*fuzzy*TECH®-MP

Fuzzy Logic Development System for PIC16/17

*fuzzy*TECH-MP FOR MICROCHIP PIC16/17

This product brief describes the technical aspects of the *fuzzy*TECH-MP Fuzzy Logic Development System for PIC16/17 microcontrollers developed by INFORM Software Corporation specifically for Microchip.
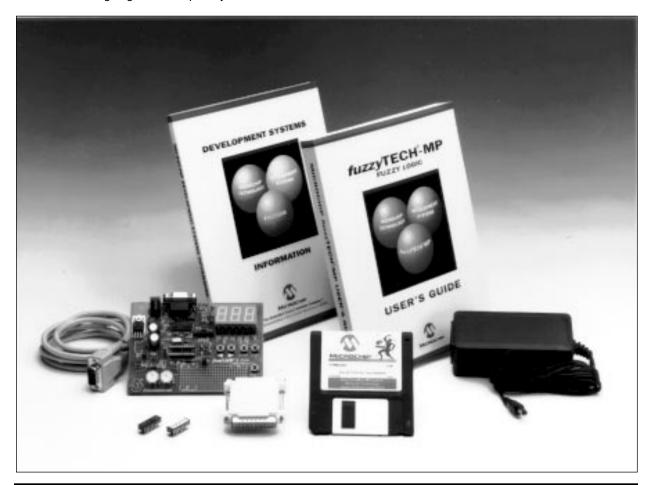
The *fuzzy*TECH-MP Development System comes in two versions. The first, the Explorer, contains everything you need to gain a comprehensive working knowledge about fuzzy-logic system design. It is easy-to-use, all graphic editors and tools guide you step-by-step through the development phases of fuzzy systems. The Explorer supports two input variables and one output variable.

The full-featured *fuzzy*TECH-MP Edition offers all of the capabilities of the Explorer, plus it has the additional flexibility of eight input variables and four output variables for designing more complex systems. The full features are enabled with a hardware key lock attached to the parallel port of the PC.

Included in both versions is *fuzzy*LAB™, a fully functional demonstration board, to give customers hand-on experience with fuzzy logic systems implementation. *fuzzy*LAB is a simple heating thermostat consisting of a PWM-controlled resistor configured to heat a thermistor to a preset temperature. Using the two fuzzy algorithms provided, a designer can set a target temperature and observe the thermostat response to the set point.

Both systems generate assembly code compatible with the MPASM, Microchip's Universal Assembler, that can be integrated into your application. Examining this code provides you with further insights into the fabrics of fuzzy logic systems.

*fuzzy*TECH®-MP

*fuzzy*TECH-MP System Requirements

*fuzzy*TECH-MP will run on any IBM PC® (386 or higher) or compatible computer, running DOS 4.1 or later, and Microsof®t Windows® 3.0 or later. Because *fuzzy*TECH-MP makes extensive use of graphics, a color graphic monitor (VGA) is required, and higher resolutions of 800 x 600 or 1024 x 768 are recommended.

What is Fuzzy Logic?

Fuzzy logic is a technology that enhances mode-based system designs using both intuition and engineering heuristics. Fuzzy logic uses elements of everyday language to represent desired system behavior, thus circumventing the need for rigorous mathematical modeling.

It is an efficient way of designing, optimizing and maintaining highly complex systems transparently.

Fuzzy Logic Applications

Fuzzy logic finds its home in unique applications:

- When no adequate mathematical model for a given problem is readily apparent.
- When non-linearities, time constraints or multiple parameters exist.
- When engineering know-how about the given problem is available or can be acquired during the design process.

The *fuzzy*TECH-MP Implementation

*fuzzy*TECH-MP provides the following standard features:

- Windows Compatible with full graphical user interface
- 8-Input variables (2 for the Explorer version)
- 4-Output variables (1 for the Explorer version)
- 8-Bit resolution on input and output variables
- 16-Bit computation resolution for the PIC16CXX and PIC17CXX microcontrollers
- No theoretical limit on rules, antecedents and linguistic conjunctions (chip limitations will place a practical limit on these)
- MAX-MIN and MAX-DOT inference methods
- CoM and MoM defuzzification methods
- MPASM Compatible
- PICMASTER™ Compatible

*fuzzy*TECH-MP

*fuzzy*TECH-MP is available directly from Microchip Technology and its authorized distributors. Contact your local sales office for more information.

SALES AND SUPPORT

To order or to obtain information, e.g., on the pricing or delivery, please use the listed part numbers, and refer to the listed sales offices.

PART NUMBER	DESCRIPTION
DV005001	*fuzzy*TECH-MP EXPLORER
DV005002	*fuzzy*TECH-MP EDITION

NOTES:

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