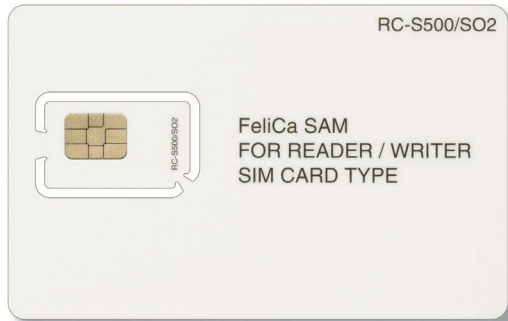


# RC-S500/SO2



RC-S500/SO2 is the FeliCa™ SAM for readers that support AES and DES encryption systems. This product enables various terminals to utilize FeliCa security functions for a wide range of applications. In addition, RC-S500/SO2 supports FeliCa Lite-S card.

AES  
supported

High  
security

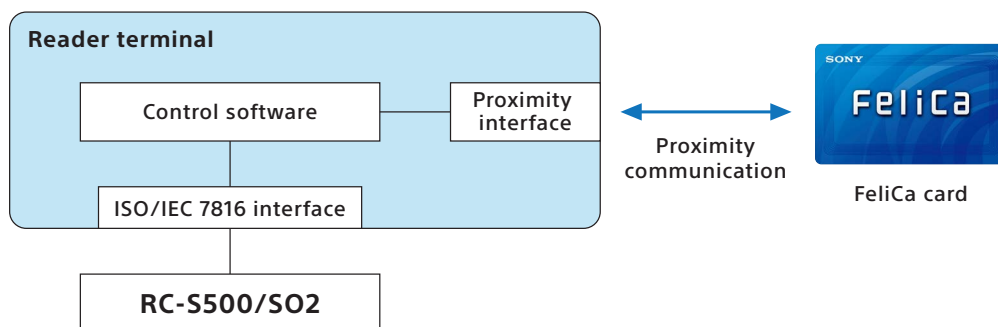
FeliCa Lite-S  
support

## FEATURES

### Offering secure access functionality to FeliCa cards using AES/DES encryption

RC-S500/SO2 product is a Secure Application Module (FeliCa SAM) for readers that provide the necessary functionality for secure access to FeliCa Standard cards with AES/DES encryption systems. To develop a FeliCa secure reader system, simply insert this product into the SIM card slot of the reader terminal.

#### Configuration example of the reader using RC-S500/SO2



### High level of security / Fast data communication

The security IC chip mounted in this product has obtained Common Criteria (ISO/IEC 15408) EAL5+ certification. By storing the encryption keys and security algorithm in the IC chip, it is possible to create a high-security system with this product.

Furthermore, this product can communicate with a reader, in which this product is inserted, at a maximum data transfer speed of 1.25 Mbps<sup>1)</sup>, suitable for systems that require fast processing.

<sup>1)</sup> With the input clock running at 10 MHz.

### FeliCa Lite-S support

RC-S500/SO2 supports authentication between FeliCa Lite-S card and the reader, and read/write with MAC<sup>2)</sup>. In addition, it supports the FeliCa Lite-S Diversified Card Key standard generation algorithm for authentication by using an individualized Card Key.

<sup>2)</sup> MAC: Message Authentication Code.

## MAIN FUNCTIONALITY

	RC-S500/SO2
Communication method	RC-S500/SO2 command transmitted and received on the Command / Response APDU conforming to ISO/IEC 7816.
Security	Encrypted communication between RC-S500/SO2 and reader Encrypted communication between RC-S500/SO2 and FeliCa card
Key management	Managing System Key, Area Key, Service Key and Group Key for the FeliCa card
Access to FeliCa card	Mutual authentication with FeliCa Standard Card Encryption of card command packet Decryption of card response packet Calculation of card response time-out time Generation of command package Generation of Group Key Authentication with FeliCa Lite-S card Read/write to FeliCa Lite-S card with MAC

## PRODUCT SPECIFICATIONS

		RC-S500/SO2
External interface / transmission method		Conforms to ISO/IEC 7816 (T=1 protocol)
Input clock		1 to 10 MHz
Communication speed		Max. 1.25 Mbps (Input clock: 10 MHz)
Environment tempreture / humidity (operational and storage)		-25 °C to +85 °C (10%RH to 90%RH) (Humidity of 50%RH or higer imposes a temperature limitation of +60 °C)
Card external dimensions (plug section)		ISO/IEC 7810 ID-1/000 card (25 mm × 15 mm)
Non-volatile memory	Write endurance	100,000 times
	Maximum key registration	512 (System/Area/Service Key, DES/AES total), 32 (Group Key,DES/AES total), 32 (FeliCa Lite-S Key)
Electrical characteristics		Support ISO/IEC 7816 Class A (5 V), Class B (3 V)

- Features, design, and specifications are subject to change without notice.
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- FeliCa is a contactless IC card technology developed by Sony Corporation.
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