Derating table for altitudes above 2000 m

The derating table (table 8) from the IEC 61131-2:2017 standard can be referred to for the use of the TwinSAFE components above the specified maximum altitude.

Altitude in m	Derating factor for the temperature[1]
0 to 2000[2]	1.0
3000	0.9
4000	0.8
5000	0.7

Note: Linear interpolation is permissible between the altitudes

[1)] Ambient temperature of the device at an altitude of 2000 m

[2)] The air pressure and air density increase as the altitude decreases. Therefore the derating factor for 0 to 2000 m (1.0) is used for altitudes below sea level.

Calculation example

In the following example the calculation is performed for a TwinSAFE component at an operating altitude of 4000 m.

Permissible ambient temperature up to 2000 m above sea level = 55 °C

Permissible ambient temperature up to 4000 m above sea level = 55 °C * 0.8 = **44 °C**

⚠ CAUTION

Compliance with the temperature limits

The TwinSAFE component has a maximum internal temperature at which a switch-off takes place. This is designed for the maximum permissible ambient temperature. If the derating factor for the temperature for higher altitudes is used, the user is solely responsible for ensuring that the calculated maximum ambient temperature is complied with.