



(1) **EC-Type Examination Certificate**

(2) **Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – Directive 94/9/EC**

(3) **EC Type Examination Certificate Number**

EPS 16 ATEX 1 019

Revision 0

(4) **Equipment:** Device series OS-Ex-... and OBS-Ex-...

(5) **Manufacturer:** Osna Electronics PVT. Ltd

(6) **Address:** No. 4 & 5, Phase IV, Okhla Industrial Estate, New Delhi, India

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, Notified Body No. 2004 in accordance with Article 9 of the Council Directive 94/9/EC of March 23rd 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 of the Directive. The examination and test results are recorded in the confidential report 16TH0039.

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

EN 60079-0:2012

EN 60079-11:2012

(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 schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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



II (1)G [Ex ia Ga] IIB/IIC or

II (2)G [Ex ib Gb] IIB/IIC



Certification department of explosion protection

Nuremberg, 08.04.2016

Page 1 of 5

Certificates without signature are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH, EPS 16 ATEX 1 019, Revision 0.

(13)

Annex

(14) EC-Type Examination Certificate EPS 16 ATEX 1 019

Revision 0

(15) Description of equipment:

The device series OS-Ex-... and OBS-Ex-... is used for galvanic separation between intrinsic safe circuits, non intrinsic safe supply circuits and non intrinsic safe output circuit. The type OS-Ex-... and OBS-Ex-... differ in their enclosure with their electronics being identical. The series consist of the following types:

Supply Unit	OS-Ex-CR-1-ST and OBS-Ex-CR-1-ST
Measuring Transducer	OS-Ex-TC-CC and OBS-Ex-TC-CC
Measuring Transducer	OS-Ex-RTD-CC-1 and OBS-Ex-RTD-CC-1
Limit value Indicator for RTD	OS-Ex-GR-02 and OBS-Ex-GR-02
Limit value indicator for 4-20 mA / 0-10 V signal	OS-Ex-GS-02 and OBS-Ex-GS-02
Limit value indicator for switch status (Trip Amplifier)	OS-Ex-2-G and OBS-Ex-2-G

Electrical data:

OS (OBS)-Ex-CR-1-ST

Supply circuit
(Connector 9,12 for OS)
(Connector c14, a20 for OBS)

$U_N = 24 \text{ V DC}$
 $U_m = 253 \text{ V}$

Output circuit
(Connector 7,8 for OS)
(Connector a26, a28 for OBS)

$I_N = 2 \text{ to } 20 \text{ mA}$
 $U_m = 253 \text{ V}$

Signal circuit
(Connector 1,3 for OS)
(Connector a3, a5 for OBS)

intrinsic safe circuit according to [Ex ia Ga] IIB/IIC or
[Ex ib Gb] IIB/IIC
The following values shall never be exceeded:

$U_o = 29.4 \text{ V}$
 $I_o = 90 \text{ mA}$
 $P_o = 663 \text{ mW}$
linear characteristic

	IIC	IIB
$L_o \text{ [mH]}$	0.2	0.5
$C_o \text{ [nF]}$	70	400

OS (OBS)-Ex-TC-CC and OS (OBS)-Ex-RTD-CC-1

Supply circuit
(Connector 9,12 for OS)
(Connector c14, a20 for OBS)

$U_N = 24 \text{ V DC}$
 $U_m = 253 \text{ V}$

Output circuit
(Connector 7,8 for OS)
(Connector a26, a28 for OBS)

$I_N = 2 \text{ to } 20 \text{ mA}$
 $U_m = 253 \text{ V}$

Signal circuit
(Connector 1,2,3 for OS)
(Connector a1, a3, a5 for OBS)

intrinsic safe circuit according to [Ex ia Ga] IIB/IIC or
[Ex ib Gb] IIB/IIC

The following values shall never be exceeded:

