

Multi Function... Pin Settings

The Multi-Function dialog gives the user access to the configuration settings pertaining to the fault pins on the device. The configuration settings allow users to:

- › Enable or disable pins
- › Map specific faults to external pins
- › Configure how the pins are driven for system compatibility
- › Firmware functions

For all pins there are some common settings

Drive

- Output Buffer type to be use for the pin
- Open Drain: can pull to GND, need an external resistor for pullup
- CMOS: Actively driven output signal

Polarity

- Logic signal polarity for the pin. Should it be High or Low level when the related signal is active.

The screenshot shows the 'Multi Function - 0x7C' dialog box with the 'Pin Settings' tab selected. The dialog is divided into several sections for different pins:

- MP_BVRREADY:** Function: Loop B VR_READY, Polarity: Active High, Drive: Open Drain.
- MP_FAULT2:** Function: Fault2, Polarity: Active High, Drive: CMOS.
- MP_IMON:** Function: Loop A lout, Polarity: Active High, Drive: CMOS.
- MP_BVREN:** Function: Loop B VR_EN, Polarity: Active High, Drive: Open Drain.
- MP_FAULT1:** Function: Fault1, Polarity: Active High, Drive: CMOS.
- MP_PINALERT#:** Function, Polarity, and Drive fields are empty.
- VR_EN Selection:** Loop A: AVR_EN, Loop B: MP_BVREN.
- LPM Output Selection:** Two checkboxes are checked: 'Loop A Selected' and 'Loop B Selected'.

At the bottom of the dialog are three buttons: 'Write', 'Close', and 'Refresh'. A red arrow points from the 'Polarity' dropdown of the 'MP_FAULT2' pin to the 'Polarity' section header in the text box above.

Multi Function... Pin Settings

Depending on selected part some selections may be grayed out and not available.

MP_BVRREADY Function

- Function that will be mapped to **MP_BVRREADY** pin

MP_BVREN Function

- Function that will be mapped to **MP_BVREN** pin

VR_EN Selection

- Pin that will be use for VR_EN function for a specific loop

MP_FAULT2 Function

- Function that will be mapped to **MP_FAULT2** pin

MP_FAULT1 Function

- Function that will be mapped to **MP_FAULT1** pin

LPM Output Selection

- Low power mode selector that asserts the signal when the selected loop is either disabled or in PS4 active only when LPM is selected for a pin.

MP_IMON Function

- Function that will be mapped to **MP_IMON** pin

MP_PINALERT# Function

- Power In alert,

MP Pin status

Click Read button to see status of the different Pins

Multi Function... Fault Signal

Output Pin

Displays which controller pin the Fault1/2 signal will be routed to. Pin selected in previous tab

Loop A/B Selected

Checked: selected fault(s) from the corresponding loop(s) will be routed to the output pin
 Unchecked: no fault from the loop will be routed to the output pin

Persistence

Duration of the indicated fault before being cleared

Latch: de-asserted by toggling OE, recycling 3.3V or sending CLEAR_FAULTS

Hiccup: de-asserted if fault condition is removed

Signal Mapping

Selection panel for which fault signals should be reported and sent out to the Fault pin. Multiple Signals can be selected. Signal which is sent out will still appear in the Telemetry/Fault Detail

The screenshot shows the 'Multi Function - 0x7C' software interface. The 'Fault Signal' tab is active, displaying configuration for 'Fault1 Signal' and 'Fault2 Signal'. Red arrows point from the text boxes to specific elements in the interface:

- Output Pin:** Points to the 'MP3' selection box for Fault1 and 'MP2' for Fault2.
- Loop A/B Selected:** Points to the 'Loop A Selected' and 'Loop B Selected' checkboxes for Fault1.
- Persistence:** Points to the 'Hiccup' dropdown menu for Fault2.
- Signal Mapping:** Points to the list of fault signals for Fault2, where 'Inst. OCP Fault' is selected.

The 'Signal Mapping' list for both Fault1 and Fault2 includes:

- CRC Fault
- Vin UVP
- Vin OVP
- Vdd UVP
- VR_HOT
- Avg OC Warning
- Avg OCP Fault
- Inst. OCP Fault (selected)
- Input OC Warning
- P2CL Fault
- OOVP Fault
- OUVP Fault
- Ext Temp Shutdown
- High Side Short Fault
- PS2/PS3
- SMB_Alert#
- PFM Active