(1) **EC type approval test certificate**

(Translation)

(2) Devices and protection systems for proper designated use in areas with an increased risk of explosion - **Directive 94/9/EC**

(3) EC type approval test certificate

ZELM 08 ATEX 0390 X

(4) Device: **Explosion-protected headset Ex-TRA 300***

(5) Manufacturer: **ecom instruments GmbH**

(6) Address: **D-97959 Assamstadt**

(7) The design of this device and its various approved embodiments are defined in the attachment to this type approval test certificate.

(8) As the nominated body no. 0820 in accordance with article 9 of the EC council directive dated March 23, 1994 (94/9/EC), the Testing and Certification Body ZELM Ex certifies conformance with the basic health and safety requirements for the design and construction of devices and protection systems for proper designated use in areas with an increased risk of explosion in accordance with Appendix II of the directive.
The results of the test are documented in the confidential test report no. ZELM Ex 1570812651.

(9) The basic health and safety requirements are met by virtue of conformance with

EN 60079-0:2006 **EN 60079-11:2007**

(10) If the certification number is followed by an "X", then this indicates that special conditions exist for the safe operation of the device. These special conditions are contained in the attachment to this certificate.

(11) This EC type approval test certificate only refers to the construction/design, checking and testing of the specified device or protection system in accordance with directive 94/9/EC. Further requirements contained in this directive may apply with regard to the manufacturing process and the supply of the device or protection system. Such requirements are not covered by this certification.

(12) The device must be labelled with the following information:

Ex II 2 G Ex ia IIC T4

Brunswick, 01.12.08

Certification body ZELM Ex
Dipl.-Ing. Harald Zelm

ZELM ex
Prüf- und Zertifizierungsstelle (Test and Certification Body)
Siekgraben 56 D-38124 Brunswick

(13) **Attachment**

(14) EC type approval test certificate ZELM 08 ATEX 0390X

(15) Description of the device

The explosion-protected headset Ex-TRA 300* is a hand-operated portable device for use with radio units in areas with an increased risk of explosion that require category 2 G and 3 G.
The "*" in the type designation is replaced by the letters A, B, C or D to distinguish the permissible connected loads.
The devices are provided with the respective specific electrical maximum values and the appropriate connectors for connecting to various radio units. Adaptation to the various maximum values is ensured by a specific current limiting circuit in the Push-To-Talk button (PTT button). The different versions can each be equipped with various associated headsets. The PTT button and headset combination delivered in each case should not be altered at a later date.

The permitted ambient temperature range is -20 to +50

Electrical data

Input circuit

type of ignition protection: intrinsically safe, Ex ia IIC
only for connection to certified intrinsically safe circuits
with the following maximum values:

Models Ex-TRA 300A and Ex-TRA 300B:	U_O= 8.4 V
	I_O = 3.55 A
	Linear characteristic
maximum effective internal capacitance:	C_i = negligibly small
maximum effective internal inductance	L_I = 2.8 µH

or for connection to the following devices:

"Explosion-protected hand-held radio Ex-PMR 1000" with EC type approval test certificate ZELM 05 ATEX 0271 including 1st addendum

or

"Explosion-protected hand-held radio Ex-PMR 2000" with EC type approval test certificate ZELM 06 ATEX 0318 including 1st addendum

or

Model Ex-TRA 300C:	U_O= 8.4 V
	I_O = 1.2 A
	Linear characteristic
maximum effective internal capacitance:	C_i = negligibly small
maximum effective internal inductance	L_I = 20 µH

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Attachment
to EC type approval test certificate ZELM 08 ATEX 0390 X

or

Model Ex-TRA 300D:	U_O= 6.4 V I_O = 1.2 A Linear characteristic
maximum effective internal capacitance:	C_i = negligibly small
maximum effective internal inductance	L_I = 20 µH

(16) Test report No.

ZELM Ex 1570812651

(17) Special conditions

1. The electrical data for the respective version is to be inferred from the EC type approval test certificate or the safety instructions.
2. The respective headset version is intended for connection to correspondingly configured radio units and is provided with a suitable connector. Allocation is effected via the safety instructions.
3. The headset set consists of a combination of the Push-To-Talk button, which also includes the designation, and an associated headset. Devices with the same type designation can be equipped with various headsets. However, as the electronics are specifically configured for the various headsets, a subsequent change of the headset is not permitted.

(18) Basic health and safety requirements

satisfied by virtue of the standards

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Siekgraben 56 D-38124 Brunswick

Translation
1st Amendment ZELM ex

(Amendment in accordance with EC Directive 94/9, appendix III number 6)

to EC type approval test certificate
ZELM 08 ATEX 0390 X

Device: **Explosion-protected headset Ex-TRA 300***

Manufacturer: **ecom instruments GmbH**

Address: **D-97959 Assamstadt**

Description of the amendment

The explosion-protected headset Ex-TRA 300* is a hand-operated portable device for use with radio units in areas with an increased risk of explosion that require category 2 G and 3 G. The previous versions have been supplemented to permit additional devices to be connected. Accordingly, the additional letter "E" has been added to the symbol "*" in the type designation. The "Electrical Data" varies from the previous designs and has been listed below. The permissible ambient temperature range and the "Special Conditions" remain unchanged and also apply to this supplemented version.

The device may be manufactured in future with reference to this 1st amendment.

