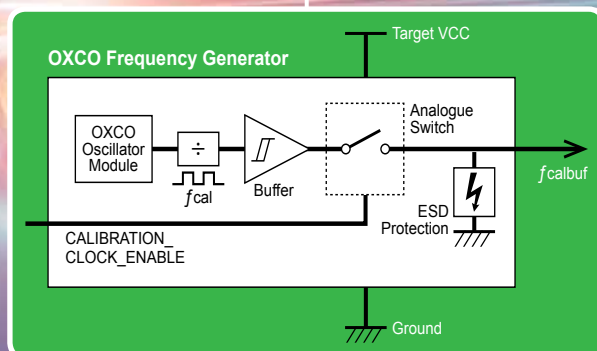
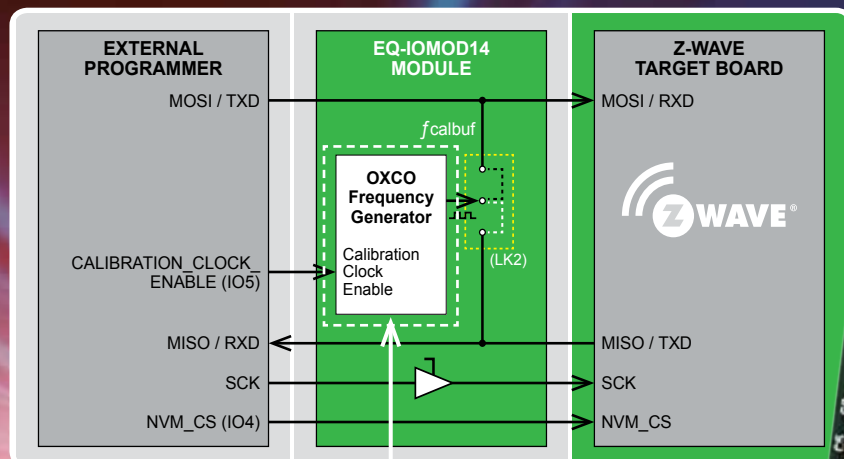


# IOMOD14

**ZWAVE®** Crystal Calibration - Oscillator Module



The '**IOMOD14**' module has been specially designed to support '**XTAL calibration**' of the **Z-Wave 500** series ICs and modules from Silicon Labs.

- Generates a very accurate '**Calibration frequency**' (39.0625 kHz) for use during the '**XTAL calibration**' procedure of a **Silicon Labs Z-Wave 500 series** devices and modules.
- The '**Calibration frequency**' can be switched to the target device under external programmer control
- Very high accuracy temperature-compensated **OXCO module** guarantees correct frequency for calibration.
- Integrated 9V to 3.3V switch-mode power supply - the module powers from a standard Equinox 9.0V supply (same as ISPnano programmer)
- The '**Programmer - SPI - SCK**' signal is fully buffered using a '**Clock buffer**' circuit on the **IOMOD14** module.
- Supports programming of external '**SPI FLASH memory**' devices due to buffered '**Programmer - SPI - SCK**' signal.
- Programmable '**RESET\_N**' frequency @ 500 Hz for keeping Z-Wave device in reset when programming an external '**SPI FLASH memory**' device.
- Chip Select (CS)** control line available for interfacing to external **NVM serial memory** device.
- Quick-connect connectors for connecting programmer I/O pins to target board
- Full ESD protection on '**Calibration frequency**' and '**SCK**' output pins

