(1) # Certificate of Conformity

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) Certificate Number

**EPS 11 ATEX 1 312 X** **Revision 7**

(4) Equipment: MLY02.100, MLY10.241, YR2.DIODE, YRM2.DIODE, YR40.241, YR80.241, YR40.242, YR40.245, YR40.482, YR80.242, YR20.242, YR20.246, PIRD20.241
(All models optional with suffix "-C1" or "-C2")

(5) Manufacturer: PULS GmbH

(6) Address: Elektrastr. 6,
81925 München
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this Certificate of Conformity and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH certifies based on a voluntary assessment 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 of the Directive 2014/34/EU. The examination and test results are recorded in the confidential documentation under the reference number 10TH0536.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

**EN IEC 60079-0:2018** **EN 60079-15:2010**

**EN IEC 60079-7:2015 + A1:2018** **EN IEC 60079-15:2019**

(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 annex to this certificate.

(11) This Certificate of Conformity relates only to the design and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

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

II 3G Ex ec IIC T4 Gc
II 3G Ex ec nC IIC T4 Gc YRM2.DIODE, YR20.246 only

Certification department of explosion protection

Tuerkheim, 2022-07-19

Ulrich Feike

(13) # Annex

(14) **Certificate of Conformity EPS 11 ATEX 1 312 X** **Revision 7**

(15) Description of equipment:

Redundancy modules are used to isolate the output voltages of the individual power supply of a redundant power supply system. To achieve redundancy, one extra power supply must be installed in order to deliver the required current in case one power supply in the system fails. The redundancy modules have two input channels and one output and utilize diodes or MOSFETs to isolate the two inputs. They can be used to build 1+1 and N+1 redundant systems.

Revision 7: Update from EN 60079-0:2010 to EN IEC 60079-15:2019 (both editions listed, because EN IEC 60079-15:2019 is still pending EU harmonization at issue date)

Electrical data:

**MLY02.100**

**Input 1+2:**

DC 12-48V (±25%), 5A continuous, 7.5A up to 5s

**Output:**

10A cont., 15A up to 5s (below 60°C)

7.5A cont., 15A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.9V

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**MLY10.241**

**Input 1+2:**

DC 12-48V (±25%), 5A continuous, 7.5A up to 5s

**Output:**

10A cont., 15A up to 5s (below 60°C)

7.5A cont., 15A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.9V

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**YR2.DIODE**

**Input 1+2:**

1: DC 12-48V (±25%), 10A continuous, 15A up to 5s

2: DC 12-48V (±25%), 10A continuous, 15A up to 5s

**Output:**

20A continuous, 30A up to 5s (below 60°C)

15A continuous, 30A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.78V

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**YRM2.DIODE**

**Input 1+2:**

1: DC 24-48V (±25%), 10A continuous, 15A up to 5s

2: DC 24-48V (±25%), 10A continuous, 15A up to 5s

**Output:**

20A continuous, 30A up to 5s (below 60°C)

15A continuous, 30A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.78V

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**YR40.241**

**Input 1+2:**

1: DC 12-28V (±30%), 20A continuous, 32.5A up to 5s

2: DC 12-28V (±30%), 20A continuous, 32.5A up to 5s

**Output:**

40A continuous, 65A up to 5s (below 70°C)

Input to output voltage loss: typ. 0.072V

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**YR40.242**

**Input 1+2:**

1: DC 12-28V (±30%), 20A continuous, 32.5A up to 5s

2: DC 12-28V (±30%), 20A continuous, 32.5A up to 5s

**Output:**

40A continuous, 65A up to 5s (below 60°C)

30A continuous, 65A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.072V

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**YR80.241**

**Input 1+2:**

1: DC 12-28V (±30%), 40A continuous, 65A up to 5s

2: DC 12-28V (±30%), 40A continuous, 65A up to 5s

**Output:**

80A continuous, 130A up to 5s (below 70°C)

Input to output voltage loss: typ. 0.049V

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**YR80.242**

**Input 1+2:**

1: DC 12-28V (±30%), 40A continuous, 65A up to 5s

2: DC 12-28V (±30%), 40A continuous, 65A up to 5s

**Output:**

80A continuous, 130A up to 5s (below 60°C)

60A continuous, 130A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.065V

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**YR40.245**

**Input:**

DC 12-28V (±30%), 40A continuous, 65A up to 5s

**Output:**

40A continuous, 65A up to 5s (below 60°C)

30A continuous, 65A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.15V

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**YR40.482**

**Input 1+2:**

1: DC 24-56V (±15%), 20A continuous, 32.5A up to 5s

2: DC 24-56V (±15%), 20A continuous, 32.5A up to 5s

**Output:**

40A continuous, 65A up to 5s (below 60°C)

30A continuous, 65A up to 5s (at 70°C)

Derate linearly between +60°C and +70°C

Input to output voltage loss: typ. 0.06V

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**YR20.242**

**Input 1+2**

1: DC 12-28V (±30%), 20A continuous, 32,5A up to 5s

2: DC 12-28V (±30%), 20A continuous, 32,5A up to 5s

**Output:**

24A continuous, 32,5A up to 5s (below 45°C)

20A continuous, 32,5A up to 5s (below 70°C)

Derate linearly between +45°C and +70°C

Input to output voltage loss: typ. 0,06V

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**YR20.246**

**Input 1+2**

1: DC 24-28V (±25%), 12A continuous, 17A up to 5s

2: DC 24-28V (±25%), 12A continuous, 17A up to 5s

**Output:**

24A continuous, 32,5A up to 5s (below 45°C)

20A continuous, 32,5A up to 5s (below 70°C)

Derate linearly between +45°C and +70°C

Input to output voltage loss: typ. 0,06V

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**PIRD20.241**

**Input 1+2**

1: DC 12-28V (±25%), 10A continuous, 16A up to 5s

2: DC 12-28V (±25%), 10A continuous, 16A up to 5s

**Output:**

20A continuous, 32A up to 5s (below 55°C)

12,5A continuous, 32A up to 5s (below 70°C)

Derate linearly between +55°C and +70°C

Input to output voltage loss: typ. 0,56V

(16) Reference number: 10TH0536

(17) Special conditions for safe use:

- The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-7.
- The equipment shall only be used in an area of not more than pollution degree 2, as defined in EN IEC 60664-1.
- Output power de-rating conditions at high ambient temperatures must be considered according to manufacturer's instructions.

(18) Essential health and safety requirements:

Met by compliance with standards.

ZERTIFIZIERUNGSSTELLE BUREAU VERITAS 1828 Bureau Veritas CPS Germany GmbH

Certification department of explosion protection

Tuerkheim, 2022-07-19

Ulrich Feike