

## 1 Limits for Coefficients and for the Calculated Results of MS5534B

Assumed pressure and temperature range: 0...1100 mbar, -40...85°C.  
For definitions, see data sheet of MS5534B.

### Maximum Values for C1-C6

	min	typ	max
C1	0	24285	32767
C2	0	1384	4095
C3	0	745	1023
C4	0	405	1023
C5	0	932	2047
C6	0	28	63

Note: For the type of sensor used in MS5534B (MS7801A), the following limits of coefficients can be expected but are not 100% tested:

	min	typ	max
C1	17250	24285	30950
C2	600	1384	3350
C3	500	745	810
C4	200	405	1023
C5	0	932	1650
C6	10	28	63

### Maximum Values for D1, D2

	min	typ	max
D1	0	17000	40000
D2	0	22500	45000

**Maximum Values for Calculation Results**

$P_{min} = 0\text{mbar}$                        $P_{max} = 1100\text{mbar}$ ,  
 $T_{min} = -40^{\circ}\text{C}$                        $T_{max} = +85^{\circ}\text{C}$                        $T_{ref} = +20^{\circ}\text{C}$

	min	typ	max
$UT1=8*C5+20224$	20224	27680	36600
$dUT=D2-UT1$	-11400	0	12350

$dUT_{min} = (T_{min}-T_{ref}) * 190\text{TL SB}/^{\circ}\text{C}$   
 $dUT_{max} = (T_{max}-T_{ref}) * 190\text{TL SB}/^{\circ}\text{C}$

$OFF=(C2+(C4-512)*dUT/2^{14})*4$	-1544	5536	17921
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$OFF_{min} = (C2_{min}+(C4_{min}-512)*dUT_{max}/2^{14})*4$   
 $OFF_{max} = (C2_{max}+(C4_{max}-512)*dUT_{max}/2^{14})*4$

$SENS=C1+C3*dUT/2^{10}+24576$	13187	48861	65295
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$Sens_{min} = C1_{min}+C3_{max}*dUT_{min}/2^{10}+24576$   
 $Sens_{max} = C1_{max}+C3_{max}*dUT_{max}/2^{10}+24576$   
 Upper limits of 30950 for C1 and 850 for C3 are used.

P (0...1100 mbar with 0.1 mbar resolution)	0		11000
$X=(P*10^{-2500})/10*2^5$	-8000		27200

TEMP (-40...85°C with 0.1°C resolution)	-400		850
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Low Temperatures:

$T2=11*(C6+24)*(200-TEMP)^2 / 2^{20}$	0		328
$P2= 3*T2*(P-3500)/2^{14}$	-210		451

High Temperatures:

$T2=3*(C6+24)*(450-TEMP)^2 / 2^{20}$	0		180
$P2= T2*(P-10000)/2^{13}$	-115		249

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**REVISION HISTORY**

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Date	Revision	Type of changes
November 18, 2004	V1.0	Initial release
December 20, 2004	V2.0	Adaptation for MS5534B

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**FACTORY CONTACTS**

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