



ZXW-Eurocard

HIGH-PRECISION GPS FOR EASY INTEGRATION

ZXW-Eurocard™ from Thales is a high-precision dual-frequency GPS receiver with SBAS capability, built for the most demanding applications. Designed to seamlessly integrate with guidance, navigation and surveying solutions, ZXW-Eurocard guarantees reliable and accurate centimeter-level positions. The ZXW-Eurocard delivers world-class real-time GPS performance, enhancing technology and boosting end-user productivity.

STATE-OF-THE-ART RTK TECHNOLOGY

ZXW-Eurocard 12 Channel dual-frequency receiver features patented Z-Tracking™ technology from Thales. Z-Tracking is key to ensuring precise centimeter level positioning in RTK mode. In addition, the receiver's high update rates in RTK mode provide more accurate positioning for challenging applications such as machine control, agriculture, vehicle guidance, construction, land and marine surveying, and precision navigation.

RAPID REAL-TIME POSITIONING

ZXW-Eurocard features innovative Instant-RTK® technology from Thales, providing fast and accurate real-time positioning for your customers. With Instant-RTK, fixed ambiguity solutions are available seconds after full satellite lock. Instant-RTK is the competitive advantage you need in the demanding GPS solutions marketplace.

HIGH PERFORMANCE GPS WITH SBAS CAPABILITY

ZXW-Eurocard is an essential component for cutting-edge GPS-driven solutions, ideal for custom-designed dynamic applications. Easily integrated into high-performance positioning and navigation systems, the ZXW-Eurocard is the ideal solution for those requiring the ultimate accuracy. The ZXW-Eurocard is capable of outputting SBAS (WAAS/EGNOS/MSAS) raw data for RTK processing and integrity



monitoring. Backed by Thales' expertise in the high-precision GPS market and the most innovative GPS technology available, ZXW-Eurocard provides you with absolute confidence in GPS performance.

ZXW-EUROCARD OFFERS A RANGE OF ADVANTAGES:

- Easy integration into most positioning and navigation applications
- Backwards compatibility enables seamless upgrades from Z-Eurocard™
- Low power consumption
- Lightweight vibration and shock resistant package
- Reliable operation in the presence of interfering signals
- RTK data compatible with any RTK remote station, supporting base station solutions
- SBAS raw data output for improved positioning and integrity monitoring

VALIDATE GPS PERFORMANCE WITH ZXW-EUROCARD EVALUATION KIT

Thales offers the ZXW-Eurocard Development Kit so you can conduct a comprehensive evaluation of the receiver's performance to ensure that this is the right GPS device for the application. The Development Kit contains every tool you need to test each function, including a

ZXW-Eurocard, power supply, interface cables, antenna, manuals, Mission Planning™ software, and Windows® based Evaluate™ software. Evaluate software communicates directly with the receiver for control and monitoring, providing visual displays of satellite information, receiver position and velocity. The software is also capable of data logging and position accuracy analysis.

TECHNICAL SPECIFICATIONS

Standard Features

- 36-channel, all-in-view parallel tracking
 - 12 channels L1 C/A code and carrier tracking
 - 12 channels L1 P-code and full wave length carrier tracking
 - 12 channels L2 P-code and full wave length carrier tracking
- Z-Tracking
- Real-time data output (code and carrier)
- NMEA V2.3 and V3.0
- 1PPS timing signal (5V TTL)
- 10 Hz raw data output (code and carrier)
- Enhanced edge and strobe correlator (advanced multipath mitigation for C/A code)
- Instant-RTK
- 5Hz Synchronized RTK
- Speed¹ (max): 514 m/sec (1,000 knots)
- Altitude¹ (max): 18287 m (60,000 ft)
- User selectable update rate up to 10Hz
- Less than 30ms position latency
- Event marker
- RTK remote mode
- RTK base mode
- Differential and RTK support for:
 - RTCM V2.2
 - Thales Navigation proprietary DBEN format
 - CMR/CMR+
- Point-positioning mode (automatic averaging)
- Remote monitoring
- SBAS raw data support
- User-defined coordinate system
- 1 year warranty
- 1 year free technical support

Instant-RTK and 5 Hz Synchronized RTK

Instant-RTK and 5 Hz Synchronized RTK are available as standard features on all ZXW-Eurocard units. Instant-RTK provides

fixed ambiguity solutions in as few as two seconds² after full satellite lock. 5 Hz Synchronized RTK provides 5 Hz update rate in Synchronized RTK mode.

Real-Time Position Accuracy³

- Autonomous⁴
 - Horizontal (CEP) 1.5 m (9.843 ft)
- Differential
 - Horizontal (CEP) 40 cm (15.75 cm)
- Synchronized RTK
 - Horizontal (CEP) 1.0 cm (0.39 in) + 2 PPM
 - Maximum position update rate: 5 Hz
- Fast RTK
 - Horizontal (CEP) 2.0 cm (0.79 in) + 2 PPM
 - Maximum position update rate: 10 Hz
 - < 30 ms position latency

Stated accuracy occurs with a high speed data link. Fast RTK accuracy will degrade with a slower data link. Synchronized RTK accuracy will not degrade with a slower data link.

Velocity Accuracy³ (knots)

- 0.1 (95%)

Communications

- 4 bi-directional RS-232 serial ports
- 1 internal port for internal radio

Technical Specifications Environmental/Physical

- Operating Temp: -30°C to +70°C (-22°F to 158°F)
- Storage Temp: -40°C to +85°C (-40°F to 185°F)
- Power Consumption: 4.0 W (typical)
- Input Voltage: 5 VDC ±5%
- Size: 9.9 cm W x 17.27 cm L x 1.52 cm H (3.9 in W x 6.8 in L x 0.6 in H)

- Connector: DIN64 (compatible with the G12E-RTK, GG24 and GG-RTK Eurocards.)
- Weight: 227 gr (0.5 lbs)
- Humidity: 95% Non-condensing
- Vibration: MIL-STD-810E "Minimum Integrity Test-General"

Data Link Requirement

- Minimum data link rate: 600 bps (using Thales Navigation Compact RTK message, generated once every 5 seconds, 12 satellites in view)
For optimal performance, it is recommended to send RTK messages once every second.

ZXW-Eurocard Development Kit

Development Kit includes ZXW-Eurocard receiver, all firmware options, antenna, power supply, cables, manuals, Evaluate software/ manual, Mission Planning software/manual.

- ¹ Higher altitudes and speeds available for authorized users.
- ² Fast Instant-RTK solution requires open sky conditions that allows receiver to track L1 and L2 signals on at least 6 satellites with a PDOP less than 6 for baseline lengths less than 10 km.
- ³ Accuracy and TTFF specs. are based on tests conducted in California under open sky conditions. Differential tests performed on a short baseline using Thales Navigation ZXW-Eurocard base station with Geodetic antenna and ZXW-Eurocard remote with Geodetic antenna (Marine IV antenna for TTFF). Antenna benchmark locations determined using CORS sites Point Blunt (PBL1) and Pigeon Point (PPT1). Tests at different locations under different conditions may produce different results.

Position accuracy specifications are for horizontal positioning. Vertical error is typically <2 times horizontal error.
- ⁴ Real-time position accuracies obtained with SA off. With SA on, accuracy of autonomous positioning may degrade up to 100 meters (95%) as specified by the U.S. Department of Defense.

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