



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx PTB 13.0039 Issue No: 0 Certificate history:
Issue No. 0 (2013-10-14)

Status: **Current** Page 1 of 3

Date of Issue: **2013-10-14**

Applicant: **Hans Turck GmbH & Co. KG**
Witzlebenstr. 7
45472 Mülheim an der Ruhr
Germany

Equipment: **Power supply unit, type PSD24Ex and type 8/PSD24Ex**
Optional accessory:

Type of Protection: **Increased safety „e“, Encapsulation „m“, Intrinsic safety “I”**

Marking: **Ex e mb [ib Gb] IIC T4 Gb alternatively Ex eb mb [ib] IIC T4**

Approved for issue on behalf of the IECEx
Certification Body:

Dr.-Ing. U. Johannsmeyer

Position:

Department Head "Explosion Protection in Sensor Technology and
Instrumentation"

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany





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Manufacturer: **Werner Turck GmbH & Co. KG**
Goethestr. 7
58553 Halver
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2007-10 Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2009 Edition:3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-7 : 2006-07 Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[DE/PTB/ExTR13.0053/00](#)

Quality Assessment Report:

[DE/PTB/QAR06.0013/02](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The power supply units, type PSD24Ex and type 8/PSD24Ex form part of the explosion protected remote I/O-fieldbus system excom and are intended for the application in hazardous areas of EPL Gb.

As a central unit, the power supply unit supplies the entire fieldbus system with defined energy through the certified module subrack assembly, type MT..., PTB 00 ATEX 2194 U.

For further information see schedule.

SPECIFIC CONDITIONS OF USE: NO

Annex:

[C130039_00_schedule.pdf](#)



Schedule

The power supply units, type PSD24Ex and type 8/PSD24Ex form part of the explosion protected remote I/O-fieldbus system excom and are intended for the application in hazardous areas of EPL Gb.

As a central unit, the power supply unit supplies the entire fieldbus system with defined energy through the certified module subrack assembly, type MT..., PTB 00 ATEX 2194 U. The power supply plug-in cartridge is supplied through Ex-e inner-ply-multilayers implemented in the subrack. It generates a safely limited alternating output voltage for all other modules installed in the subrack, i.e. for max. 2 gateways and max. 16 I/O-modules. Two redundant power supply units may be operated in one subrack. Like all other system-modules the power supply modules may be plugged and unplugged during operation.

With the exception of the input circuitry of the mains voltage supply, the power supply unit is completely designed to type of protection encapsulation "m". Intrinsically safe auxiliary circuits inside the encapsulation permit that the power supply cartridge may be plugged during operation and enable the communication to the gateway and a second power supply unit.

Electrical data

Applicable to all electrical circuits of the power supply unit: $U_m = 60 \text{ V}$

Power consumption: $P_i = 75 \text{ W}$

I.) Supply circuits

Multilayer lead-in wire via subrack unit (PTB 00 ATEX 2194 U)

Power supply U_{in}	type of protection Increased Safety Ex e II
(plug connector:	
L+ : z24, b24, d24	$U_{in} = 18 \dots 32 \text{ V DC}$ (residual ripple $\pm 10 \%$)
L- : z28, b28, d28	
PE : z32, b32, d32)	not connected

II.) System-internal connections

effective only within the subrack unit, type

MT... -

AC-output voltage U_{out}	system-internal circuit
(plug connector: z2, b2, d2, z6, b6, d6)	without external connection facilities

An external current limitation required for this circuit is provided by the Excom system.

The intrinsically safe output voltage U_{out} is safely electrically isolated from the power supply U_{in} and all other circuits up to a voltage of 60 V.

Multiple-spring wire plug.....PA (equipotential bonding)

Release circuit for mechanical locking.....	type of protection Intrinsic Safety Ex ib IIC
(plug connector: z16, d16)	system-internal circuits
	without external connection facilities



The following system connections are electrically interconnected.

Interfacing between power supply unitssystem-internal circuits
without external connection facilities

Clock outtype of protection Intrinsic Safety Ex ib IIC
(plug connector: z1)

Ground (Ex)
(plug connector: z12)

Clock intype of protection Intrinsic Safety Ex ib IIC
(plug connector: d14)

Ground (Ex)
(plug connector: z12)

Gateway connection

Powertype of protection Intrinsic Safety Ex ib IIC
(plug connector: d12) system-internal circuit
without external connection facilities

Ground (Ex)
(plug connector: z12)