



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

(2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**

(3) Certificate number: **SEV 18 ATEX 0144 X**

(4) Product: **Weighing System 4000**

(5) Manufacturer: **Eilersen Electric A/S**

(6) Address: **Kokkedal Industripark 4, 2980 Kokkedal, DENMARK**

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

(8) Eurofins, notified body No. 1258, in accordance with article 17 of Directive 2014/34/EU of the European parliament and of the council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no 18-Ex-0020.01

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

EN 60079-0:12 + A11:13 EN 60079-11:12

Except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign «X» is placed after the certificate number, it indicates that the product is subjected to special conditions for safe use specified in the schedule to this certificate.

(11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

See page 6 (20) Marking:

Eurofins Electrosuisse Product Testing AG
Notified Body ATEX

Martin Plüss
Product Certification

(13)

Appendix

(14)

EU-Type Examination Certificate no. SEV 18 ATEX 0144 X

(15) **Description of product**

The weighing system 4000 consists of power supply module type 4051A, IF module types 4015A, 4040A and 4040B, and weighing cells types CL-Ex, CM-Ex, CH-Ex, BL-Ex, BM-Ex, BH-Ex, XBL-Ex, XBM-Ex, XBH-Ex, HBL-Ex, HBM-Ex, HBH-Ex, TL-Ex, TM-Ex, DLC-Ex, DXLC-Ex, ELCL-Ex.

The power supply module type 4051A is used for the intrinsically safe supply of power to the IF module types 4015A, 4040A and 4040B. The power supply module is an accessory device with an intrinsically safe prelimiter "[Ex ia]" and power circuits in "[Ex ia] IIC" type of explosion protection installed outside of the area at risk.

The IF module is used to supply the weighing cells and galvanically disconnected signal transmission to the evaluation devices. The IF module is an accessory device in "[Ex ia] IIC" type of explosion protection installed outside of the area at risk.

The modules are mounted in a module carrier house provided for installation into a module rack. The module carrier housing - the protective housing of the module has IP20 type of protection or more.

The weighing cells are intrinsically safe equipment in "Ex ia IIC" type of protection that may be installed within the area of risk. The weighing cells are connected to the IF module using a screened coaxial cable and a BNC plug. Up to four weighing cells can be connected to an IF module.

Type reference:

Power supply module type:

4051A

IF module types:

4015A
4040A
4040B

with interface types:

4-20mA	4X79A
Profibus DP	4X35A
DeviceNet	4X37A
RS485	4X40A
EtherNet/IP	4X50A
EtherCAT	4X60A
PROFINET	4X70A

weighing cell types:

CL-Ex	XBL-Ex	TL-Ex
CM-Ex	XBM-Ex	TM-Ex
CH-Ex	XBH-Ex	DLC-Ex
BL-Ex	HBL-Ex	DXLC-Ex
BM-Ex	HBM-Ex	ELCL-Ex
BH-Ex	HBH-Ex	

Intrinsically safe Ratings:
Power Supply Module Type 4051A

Power Input circuit

 Rated voltage $U_m = 25.2 \text{ VDC}$

(2 pole Connector IN 24V)

Only for connection to a galvanically save separated supply circuit (PELV System) which is limited with a fuse to the rated current.

 Output- and Supply circuit
(2 pole Connector OUT 24V)

With intrinsically safe prelimiter [Ex ia Gb] for the weighing system with the following maximum ratings:

 $U_o \leq 25.2 \text{ V}$
 $I_o \leq 783.0 \text{ mA}$
 $P_o \leq 2.0 \text{ W}$

Only for connection to the IF-Module Type 4015A, 4040A and 4040B outside of the hazardous area.

 Output- and Supply circuit
(2 pole Connector OUT 12V)

In type of protection intrinsically safety Ex ia IIC Gb

Maximum values:

 $U_o \leq 12.6 \text{ V}$
 $I_o \leq 428.0 \text{ mA}$
 $P_o \leq 845.0 \text{ mW}$
 $C_o \leq 1.15 \text{ } \mu\text{F}$ (maximum external capacitance)

 $L_o \leq 0.18 \text{ mH}$ (maximum external inductance)

or

 Output- and Supply circuit
(2 pole Connector OUT 6V)

With the type of protection intrinsic safety Ex ia IIC Gb

Maximum values:

 $U_o \leq 6.3 \text{ V}$
 $I_o \leq 253.0 \text{ mA}$
 $P_o \leq 405.0 \text{ mW}$
 $C_o \leq 31.0 \text{ } \mu\text{F}$ (maximum external capacitance)

 $L_o \leq 0.5 \text{ mH}$ (maximum external inductance)

