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

category: 023

edition: 1.2

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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 = $1/2^7$ s $\approx 7.8125e - 3$ 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”
>= 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 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:

4

        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