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Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

Issued by Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK	
Applicant	Endress+Hauser Optical Analysis Inc. 11027 Arrow Route, Rancho Cucamonga CA 91730 USA
Manufacturer name	Endress+Hauser Optical Analysis Inc. 11027 Arrow Route, Rancho Cucamonga CA 91730 USA
Product name	Gas Analyzer
Type/model code	J22 TDLAS (See attachment 1)
Type of protection	Flameproof, Intrinsic safety, Optical Radiation
Group, Temperature Class and EPL	J22 TDLAS Gas Analyzer: [Ga] IIC T4 Gb IIC T4 Gb - including Enclosure or Panel Mount Sample Conditioning System (SCS): - including Enclosure and Heated Sample Conditioning System (SCS):: IIC T3 Gb
The equipment shall be marked with the following	See attachment 2
Ratings	See attachment 3
Special condition for safe use	See attachment 4
Certificate number	CML 22JPN1411X
Term of validity	From 12-12-2022 to 11-12-2025 

This is to certify that the equipment specified above complies with the requirements stipulated in Ordinance on Examination of Machines and Other Equipment of the Ministry of Health, Labour and Welfare, Japan.

Issue date: 12-12-2022

Signature of chief examiner:



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Attachment 1: Type/model codes

J22 TDLAS Gas Analyzer with Sample Conditioning System (SCS) enclosure, panel mount and heating options:

Model Code Structure

J22 – ABCDEFGHIJKLMNOPQRSTUVWXYZ

A	= Approval:	JD – JPNEEx Zone 1
B	= Analyte	
C	= Measurement Range	
D	= Measurement Range 2	
E	= Stream Composition	
F	= Venting to	
G	= Process Wetted Materials:	V – 316 Stainless Steel; FKM Seals
H	= Supply Parameters:	A – 100-240 VAC (50/60 Hz) ± 10% D – 24 VDC ± 20%
I	= Output; Input 1	
J	= Output; Input 2	
K	= Output; Input 3	
L	= Electronics Housing:	1 – Coated Copper-Free Aluminium 2 - 316 Stainless Steel
M	= Controller Mounting	
N	= Sample Conditioning System (SCS):	A – On Panel, Aluminium B – Enclosed, 304 Stainless Steel C - Enclosed, 316 Stainless Steel N – None
O	= Filtration	
P	= Sample System Gas Connections:	A – Imperial B – Metric
Q	Pressure Regulation	
R	= Flow Meter:	G – Armored, factory default P – Armored, Krohne w/flow switch F – Glass Tube, factory default K – Glass Tube, Krohne N – None
S	= Heating Options:	1 – Heated + Heat-Trace Boot, 100 – 240 VAC ± 10% 8 – None



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- T = Purge
- U = Operating Language Display
- V = Test/Certificate/Declaration
- W = Marking

T – Purge

Attachment 2: Marking

J22 TDLAS Gas Analyzer	Ex db ia [ia Ga] ib op is IIC T4 Gb -20°C ≤ Ta ≤ +60°C
J22 TDLAS Gas Analyzer including Enclosure or Panel Mount Sample Conditioning System (SCS):	Ex db ia ib op is IIC T4 Gb -20°C ≤ Ta ≤ +60°C
J22 TDLAS Gas Analyzer including Enclosure and Heated Sample Conditioning System (SCS):	Ex db ia ib op is IIC T3 Gb -20°C ≤ Ta ≤ +60°C

Attachment 3: Ratings

J22 TDLAS Gas Analyzer

Rated: 100 – 240 Vac, 50/60 Hz ± 10%, Um = 250 V or
19.2 – 28.8 Vdc, max., Um 250 V, 10 W.