Intrinsically safe Ratings:
IF-Module Types 4015A and 4040A

Output- and Supply circuit
(2 pole Connector J3; 0/24V)

Only for connection to the Power Supply Module with intrinsically prelimiter [Ex ia Gb] with the following maximum values:

$$U_i \leq 25.2 \text{ V}$$

$$I_i \leq 783.0 \text{ mA}$$

$$P_i \leq 2.0 \text{ W}$$

Only for connection to the IF-Module Type 4015A, 4040A and 4040B outside of the hazardous area.

interface supply circuit
(2Pol. Steckverbindung J2 | 0/24V)

Non-intrinsically safe ($U_{max.} = 24\text{VDC}$)

The intrinsic safe circuits are galvanically save separated from the non-intrinsic safe circuits up to a peak voltage of 90 V.

Load cell supply and signal circuit
(Connection with BNC Connector)

In type of protection intrinsically safety Ex ia IIC Gb

Maximum values:

$$U_o \leq 20.4 \text{ V}$$

$$I_o \leq 81.0 \text{ mA}$$

$$P_o \leq 413.0 \text{ mW}$$

$$C_o \leq 206.0 \text{ nF} \quad (\text{maximum external capacitance})$$

$$L_o \leq 6.0 \text{ mH} \quad (\text{maximum external inductance})$$

Load cells

Supply and signal circuit
(Connection with BNC Connector)

With the type of protection intrinsic safety Ex ia IIC Gb only for connection to a certified intrinsically safe circuit.

Maximum values:

$$U_i \leq 20.4 \text{ V}$$

$$I_i \leq 81.0 \text{ mA}$$

$$P_i \leq 413.0 \text{ mW}$$

$$C_i = 0 \text{ nF} \quad (\text{negligible small})$$

$$L_i = 0 \text{ mH} \quad (\text{negligible small})$$

Classification of installation and use:

stationary

Ingress protection:

IP20 resp. IP68 / IP69K for load cells

Rated ambient temperature range:

-40 °C to +50 °C

(16) **Report number**

18-Ex-0020.01

(17) Specific conditions of use

1. The power supply module type 4051A and IF module types 4015A, 4040A and 4040B may be installed only outside of the area at risk of explosion.
2. The power supply module type 4051A and IF module types 4015A, 4040A and 4040B must be installed in such a way that at least IP20 type of protection according to standard IEC/EN 60529 is achieved.
3. The power supply module type 4051A may be connected only to a feed current circuit if it safely galvanically disconnected (PELV power circuit) and limited by to the rated current by a fusible link.
4. The maximum voltage of IF module types 4015A, 4040A and 4040B on non-intrinsically safe power circuits must not exceed 60 Veff in case of a fault.
5. The output and supply power circuit (2-pole plug connection OUT 24V) of the power supply module type 4051A may only be conducted outside of the area at risk of explosion.
6. According to RL 2014/34/EU (ATEX 114) Appendix I, the weighing cells are devices of equipment group II , category 2G, which, according to RL 99/92/EC (ATEX 137) can be used in zones 1 and 2, as well as gas groups IIA, IIB, and IIC, which are potentially explosive due to combustible substances in the temperature classes T1 to T6.
The requirements of IEC/EN 60079-14 must be observed for use/installation
7. According to RL 2014/34/EU (ATEX 114) Appendix I, the weighing cells are devices of equipment group II , category 2D, which, according to RL 99/92/EG (ATEX 137) can be used in zones 21 and 22 in the presence of combustible dusts.
The requirements of IEC/EN 60079-14 must be observed for use/installation
8. The weighing cells are connected to IF module type 4015A and/or 4040A and/or 4040B by a screened coaxial cable with a maximum length of 1'200 m using a BNC plug or a screened Ex certified cable with a capacitance of < 100nF.
9. The weighing cells connected with the screen are to be included in the equipotential bonding (PA/PE) of the system along the entire length of the cable route.
10. The highest permissible ambient temperature range is -40 to +50 °C.

In addition, the "ATEX 4000 System" diagram of the manufacturer (Eilersen Electric A/S) must be observed for the connection of the weighing system.



(18) Essential health and safety requirements

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
None	

(19) Drawings and Documents

See test report "Manufacturer's Documents"

(20) Marking:**Power supply module :** Ex II (2)G [Ex ia Gb] Ex II (2)D [Ex ia Db]**IF-Module:** Ex II (2)G [Ex ia Gb] IIC Ex II (2)D [Ex ia Db] III C**Load cells:** Ex II 2G Ex ia IIC T6 Gb Ex II 2D Ex ia III C T85 °C Db