


TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [3] Type Examination Certificate Number: **UL 22 ATEX 2479X Rev. 0**
- [4] Product: **VisuNet FLX Panel. Models RM-320P, PC-320P, DM-320P**
- [5] Manufacturer: **Pepperl+Fuchs SE**
- [6] Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**
- [7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.
- The examination and test results are recorded in confidential report no. **DK/ULD/ExTR22.0018/00**.
- [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**
- except in respect of those requirements listed at item 18 of the Schedule.
- [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 Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.
- [12] The marking of the product shall include the following:

 **II 3 G Ex ec [ic Gc] IIC T4 Gc (when fitted with BPC3200: RM-320P, PC-320P)**

 **II 3 G Ex ec IIC T4 Gc (when fitted with DMU: DM-320P)**

Certification Manager
Jan-Erik Storgaard

Certification Body

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2022-07-29

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
Tel. +45 44 85 65 65, info.dk@ul.com, www.ul.com

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[14]

Schedule

TYPE EXAMINATION CERTIFICATE No.

UL 22 ATEX 2479X Rev. 0

[15]

Description of Product:

VisuNet FLX Panels consist of a display unit with touch screen in combination with a computing unit. Various display sizes and configurable computing units like Box PC BPC3200 and Direct Monitor Unit DMU3200 are available. The BPC3200 (certified under UL 22 ATEX 2478X) and DMU3200 are installed on the backside of the display and form a VisuNet FLX Panel.

The devices are classed as Panel Mount equipment to be installed in or as part of an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-0 by the end-user.

Configurations available are:

- Direct Monitor (DM-320P-) Based on the DPU with an additional interface (DMU – direct monitor unit) for direct connection of an external graphic card.
- Remote Monitor (RM-320P-) Based on the DPU with an additional interface (BPC3200 TCU – thin client unit) for connection to a thin client (Ethernet) network and a host
- PC (PC-320P-) Based on the DPU with an additional industrial PC (BPC3200 PCU – PC unit) for connection to an Ethernet network and a host PC.

Nomenclature:

VisuNet FLX Panel

I		II		III	IV		V		VI		VII		VIII	IX
RM-	320	P	-	X	A	-	22GT	-	D	-	1NNNNS1	-	N	N0

I –	Technology	
	RM-:	Remote Monitor
	PC-:	Panel-PC
	DM-:	Direct Monitor
II –	Type	
	P:	Panel
III –	Approvals	
	L:	ATEX/IECEX Zone 2, cULus CL I, DIV 2
	N:	General purpose
IV –	Operating Temperature range	
	A:	Ambient Temperature: 0...45°C
	B:	Ambient Temperature: -20...55°C
V –	Display Unit	
	22GT:	21.5 inch, Full-HD, capacitive touch
	22FC:	comparable to 22GT, differences like optical bonding
	19SC:	19 inch, SXGA, capacitive touch optical bonding
VI –	Supply	
	D:	24Vdc (+/-20%), SELV/PELV, Class 2
VII –	Configurations	
	Computing platform	
	1N:	Intel Celeron 3965U
	2N:	Intel Core i5-7300U
	VN:	Direct Monitor Unit
	RAM	
	N:	None
	A:	1x4GB
	B:	1x8GB
	C:	1x16GB

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K:	1x4GB wide temperature grade for operating temperature range B	
L:	1x8GB wide temperature grade for operating temperature range B	
M:	1x16GB wide temperature grade for operating temp. range B	
Storage		
N:	None	
A:	32GB	
B:	64GB	
C:	128GB	
D:	256GB	
E:	512GB	
K:	32GB wide temperature grade for operating temperature range B	
L:	64GB wide temperature grade for operating temperature range B	
M:	128GB wide temperature grade for operating temperature range B	
P:	256GB wide temperature grade for operating temperature range B	
Q:	512GB wide temperature grade for operating temperature range B	
Operating System & Software (not safety-relevant)		
1	Win10	
2	P+F RM Shell	
X:	Can be an alphanumeric character, representing another Operating System & Software	
Housing		
S1:	Mounting: Stainless steel bezel such as 304A or 316L	
S2:	Mounting: Stainless steel bezel such as 304A or 316L	
VIII –	Special Accessories (not safety-relevant)	
	X:	Can be an alphanumeric character
	N:	None
IX –	Options (not safety-relevant)	
	X:	Can be an alphanumeric character
	N0:	Standard, No options

