Translation

(1) # EC TYPE-EXAMINATION CERTIFICATE

(2) Equipment or protective system intended for use in potentially explosive atmospheres **- Directive 94/9/EC**

(3) EC-Type Examination Certificate Number

TÜV 01 ATEX 1791

(4) Equipment: Circuit board type FE260-SVB

(5) Manufacturer: Elster GmbH

(6) Address: Steinernstraße 19-21
D – 55252 Mainz-Kastel

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

(8) The TÜV Hannover/Sachsen-Anhalt e.V., TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system 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 to the Directive.

The examination and test results are recorded in the confidential report N° 02 YEX 137103.

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

EN 50 014: 1997 **EN 50 020: 1994**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 construction of the specified equipment or protective system according to Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and placing on the market of this equipment or protective system.

(12) The marking of the equipment or protective system must include the following:

II (2) G [EEx ia] IIB

TÜV Hannover/Sachsen-Anhalt e.V.
TÜV CERT-Zertifizierungsstelle
Am TÜV 1
D-30519 Hannover

Hanover, 2002-01-14

Head of the Certification Body

TÜV NORD CERT

(13) **SCHEDULE**

(14) EC-TYPE EXAMINATION CERTIFICATE N° TÜV 01 ATEX 1791

(15) Description of equipment

The circuit board type FE260-SVB is an associated apparatus. It is intended for the galvanically separated supply and for the galvanical separation and amplification of signals preferably from electronic volume correctors e.g. type EK260.
The device meets the requirements of category 2.

Electrical data

Supply FE260 (terminals 230V, PE)	U = 230 V, + 10 / - 15 %, 50...60 Hz; max. 1,5 W U_m = 253 V
Impulse outputs (terminals A1...A4)	U ≤ 30 V DC, I ≤ 50 mA U_m = 253 V
Intrinsically safe supply (terminals U+,U-)	in type of protection "Intrinsic Safety" EEx ia IIB resp. EEx ib IIB Maximum values: U_o = 9,6 V P_o = 473 mW Characteristic line: trapezoidal max. permissible external inductance L_o = 1 mH max. permissible external capacitance C_o = 1,1 µF The other maximum values see below.
Interface circuit (terminals R+, R-; T+, Ti)	in type of protection "Intrinsic Safety" EEx ia IIB resp. EEx ib IIB Maximum values: U_o = 6,5 V P_o = 423 mW Characteristic line: trapezoidal max. permissible external inductance L_o = 1 mH max. permissible external capacitance C_o = 6,1 µF The other maximum values see below.
Interface- and supply circuit	Common maximum values for the trapezoidal circuits: I_o = 99 mA P_o = 473 mW (max. sum output power of both circuits) R_i = 193 Ω

Intrinsically safe impulse outputs (terminals DA1+, DA-; ...;DA4+,DA4-)	in type of protection "Intrinsic Safety"	EEx ia IIB resp. EEx ib IIB
	Maximum values U_o = 6,5 V I_o = 1 mA P_o = 1,4 mW Characteristic line: linear	
	max. permissible external inductance L_o = 1 H max. permissible external capacitance C_o = 570 µF	

The intrinsically safe circuits are safely galvanically separated from all other circuits up a to a peak value of the nominal voltage of 375 V.

(16) Test documents are listed in the test report No.: 02 YEX 137103.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

Translation

1. SUPPLEMENT to

EC TYPE-EXAMINATION CERTIFICATE No. TÜV 01 ATEX 1791

of the company: Elster GmbH
Steinernstraße 19-21
D-55252 Mainz-Kastel

In the future, the circuit boards type FE260-SVB may also be manufactured and operated according to the test documents listed in the test report.

The modifications of type FE260-SVB, version with mains supply, concern the internal design of the board. The electrical data and all further data apply unchanged for this type. The ident number of this board reads as follows: 73017231.

Furthermore the circuit boards have been extended by a type of direct voltage supply. The type designation of this type reads as follows: FE260-SVB-DC. Due to the kind of electrical supply and one additional intrinsically safe digital input, some electrical data and the permissible ambient temperature range have been changed.

The permissible ambient temperature range for the type FE260-SVB-DC is -20°C to 60°C.

Electrical data for FE260-SVB-DC

Supply FE 260-SVB-DC (terminals +, -)	U = 10 V ... 30 V DC U_m = 253 V
Digital input (terminals DE3 +, DE3-)	in type of protection Intrinsic Safety EEx ia IIB EEx ib IIB passive switching output only for the connection of certified intrinsically safe circuits with the following maximum value: U_i = 10 V The effective internal inductance and capacitance are negligibly small.

All further data apply unchanged for this supplement.

The circuit boards types FE260-SVB and FE260-SVB-DC XYZ according to EC-Type Examination Certificate TÜV 01 ATEX 1791. incl. of this 1.supplement also meets the requirements of EN 50 014:1997+A1+A2 EN 50 020:2002.

Test documents are listed in the test report N° 04 YEX 551450.

TÜV NORD CERT GmbH & Co. KG
TÜV CERT-Certification Body
Am TÜV 1
D-30519 Hannover
Tel.: 0511 986-1470
Fax: 0511 986-2555

Hanover, 2004-06-25

Head of the Certification Body

BA 02 11.03

Translation

2. SUPPLEMENT

to Certificate No.	**TÜV 01 ATEX 1791**
Equipment:	Circuit board type FE260-SVB V21 and FE260-SVB-DC V11
Manufacturer:	Elster GmbH
Address:	Steinernstraße 19-21 55252 Mainz-Kastel Germany
Order number:	8000418567
Date of issue:	2013-04-23

Amendments:

In the future the device may also be manufactured according to the test documents listed in the test report. The changes concern the parameters of some components. The standards used for assessment had only been applied to the modifications of the device.

The electrical data and all other information apply unchanged for this supplement.

This supplement meets the requirements of these standards:

EN 60079-0:2012 **EN 60079-11:2012**

The marking remains as follows:

II (1) G [EEx ia] IIB

(16) The test documents are listed in the test report No. 13 203 117346.

(17) Special conditions for safe use

None

TÜV NORD CERT GmbH
Langemarckstr 20
45141 Essen

TÜV NORD Certification

Test Report 13 203 117346 dated 23.04.2013

Customer:	Elster GmbH Steinernstraße 19-21 55252 Mainz-Kastel Germany
Order number:	8000418567
ZA number:	35117346
Test object:	Circuit board type FE260-SVB V21 and FE260-SVB-DC V11
Evaluation principles:	EN 60079-0:2011 General requirements EN 60 079-11:2012 Intrinsic safety „i"
Test laboratory:	TÜV NORD CERT GmbH Hanover Office Am TÜV 1 30519 Hannover
Test location:	See test laboratory
Date of receipt of the test object:	n. r.
Test date:	until 23.04.2013
Interpretations:	The test results confirm the compliance of the modifications of the device, named under "Test object", with the requirements of the Evaluation principles mentioned above.

Compiled
The Expert:

(Gordon Neuroth)

Approved
The head of the test laboratory / the revisor:

(Klaus Hoferichter)

This report consists of 3 pages