

A GREEN LIGHT FOR YOUR DATA

Traffic Controller 2070 Specification

The traffic signal controller 2070 specification was written as a collaborative effort with the ultimate goal of increasing security measures and commuter safety. Caltrans played a large role in this successful project, which has since been adopted by other states around the country. Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System. The residents of California rely on Caltrans to deliver safe road design, reliable peripheral signage and controls, and technologically current traffic and roadway solutions.



Partnership Increases Safety

Part of the 2070 specification directive was to replace older traffic signal controllers with newer models in order to be in compliance with the new federally mandated standards. Through a partnership of Caltrans, the FHWA (Federal Highway Administration), State DOTs, local agencies and equipment manufacturers, the 2070 specification was written for all traffic controller manufacturers to follow in their product design. This collaborative effort outlined the requirements needed for the serial memory device as follows:

- ✓ Rugged and reliable for this task-critical environment
- ✓ Long-term support to eliminate the need for re-design
- ✓ Easy to use to shorten the implementation period
- ✓ Fully engineered to reduce R&D costs and time-to-market
- ✓ Provide access control/security function

Key Element



Datakey Electronics had the solution and has since become a “Key” element of the 2070 manufacturer specifications. One of Datakey Electronics’ products included in the spec is the DK1000 Serial Memory Key. It contains 1Kb non-volatile, serial Microwire EEPROM that can be read, erased, and written to via a simple interface with your host hardware. Traffic signal controllers play a crucial role in our everyday lives and safety, making securing the traffic management systems of utmost importance. On site, the DK1000 Key is required to gain access to the program modification module. The Key provides a unique ID on a network and gives access based on programmed rights. Additionally, rights distribution is easily managed with the DK1000, adding yet another level of security.

Fully-Engineered



The KC4210 is the mating Serial Memory Keyceptacle® for the DK1000. It supports the interchangeable use of various capacity Keys and is rated for a minimum of 200,000 insertions. The KC4210 was easily integrated into the manufacturer design specifications—another “key” benefit for this project.

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They Chose Datakey Electronics

Traffic signal controllers compliant with the 2070 specification were the first and only to earn the "Advanced Traffic Controller" designation by the FHWA. This says "success" for the 2070 specification team. Their commitment to quality products and processes made Datakey Electronics a natural choice for their serial memory device needs. The implementation of the DK1000 provided the high-level security function required, as well as a rugged and reliable solution based on Datakey Electronics' 30 years of experience in the serial memory device industry. The fact that it was easy-to-use, both in spec integration and in-field use, provided savings in R&D costs, time-to-market, and in-field training expenses.



Success Drives More Success

With the 2070-compliant traffic controllers off and running with great success, the Caltrans community wanted to **increase the functionality** of the system. Datakey Electronics designed the perfect solution; but this one required their expertise in custom applications. The end result were higher capacity SFK serial flash Keys that can be used by the controller manufacturers. These Keys give the manufacturer and users the option to store programs, upload parameters, log data, provide authentication, and update firmware with the simple turn of a Key.



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