or directly or indirectly for different uses than the scope of this contract, and will not be used, in whole or in part, to assist in making or to furnish information for the use of the software, or other reproductions hereof, or for the making of software or parts thereof, except upon written permission of DANIELI AUTOMATION s.p.a., obtained and specific to each case. The acceptance of this software will be constructed as an acceptance of the foregoing agreement.</p> <p>Function name : SYC_FC_ANA_IN</p> <p>Revisions history</p> <pre> +---+----- +-----+----- +-----+-----! ! 6 !05/04/02!Revision !D.Co- mar !! +---+----- +-----+-----! ! 5 !10/01/02!Revision ! L.Zuccolo !! +---+----- +-----+-----! ! 4 !10/10/01!Revision ! L.Zuccolo !! +---+----- +-----+-----! ! 3 !14/02/01!Revision ! L.Zuccolo !! +---+----- +-----+-----! ! 2 ! 11/00!Revision !L.Zuc- colo !! +---+----- +-----+-----! ! 1 !15/12/97!For issue step7 !G.Ceolin !! +---+----- +-----+-----! !Rev!Date !Description ! Drawn !Checked ! +-----+-----+ </pre> <p>Revision hystory :</p> <p>1.0 Issue 2.0 Use of FC105 from Siemens TI-S7 standard libraries. All values moved to reals. Separated diagnostic bits for field and channel faults. Safe value in case of fault. 3.0 Latching and ack of alarms added 4.0 #TMP_Field_Fault disabled because Siemens scaling function gives</p>

error also if AIN value exceeds the range (i.e. 21 mA).

5.0 Use of FC105 from Siemens TI-S7 standard libraries removed because the problem described in rev.4

New alarm detection procedure for TMP_Field_Fault

6.0 The system disables the analog input diagnostic in case of the analog input is not a IW or PIW variable type. See network 6.

Function : This block is used to read a scale an analog variable from the peripheral PLC area

Parameters : See header

Remarks :

Based upon FC105 Siemens TI-S7 standard libraries. Differences between FC105 and this FC are:

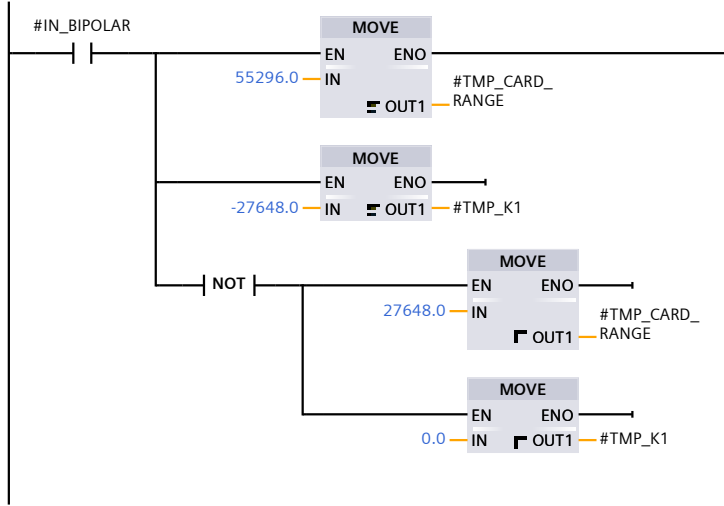
- ENO output is always set to 1 even in case of AI error. This to allow the block to be written in a cascade ladder (error does not lock the following cascaded instructions).
- Error diagnostic considers the HW fault too and the fault infos are written in bool outputs.
- Safe output input parameter added. In case of a fault the function output is set to the safe output value.

