

Details for implementation of PROFIBUS PA interface with MYCOM 152 cond

Scope

This file is effective for the following software versions:

MYCOM 152 PROFIBUS PA:
Lf con : 1.08
FCYP PROFIBUS interface card : 1.04

This file contains additional information to the operating manuals of MYCOM 152 cond with a PROFIBUS PA communication interface.

Cyclic Service of MYCOM 152 Lf conductive

The telegram of the cyclic service of MYCOM 152 Lf conductive has the following format:

byte	data item	access	data format	unit
0, 1, 2, 3	main measured value (conductivity, resistance or concentration)	r	32-bit floating point number (IEEE-754)	mS/cm, MOhm or %
4	status of main measured value	r	80h = O.K.	-
5, 6, 7, 8	temperature measured value	r	32-bit floating point number (IEEE-754)	°C
9	status of temperature measured value	r	80h = O.K.	-

Caution!

All bytes have to be selected.

Miscellaneous

- The cyclic telegram of MYCOM 152 is not affected by the configuration of the device.
- The implementation of the physical layer IEC 1158-2 ensures, that a reverse polarity on the signal lines has no effect on the functionality of the device.
- Proper cables for the signal lines are e.g. Belden 3097A or Siemens 6XY 1830-5AH10.
- 32-bit floating point number in IEEE-754 format:

byte n				byte n+1				byte n+2				byte n+3																			
bit7	bit 6			bit 0	bit7	bit 6			bit 0	bit 7	bit 0			bit 7	bit 0																
S	2 ⁷	2 ⁶	2 ⁵	2 ⁴	2 ³	2 ²	2 ¹	2 ⁰	2 ⁻¹	2 ⁻²	2 ⁻³	2 ⁻⁴	2 ⁻⁵	2 ⁻⁶	2 ⁻⁷	2 ⁻⁸	2 ⁻⁹	2 ⁻¹⁰	2 ⁻¹¹	2 ⁻¹²	2 ⁻¹³	2 ⁻¹⁴	2 ⁻¹⁵	2 ⁻¹⁶	2 ⁻¹⁷	2 ⁻¹⁸	2 ⁻¹⁹	2 ⁻²⁰	2 ⁻²¹	2 ⁻²²	2 ⁻²³
Sign	exponent				mantissa				mantissa				mantissa																		

Formula: **Value** = $(-1)^S \cdot 2^{(\text{exponent} - 127)} \cdot (1 + \text{mantissa})$

Example: 40 F0 00 00 h = 0100 0000 1111 0000 0000 0000 0000 0000 b

$$\begin{aligned}
 \text{Value} &= (-1)^0 \cdot 2^{(129 - 127)} \cdot (1 + 2^{-1} + 2^{-2} + 2^{-3}) \\
 &= 1 \cdot 2^2 \cdot (1 + 0,5 + 0,25 + 0,125) \\
 &= 1 \cdot 4 \cdot 1,875 \\
 &= 7,5
 \end{aligned}$$

- Coding of status according to „PROFIBUS PA Profile for Process Control Devices - General Requirements“ V 2.0:

STATUS-CODE (HEX)	MEANING	DEVICE-CONDITION
0C	device failure	BAD
80	ok	GOOD