

[1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)



- [2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, **Directive 94/9/EC**
- [3] EC-Type Examination Certificate Number: **IBExU15ATEX1082**
- [4] Equipment: **Power supply module**
Type iSCANPS* and iSCANPS* 2D
- [5] Manufacturer: Extronics Limited
- [6] Address: 1 Dalton Way, Midpoint 18, Middlewich, Cheshire, CW10 0HU
UNITED KINGDOM
- [7] The design of the equipment mentioned under [4] and any acceptable variations thereto are specified in the schedule to this EC-Type Examination Certificate.
- [8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that the equipment mentioned in [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The test results are recorded in the test report IB-15-3-082 of 29 October 2015.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11:2013, EN 60079-5:2007, EN 60079-7:2007, EN 60079-11:202 and EN 60079-31:2014.
- [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 [17] in the schedule to this EC-Type Examination Certificate.
- [11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.
- [12] The marking of the equipment mentioned in [4] shall include the following:

II 2G Ex e q [ib IIC/IIB] IIC T4 Gb alternative II 2G Ex eb qb [ib IIC/IIB] IIC T4
 II 2D Ex tb [ib] IIIC T135 °C Db II 2D Ex tb [ib] IIIC T135 °C

-25 °C ≤ Ta ≤ +60 °C

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Authorised for certifications
- Explosion protection -

By order

(Dipl.-Ing. [FH] Henker)

Schedule



- Seal -
(ID no. 0637)

Freiberg, 29 Oktober 2015

Certificates without signature and seal are not valid.
Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

[13] **Schedule**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU15ATEX1082**

[15] **Description of the equipment**

The power supply module type iSCANPS* (2D) consists of an aluminum enclosure with separated Ex e- and Ex i- termination compartments. Inside of the powder filled enclosure is built in the electronic PCB for the supply of intrinsically safe apparatus and for the transformation of digital data.

Technical data

Ambient temperature: -25 °C to + 60 °C
 Dimensions: 140 mm x 250 mm x 56 mm
 Weight: 3.1 kg (without connection cables)

VersionRS232/422

Nominal values for

iSCANPS1

- Supply voltage $U = +24\text{ V} \pm 25\%$
- Power consumption $P = \text{approx. } 3.7\text{ W (7.1 W max.)}$

iSCANPS3

- Supply voltage $U = \text{AC } 90\text{ V to } 253\text{ V, } 50\text{ -}60\text{ Hz}$
- Power consumption $P = \text{approx. } 4\text{ W (16 W max.)}$
- Data circuit RS232 $\pm 12\text{ V / } 4\text{ mA}$
- Data circuit RS422 $+12\text{ V / -}7\text{ V / } 4\text{ mA}$
- Maximum r.m.s. voltage $U_m = 253\text{ V AC}$

**Specifications
(Explosion protection)**

- Maximum output voltage $U_o = 4.9\text{ V}$
- Maximum output current $I_o = 440\text{ mA}$
- Maximum output power $P_o = 1.25\text{ W (trapezoid character)}$
- Maximum external capacitance $C_o = 113\text{ }\mu\text{F}$
- Maximum external inductance $L_o = 0.1\text{ mH}$

Nominal values for

iSCANPS1 2D

- Supply voltage $U = +24\text{ V} \pm 25\%$
- Power consumption $P = \text{approx. } 3.7\text{ W (7.1 W max.)}$

iSCANPS3 2D

- Supply voltage $U = \text{AC } 90\text{ V to } 253\text{ V, } 50\text{ -}60\text{ Hz}$
- Power consumption $P = \text{approx. } 4\text{ W (16 W max.)}$
- Data circuit RS232 $\pm 12\text{ V / } 4\text{ mA}$
- Data circuit RS422 $+12\text{ V / -}7\text{ V / } 4\text{ mA}$
- Maximum r.m.s. voltage $U_m = 253\text{ V AC}$

**Specifications
(Explosion protection)**

- Maximum output voltage $U_o = 4.9\text{ V}$
 - Maximum output current $I_o = 750\text{ mA}$
 - Maximum output power $P_o = 2.01\text{ W (trapezoid character)}$
 - Maximum external inductance $L_o = 0.1\text{ mH}$
 - Maximum external capacitance depends on Explosion group
- $\text{Ex ib IIC} \quad \text{Ex ib IIB}$
 $C_o \leq 113\text{ }\mu\text{F} \quad C_o \leq 250\text{ }\mu\text{F}$

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

Interfaces

iSCANPS1, iSCANPS2, iSCANPS1 2D, iSCANPS3 2D

- RS232 Transmitter only TxD up to 15 m (X4, X5)
- RS422 Transmitter only up to 1000 m (X7, X8)
- RS232 TTL Receiver only RxD (0 – 5.5 V) up to 15 m (X9, X10)