Version 0.0 User-defined ID

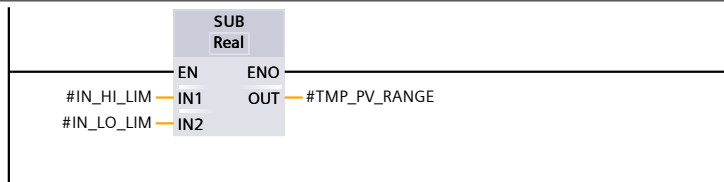
SYC_FC_ANA_IN

Name	Data type	Offset	Default value	Comment
▼ Input				
IN_PIW_Address	Pointer			
IN_HI_LIM	Real			
IN_LO_LIM	Real			
IN_Safe_OUT	Real			
IN_BIPOLAR	Bool			
IN_ACK	Bool			
▼ Output				
OUT_Value	Real			
▼ InOut				
IN_OUT_Field_Fault	Bool			
IN_OUT_AI_CH_Fault	Bool			
▼ Temp				
TMP_RET_VAL	Word	0.0		
TMP_OUT	Real	2.0		
TMP_Field_Fault	Bool	6.0		
TMP_AI_CH_Fault	Bool	6.1		
TMP_RAW_AIN_VALUE	Real	8.0		
TMP_K1	Real	12.0		
TMP_RAW_AIN_VALUE_DINT	DInt	16.0		
TMP_PV_RANGE	Real	20.0		
TMP_CARD_RANGE	Real	24.0		
TMP_PIW_PNT	DWord	28.0		
TMP_AUX_REAL	Real	32.0		
Constant				
▼ Return				
SYC_FC_ANA_IN	Void			

Network 1: K1 AND CARD RANGE CHOICE



Network 2: PROCESS VARIABLE RANGE CALCULATION

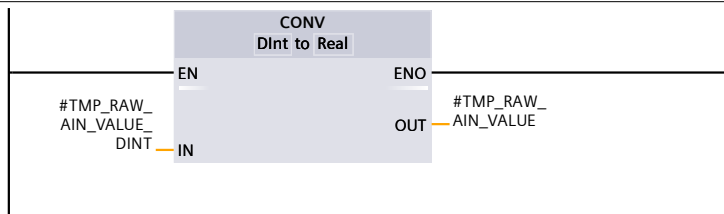


Network 3: ANALOG INPUT RAW VALUE

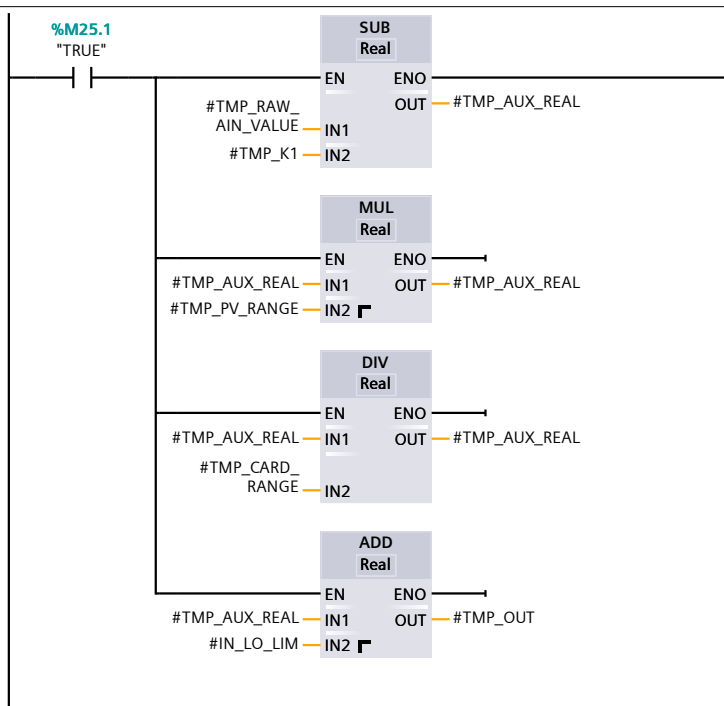
```

0001 L P##IN_PIW_Address
0002 LAR1
0003 L PIW [ AR1 , P#0.0 ]
0004 T #TMP_RAW_AIN_VALUE_DINT
    
```

