# KEELOQ® 3 Development Kit


## Summary

The low-cost KEELOQ 3 Development Kit is designed to help engineers get up to speed quickly using PIC® microcontrollers (MCUs), and provides everything needed to program, debug, and develop secure authentication applications for a variety of markets such as security systems (keypads, remote sensors and access control); remote keyless entry (automotive) and authentication (identity and property) applications.

The kit provides new enhanced features over the KEELOQ II system such as a patented secure-learning algorithm that prevents differential power-analysis attack techniques. Additionally, the technology now supports 128-bit encryption keys, longer data transmissions, bidirectional communication authentication; and also supports alternative encryption algorithms, such as XTEA and AES. The enhanced microcontroller-based encoder solution enables customization, so that further security enhancements can be implemented over time. The kit comes complete with a controller board containing a 28-pin 8-bit PIC16F886 Flash MCU, two programmable transmitter boards, one receiver board and a PICkit™ 2 programmer. All source-code files and application notes are also included.



The KEELOQ 3 Development Kit (part # DM303007) comes complete with the following:

- **NEW!** Controller board with onboard 28-pin PIC16F886 MCU, LCD Display and PICkit Serial Analyzer Interface
- **NEW!** Two programmable KEELOQ transmitter boards with user-accessible test points (HCS362 encoder and PIC16F636 MCU that show 128-bit encryption key solutions)
- One receiver board
- PICkit 2 device for programming the microcontrollers included in the kit (HCS362, PIC16F636 and PIC16F886)
- **NEW!** KEELOQ 3 MPLAB® IDE integrated plug-in for device configuration and programming support
- **NEW!** PC-based I²C™ GUI to help with development of host-controlled systems
- CD with source code and application notes showing software implementations of the KEELOQ transmitter (encoder) and receiver (decoder) solutions
- Detailed documentation including User's and Quick-Start Guides

MICROCHIP

Microchip Technology Incorporated

## Host System Requirements

- PC-compatible system with an Intel Pentium® class or higher processor, or equivalent
- CD-ROM drive
- Available USB port
- Microsoft Windows® 2000, Windows XP® or Windows Vista®

## Support

Microchip is committed to supporting its customers in developing products faster and more efficiently. We maintain a worldwide network of field applications engineers and technical support ready to provide product and system assistance. In addition, the following service areas are available at: **www.microchip.com**:

- **Support** link provides a way to get questions answered fast: **http://support.microchip.com**
- **Sample** link offers evaluation samples of any Microchip device: **http://sample.microchip.com**
- **Forum** link provides access to knowledge base and peer help: **http://forum.microchip.com**
- **Buy** link provides locations of Microchip Sales Channel Partners: **www.microchip.com/sales**

**Part Numbers and Ordering Information**
**KEELOQ® 3**

| Part Number | Description | Availability |
|---|---|---|
| DM303007 | KEELOQ 3 Development Kit | Now |

**Additional Development Tools Available from Microchip**

| Part Number | Development Tool | Description |
|---|---|---|
| DV164035 | MPLAB ICD 3 In-Circuit Debugger | High-performance Debugger for Flash DSC and MCU devices |
| SW006011 | MPLAB C Compiler for PIC18 MCUs | C Compiler for PIC18CXXX MCUs |
| SW006012 | MPLAB C Compiler for PIC24 MCUs and dsPIC® DSCs | C Compiler for dsPIC30F MCUs |
| SW006015 | MPLAB C Compiler for PIC32 MCUs | C Compiler for PIC32 MCUs |
| DV007004 | MPLAB PM3 Universal Device Programmer | Full-featured Modular Device Programmer |
| DM240001 | Explorer 16 Development Board | Modular Development System for 16-bit MCUs |
| DV244005 | MPLAB REAL ICE™ Probe Kit | High-speed Emulator for Flash DSC and MCU devices |
| DM320001 | PIC32 Starter Kit | Starter Kit for High-performance PIC32 MCU family |
| DM240011 | MPLAB Starter Kit for PIC24F | Starter Kit for PIC24F MCU family |
| DM330011 | MPLAB Starter Kit for dsPIC DSC | Starter Kit for dsPIC DSC devices |

MICROCHIP

**www.microchip.com**

Visit our web site for additional product information and to locate your local sales office.

Microchip Technology Inc. · 2355 W. Chandler Blvd. · Chandler, AZ 85224-6199

**Microcontrollers • Digital Signal Controllers • Analog • Serial EEPROMs**



DS41376A