



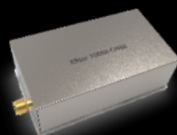
HONG KONG X'TALS LIMITED

Member of Kolinker Group
ISO/TS16949:2002 Certified*ISO 9001 Certified

An Ultra-stable GNSSDO with Excellent Holdover Performance



KStar 100

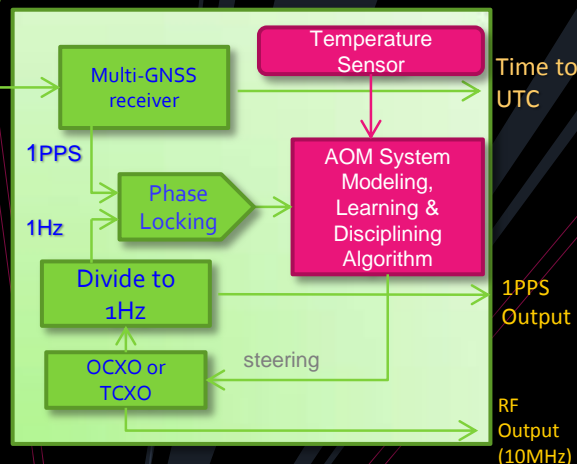


KStar 100M-GNSS



KStar 100M-1PPS

Antenna Input



Hong Kong X'tals Limited (HKC), a designer and manufacturer of precision time and frequency products, has recently launched a new product line of KStar series Global Navigation Satellite System Disciplined Oscillator GNSSDO.

Feature highlights:

- Various models available with or without built-in satellite receiver.
- Receives precision time codes from the satellites and provides a low noise 10MHz reference output and a synchronized to UTC 1PPS output.
- Supports con-current reception of signals from GPS, GLONASS, BEIDOU and GALILEO with superior sensitivity of down to -167dBm .
- Time and frequency synchronized to UTC at the 1PPS output.
- Long term frequency stability better than $1\text{E-}12$.
- Achieves the North America clock quality level of Stratum 2, and ITU-T Type II (G.812).
- With the advanced AOM system modeling algorithm, the influence of temperature and aging characteristics will be learned and compensated by the KSTAR. Resulting holdover performance for the 1PPS output is better than $\pm 1.5\mu\text{s}$ accuracy over 24 hours under temperature variation of up to 20°C .
- Operating temperature range from -20 to $+70^\circ\text{C}$

The exceptional stability and holdover performance of KSTAR is excellent for 4G and 5G LTE-TDD base-stations which require frequency and time accuracy of 50 ppb and $\pm 1.5\mu\text{s}$ respectively. Other applications include autonomous vehicles, energy operators and financial technology which all require accurate time stamping.



The KStar series is currently available in box type and compact modules down to 72x41x22mm. Other form factor is coming and please contact HKC for details.

HONG KONG X'TALS LIMITED

Unit C, 24/F., Shield Industrial Centre, 84 - 92 Chai Wan Kok Street, Tsuen Wan, New Territories, Hong Kong.
Tel : (852) 3511 2388 Fax : (852) 3511 2420 Website: www.hongkongcrystal.com
Email : hkxtals@hongkongcrystal.com





HONG KONG X'TALS LIMITED

Member of Kolinker Group

ISO/TS16949:2002 Certified*ISO 9001 Certified



GNSSDO KStar Series

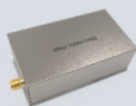
Kstar 100



All-in-one ultra-stable OCXO based frequency and time standard

Synchronize to built-in multi-system GNSS receiver. Frequency accuracy $\leq \pm 1E-12$ at GNSS locked. Holdover stability $\leq \pm 1.5\mu s$ over 24 hours in $20^{\circ}C$ temperature variation. Dimension 158 x 190 x 53 mm.

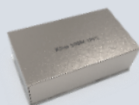
Kstar 100M-GNSS



Ultra-stable OCXO based. Ready for system integration in modular form factor.

Synchronize to built-in multi-system GNSS receiver. Frequency accuracy $\leq \pm 1E-12$ at GNSS locked. Holdover stability $\leq \pm 1.5\mu s$ over 24 hours in $20^{\circ}C$ temperature variation. Options available to programmable frequency output. Dimension 72 x 41 x 22 mm.

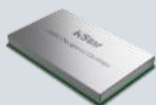
Kstar 100M-1PPS



Ultra-stable OCXO based. Flexible connection to any GNSS receiver by 1PPS input.

Disciplined OCXO which synchronize to 1PPS external input. Frequency accuracy $\leq \pm 1E-12$ at GNSS locked. Holdover stability $\leq \pm 1.5\mu s$ over 24 hours in $20^{\circ}C$ temperature variation. Dimension 72 x 41 x 22 mm.

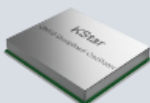
Kstar 50M-GNSS



TCXO based. Ready for system integration in modular form factor.

Synchronize to built-in multi-system GNSS receiver. Frequency accuracy $\leq \pm 1E-12$ at GNSS locked. Customized holdover stability upon user request. Options available to programmable frequency output. Dimension 72 x 41 x 12 mm.

Kstar 50M-1PPS



TCXO based. Flexible connection to any GNSS receiver by 1PPS input.

Disciplined TCXO which synchronize to 1PPS external input. Frequency accuracy $\leq \pm 1E-12$ at GNSS locked. Customized holdover stability upon user request. Dimension 72 x 41 x 12 mm.



Options available for different combinations of holdover stability requirements such as 0.1us / 0.5us / 1us / 1.5us / 8us over 1 / 2 / 4 / 8 / 24hrs in $5^{\circ}C$ / $10^{\circ}C$ / $20^{\circ}C$ temperature variations.

Please contact our sales representatives for details.

HONG KONG X'TALS LIMITED

Unit C, 24/F., Shield Industrial Centre, 84 - 92 Chai Wan Kok Street, Tsuen Wan, New Territories, Hong Kong.

Tel : (852) 3511 2388 Fax : (852) 3511 2420 Webpage: www.hongkongcrystal.com

Email : hkxtals@hongkongcrystal.com