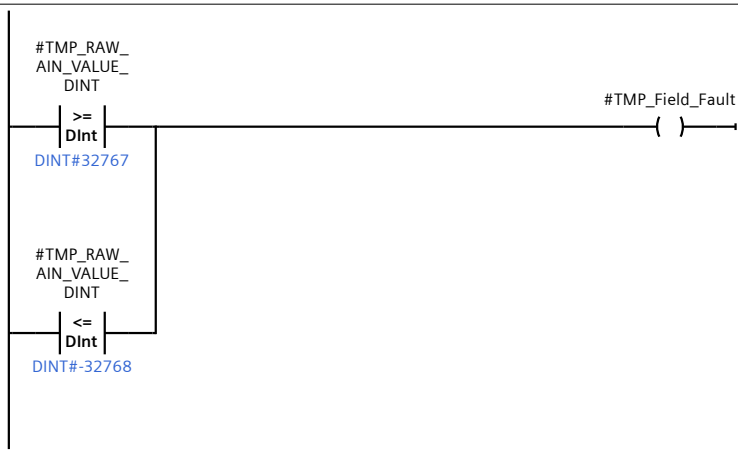
Network 4: SCALING



Network 5: OUT OF RANGE TEST



Network 6: AI CHANNEL DIAGNOSTIC

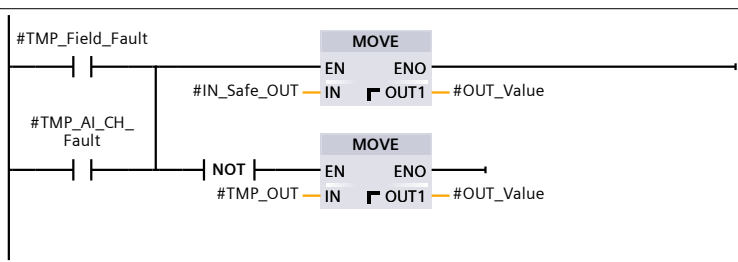


Network 7: SAFE OUTPUT

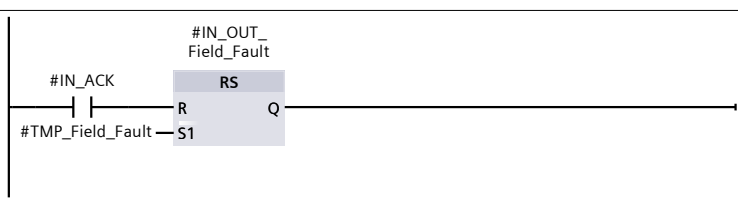
```

0001     SET                               // Initialization of channel fault flag
0002     R      #TMP_AI_CH_Fault
0003 //Channel Diagnostic
0004     OPN  "DIA_DB_HW_IN_Diag" // Open analog input diagnostic memory area
0005     L    P##IN_PIW_Address // Load input card address
0006     T    #TMP_PIW_PNT // Save analog input address into local pointer
0007     SRD  24 // Move the variable area type into the ACCU1 LSB
0008     L    W#16#80 // IF variable area type is a PIW
0009     <I
0010     JC   COFF
0011     TAK
0012     L    W#16#81 // OR variable area type is a IW
0013     >I
0014     JC   COFF // THEN the system enables the channel diagnostic
0015     L    #TMP_PIW_PNT
0016     L    2 // Get analog input diagnostic bit address
0017     /I
0018     SRD  3
0019     LAR1 // Point to analog input diagnostic bit
0020     A DBX [ AR1 , P#0.0 ] //
0021     =    #TMP_AI_CH_Fault // Analog input channel fault
0022 COFF: NOP 0
    
```

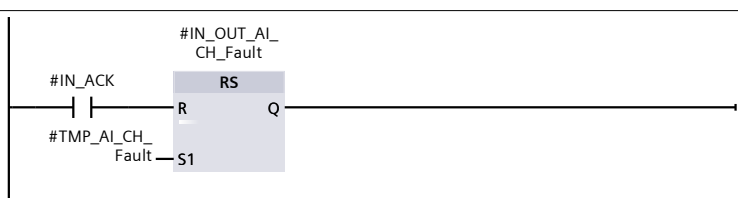
Network 8: ALARMS LATCHING



Network 9: ALARMS LATCHING



Network 10: Set of ENO



Network 11: K1 AND CARD RANGE CHOICE

```

0001     SET
0002     SAVE
    
```