![RENESAS]

78K0R/Lx3-M and 78K0/Lx3-M System on Chip

Complete Single-Phase Electricity Meter Solution

![RENESAS 78K]

78K0R/Lx3-M and 78K0/Lx3-M are application-specific microcontroller platforms for cost-effective and highly integrated single-phase electricity meters from the world's number one microcontroller supplier and leading vendor to the global metering industry.

Comprising a dedicated Digital Signal Processor (DSP) for metrology, high-end analog front-end and ultra low power microcontroller including LCD driver in a single package, 78K0R/Lx3-M and 78K0/Lx3-M offer complete functionality in a variety of packages, memory sizes and 8/16-bit core performances to suit any single-phase electricity meter design.

For more demanding meter applications the new 78K0R/Lx3-M offers up 20 MHz 16-bit core performance and high 128 KB Flash/ 7 KB RAM memory integration.

Compelling Features

- Advanced hardware DSP-based metrology measurement unit
- Up 20 MHz 16-bit performance
- Up 128 KB Flash and 7 KB RAM memory integration
- Embedded 16-bit Multiplier/Divider option
- Up 12-ch 16-bit general timer
- Multiple serial interfaces incl. UART, CSI, I2C
- 2-ch DMA option
- Multiple hardware functions to ensure quality of electricity supply
- Support for both shunt and a di/dt current sensor
- High resolution 2nd order 24-bit ΔΣ A/D Converter for accurate readings
- On board LCD controller for up to 160 segments
- 99 year real time calendar with independent Vdd
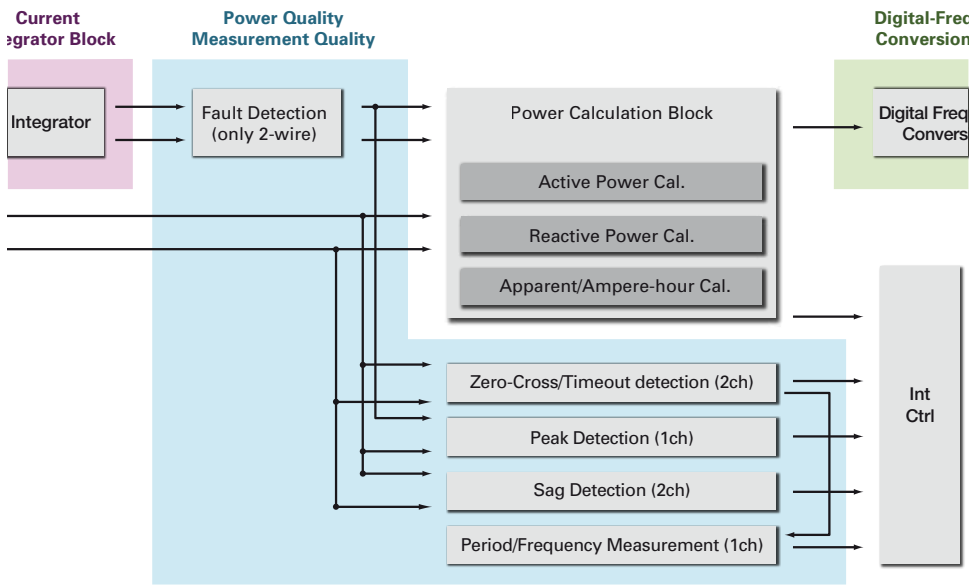- On board temperature sensor for time calibration

#1 MCU
REACH FURTHER

78K0R/Lx3-M and 78K0/Lx3-M Portfolio

*78K0R/Lx3-M

Metrology Features

- Metrology functions
- Delta sigma ADC
- Current integrator
- Power calculation function
- Power quality measurement function
- Digital frequency conversion

Complete Development Environment

78K0R/Lx3-M and 78K0/Lx3-M tools are supplied complete with all the hardware you need out of the box, as well as a code-limited trial of the IAR Embedded Workbench Integrated Development Environment.
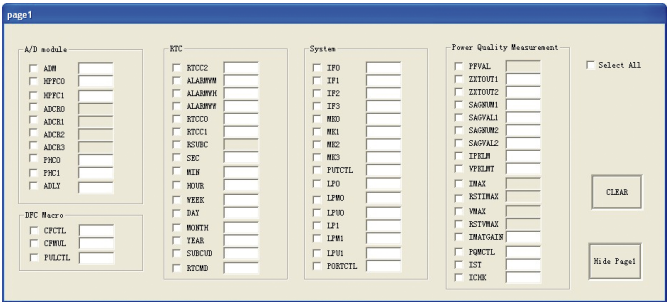
IAR SYSTEMS   IAR Embedded Workbench

Applilet   Applilet Graphical Code Development & Driver Configuration

Supported by Renesas IECUBE emulator, MINICUBE2 for On-Chip Debug & development programming and PG-FP5 for full programming

78K0R/Lx3-M and 78K0/Lx3-M are further supported by a compete hardware and software reference design, including:

- Schematics
- Bill of Materials
- Dedicated Graphical User Interface
- Application software
- Application Note

Additionally, a number of dedicated application notes and middleware libraries are available to support a variety of functions, from AES128 encryption & Flash security features to low power operation mode techniques.

System Components & Communications Solutions

To provide mandatory isolation as well as protection and robustness against electrical surges Renesas offers market-leading transistor and high speed optocouplers as well as low on-state resistance OC-MOSFESTs for communication lines.
Renesas further offers a great variety of high quality low power SRAM and serial EEPROM.

Full Wireless M-Bus hardware and software reference design based on Renesas microcontroller and Semtech RF transceiver.

Extremely robust powerline solutions with class leading power consumption supporting multiple standards.

Complete single-chip based hardware & software platforms supporting the ZigBee™ Professional Smart Energy Profile.

The Renesas Eco System

Dedicated Website

www.renesas.eu/meter

Personalised Content

MyRenesas

www.renesas.eu/myrenesas

Latest News

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www.twitter.com/renesas_europe

Renesas Presents video channel

You Tube

www.youtube.com/renesaspresents

3rd Party Network

ALLIANCE PARTNER
RENESAS

www.renesas.eu/alliance

Online Training

Renesas INTERACTIVE

www.renesasinteractive.com

Engineering Community

RenesasRulz.com
Think it. Build it. Post it.

www.renesasrulz.com

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

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