for **XTAL (Crystal)**  
**Calibration of...**

**ZWAVE® 500**  
Series ICs & modules



**The Embedded Solutions Company**

# IOMOD14

**ZWAVE** Crystal Calibration - Oscillator Module

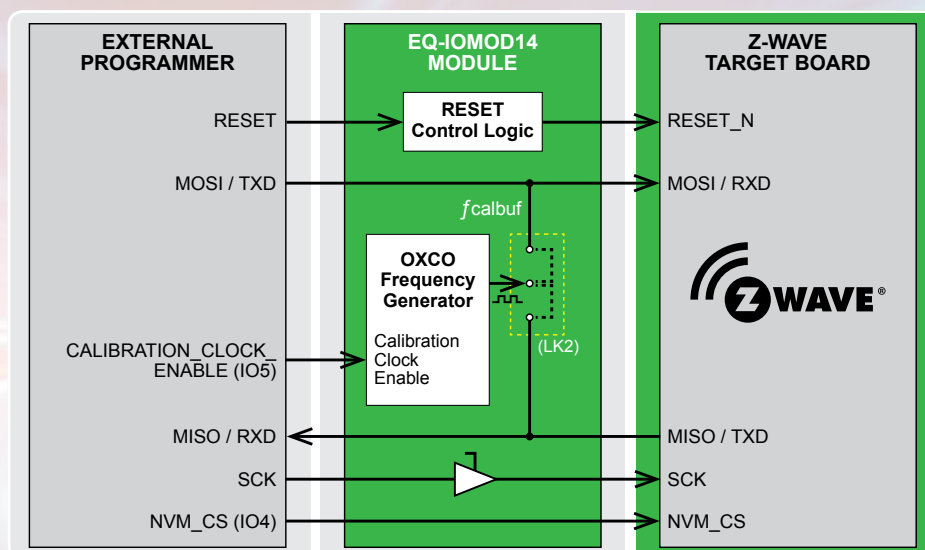
for XTAL (Crystal)  
Calibration of  
Z-Wave 500 Series  
ICs & modules



## Principle of Operation:

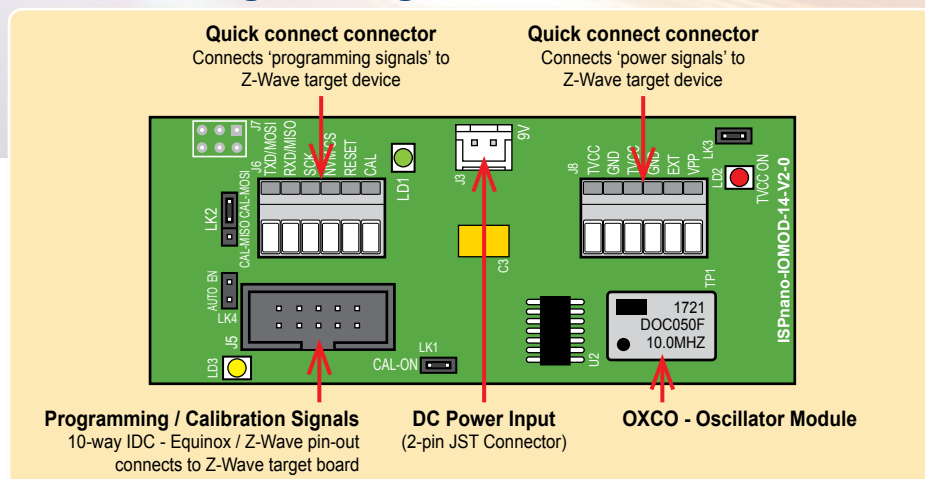
The **'IOMOD14'** module is designed to operate as follows:

- The **'IOMOD14 - Calibration Module'** is simply a hardware block which generates a very accurate / stable **'Calibration frequency'** for use with the **'Z-Wave calibration firmware'** from Silicon Labs.
- The module must be controlled from an **'external system'** which could be an Equinox programmer, Silicon Labs evaluation board or even a customer's own programming system.
- The illustration below shows how the **'programming signals'** connect between the **'External programmer'** and the **'Z-Wave target Board'** through the **IOMOD14** module.



**IOMOD14** module shown connected to an **ISPnano Series 4** programmer. The programmer is NOT supplied with the **IOMOD14** kit

## IOMOD14 Programming / Power connectors:



## EQ-IOMOD14-KIT Contents:

The **IOMOD14** module when ordered as a kit comes with the following components...

### Hardware:

- A** 1 x **IOMOD14** V2.0 module (actual 'Calibration Module' hardware)
- B** 1 x 9V Power Supply (mains power supply adaptor)
- C** 1 x set of mains plug adaptors - UK, USA, European, Asia
- D** 1 x 10-way 0.1" pitch IDC cable

### Documentation:

- E** 1 x **IOMOD14** - User Manual (printed)

## Programmer compatibility:

- ISPnano Series 4 ATE** - single channel programmer
- ISPnano-MUX 2 / 4 / 8** - multi-channel multiplexed programmers

## Ordering information:

**EQ-IOMOD14-KIT** - This kit includes IOMOD14 module, mains power supply and 10-way IDC cable.

**Important information:** The **IOMOD14** module cannot be used without additional hardware and software. To perform Z-Wave XTAL calibration, an **ISPnano Series 4** programmer controlled by the Equinox **ISP-PRO** software is required. These items are available as part of the Equinox Z-Wave 'Development' and 'Run-time' programming systems.

Equinox Technologies reserves the right to change any information contained within this leaflet without prior notice. E&OE

