

Input Settings... Vin Sense

Vin Sense Type

- Vin Sense method that can be modified in the **Iin Sense/Input Power** tab

Vin Source

- Measured:** Vin telemetry will be based on the sense result on the Vin sense pin
- Vin Fixed:** Vin telemetry will be a fixed value entered in the **Vin Fixed** dialog field

Vin Sense Network:

When Vin is set to *measured*, an external resistor divider is needed.

Vin Sense Gain

- gain factor and will depend on the resistor divider resistance

R1, R2

- Typical values are 19.1k Ω /1.54k Ω or 13k Ω /1k Ω

Max Sense Voltage

- Default should be ~16V for a 12V nominal VIN application
- Value depends on the resistor divider resistance

Vin Reading Offset

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

Vi/Iin Sense Design Tool

- Opens the **Input Sense Design Tool** that helps calculate settings

Clear Fault When Vin Toggle

- Checked:** Vin toggle (Vin go away and comes back) can reset fault conditions just like the action of toggling VR_EN can reset fault conditions
- Unchecked:** only toggling VR_EN can reset fault conditions

Vin Fixed

- Vin telemetry value when **Vin Source** is set to **Vin Fixed**

Vin OVP (overvoltage protection)

- Voltage level on when the regulator stop switching to protect power stages and load
- Maximum value is based on the "Max Sense Voltage" value

Vin OVP Response

- Ignore:** Vin OVP fault is ignored
- Latch:** Shuts down HS and LS FETs * enable pin or Vin need to be toggled to restart
- Hiccup:** Shuts down HS and LS FETs and will automatic retry once fault is gone

Vin On

- Voltage level on when will Vout regulation start

Vin UVP (Undervoltage protection)

- Voltage level on when to turn off Vout

Input Settings... Vaux Sense

Vaux Enabled for

- Options to enable it in LoopA, LoopB and both LoopA/B
- If this function is not used, set it to disabled

Vaux Source

- pin to be used to sense the Vaux voltage

Vaux Sense Network

Vaux Sense Gain

- Gain factor to get correct voltage reading
- Typical value is 515 but depends on the resistors and board layout

R1, R2

- Typical values are 19.1kΩ/1.54kΩ

Max Sense Voltage

- Default should be ~16V for a 12V nominal VIN application
- Value depends on the resistor divider resistance

Vaux Reading Offset

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

Vaux On

- Voltage level on when will Vout regulation start assuming Vin also is above its threshold

Vaux UVP

- Voltage level on when to turn off Vout

Vi/Iin Sense Design Tool

- Opens the [Input Sense Design Tool](#) that helps calculate settings

Input settings... Iin Sense/Input Power

Common Footprint

(XDPE14284 device only)

- When selected,
 - pin36: dedicated for Isys
 - pin37 dedicated for Vsys
 - pin38: Vin
 - Enables Vsys Sense tabbed dialog

Source

- Selection of how input current is measured
- Disabled, Calculated, PI Sense,...
- Selection list is based on the selected part numbers.

Iin Estimate Settings

- Calculates the input power that depends on real efficiency, Iout, Vin, duty cycle and losses.
- Values should be changed to make reported Iin match the external measured Iin.

Current Sense Amplifier

- Gain adjustments for the sensed signal when **Source** selected is set to be *Iin Sense Amplifier*.

PI Measurement Method

- Gain adjustments for the sensed signal when **Source** selected is set to be *PI Sense*.
- Calibration**: sets the calibration cycle and can compensate temperature drift and more.

Input Settings - 0x7C

☐ Common Footprint

Vin/lin Sense Design Tool

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

Source: Estimate Iin (Psys/Isys disabled)

Iin Estimate Settings

Iin Sense Gain: 16

Iin Offset: 0.3125 A

Current Sense Amplifier

Iin Sense Gain: 192

Iin Eq Gain: 0.02 A/mV

PI Measurement Method

Iin Sense Gain: 490

Vin Sense Gain: 485

Vin Offset for PI Sense: 1.625 V

Calibration

Time: Enabled with Every 2 minutes

Temperature: Disabled

PwrIn Settings

PwrIn Sense Gain: 0

Input Current Warning Threshold: 400.0 A

Iin Offset: 0.0000 A

PwrIn Protection Threshold: 3600 W

PwrIn Protection Response: Ignore

Write to device | Read from device | Close

Vi/Iin Sense Design Tool

- Opens the [Input Sense Design Tool](#) that helps calculate settings

Input Current Warning Threshold

- Input current threshold when warning happen

Iin Offset

- Compensate any offset error in the Iin sense for a more accurate Iin telemetry

PwrIn Protection Threshold

- Power level when input power protection will trigger

PwrIn Protection Response

- Ignore*: PwrIn protection fault is ignored
- Latch*: Shuts down HS and LS FETs
- Hiccup*: Shuts down HS and LS FETs and will automatic retry once fault is gone

PwrIn Settings

- Gain adjustment when **Source** selected is PwrIn Sense.

