

HDM-200 Series Protection Status Signals

Signal Interface

Each of the HDM-200 Series Protection Status signals interface to the user through a dedicated pin as an open-collector/open-drain active low signal, referenced to –Sense. The maximum voltage that can be applied to any protection status pin shall be 20Vdc and the maximum sink current shall be 10mA.

- Signal Low = Good
- High = Fault.

Over Temperature Warning

The Over Temperature Warning Signal provides an active low signal when the module is operating and not exceeding its maximum operating temperature. Upon the module base plate reaching approximately 100°C, the Over Temperature Warning Signal will transition to a high impedance to inform the user that the module is reaching dangerous temperatures. There is no hysteresis in the Over Temperature Warning Signal.

If the module internal temperature continues to rise, to a baseplate temperature of approximately 105°C, the module will be shut down via an internal connection to the shutdown pin. This circuit does have hysteresis, and will re-enable the module when the baseplate temperature returns to approximately 95°C.

Over Current Warning

The Over Current Warning Signal provides an active low signal when the module is operating without the overcurrent protection control loop active. When the module output current reaches an excessive level (typically around 120% of rated output current), the overcurrent protection control loop becomes active, the Over Current Warning Signal will transition to a high impedance to inform the user that the module is exceeding its rated current output current capacity,

and the module output voltage will collapse as a function of output current. The output voltage will be restored to normal regulated level and the Over Current Warning Signal will return to low impedance as the load current is reduced below the trip current.

Please note that at the borderline between normal voltage regulation and overcurrent regulation, the two control loops may alternate control depending on load characteristics. This may cause the Over Current Warning Signal to erratically bounce between high impedance and low impedance states.

Over Voltage Warning

The Over Voltage Warning Signal provides an active low signal when the module is operating without the over voltage protection control loop active. When the module output voltage reaches an excessive level (typically around 117% of rated output voltage), the over voltage protection control loop becomes active, the Over Voltage Warning Signal will transition to a high impedance to inform the user that the module is in an output over voltage condition, and the module output voltage starts to regulate at this higher than normal level. Output voltage will be restored to the normal regulated level and the warning signal removed automatically when the output fault is cleared.

This over voltage condition can be caused by a fault in the main voltage control loop, or more commonly a fault in the sense lead connection. Please note that the over voltage protection circuit is not as precise or as stable as the main voltage regulation loop, and is only intended as a redundant voltage loop to keep the module from being damaged due to voltage feedback faults.

Please consult factory for more information.