I/01: Terminal 26 and 27: Un = 30 Vdc,
Um = 250 Vac

I/02: Terminal 24 and 25: Un = 30 Vdc, or Un = 30 Vdc,
Um = 250 Vac In = 100m Adc/500 mAac,
Um = 250 Vac

I/03: Terminal 22 and 23: Un = 30 Vdc, or Un = 30 Vdc,
Um = 250 Vac In = 100 mAdc/500 mAac,
Um = 250 Vac

Flow J6(Optical Head Uo = 5.88 V, (Uo may be + or – 5.88 V with respect to Pin 2 of J6)
Switch: Enclosure): Io = 4.53 mA,
J6 Po = 6.66 mW,
Co = 43 μF,
Lo = 1.74 H

J22 TDLAS Gas Analyzer including Enclosure or Panel Mount Sample Conditioning System (SCS):

Rated: 100 – 240 Vac, 50/60 Hz ± 10%, Um = 250 V or
19.2 – 28.8 Vdc, max., Um 250 V, 10 W

I/01: Terminal 26 and 27: Un = 30 Vdc,
Um = 250 Vac



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I/02:	Terminal 24 and 25:	Un = 30 Vdc, Um = 250 Vac	or	Un = 30 Vdc, In = 100 mAdc/500 mAac, Um = 250 Vac
I/03:	Terminal 22 and 23:	Un = 30 Vdc, Um = 250 Vac	or	Un = 30 Vdc, In = 100 mAdc/500 mAac, Um = 250 Vac

J22 TDLAS Gas Analyzer including Enclosure and Heated Sample Conditioning System (SCS):

Rated: 100 – 240 Vac, 50/60 Hz ± 10%, Um = 250V or
19.2 – 28.8 Vdc, max., Um = 250 V, 10 W.
Heater: 100 – 240 Vac, 50/60 Hz ± 10%, 80 W.

I/01:	Terminal 26 and 27:	Un = 30 Vdc, Um = 250 Vac		
I/02:	Terminal 24 and 25:	Un = 30 Vdc, Um = 250 Vac	or	Un = 30 Vdc, In = 100 mAdc/500 mAac, Um = 250 Vac
I/03:	Terminal 22 and 23:	Un = 30 Vdc, Um = 250 Vac	or	Un = 30 Vdc, In = 100m Adc/500 mAac, Um = 250 Vac

Attachment 4: Special conditions for safe use

- i. The flameproof joints of this equipment are other than the minimums specified and shall not be repaired by the user.
- ii. Adhesive labels, the powder coating of models of the equipment with an aluminium enclosure, and coated parts of the flowmeter with flow switch are non-conducting materials and may generate an ignition-capable level of electrostatic discharge under certain extreme conditions. The user should ensure that the Equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on these non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
- iii. The optional stainless-steel label tag is not bonded to earth. The maximum average capacitance of the tag determined by measurement is max. 30 pF. This shall be considered by the user to determine suitability of the equipment in a specific application.
- iv. For models of the J22 TDLAS Gas Analyzer with Sample Conditioning System (SCS) mounted within an enclosure, the inner sheath of the supply cable for the heater circuit shall be sheathed with thermoplastic, thermosetting, or elastomeric material. It shall be circular and compact. Any bedding or sheath shall be extruded. Fillers, if any, shall be non-hygroscopic. The minimum length of the cable shall exceed 3 meters.
- v. The temperature of the process medium shall be within the ambient temperature rating of the equipment.
- vi. Any connection to the Intrinsically Safe Flow Switch connector shall be made via a M12 x 1.5 Ex eb IIC IP66 rated certified cable gland suitable for a temperature range of -20°C to +60°C, that shall be fitted in an



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- Optical Head Enclosure entry. The connection is made to a printed circuit board mounted four Pin black connector J6 via a mating free connector using crimp type terminals. Access to the connection is gained by removal of the Optical Head Enclosure cover which shall be refitted using a fastener torque of 2Nm.
- vii. The equipment is not capable of passing a 500V r.m.s. dielectric strength test between the Intrinsically Safe Flow Switch connection circuits and the equipment enclosure. This shall be taken into account in any equipment installation.