Translation

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) # BVS 08 ATEX E 122

(4) **Equipment:** **Transmitter-Receiver Light Barrier type PP 2031* Ex und type PP 2031* 01n* Ex**

(5) **Manufacturer:** **Fotoelektrik Pauly GmbH & Co. KG**

(6) **Address:** **59368 Werne**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment report BVS PP 08.2156 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-1:2004	Flameproof enclosure ´d´
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by enclosures

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

II 2G Ex d IIC T6
II 2D Ex tD A21 IP66 T80°C

DEKRA EXAM GmbH
Bochum, dated 01. December 2008

Signed: Dr. Jockers
Certification body

Signed: Dr. Eickhoff
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(13) Appendix to

(14) # EC-Type Examination Certificate
BVS 08 ATEX E 122

(15) 15.1 Subject and type

Transmitter-Receiver Light Barrier type PP 2031* Ex und type PP 2031* 01n* Ex

Type PP 2031* Ex

- S = Transmitter
- E = Receiver

Type PP 2031* 01n* Ex

- S = Transmitter
- E = Receiver
- Without influence on the explosion protection

15.2 Description

The Transmitter-Receiver Light-Barrier type PP 2031* Ex und type PP 2031* 01n* Ex is designed in type of protection Flameproof Enclosure. It consists of a tubular enclosure bottom housing which is equipped on one side with a threaded hole for mounting a cable entry (type HSK type MZ Ex d M16x1, 5 KEMA 99ATEX6968 X). On the other side the enclosure is equipped with a female thread. Into this thread the cover is screwed.
In the cover a glass is mounted. The inside of the cover is provided with an internal thread, into which a pipe with external thread is screwed. This pipe serves to incorporate the electronics and fixes the glass pane by using pressure rings. The Transmitter-Receiver Light-Barrier type PP 2031* Ex und type PP 2031* 01n* Ex is equipped with a permanently connected cable.
The difference between the types is a different electronic and the operating mode.

15.3 Parameters

Rated voltage	DC	24	V
Rated current		40	mA
Maximum permitted input power		1	W

Ambient temperature range -20 °C to +60 °C

(16) Test and assessment report

BVS PP 08.2156 EG as of 19.11.2008

(17) Special conditions for safe use

None

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We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 01. December 2008
BVS-Kem / Her A 20080264

DEKRA EXAM GmbH

Certification body

Special services unit

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Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 08 ATEX E 122

Equipment:	**Reflex light barrier type JP705 Ex and type JP7051 Ex and reflex sensor type JP705/yL Ex and type JP7051/yL Ex.**
Manufacturer:	**Fotoelektrik Pauly GmbH & Co. KG**
Address:	**59368 Werne, Germany**

Description

The one-way light barriers of type PP 2031* Ex and PP 2031* 01n* Ex may now also be manufactured according to the documentation provided with the pertinent test and assessment report; then, they will be labelled as follows:

Reflex light barrier type JP705 Ex and type JP7051 Ex

Type JP705 Ex	Reflex light barrier working range 0…20 m, infra-red light
Type JP7051 Ex	Reflex light barrier working range 0…20 m, red light

Reflex sensor type JP705/yL Ex and type JP7051/yL Ex

Type JP705/yL Ex

y =	Upper limit of sensing distance in mm
100 =	scanning range 30…100 mm, infra-red light
200 =	scanning range 30…200 mm, infra-red light
300 =	scanning range 30…300 mm, infra-red light

Type JP7051/yL Ex

y =	Upper limit of sensing distance in mm
100 =	scanning range 30…100 mm, red light
200 =	scanning range 30…200 mm, red light
300 =	scanning range 30…300 mm, red light

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The flameproof enclosure is adopted without any modification for the reflex light barriers type JP705 Ex and type JP7051 Ex as well as for the reflex sensors type JP705/yL Ex and type JP7051/yL Ex. The only modifications – depending on the variant used – are the operating mode and the electronics installed inside.

