Theoretical calculation of the battery life time of STS Datalogger, generation 1 (series 37, 38, 63, 64, 65 and 66)

Precondition/acceptance for the calculation

- The calculation is not valid for the display battery
- For the calculation the storage interval and the sampling interval is equal
- The battery life time had been calculated for pressure and temperature measuring at an ambient temperature of 20°C

<table>
<tr><td rowspan="2" colspan="2"></td><td colspan="5">storage interval = sampling interval</td></tr>
<tr><td>2 sec.</td><td>1 min.</td><td>15 min.</td><td>1 hour</td><td>24 hours</td></tr>
<tr><td rowspan="5">Data retrieval rate</td><td>1 day</td><td>10 d</td><td>6 mts.</td><td>1 yr. 4 mts.</td><td>1 yr. 5 mts.</td><td>1 yr. 6 mts.</td></tr>
<tr><td>7 days</td><td>10 d*</td><td>8 mts.</td><td>3 yrs.</td><td>3 yrs. 8 mts.</td><td>3 yrs. 11 mts.</td></tr>
<tr><td>14 days</td><td>⊠*</td><td>8 mts.</td><td>3 yrs. 4 mts.</td><td>4 yrs. 2 mts.</td><td>4 yrs. 6 mts.</td></tr>
<tr><td>30 days</td><td>⊠*</td><td>8 mts.</td><td>3 yrs. 7 mts.</td><td>4 yrs. 7 mts.</td><td>5 yrs.</td></tr>
<tr><td>180 days</td><td>⊠*</td><td>8 mts.*</td><td>3 yrs. 9 mts.</td><td>4 yrs. 10 mts.</td><td>5 yrs. 4 mts.</td></tr>
</table>

Memory capacity (theoretical)

	2 sec.	1 min.	15 min.	1 hour	24 hours
p or ϑ	3 d	90 d	3 yrs. 8 mts.	14 yrs.10 mts.	256 yrs.
p or ϑ	1.5 d	45 d	1 yr. 10 mts.	7 yrs. 5 mts.	178 yrs.

p: Pressure   ϑ: Temperature
⊠: The battery is empty before reading out the memory *: The memory is full before reading out

Further information

- If only pressure or only temperature will be recorded the battery life time is not considerably longer
- The stored data won't get lost during battery change
- The self-discharge of the battery is approximately 4% per year at 25°C
- The ambient temperature has a significant influence on the battery life time (see chart)