1 TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU**

3 **Type Examination Certificate No:** **FM18ATEX0013X**

4 **Equipment or protective system: (Type Reference and Name)** **LLT-1000 LIDAR Level Transmitter**

5 **Name of Applicant:** **Jogler LLC**

6 **Address of Applicant:** **6646 Complex Drive Baton Rouge, LA 70809 United States of America**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3062197 dated 13th December 2018

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2012 + A11:2013, EN 60079-15:2010, EN 60079-28:2015, EN 60079-31:2014, and EN 60529:1991 + A1:2000 + A2:2013

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11 This Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:

II 3 G Ex nA nC op is IIC T4 Gc

II 3 D Ex tb op is IIIC T85°C Dc

Ta = -20°C to 60°C

FM Approvals
Member of the FM Global Group

Digitally signed by Nicholas Ludlam
DN: cn=Nicholas Ludlam, o=AVP - Senior Engineering Specialist, ou=FM Approvals Ltd, 1 Windsor Dials, Windsor, Berkshire SL4 1RS, UK, email=nicholas.ludlam@fmapprovals.com, c=GB
Date: 2019.01.10 13:45:16 Z

Nicholas Ludlam
Deputy Certification Manager, FM Approvals Ltd.

Issue date: 10th January 2019

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE

to Type Examination Certificate No. FM18ATEX0013X

13 **Description of Equipment or Protective System:**

The Model LLT-1000 LIDAR Level Transmitter is a non-contact based instrument that measures the level in silos, tanks, hoppers, chutes and bunkers. The 4 to 20 mA and relay interfaces provide linear and switch point controls whilst the on-board USB interface provides access to comprehensive, user-friendly configuration settings. With an optional visible aiming laser, numerous mounting flange options and Aluminium or 316 Stainless Steel housing.

The enclosure has an ingress protection rating of IP66.

Ratings - The Model LLT-1000 Level Transmitter operate at 14-32 Vdc (24 Vdc nominal). The transmitter is rated for use in an ambient temperature range of -20°C to +60°C.

LLT-1000/a/b Laser Level Transmitter

a = S - Standard instrument without visible aiming laser pointer or P - Instrument with visible aiming laser pointer
b = A - Aluminium housing or S - 316 Stainless Steel housing

14 **Specific Conditions of Use:**

1. The equipment's lenses shall be protected from exposure to ultraviolet light.
2. Potential risk of electrostatic sparking. Clean only with a damp cloth.

15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 **Test and Assessment Procedure and Conditions:**

This Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 **Schedule Drawings**

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by FM Approvals Ltd.

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
10th January 2019	Original Issue.

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

Blueprint Report

Jogler LLC (1000000720)

Class No 3611

Original Project I.D. 3062197

Certificate I.D. FM18ATEX0013X

Drawing No.	Revision Level	Drawing Title	Last Report
DS_Model LLT-1000	E	Datasheet	3062197
LA 000_035	3	FRONT FLANGE PLATE ASSY	3062197
LA 000_062	0	Final Assembly	3062197
LLT-1000 BOM	0	LLT-1000 Complete BOM	3062197
LLT-1000 LBL	3	LLT-1000 Labels	3062197
LLT1000_INT_01 BOM	0	LLT1000_INT_01 BOM	3062197
LLT1000_INT_01 Bott PCB	0	Bottom PCB Drawing	3062197
LLT1000_INT_01 SCM	0	LLT1000_INT_01 SCM	3062197
LLT1000_INT_01 Top PCB	0	Top PCB Drawing	3062197
LLT1000_INT_01	0	LLT 1000 Interface boards parts list	3062197
LW 000_035	0	LW 000_035 Assembly Drawing	3062197
LW 000_061	0	LW 000_061 Assembly Drawing	3062197
LW 000_105 PT	0	LW 000_105 Part Drawing	3062197
LW 000_113 PT	0	LW 000_113 Part Drawing	3062197
LW 000_114 PT	0	LW 000_114 Part Drawing	3062197
LW 000_115 PT	0	LW 000_115 Part Drawing	3062197
LW 000_117 PT	0	LW 000_117 Part Drawing	3062197
LW 000_128 PT	0	LW 000_128 Part Drawing	3062197
SF01_Rev2 Bott PCB	0	SF01 Rev2 Bottom PCB Drawing	3062197
SF01_Rev2 SCM	0	SF01 Rev 2 Schematic	3062197
SF01_Rev2 Top PCB	0	SF01 Rev2 Top PCB Drawing	3062197