Parameters

Nominal voltage	DC	24	V
Nominal current		40	mA
Maximum power supply		1	W
Ambient temperature range		-20 °C up to +60 °C	

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2006	General requirements
EN 60079-1:2004	Flameproof enclosure 'd'
EN 61241-0:2006	General requirements
EN 61241-1:2004	Protection by enclosures

The marking of the equipment shall include the following:

II 2G Ex d IIC T6
II 2D Ex tD A21 IP66 T80°C

Special conditions for safe use
None

Test and assessment report
BVS PP 08.2156 EG as of 17.12.2009

DEKRA EXAM GmbH
Bochum, dated 17th December 2009

Signed: Simanski	Signed: Dr. Eickhoff
Certification body	Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 26.01.2010
BVS-Ru/Ar E 0067/10

DEKRA EXAM GmbH

Certification body	Special services unit

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Translation

(1) 2. Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **BVS 08 ATEX E 122 X**

(4) Equipment: **Reflex light barrier type JP705 Ex and type JP7051 Ex**
Reflex scanner type JP705/yL Ex and type JP7051/yL Ex
Transmitter-Receiver Light Barrier type PP 2031* Ex and type PP 2031* 01n* Ex

(5) Manufacturer: **Fotoelektrik Pauly GmbH & Co. KG**

(6) Address: **59368 Werne, Germany**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the test and assessment report BVS PP 08.2156 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2009 General requirements
EN 60079-1:2007 Flameproof enclosure „d"
EN 60079-31:2009 Equipment dust ignition protection by enclosures „t"

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2G Ex d IIC T6 Gb
II 2D Ex tb IIIC T80°C Db

DEKRA EXAM GmbH
Bochum, dated 03. May 2012

Signed: Dr. Eickhoff
Certification body

Signed: Schumann
Special services unit

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(13) Appendix to

(14) **2. Supplement to the EC-Type Examination Certificate**
BVS 08 ATEX E 122 X

(15) 15.1 Subject and type

Reflex light barrier type JP705 Ex and type JP7051 Ex

type JP705 Ex Reflex light barrier, working range 0...20 m, infra-red light

type JP7051 Ex Reflex light barrier, working range 0...20 m, red light

Reflex scanner type JP705/yL Ex and type JP7051/yL Ex

Type JP705/yL Ex

y = Upper limit of scanning distance in mm
100= scanning range 30...100 mm, infra-red light
200= scanning range 30...200 mm, infra-red light
300= scanning range 30...300 mm, infra-red light

Type JP7051/yL Ex

y = Upper limit of scanning distance in mm
100= scanning range 30...100 mm, red light
200= scanning range 30...200 mm, red light
300= scanning range 30...300 mm, red light

Transmitter-Receiver Light Barrier type PP 2031* Ex and type PP 2031* 01n* Ex

Type PP 2031* Ex

S = Transmitter
E = Receiver

Type PP 2031* 01n* Ex

S = Transmitter
E = Receiver

Without influence on the explosion protection

15.2 Description

The transmitter-receiver light barrier type PP 2031* Ex and type PP 2031* 01n* Ex, the Ex d-reflex light barrier type JP705 Ex and type JP7051 Ex as well as the Ex d-reflex scanner type JP705/yL Ex and type JP7051/yL Ex is designed in type of protection Flameproof Enclosure. It consists of a tubular enclosure bottom housing which is equipped on one side with a threaded hole for mounting a cable gland (type HSK-MZ-Ex-d M16x1.5 KEMA 99ATEX6968 X). On the other side the enclosure is equipped with a female thread. Into this thread the cover is screwed. In the cover a glass pane is mounted. The inside of the cover is provided with an internal thread, into which a tube with external thread is screwed. This tube serves to incorporate the electronics and fixes the glass pane by using a pressure ring.
The transmitter-receiver light barrier, the Ex d-reflex light barrier and the Ex d-reflex scanner is equipped with a permanent connected cable. The difference between the types is a different electronic and the operating mode.
The reason of the supplement is the updating to the standards EN 60079-0:2009, EN 60079-1:2007 and EN 60079-31:2009.

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15.3 Parameters

rated voltage	DC	24	V
rated current		40	mA
max. rated power		1	W
ambient temperature range		-20 °C ... +60 °C	

(16) Test and assessment report

BVS PP 08.2156 EG as of 03.05.2012

(17) Special conditions for safe use

7.1 Special conditions to be listed in EC Type Examination Certificate
The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of EN 60079-1:2007. For information on the dimensions of the flameproof joints contact the manufacturer.

7.2 Additional conditions

7.2.1 The open end of the power supply cable must be connected in accordance to valid installation regulations.

7.2.2 In applications in Zone 21 it must be ensured when installing the connection cable that electrostatic charging cannot lead to ignitable discharges.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 03. May 2012
BVS-Yil/Sp A 20120236

Certification body

Special services unit

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