

# Asterix category 023 - CNS/ATM Ground Station and Service Status Reports

**category:** 023

**edition:** 1.3

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## Preamble

Surveillance data exchange.

## Description of standard data items

### I023/000 - Report Type

definition: This Data Item allows for a more convenient handling of the reports at the receiver side by further defining the type of transaction.

Element

bit size: 8

Values:

- 1: Ground station status report
- 2: Service status report
- 3: Service statistics report

#### NOTES:

- 1. In applications where transactions of various types are exchanged, the Report Type Data Item facilitates the proper report handling at the receiver side.
- 2. All Report Type values are reserved for common standard use.

### I023/010 - Data Source Identifier

definition: Identification of the Ground Station from which the data is received.

Group

#### I023/010/SAC - System Area Code

Element

bit size: 8

Raw Content

#### I023/010/SIC - System Identification Code

Element

bit size: 8

Raw Content

#### Note:

- The up-to-date list of SACs is published on the EUROCONTROL Web Site (<http://www.eurocontrol.int/asterix>).

### I023/015 - Service Type and Identification

definition: Identifies the type of service being reported.

Group

#### I023/015/SID - Service Identification

Element  
bit size: 4  
Raw Content

### **I023/015/STYP - Type of Service**

Element  
bit size: 4  
Values:

- 1: ADS-B VDL4
- 2: ADS-B Ext Squitter
- 3: ADS-B UAT
- 4: TIS-B VDL4
- 5: TIS-B Ext Squitter
- 6: TIS-B UAT
- 7: FIS-B VDL4
- 8: GRAS VDL4
- 9: MLT

#### **Note:**

- The service identification is allocated by the system.
- The service identification is also available in item I021/015.

### **I023/070 - Time of Day**

definition: Absolute time stamping expressed as UTC time.

Element  
bit size: 24  
Unsigned quantity  
 $\text{LSB} = 1/2^7 \text{ s} \approx 7.8125e - 3 \text{ s}$   
unit: "s"

Notes:

1. The time of day value is reset to zero each day at midnight.

### **I023/100 - Ground Station Status**

definition: Information concerning the status of a Ground Station.

Extended

#### **I023/100/NOGO - Operational Release Status of the Data**

Element  
bit size: 1  
Values:

- 0: Data is released for operational use
- 1: Data must not be used operationally

#### **I023/100/ODP - Data Processor Overload Indicator**

Element  
bit size: 1  
Values:

- 0: Default, no overload
- 1: Overload in DP

#### **I023/100/OXT - Ground Interface Data Communications Overload**

Element  
bit size: 1  
Values:

- 0: Default, no overload
- 1: Overload in transmission subsystem

### **I023/100/MS - Monitoring System Connected Status**

Element  
bit size: 1  
Values:

- 0: Monitoring system not connected or unknown
- 1: Monitoring system connected

### **I023/100/TSV - Time Source Validity**

Element  
bit size: 1  
Values:

- 0: Valid
- 1: Invalid

### **I023/100/SPO - Indication of Spoofing Attack**

Element  
bit size: 1  
Values:

- 0: No spoofing detected
- 1: Potential spoofing attack

### **I023/100/RN - Renumbering Indication for Track ID**

Element  
bit size: 1  
Values:

- 0: Default
- 1: Track numbering has restarted

(FX) - extension bit

### **I023/100/GSSP - Ground Station Status Reporting Period**

Element  
bit size: 7  
Unsigned quantity  
LSB = 1 s  $\approx$  1.0 s  
unit: "s"  
>= 1.0  
<= 127.0

(FX) - extension bit

Notes:

1. A time source is considered as valid when either externally synchronised or running on a local oscillator within the required accuracy of UTC.
2. Bit 8 (NOGO), when set to "1" indicates that the data transmitted by the GS is not released for operational use.
3. Bit 2 indicates that the allocation of Track-IDs (Item I021/161) was re-started.

## **I023/101 - Service Configuration**

definition: Information concerning the configuration of a Service.

Extended

### **I023/101/RP - Report Period for Category 021 Reports**

Element  
bit size: 8  
Unsigned quantity  
LSB = 1/2 s  $\approx$  0.5 s  
unit: "s"

### **I023/101/SC - Service Class**

Element

bit size: 3

Values:

- 0:** No information
- 1:** NRA class
- 2:** Reserved for future use
- 3:** Reserved for future use
- 4:** Reserved for future use
- 5:** Reserved for future use
- 6:** Reserved for future use
- 7:** Reserved for future use

Spare bits: 4

*(FX) - extension bit*

### **I023/101/SSRP - Service Status Reporting Period**

Element

bit size: 7

Unsigned quantity

LSB = 1 s  $\approx$  1.0 s

unit: "s"

$\geq$  1.0

$\leq$  127.0

*(FX) - extension bit*

### **I023/110 - Service Status**

definition: Information concerning the status of the Service provided by a Ground Station.

Extended

Spare bits: 4

#### **I023/110/STAT - Status of the Service**

Element

bit size: 3

Values:

- 0:** Unknown
- 1:** Failed
- 2:** Disabled
- 3:** Degraded
- 4:** Normal
- 5:** Initialisation

*(FX) - extension bit*

### **I023/120 - Service Statistics**

definition: Statistics concerning the service. Provides counts of various ADS-B message types that have been received since the report was last sent.

Repetitive

Regular, 1 byte(s) REP field size.

Group

#### **I023/120/TYPE - Type of Report Counter**

Element

bit size: 8

Values:

- 0: Number of unknown messages received
- 1: Number of too old messages received
- 2: Number of failed message conversions
- 3: Total Number of messages received
- 4: Total Number of messages transmitted
- 20: Number of TIS-B management messages received
- 21: Number of Basic messages received
- 22: Number of High Dynamic messages received
- 23: Number of Full Position messages received
- 24: Number of Basic Ground messages received
- 25: Number of TCP messages received
- 26: Number of UTC time messages received
- 27: Number of Data messages received
- 28: Number of High Resolution messages received
- 29: Number of Aircraft Target Airborne messages received
- 30: Number of Aircraft Target Ground messages received
- 31: Number of Ground Vehicle Target messages received
- 32: Number of 2 slots TCP messages received

#### **I023/120/REF - Reference from which the Messages Are Countered**

Element

bit size: 1

Values:

0: From midnight

1: From the last report

Spare bits: 7

#### **I023/120/CV - 32-bit Counter Value**

Element

bit size: 32

Raw Content

#### **I023/200 - Operational Range**

definition: Currently active operational range of the Ground Station.

Element

bit size: 8

Unsigned quantity

LSB = 1 NM  $\approx$  1.0 NM

unit: "NM"

Notes:

1. Maximum value indicates "maximum value or above".

#### **I023/RE - Reserved Expansion Field**

definition: Expansion

Explicit (ReservedExpansion)

#### **I023/SP - Special Purpose Field**

definition: Special Purpose Field

Explicit (SpecialPurpose)

## User Application Profile

- 1: I023/010 - Data Source Identifier
- 2: I023/000 - Report Type
- 3: I023/015 - Service Type and Identification
- 4: I023/070 - Time of Day
- 5: I023/100 - Ground Station Status
- 6: I023/101 - Service Configuration
- 7: I023/200 - Operational Range
- (FX) - Field extension indicator
- 8: I023/110 - Service Status
- 9: I023/120 - Service Statistics
- *Spare*
- *Spare*
- *Spare*
- 13: I023/RE - Reserved Expansion Field
- 14: I023/SP - Special Purpose Field
- (FX) - Field extension indicator