



SYTGEO RTS and RGPS geotechnical monitoring radio receivers

The SYTGEO® RTS module is a radio transmitter-receiver for fast and easy deployment of remote SYTGEO® receivers and clustered sensors when fieldbus cable is no longer convenient, as in mountainous or urbanized areas.

For optimal efficiency, the RTS module may be paired to up to 4 other RTS modules

- ♦ 2 downstream : for economical connexion of two distant clusters of receivers
- ♦ 2 upstream : for safer monitoring of bottom and mid level nodes of the network.

In addition to the standard RTS features, the SYTGEO® RGPS receiver integrates the RTK-GPS technology. The RGPS receiver is designed for real-time 3D displacement measurements accurate within a few centimetres while maintaining a high acquisition rate. In favourable conditions, automatic stacking can increase resolution up to a few millimetres in all three directions without off-line processing.

The RGPS receiver transmits all quantitative indicators such as the configuration of satellites (DOP), the number of measures and corrections received, the quality of radio link as well as the statistics associated with the measurements during the stacking process. This information offers reliable checking, especially when an unusual change is detected or during the first installation and testing of the RGPS geodesic array.

The RTS and RGPS receivers include relevant diagnostic and alarm functions for optimal maintenance and robust casing for harsh environmental conditions.

Highlights

Cost effective solution

Very Low Power technology

High precision RTK-GPS monitoring

Dual frequency for use with long baselines

Up to 5 Hz acquisition rate

Field applications

Mines and quarries

Underground facilities

Dams and dykes

Structural health monitoring

Landslides and rockfalls

INERIS

*controlling risks
for sustainable development*

SYTGEO RTS and RGPS geotechnical monitoring receivers

Metrological characteristics

	RTS module	RGPS receiver
Sensor:	-	MAGELLAN choke ring antenna ASTECH - MAGELLAN bifrequency GPS sensor type
Data acquisition rate:	-	5 Hz
Stacking time period:	-	5 to 60 min
Line of sight transmission :	up to 3 kilometres	☺
Emission:	500 mA at 868,525 Mhz	☺
Transmission rate:	2400 Bauds	☺
Max. number of RTS and RGps:	up to 15 in one monitoring system / 4 in series	☺
Stand-by intensity - line voltage:	< 0.5 mA - 12 V	☺
Max. Intensity - line voltage	< 300 mA - 12 V	< 800 mA - 12 V
1 receiver, 1 acquisition per hour:	up to 4 years, with 18V / 85Ah ion-thionyl battery	external low power source needed, such as 2 W solar panel*
operating / storage Temperatures:	-20°C to + 50°C / -20°C to +70°C	☺

Casing specifications

Dimensions: h x w x d	400 mm x 250 mm x 120 mm	☺
weight:	4.5 Kg	5.5 Kg
Casing:	robust high density molded PVC casing	☺
Protection:	IP67 waterproof, moisture-proof, dustproof	☺

Optional accessories available on request: metallic tripod for ground sealing, batteries, solar panel, unidirectional antenna, etc.



Meteoric station
with RTS module



RGPS reference station

SYTMIS®, SYTGEO® et SYTGEM® are registered trademarks of INERIS. Specifications subject to change without notice.

cenaris@ineris.fr

INERIS ■ Ecole des Mines - Campus ARTEM ■ CS 14234
54042 Nancy cedex ■ France
e-mail : cenaris@ineris.fr ■ Internet : <http://www.ineris.fr>

INERIS
maîtriser le risque
pour un développement durable