



IMU-200 Remote Mount Pulser Wiring Information

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1 Overview

This document is intended to describe the wiring of the IMU-200 Remote Mount Module to various partner devices. Internally these projects are referred to as ComGas 1 and ComGas 2.

The ComGas 1 consists of a Remote Mount IMU connected to a Riotronics pulser with a tamper interface.

The ComGas 2 connects a Remote Mount IMU to a Mercury Corrector Unit, with support for tamper and 2 channels of data, both uncorrected and corrected. This requires 4 channels of input data to the IMU and tamper detection.

2 Architecture

The Remote Mount IMU pulse input is compatible with a Form A (normally open) switch. The voltage to the input is provided by an internal pull-up as shown in Figure 1. The voltage and timing for a valid input pulse to the Remote Mount IMU is shown in Table 1 and Figure 2.

Figure 1 – Pulse Input Electrical Diagram

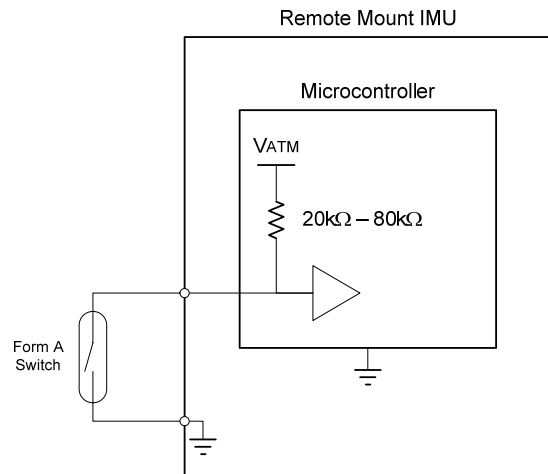
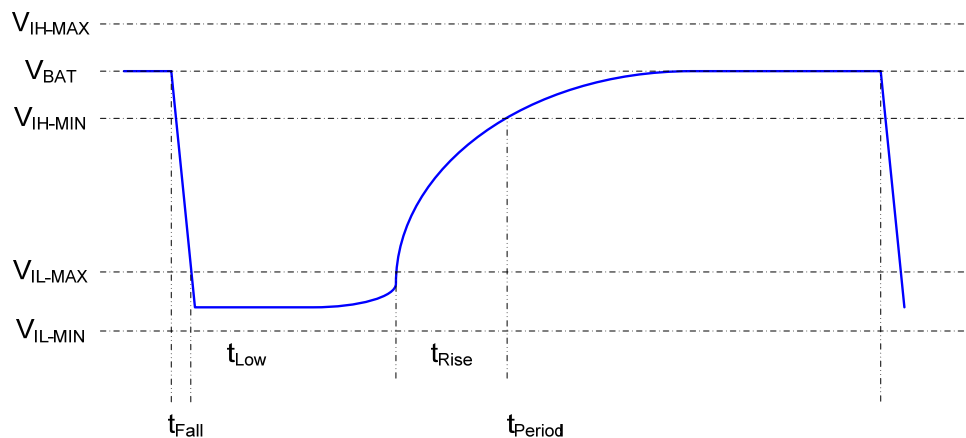


Table 1 – Pulse Electrical Parameters

Spec	Nom.	Min.	Max.
V_{BAT}	2.1V	1.9V	2.14V
V_{IL}	--	-0.5V	0.36V
V_{IH}	--	1.5V	2.3V
t_{Fall}	--	--	10 ms
t_{Low}	--	15 ms	100ms
t_{Rise}	--	--	140 ms
t_{Period}	--	500 ms	--

Figure 2 – Pulse Diagram





2.1 Connection Definitions

The Remote Mount IMU has been tested with two devices to support current customer needs. These devices are the Riotronics –PS4 model and the Mercury Corrector. Signal connections to each of the devices are shown in Table 2.

Table 2 – PCBA Connections

Pin	IMU-300	Riotronics –PS4	Mercury Corrector
1	Pulse IN Ch. 1	Pulse Out	Pulse Out Ch. A +
2	Ground	Ground	Ground
3	Pulse IN Ch. 2	N/C	Pulse Out Ch. B +
4	Ground	N/C	N/C
5	Pulse IN Ch. 3	N/C	Pulse Out Ch. A Corrected +
6	Ground	N/C	N/C
7	Pulse IN Ch. 4	N/C	Pulse Out Ch. B Corrected +
8	Ground	N/C	N/C
9	Tamper+	Tamper	Tamper +
10	Tamper-	N/C	N/C

2.1.1 Riotronics –PS4

The Riotronics –PS4 is a single channel form A switch with tamper detection. The wire definitions for the Riotronics –PS4 is as follows:

Table 3 – PCBA Connections

Pin	Signal	Wire
1	Pulse Out	Red
2	Ground	Black
3	Tamper	Bare wire w/ wire end sheath

2.1.2 Mercury Corrector

The Mercury Corrector uses differential channels for each of the signals, meaning that there is a *Pulse Out Ch. A +* and a *Pulse Out Ch. A -*. All of the negative or return path signals should be connected together at the Mercury Corrector unit and connected to the *Ground* wire on the cable to the Remote Mount IMU.