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Written by:	Pål Nordbryhn	Classification:	NDA Confidential

GS01 FCC certificate changes

Overview of changes in HW for GS01 since FCC ID 2AEJXGS01AA granted 06/23/2015

General

This document contains the overview of the FCC certification documentation of the B-version of GS01. The scope of the release is a cleanup of the A version; fixing issues with producibility, and addressing some known weaknesses. The overall goal with the release is reducing production cost (manufacturing time) and increasing quality (fewer manual steps, higher testability). Most of the changes are related to Main board electronics.

The other change is that a version of GS01 with exposed antenna connector is introduced. This version is named GS01-EA.

Release scope

The HW release consists of these items:

Item	GS part number	Comment
GS01	10030	"standard" variant
GS01_EA	10190	External antenna

Submitted drawings

Red highlight means obsolete document

Green highlight means new document

Yellow highlight means altered document (old and new revision showed)

Descriptive Documents Number	Title	Rev.	Date	Comment
10030	BOM for Top assembly GS01, steel housing	BF -> Ex010	-	
10190	BOM for Top assembly GS01_EA	Ex005	!	

10055	Ex BOM for Battery package, complete	AR -> Ex007	-	
10048	GS01 Main PCB	AE	2016-05-11	Replaces 10050
10050	GS01 Main Board	AI	2012-10-08	Replaced by 10048 schematic
10049	GS01 Detector PCB	AC	2016-01-29	Detector board schematic – replaces 10051
10051	GS01 Detector Board	AP	2015-10-20	Replaced by 10049 schematic
10097	Battery interface PCB	AI	2015-02-06	
10105	GS01 OVP Daughter PCB	AD	2012-09-16	Daughter board removed
10036	Camelogram board schematic	AC	2015-05-06	Replace by 10167 schermatic
10167	Camelogram board schematic	AA	2015-09-07	Replaces 10036
GSD-1515	Manual			Updated manual for GS01-EA
ID122966	Operational Description			Added info about GS01 EA and antenna options
ID1298	GS01 product pictures-interior			Replaced obsolete pictures with new ones
ID123014	GS01 product pictures - exterior			Added picture of GS01-EA
ID122956	GS01 block diagram			Added info on GS01-EA

Details on changes

External antenna

General

GS01-EA is the same gas detector as GS01, and electronics and most of the enclosure is identical. The only differences are:

- Enclosure with a user-accessible N connector instead of a non-accessible antenna.
- Internal MMCX – N cable instead of MMCX – SMA cable

Instead of having an integrated antenna (hidden beneath an antenna cover), GS01-EA offers an antenna connector on the exterior, which allows user to connect extension antenna cable and an external antenna. The end users of GS01-EA (as well as GS01) will be professional users, and installations can be expected to be performed according to the manual. Using the right antenna is emphasized in the manual, and these antennas are orderable items from GasSecure. This will minimize the risk of connecting antennas with wrong properties to GS01-EA.

Main board

General

Main board has gone through several changes, and PCB is new. The major system components such as microcontroller, radio system and power supply are not changed.

GS01 A-B changes

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Change list

These issues are addressed in the new layout:

1. Remove external zener board (“daughter board”), include zeners on Main board instead
2. Include necessary straps on layout
3. Some minor functional changes

Detector board

General

Detector board has been updated with a few minor changes. Schematic and layout is new, with the changes listed below:

Change list

1. Added zener shunts D1000 and D1001 on layout
2. Some minor adjustments

Battery pack

General

Part number 10055 Battery pack is slightly revised

Change list

1. Canister material is changed from non-conductive to conductive (anti-static) plastic