Version USB

Nominal values for

iSCANPS2

- Supply voltage $U = +24 \text{ V} \pm 25\%$
- Power consumption $P = \text{approx. } 3.7 \text{ W (7.1 W max.)}$

iSCANPS4

- Supply voltage $U = \text{AC } 90 \text{ V to } 253 \text{ V, } 50 - 60 \text{ Hz}$
- Power consumption $P = \text{approx. } 4 \text{ W (16 W max.)}$
- Data circuit USB $+5 \text{ V / } 68 \text{ mA}$
- Maximum r.m.s. voltage $U_m = 253 \text{ V AC}$

Specifications (Explosion protection)

- Maximum output voltage $U_o = 4.9 \text{ V}$
- Maximum output current $I_o = 440 \text{ mA}$
- Maximum output power $P_o = 1.20 \text{ W (trapezoid character)}$
- Maximum external capacitance $C_o = C_o V_{CC} + C_o D_{ATA} = 113 \mu\text{F}$
- Maximum external inductance $L_o = 0.1 \text{ mH}$

Data circuits USB:

- Maximum output voltage $U_o \text{ D+/D-} = 4.9 \text{ V}$
- Maximum output current $I_o \text{ D+/D-} = 40 \text{ mA}$
- Maximum output power $P_o \text{ D+/D-} = 48 \text{ mW}$
- Maximum external capacitance $C_o = C_o V_{CC} + C_o D_{ATA} = 113 \mu\text{F}$
- Maximum external inductance $L_o = 0.1 \text{ mH}$

Nominal values for

iSCANPS2 2D

- Supply voltage $U = +24 \text{ V} \pm 25\%$
- Power consumption $P = \text{approx. } 3.7 \text{ W (7.1 W max.)}$

iSCANPS4 2D

- Supply voltage $U = \text{AC } 90 \text{ V to } 253 \text{ V, } 50 - 60 \text{ Hz}$
- Power consumption $P = \text{approx. } 4 \text{ W (16 W max.)}$
- Data circuit USB $+5 \text{ V / } 68 \text{ mA}$
- Maximum r.m.s. voltage $U_m = 253 \text{ V AC}$

Specifications (Explosion protection)

- Maximum output voltage $U_o = 4.9 \text{ V}$
- Maximum output current $I_o = 780 \text{ mA}$
- Maximum output power $P_o = 2.06 \text{ W (trapezoid character)}$
- Maximum external inductance $L_o = 0.1 \text{ mH}$
- Maximum external capacitance $C_o = C_o V_{CC} + C_o D_{ATA} :$
depends on Explosion group

Ex ib IIC Ex ib IIB
 $C_o \leq 113 \mu\text{F}$ $C_o \leq 250 \mu\text{F}$

Data circuits USB:

- | | |
|--------------------------------|--|
| • Maximum output voltage | $U_{o D+/D-} = 4.9 \text{ V}$ |
| • Maximum output current | $I_{o D+/D-} = 40 \text{ mA}$ |
| • Maximum output power | $P_{o D+/D-} = 48 \text{ mW}$ (linear character) |
| • Maximum external inductance | $L_o = 0.1 \text{ mH}$ |
| • Maximum external capacitance | $C_o = C_{o VCC} + C_{o DATA}$:
depends on Explosion group |
- $C_{o \leq 113} \mu\text{F}$ $C_{o \leq 250} \mu\text{F}$

Interfaces

iSCANPS2, iSCANPS4, iSCANPS2 2D, iSCANPS4 2D

USB (PC/Master-Connection) up to 5 m (X7, X8)

USB (Handheld Scanner /Slave-Connection) up to 5 m (X9, X10)

The intrinsically safe circuits and the supply circuits are galvanically connected. In the whole course of the hazardous area equipotential bonding must be ensured by the installation.

[16] **Test report**

The proof of the explosion protection is explained in detail in the test report IB-15-3-082. The test documents are part of the test report and are listed there.

Summary of the test results:

The Power supply module iSCANPS* (2D) fulfils the requirements of explosion protection for the Equipment Group II and Category 2G for explosive gas atmospheres of explosion group IIC and for category 2D for dust explosion hazardous areas. The equipment provides intrinsically safety circuits for explosion group IIC/IIB.

[17] **Special conditions for safe use**
none

[18] **Essential Health and Safety Requirements**
Confirmed by compliance with standards (see [9]).

By order

Freiberg, 29 October 2015



(Dipl.-Ing. [FH] Henker)