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Temperature range:

The ambient temperature range is 0 °C to +45 °C or -20°C to +55°C

Electrical data

VisuNet FLX Panel,
Designated RM-320P, PC-320P (fitted with BPC3200)
24 V DC +/- 20%, 4.0 Amp, 80W max, SELV/PELV/Class 2

VisuNet FLX Panel,
Designated DM-320P (fitted with DMU3200 Direct Monitor Unit)
24 V DC +/- 20% 1.5 Amp, 30W max, SELV/PELV/Class 2

Intrinsically safe specifications:

Um = 30 V DC (when fitted with BPC3200)

Ex i USB ports

Uo: ≤ 5.3 V
Io: ≤ 240 mA
Po: ≤ 1.27 W
Li: negligible
Ci: ≤ 11 µF
Output characteristic: rectangular

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Schedule TYPE EXAMINATION CERTIFICATE No. UL 22 ATEX 2479X Rev. 0

For group IIC:

Co = 989µF

Lo = 50µH

Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co (uF)	6	15	32	129	989
Lo (uH)	20	10	5	2	1

For group IIB/IIIC:

Co = 989µF

Lo = 1400µH

Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co (uF)	5	32	76	329	989
Lo (uH)	1000	200	50	10	4

For group IIA:

Co = 989µF

Lo = 5500µH

Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co (uF)	14	28	75	239	989
Lo (uH)	1000	500	100	20	4

Ex i Remote Power (connector for external switch)

Uo: ≤ 5 V

Io: ≤ 10 mA

Po: ≤ 50 mW

Li: negligible

Ci: ≤ 1 µF

For group IIC:

Co = 999 µF

Lo = 100 mH

Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co [µF]	2.1	3.8	11	31	189
Lo [µH]	100000	5000	100	10	2

Routine tests:

N/A

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Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

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Special Conditions of Use:

- The equipment shall be installed as part an enclosure that provides a degree of protection not less than IP 54 in accordance with EN IEC 60079-0 and used in an environment of not more than pollution degree 2 as defined in EN 60664-1.
- The device has to be mounted in an area with a lower risk of mechanical impact.
- Impacts from heavy or sharp-edged objects on the device have to be avoided. The maximum force for the housing parts is 4 N, the maximum force for light transmitting parts is 2 N.
- Connections of non-intrinsically safe circuits must be secured against loosening by suitable means.
- Connection to non-intrinsically safe interface Audio Jack is not allowed in hazardous areas.
- Connection to non-intrinsically safe card interfaces e.g., PCIe is not allowed in hazardous areas.
- The use of OSD power button is not allowed in hazardous areas.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9

Additional information

The VisuNet FLX Panel has in addition passed the tests for Ingress Protection to IP 66 in accordance with EN60529:1991+A1:2000+A2:2013.

The trademark  PEPPERL+FUCHS will be used as the company identifier on the marking label.

TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [3] Type Examination Certificate Number: **UL 22 ATEX 2479X Rev. 1**
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II 3 G **Ex ec IIC T4 Gc (when fitted with DMU: DM-320P)**

Certification Manager
Thomas Wilson

Certification Body

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Date of issue: 2022-07-29

Re-issued: 2023-03-03

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[14]

Schedule TYPE EXAMINATION CERTIFICATE No. UL 22 ATEX 2479X Rev. 1

[15]

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	VN:	Direct Monitor Unit
	RAM	
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B:	1x8GB	
C:	1x16GB	
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L:	1x8GB wide temperature grade for operating temperature range B	
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[13]

[14]

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 Po: ≤ 1.27 W
 Li: negligible
 Ci: ≤ 11 µF
 Output characteristic: rectangular

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[13]

[14]

Schedule
TYPE EXAMINATION CERTIFICATE No.
UL 22 ATEX 2479X Rev. 1

The trademark  **PEPPERL+FUCHS** will be used as the company identifier on the marking label.