Asterix category 019 - Multilateration System Status Messages

category: 019

edition: 1.3

date: 2010-12-01

Preamble

Surveillance data exchange.

Description of standard data items

I019/000 - Message Type

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

> Element
> bit size: 8
> Values:
>> **1:** Start of Update Cycle
>> **2:** Periodic Status Message
>> **3:** Event-triggered Status Message

NOTES:
1. In applications where data of various types is exchanged, the Message Type Data Item facilitates the proper message handling at the receiver side.
2. All Message Type values are reserved for common standard use.

I019/010 - Data Source Identifier

definition: Identification of the system from which the data is received.

Group

> #### I019/010/SAC - System Area Code
>> Element
>> bit size: 8
>> Raw Content

> #### I019/010/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).

I019/140 - Time of Day

definition: Absolute time stamping expressed as UTC.

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

Note:

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

I019/550 - System Status

definition: Information concerning the configuration and status of a System.
Group

I019/550/NOGO - Operational Release Status of the System

Element
bit size: 2
Values:

0: Operational
1: Degraded
2: NOGO
3: Undefined

I019/550/OVL - Overload Indicator

Element
bit size: 1
Values:

0: No overload
1: Overload

I019/550/TSV - Time Source Validity

Element
bit size: 1
Values:

0: Valid
1: Invalid

I019/550/TTF - Test Target

Element
bit size: 1
Values:

0: Test Target Operative
1: Test Target Failure

Spare bits: 3

Note:

A time source is considered as valid when either externally synchronised or
running on a local oscillator within the required accuracy of UTC.

I019/551 - Tracking Processor Detailed Status

definition: Information concerning the configuration and status of the Tracking processors.
Group

I019/551/TP1A

Element
bit size: 1
Values:
  0: Standby
  1: Exec

I019/551/TP1B

Element
bit size: 1
Values:
  0: Faulted
  1: Good

I019/551/TP2A

Element
bit size: 1
Values:
  0: Standby
  1: Exec

I019/551/TP2B

Element
bit size: 1
Values:
  0: Faulted
  1: Good

I019/551/TP3A

Element
bit size: 1
Values:
  0: Standby
  1: Exec

I019/551/TP3B

Element
bit size: 1
Values:
  0: Faulted
  1: Good

I019/551/TP4A

Element
bit size: 1
Values:
  0: Standby
  1: Exec

I019/551/TP4B

Element
bit size: 1
Values:
  0: Faulted
  1: Good

Note:

Both Bits of one TP set to zero means, that this TP is not used in the system.

I019/552 - Remote Sensor Detailed Status

definition: Information concerning the configuration and status of the Remote Sensors (RS)

Repetitive

Regular, 1 byte(s) REP field size.

Group

I019/552/RSI - 8-bit Identification Number of RS

Element
bit size: 8
Raw Content

Spare bits: 1

I019/552/RS1090 - Receiver 1090 MHz

Element
bit size: 1
Values:

0: Not present
1: Present

I019/552/TX1030 - Transmitter 1030 MHz

Element
bit size: 1
Values:

0: Not present
1: Present

I019/552/TX1090 - Transmitter 1090 MHz

Element
bit size: 1
Values:

0: Not present
1: Present

I019/552/RSS - RS Status

Element
bit size: 1
Values:

0: Faulted
1: Good

I019/552/RSO - RS Operational

Element
bit size: 1
Values:

0: Offline
1: Online

Spare bits: 2

I019/553 - Reference Transponder Detailed Status

definition: Information concerning the configuration and status of the Reference Transponder.

Extended

I019/553/REFTR1 - Ref Trans 1 Status

Element
bit size: 2
Values:

4

1: Warning
2: Faulted
3: Good

Spare bits: 2

I019/553/REFTR2 - Ref Trans 2 Status

Element
bit size: 2
Values:

1: Warning
2: Faulted
3: Good

Spare bits: 1

(FX) - extension bit

I019/553/REFTR3 - Ref Trans 3 Status

Element
bit size: 2
Values:

1: Warning
2: Faulted
3: Good

Spare bits: 2

I019/553/REFTR4 - Ref Trans 4 Status

Element
bit size: 2
Values:

1: Warning
2: Faulted
3: Good

Spare bits: 1

(FX) - extension bit

I019/600 - Position of the MLT System Reference Point

definition: Position of the MLT reference point in WGS-84 Coordinates.
Group

I019/600/LAT - Latitude

Element
bit size: 32
Signed quantity
LSB = $180/2^30$ ° ≈ $1.676380634307861328125e - 7$ °
unit: "°"
>= -90.0
<= 90.0

I019/600/LON - Longitude

Element
bit size: 32
Signed quantity
LSB = $180/2^30$ ° ≈ $1.676380634307861328125e - 7$ °
unit: "°"
>= -180.0
< 180.0

I019/610 - Height of the MLT System Reference Point

definition: Height of the MLT system reference point in two's complement form. The height shall use mean sea level as the zero reference level.

Element
bit size: 16
Signed quantity
LSB = $1/2^2$ m ≈ 0.25 m
unit: "m"
>= -8192.0
<= 8192.0

I019/620 - WGS-84 Undulation

definition: WGS-84 undulation value of the MLT system reference point, in meters. Geoid undulation value is the difference between the ellipsoidal height and the height above mean sea level

Element
bit size: 8
Signed quantity
LSB = 1 m ≈ 1.0 m
unit: "m"

I019/RE - Reserved Expansion Field

definition: Expansion
Explicit (ReservedExpansion)

I019/SP - Special Purpose Field

definition: Special Purpose Field
Explicit (SpecialPurpose)

User Application Profile

- 1: I019/010 - Data Source Identifier
- 2: I019/000 - Message Type
- 3: I019/140 - Time of Day
- 4: I019/550 - System Status
- 5: I019/551 - Tracking Processor Detailed Status
- 6: I019/552 - Remote Sensor Detailed Status
- 7: I019/553 - Reference Transponder Detailed Status
- (FX) - Field extension indicator
- 8: I019/600 - Position of the MLT System Reference Point
- 9: I019/610 - Height of the MLT System Reference Point
- 10: I019/620 - WGS-84 Undulation
- *Spare*
- *Spare*
- 13: I019/RE - Reserved Expansion Field
- 14: I019/SP - Special Purpose Field
- (FX) - Field extension indicator