

M24LR16E/M24LR64 Dual Interface EEPROM product line



STMicroelectronics

Dual Interface EEPROM with I²C and 13.56 MHz ISO 15693 RF interfaces and a new, innovative function – energy harvesting

ST's innovative family of Dual Interface EEPROMs provides new features and capabilities. The EEPROM memory bank can be accessed either by a low-power I²C interface or by an ISO 15693 RF interface operating at 13.56 MHz. It also features an energy harvesting and RF status function. In addition, the family features a 32-bit password protection mechanism.

Dual Interface EEPROMs are able to transmit information from the heart of the application either to an ISO 15693-capable NFC smartphone or to an industrial RFID reader.

The energy harvesting function allows surplus energy from an RF signal to be used by the application, so further reducing power requirements.

This new type of wireless memory enables on-board energy savings and provides easy and convenient remote access to electronic product parameters.

Key features

- Industry standard interfaces:
 - I²C: 400 kHz, from 1.8 to 5.5 V
 - ISO 15693: 53 Kbit/s data rate, up to 1 m remote access range
- 16-Kbit and 64-Kbit EEPROM user memory
- 64-bit unique identifier
- 32-bit password protection
- 13.56 MHz carrier frequency
- RF status output
 - Energy harvesting output
 - RF status digital output

Two worlds connected

The ability to program or read a memory using either an RF or a wired interface enables designers to imagine and develop new functions and capabilities for their products. It is a good fit for a wide range of applications including:

- medical equipment
- industrial equipment

- factory and building automation
- computers and peripherals
- consumer electronics

Key benefits

- Most flexible solution for parameter updates
- Passive RFID technology: no on-board power required to access the device in RF mode
- High reliability EEPROM
- Flexible password protection scheme
- Simple and cost-effective implementation
- Enables new functions and capabilities for:
 - parameter updates
 - firmware updates
 - device calibration
 - product activation
 - traceability information management
 - asset tracking
 - identification

Device summary

Part number	RF interface	Serial interface	Memory size (Kbit)	Clock frequency (kHz)	Password	Supply (V)	Package	RF status output	Energy harvesting output
M24LR16E-R	ISO 15693	I ² C	16	400	Yes	1.8 to 5.5	S08, TSSOP8, MLP 2x3	Yes	Yes
M24LR64-R	ISO 15693	I ² C	64	400	Yes	1.8 to 5.5	S08, TSSOP8, MLP 2x3 Sawn wafer, inkless	No	No

Dual Interface EEPROM tools

- Starter kit: RF-I²C enabled programmer with reference antenna (order code: STARTKIT-M24LR-A)
- Development kit: extensive tool to support product integration (order code: DEVKIT-M24LR-A)
- Demonstration kits can be used to run simple demonstrations, and to evaluate the M24LR16E/M24LR64 RF performance and capabilities (order codes: DEMOKIT-M24LR-A and DEMO-CR95HF-A)



STARTKIT-M24LR-A



DEMOKIT-M24LR-A



DEVKIT-M24LR-A



DEMO-CR95HF-A

Reference designs

- M24LR64-R antenna evaluation boards (order codes: ANT1-M24LR-A, ANT2-M24LR-A, ANT3-M24LR-A and ANT7-M24LR-A)
- 128-Kbit and 256-Kbit multi-bank antenna evaluation boards (order codes respectively: ANT4-M24LR-A and ANT5-M24LR-A)
- M24LR16-R antenna evaluations boards (order codes : ANT1-M24LR16E, ANT2-M24LR16E, ROBOT-M24LR16E-A)
- Data logger evaluation board with NFC Android application – Dual EE (order code: DATALOG-M24LR-A)



Robot board



ANT1-M24LR16E



ANT2-M24LR16E



Antenna evaluation boards



Dual EEPROM android applet



Data logger evaluation board

Technical support

The Dual Interface EEPROM family offers a simple and cost-effective implementation. ST can provide supporting material for integrating the antenna into your application: application notes, reference designs, antenna computation tools, e-presentations and e-learning. Visit www.st.com/dualeeprom



Order code: FLM24LR641111

www.BDTIC.com/ST

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