

Specification	AXCS9000	Rev.: 2	Date: 2018-11-27
Oscillator type: <b>Optically-pumped Cesium Atomic Clock</b>			

## Features:

- Ultra-High Stability Primary Reference Clock (PRC)
- Standard for Time Synchronisation, Calibration and Test Labs
- Full monitoring and control features with modern user interface
- Long service life – Continuous operating time >8 years
- Compatible with popular Cesium Clocks
- Applications: 4G/5G networks, DTV, DAB, CMDA and Tetra, IPTV etc.
- Equivalent to ELECSPN TA1000



## Ordering Code

Model	Revision	Frequency [MHz]
AXCS9000	Rev.2	10.000

Parameter	min.	typ.	max.	Unit	Condition
Nominal output frequency RF1	5.000			MHz	
Nominal output frequency RF2	10.000			MHz	
<b>Frequency stability</b>					
Frequency accuracy			1·10 <sup>-12</sup>		
Short- and long-term stability			1.2·10 <sup>-11</sup> 8.5·10 <sup>-12</sup> 2.7·10 <sup>-12</sup> 8.5·10 <sup>-13</sup> 2.7·10 <sup>-13</sup> 8.5·10 <sup>-14</sup> 5.0·10 <sup>-14</sup>		@ τ = 1 sec @ τ = 10 sec @ τ = 100 sec @ τ = 1,000 sec @ τ = 10,000 sec @ τ = 100,000 sec @ Floor
Frequency reproducibility			5·10 <sup>-13</sup>		
<b>Manual synchronisation</b>					
Synchronisation range	±1·10 <sup>-9</sup>				
Resolution	1·10 <sup>-15</sup>				
External synchronisation input	1PPS TTL				
<b>1 PPS output</b>					
Rising time			10	ns	
Jitter			1	ns	
Accuracy			20	ns	
<b>RF output RF1 &amp; RF2</b>					
Number of output ports	2				
Signal waveform	Sine wave				
Load R <sub>L</sub>	50			Ω	±5%
Output level	+7	+10	+13	dBm	
Harmonics			-40	dBc	
Spurious			-80	dBc	
Phase noise @ 10 MHz			-100 -130 -145 -150 -154	dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz	@ 1 Hz @ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz
Warm-up time			40 120	Min Min	@ +25°C @ -10°C
DC Supply voltage V <sub>s</sub>	22		75	V	
AC Supply voltage V <sub>s</sub>	220			V	
AC Supply input frequency	50			Hz	
Power consumption (steady state)			110	W	
Power consumption (warm-up)			190	W	
Operating temperature range	-10		+40	°C	
Storage temperature range	-20		+50	°C	
Enclosure (see drawing) (WxDxH)	456x553x177			mm	19" rack 4 HU
Environmental conditions	Consult factory				
Weight			40	kg	
MTBF	100,000			hrs	
Service life	8			years	

**Please consult factory for detailed information, operating manual  
or special technical requirements**

**Revision History**

Rev.	Drawing	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	D0	30.10.2018	First issue	HH	ME
2	D0	27.11.2018	Phase noise values updated	HH	HH