

Absolute maximum ratings						
Values beyond these limits might cause permanent damage						
Symbol	Parameter	Condition	min.	typ.	max	Unit
v	External power supply voltage		0		25**	V
T _{op}	GSB operating temperature range	connection via Rast 2.5*	0		50	°C
R _{lout}	Load on I _{out}	V _{cc} > 10	0		270	Ω
I _{Vout}	Load current on V _{out}		0		1	mA
I _{oc}	Open collector sink current (each)		0		50	mA
V _{oc}	Open collector voltage		0		30	V
V _{in} R232	Input voltage range R232		-25		25	V

*For sensors directly mounted on the GSB, the thermal load on the board is higher and maximum operating temperature will depend on ventilation. Ensure reasonable heat exchange to avoid heat buildup at the board.

** 25Vdc is the absolute maximum. For operation on a 24Vdc rail, please use the Oxygen Transmitter OxyPro-XT

Recommended operating conditions						
For optimal measurement performance the GSB should be operated at recommended conditions.						
Symbol	Parameter	Condition	min.	typ.	max	Unit
V _{cc}	External power supply voltage		10	12	14	V
T _{op}	GSB operating temperature range		15	25	35	°C
R _{lout}	Load on I _{out}		0		270	Ω
I _{Vout}	Load current on V _{out}		0		1	mA
I _{ocsum}	Open collector sink current (each)		0		100	mA

Remarks:

- T_{op} refers only to the GSB ambient temperatures, an external connected sensor is not affected by this limitation
- I_{out} refers to the 4-20mA analog output and V_{out} refers to the 0-5V analog output
- I_{oc} and V_{oc} are only of relevance, if the open collector outputs are used

Preinstalled sensor settings for SO-zz-xxx

The basic GSB configuration contains the following preinstalled sensor settings, to be selected via DIP switch.

	Dip Switch Bit				Sensor Description	GSB full scale	O2 calibration concentration	Sensor voltage	Heater control
	Sensor type	1	2	3					
0	reserved	ON	ON	ON	-	-	-	-	
1	SO-zz-001	OFF	ON	ON	ppm	1000 vol. -ppm O ₂	1000 vol. -ppm O ₂	0,70 Volt	Rconst
2	SO-zz-010	ON	OFF	ON	1 %	1 vol. -% O ₂	1 vol. -% O ₂	0,75 Volt	Rconst
3	SO-zz-020	OFF	OFF	ON	2 %	2 vol. -% O ₂	2 vol. -% O ₂	0,75 Volt	Rconst
4	SO-zz-050	ON	ON	OFF	5 %	5 vol. -% O ₂	5 vol. -% O ₂	0,80 Volt	Rconst
5	SO-zz-250	OFF	ON	OFF	25 %	25 vol. -% O ₂	20,9 vol. -% O ₂	0,85 Volt	Rconst
6	SO-zz-960	ON	OFF	OFF	50 - 96 %	100 vol. -% O ₂ *	20,9 vol. -% O ₂	1,60 Volt	Rconst
7	SO-zz-960	OFF	OFF	OFF	1 - 96 %	100 vol.-% O ₂ *	20,9 vol. -% O ₂	1,00V	Rconst

*The specified sensor full scale concentration is 96%

Measurement accuracy - sensor characteristic

Overall O2 measurement accuracy for a GSB-System is mainly based on the sensor specification, please also refer to the Appendix A of the GSB User Manual