Input settings... Vsys Sense (XDPE14284 only)

Common Footprint

(XDPE14284 device only)

- When selected,
 - pin36: dedicated for Isys
 - pin37 dedicated for Vsys
 - pin38: Vin
 - Enable Vsys Sense tabbed dialog

Vsys Sense Network

Vsys Sense Gain

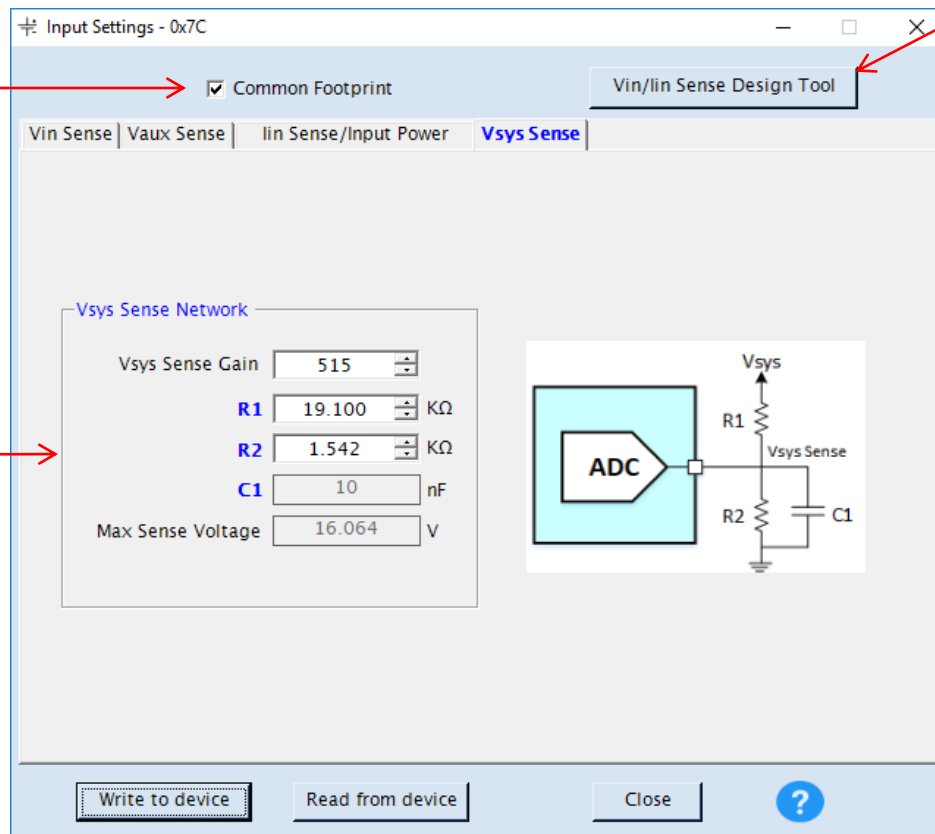
- Gain factor to get correct voltage reading
- Typical value is 515 but depends on the resistors and board layout

R1, R2

- Typical values are 19.1kΩ/1.54kΩ

Max Sense Voltage

- Default should be ~16V for a 12V nominal VIN application
- Value depends on the resistor divider resistance



Vi/Iin Sense Design Tool

- Opens the [Input Sense Design Tool](#) that helps calculate settings

Note: This tabbed dialogue is only visible on a XDPE14284 device and when **Common Footprint** is selected.

Input settings... Input Sense Design Tool

Input Sense Circuit Diagram

- External components for the different sense schemes.

Copy to Input Setting

- Copies calculated values and settings in the *Input Settings/Vin Sense* tabbed dialog.

Input Sense Type

- Selects which type of input current sensing will be use.

- Depending on selected configuration entered design target numbers and calculation of recommended values for the external components will be shown.
- Enter the resistor values that will be used. Typical the recommended values.