

[1]

TYPE EXAMINATION CERTIFICATE



[2]

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

[3]

Type Examination Certificate Number: **UL 22 ATEX 2480U Rev. 0**

[4]

Component: **VisuNet FLX Panel. Models RM-320P, PC-320P, DM-320P**

[5]

Manufacturer: **Pepperl+Fuchs SE**

[6]

Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

[7]

This Component 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 26 February 2014.

The examination and test results are recorded in confidential report number: **DK/ULD/ExTR22.0019/00.**

[9]

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

EN IEC 60079-0:2018

EN 60079-11:2012

EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

[10]

The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11]

This Type Examination Certificate relates only to the design of the specified component, and not to specific items of component subsequently manufactured.

[12]

The marking of the component shall include the following:

II 3 G Ex tc [ic Dc] IIIC Dc (when fitted with BPC3200: RM-320P, PC-320P)

II 3 G Ex tc IIIC Dc (when fitted with DMU: DM-320P)

Certification Manager

Jan-Erik Storgaard

This is to certify that the sample(s) of the Component described herein ("Certified Component") 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 component 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 component. The Manufacturer are 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

Certification Body

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 2480U Rev. 0

[15]

Description of Component:

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 (DMU certified under UL 22 ATEX 2479X) are installed on the backside of the display and form a VisuNet FLX Panel.

The devices are classed as Open Type equipment to be installed in or as part of an enclosure that provides a degree of protection not less than IP 6X in accordance with IEC 60079-31 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.

Nomenclatures

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
	15FC:	15.6 inch, Full-HD, capacitive touch optical bonding
VI –	Supply	
	D:	24Vdc (+/-20%), SELV/PELV, Class 2



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Schedule
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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
	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



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Schedule TYPE EXAMINATION CERTIFICATE No. UL 22 ATEX 2480U Rev. 0

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:

Service temperature range is -20°C to +62.6°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

For group IIC:

Co = 989µF
Lo = 50µH
Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co (µF)	6	15	32	129	989
Lo (µH)	20	10	5	2	1

For group IIB/IIC:

Co = 989µF
Lo = 1400µH
Following values of Lo and Co can be applied combined. (Ci already subtracted)

Co (µF)	5	32	76	329	989
Lo (µH)	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 (µF)	14	28	75	239	989
Lo (µH)	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



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Schedule
TYPE EXAMINATION CERTIFICATE No.
UL 22 ATEX 2480U Rev. 0

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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Schedule of Limitations:

- The Display Panel seal has been evaluated for a service temperature range of -20°C to +62.6°C. Under these conditions the temperature of the exposed surface does not exceed 85°C.
- The equipment shall be installed as part of an enclosure that provides a degree of protection not less than IP 6X in accordance with IEC 60079-0 and used in an environment of not more than pollution degree 2 as defined in IEC 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
- 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



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

Type Examination Certificate Number: **UL 22 ATEX 2480U Rev. 1**

Component: **VisuNet FLX Panel. Models RM-320P, PC-320P, DM-320P**

Manufacturer: **Pepperl+Fuchs SE**

Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

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

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 26 February 2014.

The examination and test results are recorded in confidential report number: **DK/ULD/ExTR22.0019/01.**

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

EN IEC 60079-0:2018

EN 60079-11:2012

EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

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The marking of the component shall include the following:



II 3 D Ex tc [ic Dc] IIIC Dc (when fitted with BPC3200: RM-320P, PC-320P)



II 3 D Ex tc IIIC Dc (when fitted with DMU: DM-320P)

Certification Manager

Thomas Wilson

This is to certify that the sample(s) of the Component described herein ("Certified Component") 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 component 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 component. The Manufacturer are 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

Re-issued: 2023-03-03

Certification Body

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



[13]

[14]

Schedule TYPE EXAMINATION CERTIFICATE No. UL 22 ATEX 2480U Rev. 1

[15]

Description of Component:

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 (DMU certified under UL 22 ATEX 2479X) are installed on the backside of the display and form a VisuNet FLX Panel.

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Nomenclatures

VisuNet FLX Panel

I		II		III		IV		V		VI		VII		VIII	IX
RM-	320	P	-	X	A	-	22GT	-	D	-	1NNNNS1	-	N	NO	

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
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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



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Schedule
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UL 22 ATEX 2480U Rev. 1

B:	1x8GB	
C:	1x16GB	
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	
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K:	32GB wide temperature grade for operating temperature range B	
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2	P+F RM Shell	
X:	Can be an alphanumeric character, representing another Operating System & Software	
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Ex i USB ports

Uo: ≤ 5.3 V

Io: ≤ 240 mA



[13]

[14]

Schedule TYPE EXAMINATION CERTIFICATE No. UL 22 ATEX 2480U Rev. 1

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

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