

# Agenda

- 1 Purpose
- 2 Install GUI software
- 3 Main GUI window
- 4 General error messages and warnings
- 5 Start to create a configuration file
- 6 Phase & frequency
- 7 Input settings
- 8 Output settings

# Input settings... Vin Sense

This window have 3 tabs and the active tab is highlighted in bold blue text  
Here **Vin Sense** is active

**Vin Sense Type:** In this how Vin can be sensed Grayed out as when not supported or selectable by controller

**Clear Fault When Vin Toggle:** If checked the fault flag will clear itself when Vin is removed and then restored

**Vin Source:** Selection of method Vin is detected. Measured or fixed.

If Fixed then a voltage can be entered in the **Vin Fixed** box

## Vin Sense Network:

When Vin is measured an external resistor divider is needed. Vin Sense gain is the gainfactor and will depend on resistor divider resistance.

R1 and R2 resistor values to be entered.

Typical 19.1 kohm and 1.54 kohm

Offset makes it possible to compensate for voltage drops on the PCB and can be determined during testing of a board.

**Vin OVP:** at what input voltage shall regulator stop switching to protect powerstages and load

**Vin OVP response:** How should regulator behave when OVP detected. Ignore, Hiccup or Latch.

If Latch then enable pin or Vin need to be toggled to restart. Hiccup will automatic retry once fault is gone.

## Vin Reading Offset

Used to compensate for offset error in the VIN sense for a more accurate VIN telemetry

## Vin Settings:

**Vin On** determine at what voltage will switching start

**Vin off** determine when to turn off switching

# Input settings... Vaux sense

**Vaux enabled for:** multiple selections available. If Vaux not used set to Disabled

Opens a new window for the **Input Sense Design Tool** that help calculate settings

**Vaux source:** selects which pin is used to sense the Vaux voltage

## Vaux Sense Network:

**Vaux Sense Gain:** Enter gain factor to get correct voltage reading typical 515 but depend on board layout  
**Resistors:** Enter the resistors from the divider typical 19.1kohm and 1.54kohm  
**Capacitor:** capacitor value default set to 0.1uF  
**Vaux Reading offset:** allow correction of any offset in value beeing read.

## Vaux Settings:

**Vaux On:** at what voltage will regulator turn on.  
 Assuming Vin also is above its threshold  
**Vaux UVP:** what voltage is regarded as to low  
**Vaux response:** What to do if UVP is detected  
 Ignore, Hiccup or Latch off

# Input settings... Iin Sense/Input Power

**Iin Source:** dropdown menu allow selection of how input current is measured. Disabled, Calculated, Pisense,... Depending on selected parts only possible selections are shown.

Input Settings - 0x70

Vin Sense | Vaux Sense | **Iin Sense/Input Power**

Iin Source: Estimate

**Input Current Estimate Settings**

Iin Sense Gain: 16

Iin Offset: 0.313 A

Input Current Warning Threshold: 50.000 A

Input Power Protection Threshold: 450.00 W

Input Power Protection Response: Ignore

**PI Measurement Method**

Iin Sen Gain: 480

Vin Sen Gain: 542

Vin Offset: 1.500 V

Calibration: Enabled with Every hour

**Current Sense Amplifier**

Iin Sen Gain: 192

Iin Offset: 0.000 A

Write to device\* | Read from device | Close | Help

Opens a new window for the **Input Sense Design Tool** that help calculate settings

## Input Current Estimate Settings:

Used to calculate the input power and depends on real efficiency, Iout, Vin, dutycycle and losses.

Change values as needed to make reported Pin match an externally measured Pin.

Iinsense Gain

Iin offset

At which input current should the warning happen

At which power level should protection trigger

What action to be performed when protection level have triggered

# Input settings... Iin Sense/Input Power

Input Settings - 0x7C

Vin/lin Sense Design Tool

Vin Sense | Vaux Sense | **lin Sense/Input Power**

lin Source  
PI sense

Input Current Estimate Settings

lin Sense Gain: 16  
lin Offset: 0.313 A

Input Current Warning Threshold: 50.000 A  
Input Power Protection Threshold: 450.00 W  
Input Power Protection Response: Ignore

PI Measurement Method

lin Sen Gain: 480  
Vin Sen Gain: 542  
Vin Offset: 1.500 V  
Calibration: Enabled with Every hour

Current Sense Amplifier

lin Sen Gain: 192  
lin Offset: 0.000 A

Write to device\* | Read from device | Close | Help

## Current Sense Amplifier:

Allow adjusting gain for the sensed signal when Source is selected to be a current sense amplifier

In any of the input modes an Iin offset can be adjusted

## PI Measurement Method:

Allow adjustment to gain and offset values when PI sense is selected as Source

How often an calibration cycle should be done.

This can compensate temperature drift and more.

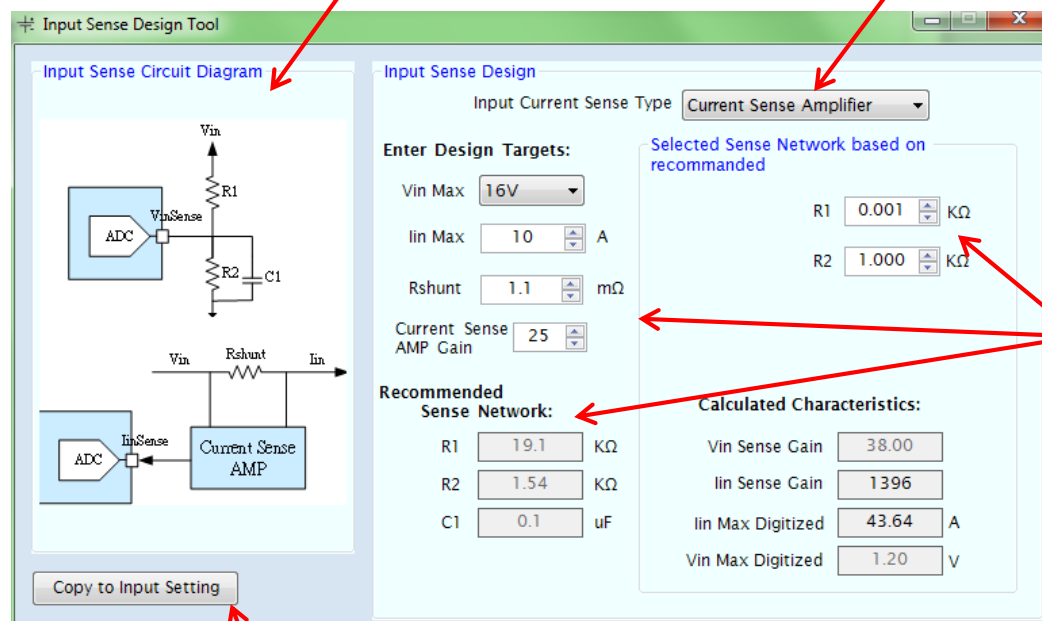
# Input settings... Input Sense Design Tool

## Input Sense Circuit diagram:

Will show the needed external components for the different sense schemes

## Input Sense Type:

Select which type of input current sensing to be used



Depending on selected configuration enter design target numbers and a calculation of recommended values for the external components will be shown

## Copy to Input Setting:

Copies the calculated numbers and settings to the Input Setting window