



To: All Motorola Europe, Middle East & Africa Approved Channel Partners

Re: A Guide to Motorola Intrinsicly Safe Radios GP900, GP1200 and MTS 2000 by Martin Rogat, EMEA Product Manager

PLEASE ENSURE THIS INFORMATION IS PASSED TO ALL RELEVANT MEMBERS OF STAFF

This document describes the correct use of CENELEC and ATEX batteries for the Intrinsicly Safe (IS) GP900, GP1200 and MTS2000 portable radios. The following table summarises the information contained in the remainder of the document:

Radio	Battery			
	NTN7148	RNN4008AR	RNN4008ARA	RNN4008BR
GP900 / GP1200 / MTS2000 CENELEC EEx ib IIC T4	√		√	√
GP900 / GP1200 / MTS2000 ATEX EEx ib IIB T4		√	√	√

**Usage of Intrinsicly Safe Batteries:
NTN7148 (CENELEC Battery) and RNN4008AR (ATEX Battery)**

To address questions about the compatibility between the intrinsicly safe radio model variants and their batteries, the following guidance has to be adopted for existing batteries NTN7148 and / or RNN4008AR.

These two variants are certified to one of the following intrinsicly safe standards:

- CENELEC EEx ib IIC T4 (Original Standard – Blue Dot)
- ATEX EEx ib IIB T4 (Revised standard – Yellow Dot)

However the certification is only applicable when the correct battery and radio are used together. Should the battery and radio certification be different, then

- The intrinsic safety rating for the radio and battery combination is the lower of the two separate IS ratings.
- A mixed certification, may lead to operational non compliance to IS standards
- The use of an incompatible battery will reduce its capacity resulting in possible premature loss of communications.

The GP900 / GP1200 / MTS2000 model variant of Radios and Batteries can be easily identified by a coloured dot on the base of the radio:



Fig 1- ATEX radio



Fig 2 – CENELEC radio

Model Variant	Radio Dot Colour	Battery Dot Colour	IS Rating
ATEX Radio with mandatory carry case	YELLOW ●	YELLOW ●	ATEX EEx ib IIB T4
CENELEC Radio	BLUE ●	BLUE ●	CENELEC EEx ib IIC T4

You may need to check if there are any further local regulatory, customer requirements or general obligations.

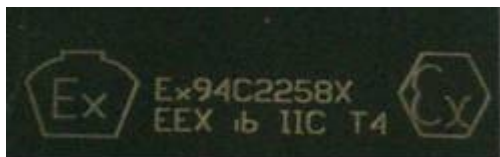
Intrinsically Safe Battery Rating For Existing Batteries



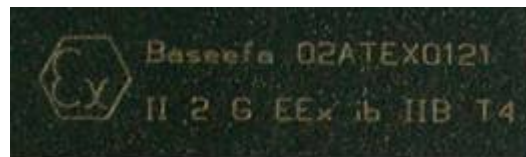
NTN7148 CENELEC Battery



RNN4008AR ATEX Battery



NTN7148 CENELEC Battery rating



RNN4008AR ATEX Battery rating

In order to ensure the correct battery for the radio is used – the user must ensure the coloured dots match on both the radio and the battery base. (See Fig 3 - 6)



Fig 3. ATEX Radio & Battery Correctly Installed



Fig 4. Cenelec Radio & Battery correctly installed



Fig 5. ATEX Radio with incorrect Cenelec Battery



Fig 6. Cenelec Radio with incorrect ATEX Battery

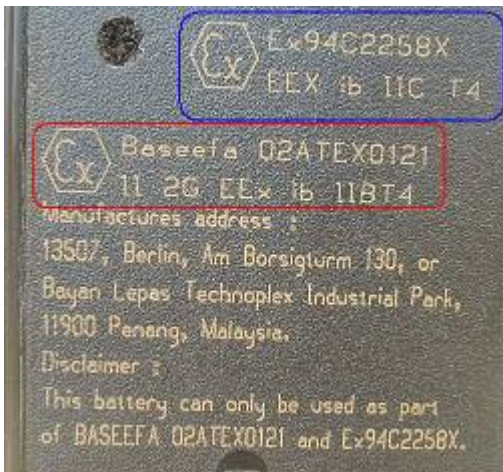
USAGE OF IS BATTERY RNN4008AR A Dual battery

Dual marked battery for Cenelec (replacement for NTN7148) and ATEX (replacement for RNN4008AR - ATEX battery)

A dual marking (CENELEC / ATEX) has been approved by the Notified Body 'Baseefa'.

