

EU-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially explosive atmospheres**
Directive 2014/34/EU

3. EU-Type Examination Certificate Number: **EESF 20 ATEX 019X**

4. Product: **Local control panels for valve controller**

Certified types: **LCP9H, LCP9HW, LCP9HL and LCP9HWL**

5. Manufacturer: **Neles Finland Oy**

6. Address: **Vanha Porvoontie 229, FI-01380 Vantaa, Finland**

Additional manufacturing locations:

**Scanfil OÜ
Vana Sauga 40
EE-80010 Pärnu
Estonia**

7. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8. Eurofins Expert Services Oy, Notified Body number 0537, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report No. EUFI29-20001828-T2.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018
EN 60079-11:2012 EN 60079-18:2015/A1:2017

10. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:



II 2G Ex eb mb [ib] IIC T6...T4 Gb

Espoo, 27.05.2020

Eurofins Expert Services Oy

Jenni Hirvelä
Senior Expert

Kari Koskela
Senior Expert

This document is digitally signed.



13.

Schedule

14. EU-Type Examination Certificate EESF 20 ATEX 019X

15. Description of Product

The Local Control Panels LCP9H, LCP9HW, LCP9HL and LCP9HWL are to be used together with VG9000H safety valve controller. The both types will be used to operate the emergency isolation valve locally by sending requests to VG9000H controller and receiving information of current valve status from the controller. Functions of the types are driving the valve to fail-safe position, resetting the valve to normal operation and testing the valve operation manually. Push-button switches mounted to LCP enclosure activate functions. Five LED-indicators show the status of current function. All buttons can be equipped with lockable stainless steel button covers to prevent accidental use. All metal parts of the enclosure are galvanically connected to each other. The inputs of types LCP9H and LCP9HW are protected with $I_n = 80\text{mA}$ fuse with breaking capacity of at least $1500\text{ A @ }250\text{ V DC/AC}$ and the inputs of types LCP9HL and LCP9HWL are protected with $I_n = 50\text{mA}$ fuse with breaking capacity of $4000\text{ A @ }250\text{ V DC/AC}$. The Suffix Y in the product type marking means special construction, which does not affect the types of protection.

Rated input voltages:

LCP9H and LCP9HW:

$U = 24\text{ V DC}$

LCP9HL and LCP9HWL:

$U = 28\text{ V DC}$

The Intrinsically Safe parameters of the current loop communication interface channels A and B with Level of Protection [ib] for LCP9H and LCP9HW are:

$U_o = 9,8\text{ V}$

$I_o = 47\text{ mA}$

$P_o = 120\text{ mW}$

$C_o = 3,3\text{ }\mu\text{F}$

$L_o = 15\text{ mH}$

The Intrinsically Safe parameters of the current loop communication interfaces with Level of Protection [ib] for LCP9HL and LCP9HWL are:

Tx Current Loop:

$U_o = 8,3\text{ V}$

$I_o = 5,8\text{ mA}$

$P_o = 12\text{ mW}$

$C_o = 3,6\text{ }\mu\text{F}$

$L_o = 50\text{ mH}$

Rx Current Loop:

$U_o = 8,3\text{ V}$

$I_o = 18,9\text{ mA}$

$P_o = 43\text{ mW}$

$C_o = 3,6\text{ }\mu\text{F}$

$L_o = 50\text{ mH}$

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17. Specific Conditions of Use

- The maximum allowed ambient temperature ranges for LCP9H and LCP9HW:
-20 °C ... +48 °C for temperature class T6

- 20 °C ... +63 °C for temperature class T5
- 20 °C ... +65 °C for temperature class T4
- The maximum allowed ambient temperature ranges for LCP9HL and LCP9HWL:
 - 20 °C ... +55 °C for temperature class T6
 - 20 °C ... +65 °C for temperature class T5
 - 20 °C ... +65 °C for temperature class T4
- The permissible ambient temperature range depends on the used configuration. The ambient temperature range is marked on the identification plate.
- The certified type does not comply with the dielectric strength requirement for isolation from earth. Instructions shall include necessary information regarding the correct installation.

18. Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

19. Drawings and Documents

Doc.No.	Document Title	Issue	Date
F77300	LCP9H Ex Description	D	2017-01-17
F78083	LCP9H potting, process description	1.0	2016-10-28
LCP9H and LCP9HW:			
Doc.No.	Document Title	Issue	Date
ME0825-016	- LCP I.S. Description LCP REV 1.10 - Temperature and power dissipation calculations for I.S. Description	1.2	2014-12-12
ME0825-008	PCB ASSEMBLY INSTRUCTION and PCB SPECIFICATION, (PCB name LCP REV1.10)	V1.3	2015-01-20
ME0825-006	LCP REV 1.10 BOM	1.5	2014-12-29
ME0825-005	ME0825-005_xx_LCP-REV1.10_2014-12-30 (PCB layout)	1.10	2014-12-30
ME0825-004	ME0825-004_LCP-REV1.10_schematics_V1.1_2014-11-19.sch	1.10	2014-12-30
ME0825-002	ME0825 / LCP REV 1.10 BLOCKDIAGRAM	V5	2015-02-04
F77782	IDENTIFICATION PLATE LCP9H, LCP9HW Ex ia / Ex ic / Ex em	C*	2020-03-04
F80371	IDENTIFICATION PLATE LCP9H, LCP9HW konekilpi	A*	2020-03-06
F78102	LCP9H Mechanics BOM and Assembly	A	2016-10-31
4153	LCP Fuse Board schematic	A	2016-10-18
H146960	LCP Fuse Board PCB layout	-	2016-10-19
BOM41530	LCP Fuse Board	C*	2017-04-13
	PCB Specification, LCP Fuse Board PCB41530A	5.1	2016-10-19
F61983	Housing LCP9H Dimensional Drawing	A	2019-02-19
LCP9HL and LCP9HWL:			
Doc.No.	Document Title	Issue	Date
ME0825-LCP -REV2.0	INTRINSIC SAFETY DESCRIPTION_V0.3	0.3	2016-10-31
	Maximum Power Dissipation and Surface Temperature Rise Calculations for Intrinsic Safety	0.1	2016-09-12
ME0825-002	Block diagram ME0825 / LCP REV2.0	V2	2016-09-14
ME0825-006	LCP REV 2.5 BOM	2.5	2016-11-23
ME0825-005	ME0825-005_xx_LCP-REV2.0_2016-08-22 (PCB layout)	2.0	2016-08-22
F77022	Identification Plate LCP9H_L, LCP9HW_L (AISI 316)	D*	2020-03-06
F79469	Identification Plate LCP9H_L, LCP9HW_L (printable)	C*	2020-03-04
ME0825-LCP	LCP LOOP V.1.08 Schematics	2.0	2016-11-16
F79231	LCP9H_L Mechanics BOM and Assembly	1.0	2017-01-02
	LCP9H_L BOM Part Items	A	2017-01-02
ME0825-008	PCB ASSEMBLY INSTRUCTIONS and PCB SPECIFICATION		2016-09-14
	PCB name: LCP_REV2.0		
F62390	Housing LCP9HW Dimensional Drawing	A	2019-02-19

20. Certificate History

Issue	Date	Report No.	Comment
VTT 16 ATEX 043X	25.11.2016	VTT-S-04457-16	Prime certificate
Issue 1	18.1.2017	VTT-S-00286-17	Addition of certified types LCP9HL and LCP9HWL. New documents
Issue 2	15.2.2017	VTT-S-00286-17	Temperature classification T5 and T6 assessed for types LCP9HL and LCP9HWL.
Issue 3	19.4.2017	VTT-S-02173-17	Alternative internal fuse for types LCP9H and LCP9HW introduced. LCP Fuse board BOM revised.
EESF 20 ATEX 019X	27.05.2020	EUFI29-20001828-T2	NB name changed from VTT Expert Services to Eurofins Expert Services. Applicant name changed from Metso Flow Control to Neles Finland. *)Markings revised.