

1 Limits for Coefficients and for the Calculated Results of MS5534A

Assumed pressure and temperature range: 300...1100 mbar, -20...70°C.

For definitions, see data sheet of MS5534A.

The typical values are taken from the examples in the data sheet.

Maximum Values for C1-C6

	min	typ	max
C1	0	25213	32767
C2	0	1908	4095
C3	0	859	1023
C4	0	750	1023
C5	0	148	1500
C6	0	32	63

Note: For the type of sensor used in MS5534A (MS7801A), the following limits of coefficients can be expected but are not 100% tested:

	min	typ	max
C1	10000	25213	32767
C2	0	1908	4095
C3	300	859	1023
C4	0	750	1023
C5	0	148	1500
C6	10	32	63

Maximum Values for D1, D2

	min	typ	max
D1	5000	17000	38000
D2	12000	22500	45000

Maximum Values for Calculation Results

	min	typ	max
$UT1=8 \cdot C5+20224$	20224	21408	32224
$dUT=D2-UT1$	-7600	1092	9500

$$dUT_{min} = (T_{min}-T_{ref}) \cdot 190 \text{ TLSB}/^{\circ}\text{C}$$

$$dUT_{max} = (T_{max}-T_{ref}) \cdot 190 \text{ TLSB}/^{\circ}\text{C}$$

$OFF=(C2+(C4-512) \cdot dUT/2^{14}) \cdot 4$	-1187.5	7695.451	17571.5
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$$OFF_{min}=(C2_{min}+(C4_{min}-512) \cdot dUT_{max}/2^{14}) \cdot 4$$

$SENS=C1+C3 \cdot dUT/2^{10}+24576$	26976	50705.04	66844 ^{*)}
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$$Sens_{min}=C1_{min}+C3_{max} \cdot dUT_{min}/2^{10}+24576$$

Lower limits of 10000 for C1 and 300 for C3 are used.

P (300...1100 mbar with 0.01 mbar resolution)	30000		110000
$X=P-25000/100 \cdot 2^5$ (0.01 mbar resolution)	1600		27200

$TEMP=200+dUT \cdot (C6+50)/2^{10}$	-200	287.4453	700
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^{*)} Can be limited to 65535, which in rare cases will limit the temperature range to an upper limit of approx. 65°C.

REVISION HISTORY

Date	Revision	Type of changes
November 25, 2003	V1.0	Initial release

FACTORY CONTACTS

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