The permitted ambient temperature range remains unchanged and is -20° to +50°

Electrical data

Input circuit

type of ignition protection: intrinsically safe, Ex ia IIC
only for connection to certified intrinsically safe circuits
with the following maximum values:

Models Ex-TRA 300A and Ex-TRA 300B:	U_o	= 8.4 V
	I_o	= 3.55 A
	Linear characteristic	
maximum effective internal capacitance:	C_i	= negligibly small
maximum effective internal inductance:	L_i	= 2.8 µH

or for connection to the following devices:

"Explosion-protected handheld radio Ex-PMR 1000"
with EC type approval test certificate ZELM 05 ATEX 0271
including 2nd amendment

or

"Explosion-protected handheld radio Ex-PMR 2000"
with EC type approval test certificate ZELM 06 ATEX 0318
including 2nd amendment

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Siekgraben 56 D-38124
Braunschweig

or

Model Ex-TRA 300C:	U_o	= 8.4 V
	I_o	= 1.2 A
	Linear characteristic	
maximum effective internal capacitance:	C_i	= negligibly small
maximum effective internal inductance:	L_i	= 20 µH

or

Model Ex-TRA 300D:	U_o	= 6.4 V
	I_o	= 1.2 A
	Linear characteristic	
maximum effective internal capacitance:	C_i	= 27 nF
maximum effective internal inductance:	L_i	= 20 µH

or

Model Ex-TRA 300E:	U_o	= 5.56 V
	I_o	= 4.71 A
	Linear characteristic	
maximum effective internal capacitance:	C_i	= 14.73 µF
maximum effective internal inductance:	L_i	= 2 µH

or for connection to

Digital trunked radio type EADS THR880i Ex
with EC type approval test certificate ZELM 07 ATEX 0347 X
including 1st amendment

Test report no.

ZELM Ex 0570926691

Basic health and safety requirements

The basic health and safety requirements are fulfilled through compliance with the standards specified in the EC type examination certificate:

Braunschweig, 10 June 2009

ZELM ex

Certification body

ZELM ex

Zertifizierungsstelle (certification body) ZELM ex
Dipl.-Ing. Harald Zelm

ZELM ex
Prüf- und Zertifizierungsstelle
Siekgraben 56 D-38124
Braunschweig

Translation
2nd Amendment

ZELM ex

(Amendment in accordance with EC Directive 94/9, appendix III number 6)

to EC type approval test certificate
ZELM 08 ATEX 0390 X

Device: **Explosion-protected headset Ex-TRA 300***

Manufacturer: **ecom instruments GmbH**

Address: **D-97959 Assamstadt**

Description of the amendment

Within the scope of the 2nd amendment, the previous versions have been supplemented to permit additional devices to be connected. Accordingly, the additional letter "F" has been added to the symbol "*" in the type designation. Furthermore , modifications have been made to the internal design of the already certified A-E versions; in future, a plug-connector connection between the headset and the Push-To-Talk button may be used on the NH and FBHS headset types and the A-E versions have been re-examined to determine conformance with the current EN 60079-0:2009 and EN 60079-11 : 2007 standards.

The identification code for the explosion protected headset Ex-TRA 300* changes as follows:

⟨Ex⟩ II 2 G Ex ia IIC T4

As an alternative, the identification code may be supplemented by the Equipment Protection Level "Gb".

The permitted ambient temperature range remains unchanged and is also for version F:
-20°C to+50°C

The "Electric Data" for versions A-D has not changed and continues to remain valid.

The "Electrical Data" for the E and F versions varies from the previous designs and has been listed below.

Electric data for versions Ex-TRA 300E and Ex-TRA 300F

Input circuit

type of ignition protection: intrinsically safe, Ex ia IIC
only for connection to certified intrinsically safe circuits
with the following maximum values:

Model Ex-TRA 300E:

U_o = 5.56 V
I_o = 4.71 A
I_c ≤ 1.114 A
permanently flowing current
Linear characteristic

maximum effective internal capacitance: C_i = 14.73 µF
maximum effective internal inductance: L_i = 2 µH

or for connection to

Digital trunked radio type EADS THR880i Ex
with EC type approval test certificate ZELM 07 ATEX 0347 X
including 2nd amendment

ZELM ex
Prüf- und Zertifizierungsstelle
Siekgraben 56 D-38124
Braunschweig

Model Ex-TRA 300F:	U_o	= 4.2 V
	I_o	= 7.8 A
	I_c	≤ 1.114 A permanently flowing current
maximum effective internal capacitance:	C_i	= 5 µF
maximum effective internal inductance:	L_i	= 0 µH

or for connection to the following devices:

Digital trunked radio type EADS THR9 Ex
with the connection data in accordance with Document 500022EX05A03G

The Special Conditions for headsets with fixed connection between Push-To-Talk button and headset remain unchanged.

The following Special Conditions apply to headsets with plug connector between Push-To-Talk button and headset:

1. The following Special Conditions apply to headsets with plug connector between Push-To-Talk button and headset:
2. The electrical data for the respective version is to be inferred from the EC type approval test certificate or the safety instructions.
3. The respective headset version is intended for connection to correspondingly configured radio units and is provided with a suitable connector to this end. Allocation is effected via the safety instructions.
4. The headset set consists of a combination of the Push-To-Talk button, which also includes the designation, and an associated headset. When the NH and FBHS type headsets are used, it is possible to connect the Push-To-Talk button and headset with a defined plug connector.
5. It is always only permitted to disconnect and reconnect the plug connector between the Push-To-Talk button and headset outside areas with an increased risk of explosion.
6. The plug and socket are identified with the NH or FBHS headset designation. If this identification code is no longer legible or no longer exists, no connection may be made between the headset and Push-To-Talk button and the device may not be taken into areas with an increased risk of explosion.

Test report no.

ZELM Ex 1291019814

Basic health and safety requirements

The basic health and safety requirements are met by virtue of conformance with the following standards:

EN 60079-0:2009 **EN 60079-11 :2007**

Braunschweig, 3 December 2010

ZELM ex

Certification body

ZELM ex

Zertifizierungsstelle (certification body) ZELM ex
Dipl.-Ing. Harald Zelm

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