RNN4008ARA Battery labeling and marking

Side attached to radio



Rear view



Date Code



USAGE OF IS BATTERY RNN4008BR Dual battery

Dual marked battery for Cenelec (replacement for NTN7148) and ATEX (replacement for RNN4008ARA – ATEX / Cenelec battery)

The Nickel-Cadmium cells used within the dual marked Battery Pack RNN4008AR_ have been replaced by Nickel-Metal-Hydride cells. These changes do not affect the original intrinsic safety assessment. Please note the following changes to the battery label:

- Cell chemistry changed from NiCd to NiMH
- Cell Origin Change changed to “Japan”
- Removal of NiCd related logo to NiMH.



The coloured dot on the bottom label of the battery RNN4008ARA / BR has been removed.

Batteries with **Date Code 717** onwards can be used on Motorola’s GP900 / GP1200 / MTS2000 CENELEC and ATEX approved radios.

Model Variant	Radio Dot Colour	Battery RNN4008ARA / BR Dot Colour	IS Rating
ATEX Radio with mandatory carry case	YELLOW ●	N/A	ATEX EEx ib IIB T4
CENELEC Radio	BLUE ●	N/A	CENELEC EEx ib IIC T4

The approval certificates from Baseefa are attached.

Contact your local Account Manager or Customer Care team if you have any questions.



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3** Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0121/3**
- 4** Equipment or Protective System: **MT2100 Series Portable Radio**
- 5** Manufacturer: **Motorola GmbH,
(formerly held by Motorola Ltd, Basingstoke, Hants, RG22 4PD)**
- 6** Address: **Am Borsigturm 130, 13507 Berlin, Germany.**
- 7** This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0121 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 5672

Project File No. 05/0879

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa (2001) Ltd.



13 **Schedule**
14 **Certificate Number Baseefa02ATEX0121/3**

15 **Description of the variation to the Equipment or Protective System**

Variation 3.1

To permit minor changes to Q1 & Q2 and dual marking (CENELEC / ATEX) of an alternative L584 Battery Pack used for:-

- a) CENELEC Battery Pack NTN7148B, Part of Certificate Number Ex 94C2258X.
- b) ATEX Battery Pack RNN4008AR, Part of Baseefa02ATEX0121.

This change does not affect the IS assessment.

16 **Report Number**

None

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
6866546D07_00	1&2	Rev O	12.06.2006	Document Overview
6866571D01_01	1 to 5	Rev A	12.06.2006	Documentation of changes to Dual labelled Battery Pack
6085356F	1 to 14	Rev D	04.06.2006	Specification Dual labelled Battery Pack L584
6866571D01_02	1	Rev O	12.06.2006	Test Results
6866546D07_03	1&2	Rev O	12.06.2006	Documentation Manual for Dual labelled Battery Pack
EPNN8114B	1	-	26.06.2006	BOM
0189722P01	1	-	26.06.2006	BOM
0105952T77	1	-	26.06.2006	BOM
5104056T63	1	-	26.06.2006	BOM
5105829W05	1	-	26.06.2006	BOM
5180608W03	1	-	26.06.2006	BOM
0189667P01	1	-	26.06.2006	BOM
0189668P01	1	-	26.06.2006	BOM
0189669P01	1 to 5	-	26.06.2006	BOM

These drawings are common to Certificate No Ex 94C2258X/11.



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0121/4**
- 4 Equipment or Protective System: **MT2100 Series Portable Radio**
- 5 Manufacturer: **Motorola GmbH**
- 6 Address: **Am Borsigturm 130, 13507 Berlin, Germany.**
- 7 This supplementary certificate extends EC - Type Examination Certificate No. Baseefa02ATEX0121 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.



This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 5672

Project File No. 07/0888

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

A handwritten signature in black ink, appearing to read "R S Sinclair".

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Baseefa is a trading name of Baseefa Ltd
Registered in England No. 4305578. Registered address as above.

R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



13

Schedule

14

Certificate Number Baseefa02ATEX0121/4

15 **Description of the variation to the Equipment or Protective System**

Variation 4.1

To permit:-

- i) the NiCd cells used within the dual marked L584 Battery Pack (CENELEC Battery Pack NTN7148B, Part of Certificate Number Ex 94C2258X / Jedi ATEX NiCd Battery Pack RNN4008AR, Part of Baseefa02ATEX0121) to be replaced by NiMH cells.
- ii) minor changes to the Battery Pack.

These changes do not affect the original intrinsic safety assessment.

16 **Report Number**

07(C)0888

17 **Special Conditions for Safe Use**

None



18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
6866571D01_01	1-48	Rev B	4/10/2008	Documentation of changes to Dual labelled Battery Pack

These drawings are common to Certificate No Ex 94C2258X/12.