

SECURE AND ENCRYPTED HEARTBEAT PROTOCOL

ABSTRACT

A heartbeat protocol communication method for an unmanned vehicle system, a method for secure hybrid cryptographic communication, and a method for encrypted communication during one or more communication sessions with a device are provided. The unmanned vehicle system includes an unmanned vehicle and a control platform and the method includes the unmanned vehicle transmitting heartbeat data at regular periodic predetermined time intervals, the heartbeat data comprising keep alive application data comprising real-time information pertinent to the unmanned vehicle and/or the control platform determining at regular periodic predetermined time intervals whether heartbeat data transmitted by the unmanned vehicle is received and the control platform transmitting an acknowledgement response to the unmanned vehicle each time the heartbeat data is received at a regular periodic predetermined time interval. The method further includes the control platform transmitting a heartbeat failure alert to the unmanned vehicle in response to determining no heartbeat data is received from the unmanned vehicle for a predetermined number of the regular periodic predetermined time intervals.

FIG. 1