$U_o = 8.6 \text{ V}$

$I_o = 26.5 \text{ mA}$

$P_o = 52.2 \text{ mW}$

linear characteristic

	IIC	IIB
$L_o \text{ [mH]}$	2	10
$C_o \text{ [nF]}$	1.2	4.5

OS (OBS)-Ex-GR-02

Supply circuit
(Connector 9,12 for OS)
(Connector c14, a20 for OBS)

$U_N = 24 \text{ V DC}$
 $U_m = 253 \text{ V}$

Contact circuit
(Connector 7,8 for OS)
(Connector a26, a28 for OBS)

$U_N = 250 \text{ V AC resp. } 40 \text{ V DC}$

$U_m = 253 \text{ V}$

$I_N = 2 \text{ A AC resp. DC}$

$P_N = 500 \text{ VA resp. } 80 \text{ W}$

$\cos\varphi \geq 0.7$

Signal circuit
(Connector 1,2,3 for OS)
(Connector a1, a3, a5 for OBS)

intrinsic safe circuit according to [Ex ia Ga] IIB/IIC or
[Ex ib Gb] IIB/IIC

The following values shall never be exceeded:

$U_o = 8.6 \text{ V}$

$I_o = 26.5 \text{ mA}$

$P_o = 52.2 \text{ mW}$

linear characteristic

	IIC	IIB
$L_o \text{ [mH]}$	2	10
$C_o \text{ [nF]}$	1.2	4.5

OS (OBS)-Ex-GS-02

Supply circuit
(Connector 9,12 for OS)
(Connector c14, a20 for OBS)

$U_N = 24 \text{ V DC}$
 $U_m = 253 \text{ V}$

Contact circuit
(Connector 7,8 for OS)
(Connector a26, a28 for OBS)

$U_N = 250 \text{ V AC resp. } 40 \text{ V DC}$
 $U_m = 253 \text{ V}$
 $I_N = 2 \text{ A AC resp. DC}$
 $P_N = 500 \text{ VA resp. } 80 \text{ W}$
 $\cos\varphi \geq 0.7$

Signal circuit
(Connector 1,2,3 for OS)
(Connector a1, a3, a5 for OBS)

intrinsic safe circuit according to [Ex ia Ga] IIB/IIC or
[Ex ib Gb] IIB/IIC
The following values shall never be exceeded:
 $U_0 = 12.6 \text{ V}$
 $I_0 = 42.4 \text{ mA}$
 $P_0 = 133.6 \text{ mW}$
linear characteristic

	IIC	IIB
$L_0 \text{ [mH]}$	0.5	1
$C_0 \text{ [nF]}$	0.75	3.5

OS (OBS)-Ex-2-G

Supply circuit
(Connector 9,12 for OS)
(Connector c14, a20 for OBS)

$U_N = 24 \text{ V DC}$
 $U_m = 253 \text{ V}$

Contact circuit
(Connector 7,8 for OS)
(Connector a26, a28 for OBS)

$U_N = 250 \text{ V AC resp. } 40 \text{ V DC}$
 $U_m = 253 \text{ V}$
 $I_N = 2 \text{ A AC resp. DC}$
 $P_N = 500 \text{ VA resp. } 80 \text{ W}$
 $\cos\varphi \geq 0.7$

Signal circuit
(Connector 1,2,3 for OS)
(Connector a1, a3, a5 for OBS)

intrinsic safe circuit according to [Ex ia Ga] IIB/IIC or
[Ex ib Gb] IIB/IIC
The following values shall never be exceeded:
 $U_0 = 12.6 \text{ V}$
 $I_0 = 15.86 \text{ mA}$
 $P_0 = 64 \text{ mW}$
linear characteristic

	IIC	IIB
$L_0 \text{ [mH]}$	74	96
$C_0 \text{ [nF]}$	800	1200

For all types the signal circuit is galvanically separated from all other circuits for voltages up to a peak voltage of 375 V.



- (16) Test report: 16TH0039
- (17) Special conditions for safe use:
None.
- (18) Essential health and safety requirements:
Met by standards.



Certification department of explosion protection

Nuremberg, 08.04.2016