

Atomic Clocks Cross Reference

	MICROCHIP	AXTAL
Model	CSAC SA.45s	AXCPT1040
Technology	Cesium Chip Scale Atomic Clock	Rubidium Coherent Population Trapping (CPT) Clock
Package	40.6 x 35.3 x 11.4 mm	45 x 36 x 14.5 mm – Pin-compatible
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz CMOS OUT, RS-232 interface	1PPS SYNC IN, 1PPS and 10 MHz CMOS OUT, RS-232 interface
Supply / Consumption	3.3 V / 0.12 W	3.3 V / 1.5 W
Performance	-	Better phase noise of about 10~30 dB Better short- and long-term stability Wide operating temperature range
Model	MAC SA.3Xm (Obsolete)	AXRB1031H
Technology	Rubidium Miniature Atomic Clock	Rubidium Miniature Atomic Clock
Package	50.8 x 50.8 x 18.3 mm Manufacturer specific pin connection	50.8 x 50.8 x 25.0 mm Standard OCXO pin connection
Input & Output	10 MHz CMOS OUT, RS-232 interface	10 MHz CMOS OUT, RS-232 interface
Supply / Consumption	5 V / 8 W	5 V / 6 W
Performance	-	Better close-in phase noise Better long-term stability
Model	MAC SA5X	AXRB1031H
Technology	Rubidium Miniature CPT Atomic Clock (SA.3Xm redesign)	Rubidium Miniature Atomic Clock
Package	50.8 x 50.8 x 17.8 mm Manufacturer specific pin connection	50.8 x 50.8 x 25.0 mm Standard OCXO pin connection
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz CMOS OUT, RS-232 and USB interface	10 MHz CMOS OUT, RS-232 interface
Supply / Consumption	4.5~32 V / 8 W	5 V / 6 W
Performance	Wide operating temperature range Better short-term stability	Better close-in phase noise Better long-term stability

	MICROCHIP	AXTAL
Model	SA.22c (Obsolete)	AXRB1021
Technology	High stability Rubidium Atomic Clock	High stability Rubidium Atomic Clock
Package	112.4 x 78.3 x 23.6 mm 18-pin SAMTEC connector	89 x 76 x 28 mm 9-pin D-Sub and SMA connector
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz CMOS OUT, RS-232 interface	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface
Supply / Consumption	5 V & 15 V / 10 W	12~18 V / 8 W
Performance	-	Better phase noise Same performance in smaller package
Model	X72 (Obsolete)	AXRB1021
Technology	High stability Rubidium Atomic Clock	High stability Rubidium Atomic Clock
Package	89 x 76 x 18 mm 26-pin MOLEX connector	89 x 76 x 28 mm 9-pin D-Sub and SMA connector
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface
Supply / Consumption	10~32 V / 10 W	12~18 V / 8 W
Performance	-	Better phase noise
Model	XPRO (LPRO successor)	AXRB1021
Technology	High stability Rubidium Atomic Clock	High stability Rubidium Atomic Clock
Package	127 x 94 x 38 mm 9-pin D-Sub and SMA connector	89 x 76 x 28 mm 9-pin D-Sub and SMA connector
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface
Supply / Consumption	19~32 V / 14 W	12~18 V / 8 W
Performance	Better short- and long-term stability	Better phase noise Typical stability close to XPRO specification

	MICROCHIP	AXTAL
Model	XPRO (LPRO successor)	AXRB1003H (NRND)
Technology	High stability Rubidium Atomic Clock	High stability Rubidium Atomic Clock
Package	127 x 94 x 38 mm 9-pin D-Sub and SMA connector	127 x 95 x 38 mm 10-pin Feedthrough connector
Input & Output	1PPS SYNC IN, 1PPS and 10 MHz Sine wave OUT, RS-232 interface	10 MHz Sine wave OUT, RS-232 interface
Supply / Consumption	19~32 V / 14 W	22~32 V / 10 W
Performance	-	Better phase noise Very high frequency stability
Model	5071A	AXCS9000
Technology	Cesium Atomic Clock (magnetic deflection)	Cesium Atomic Clock (optical pumping)
Package	426 x 524 x 133 mm – 19-inch rack mountable	456 x 553 x 177 mm – 19-inch rack mountable
Input & Output	1PPS SYNC IN, 1PPS, 5 MHz and 10 MHz Sine wave OUT, remote interface	1PPS SYNC IN, 1PPS, 5 MHz and 10 MHz Sine wave OUT, remote interface
Supply / Consumption	DC Input: 22~42 V AC Input: 100~240 V / 58 W Internal battery (optional)	DC Input: 22~75 V AC Input: 200~240 V / 120 W No internal battery
Performance	High Performance (HP) Cesium Stability 5 years Cesium tube life	High Performance (HP) Cesium Stability 10 years Cesium tube life (guaranteed)
Model	5071A	AXCS9500
Technology	Cesium Atomic Clock (magnetic deflection)	Cesium Atomic Clock (magnetic deflection)
Package	426 x 524 x 133 mm – 19-inch rack mountable	435 x 550 x 133 mm – 19-inch rack mountable
Input & Output	1PPS SYNC IN, 1PPS, 5 MHz and 10 MHz Sine wave OUT, remote interface	1PPS SYNC IN, 1PPS, 5 MHz and 10 MHz Sine wave OUT, remote interface
Supply / Consumption	DC Input: 22~42 V AC Input: 100~240 V / 58 W Internal battery (optional)	DC Input: 36~72 V AC Input: 200~240 V / 80 W Internal battery (optional)
Performance	High Performance (HP) Cesium Stability 5 years Cesium tube life	High Performance (HP) Cesium Stability 5 years Cesium tube life