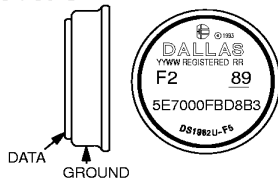# DALLAS SEMICONDUCTOR

DS1981U/DS1982U
UniqueWare™ iButton™

SPECIAL FEATURES

- 512 bits (DS1981U) or 1024 bits (DS1982U) Electrically Programmable Read Only Memory (EPROM) communicates with the economy of one signal plus ground
- Unique, factory lasered and tested 64–bit registration number (8–bit family code, 36–bit serialization, 12–bit UniqueWare™ Identifier 5E7H, 8–bit CRC tester) assures absolute traceability because no two parts are alike. Family code 91H for the DS1981U, 89H for the DS1982U
- EPROM partitioned into two (DS1981U) or four (DS1982U) 256–bit pages for randomly accessing packetized data records
- Each memory page can be permanently write–protected to prevent tampering
- Device is an "add only" memory where additional data can be programmed into EPROM without disturbing existing data
- Reduces control, address, data, power and programming signals to a single pin
- 8–bit family code specifies DS1981U or DS1982U communications requirements to reader
- Reads over a wide voltage range of 2.8V to 6.0V from –40°C to +85°C; programs at 11.5V to 12.0V from –40°C to + 50°C

	MSB			LSB
DS1981U	CRC	5E7	SERIAL #	91H
DS1982U	CRC	5E7	SERIAL #	89H
BYTES	1	1 ½	4 ½	1

ORDERING INFORMATION
DS1981U–F5   F5 MicroCan
DS1982U–F5   F5 MicroCan
DS1981U–F3   F3 MicroCan
DS1982U–F3   F3 MicroCan

COMMON iButton FEATURES

- Multidrop controller for MicroLAN™
- Digital identification and information by momentary contact
- Chip–based data carrier compactly stores information
- Data can be accessed while affixed to object
- Economically communicates to bus master with a single digital signal at 16.3k bits per second
- Standard 16 mm diameter and 1–Wire protocol ensure compatibility with iButton family
- Button Shape is self–aligning with cup–shaped probes
- Durable stainless steel case engraved with registration number withstands harsh environments
- Easily affixed with self–stick adhesive backing, latched by its flange, or locked with a ring pressed onto its rim
- Presence detector acknowledges when reader first applies voltage
- Meets UL#913 (4th edit.); Intrinsically Safe Apparatus, Approved under Entity Concept for use in Class I, Division 1, Group A, B, C and D Locations (application pending)

iButton DESCRIPTION

The DS1981U and DS1982U are factory programmed versions of the DS1982 1K–bit Add–Only iButton. They differ from the standard DS1982 in their custom ROM family code 91H (DS1981U) and 89H (DS1982U) respectively, and the UniqueWare™ Identifier 5E7 in place of the upper 12 bits of the standard serialization field. With the DS1981U the upper two memory pages are not accessible; they always read FFH and cannot be programmed. Otherwise, the electrical and logical behavior is identical to that of the DS1982. For technical details please refer to the DS1982 data sheet.

The DS1981U and DS1982U are only available preprogrammed with customer specific and write–protected UniqueWare™ data. Memory pages not used for UniqueWare™ data can be programmed in the application. For more details on UniqueWare™, please refer to the UniqueWare™ Project Setup Manual, available as Application Note 99 from Dallas Semiconductor.

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[Maxim Integrated](#):
  [DS1981U-F3-1125+](#) [DS1981U-F3-114C+](#) [DS1981U-F5-1124+](#) [DS1981U-F5-1126+](#) [DS1981U-F5-1130+](#) [DS1981U-F5-1136+](#) [DS1981U-F5-1139+](#) [DS1981U-F5-1145+](#)