

# 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  
 $LSB = 1/2^7 \text{ s} \approx 7.8125e - 3 \text{ s}$   
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/MSC - 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 ≈ 1.0 s  
 unit: "s"  
 $\geq 1.0$   
 $\leq 127.0$

*(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 restarted.

## **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 ≈ 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 ≈ 1.0 s

unit: "s"

≥ 1.0

≤ 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 ≈ 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