

Level Measurement – LLT100 Laser Level Transmitter

Safety Guide Update Notice



This service bulletin is intended to all SIL LLT100 end-users. Please make sure to share this important notification with your customers.

February 9, 2023

Measurement made easy

—
LLT100

Dear customer,

Our records indicate that you purchased an ABB LLT100 level measurement device with IEC 61508 certification (Safety Integrity Level or SIL). We therefore want to inform you of some updates to our safety guide.

A new SIL certificate and Safety guide shall be soon published based on the below updates.

Some of these points may require you to make changes to settings in your SIS PLC:

1. Page 6: Addition of acronym

TI: Proof Test Interval

2. Page 12:

Version B (Aug'20): The low alarm current is configurable from 3.5 to 3.6 mA with a factory default setting of 3.6 mA. The high alarm current is configurable from 21.0 to 21.6 mA with a factory default setting of 21.0 mA.

Version C (Feb'23): The low alarm

current is configurable from 3.5 to **4.0 mA** with a factory default setting of 3.6 mA. The high alarm current is configurable from **20.0** to **23.0** mA with a factory default setting of 21.0 mA.

3. Page 13:

Version B (Aug'20):

The LOW ALARM must be configured with a value of ≤ 3.6 mA; **Or** The HIGH ALARM must be configured with a value ≥ 21.0 mA.

Version C (Feb'23):

The LOW ALARM must be configured with a value of ≤ 3.6 mA; **And**

The HIGH ALARM must be configured with a value ≥ 21.0 mA.
(Note: both of these out-of-range values must be detected.)

4. Page 14: Add point to “Conditions when device is not safety compliant”

After factory reset, ensure that the device is enabled in standard mode for safety-compliant operation. Please refer to Section 5.1: "Introducing the default factory settings" in AA012909-01_LLT100 HART User Guide.

5. **Page 16:** Table 3 removed from Version B (Aug'20)

6. **Page 17:** Table 7 removed from Version B (Aug'20)

7. **Page 17:**

Version B (Aug'20): The title at the top of the page and in the titles of Tables 5, 7 and 8 read software version 1.1.31 and later.

Version C (Feb'23): The title at the top of the page and in the titles of Tables 4, 5 and 6 read software version 1.1.31

8. **Version B (Aug'20):** Page 16: Proof test effectiveness: **73%**

Version C (Feb'23): Page 16: Proof test effectiveness: **71%**

9. **Page 20: Add point to "Checklist before safety operation"**

Before the first startup of the device, as a part of a safety function, check that the device configuration fulfills the safety function of the system.

Ensure that the device is enabled in standard mode.

Please refer to Section 5.1: "Introducing the default factory settings" in AA012909-01_LLT100 HART User Guide.

10. **Page 24:**

Version B (Aug'20): After the test has been performed, the results must be documented and stored in a suitable manner.

By using this test method at least 72 % (PTC = 0.72) of dangerous, undetected failures are detected.

Version C (Feb'23): After the test has been performed, the results must be documented and stored in a suitable manner.

By using this test method at least **71 % (PTC = 0.71)** of dangerous, undetected failures are detected.

11. **Page 17:** Table 5 Change in failure rates for the units using software version 1.1.31 and hardware version 2.0.0:

While the DD failure rate determined by analysis of service cases is:

| | | |
|--|-----|--------------|
| Failure rate, dangerous detected (IDD) | FIT | 1659‡ |
|--|-----|--------------|

*FIT (failure in time) is defined as a failure rate of 1 per billion hours

‡The total Safe plus DD failure rate is 2015 FIT.

Note that the dangerous undetected failure rate, (IDU), for the units using Hardware version 2.0.0 remains unchanged at 118 FIT.

These values are reported in IEC 61508 certificate (ABB 17-04-094 C001 V3R0). The new certificate and the Safety Guide -Version C shall be published soon with the above updates.

Should you have any question, please do not hesitate to contact us at: laserscanner.support@ca.abb.com

Regards,

Guillaume Colombe

Quebec Factory Service Manager

Sreekanth Madhavasherry Sreenivasan (Sree),

Global Product Manager – Level Products

The determined DD failure rate was previously:

| | | |
|--|------|-----|
| Failure rate, dangerous detected (IDD) | FIT* | 717 |
|--|------|-----|

Notes

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