

Asterix category 004 - Safety Net Messages

category: 004

edition: 1.12

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Preamble

Surveillance data exchange.

Description of standard data items

I004/000 - 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 transaction.

Element

bit size: 8

Values:

- 1:** Alive Message (AM)
- 2:** Route Adherence Monitor Longitudinal Deviation (RAMLD)
- 3:** Route Adherence Monitor Heading Deviation (RAMHD)
- 4:** Minimum Safe Altitude Warning (MSAW)
- 5:** Area Proximity Warning (APW)
- 6:** Clearance Level Adherence Monitor (CLAM)
- 7:** Short Term Conflict Alert (STCA)
- 8:** Approach Path Monitor (APM)
- 9:** RIMCAS Arrival / Landing Monitor (ALM)
- 10:** RIMCAS Arrival / Departure Wrong Runway Alert (WRA)
- 11:** RIMCAS Arrival / Departure Opposite Traffic Alert (OTA)
- 12:** RIMCAS Departure Monitor (RDM)
- 13:** RIMCAS Runway / Taxiway Crossing Monitor (RCM)
- 14:** RIMCAS Taxiway Separation Monitor (TSM)
- 15:** RIMCAS Unauthorized Taxiway Movement Monitor(UTMM)
- 16:** RIMCAS Stop Bar Overrun Alert (SBOA)
- 17:** End Of Conflict (EOC)
- 18:** ACAS Resolution Advisory (ACASRA)
- 19:** Near Term Conflict Alert (NTCA)
- 20:** Downlinked Barometric Pressure Setting Monitor (DBPSM)
- 21:** Speed Adherence Monitor (SAM)
- 22:** Outside Controlled Airspace Tool (OCAT)
- 23:** Vertical Conflict Detection (VCD)
- 24:** Vertical Rate Adherence Monitor (VRAM)
- 25:** Cleared Heading Adherence Monitor (CHAM)
- 26:** Downlinked Selected Altitude Monitor (DSAM)
- 27:** Holding Adherence Monitor (HAM)
- 28:** Vertical Path Monitor (VPM)
- 29:** RIMCAS Taxiway Traffic Alert (TTA)
- 30:** RIMCAS Arrival/Departure Close Runway Alert (CRA)
- 31:** RIMCAS Arrival/Departure Aircraft Separation Monitor (ASM)
- 32:** RIMCAS ILS Area Violation Monitor (IAVM)
- 33:** Final Target Distance Indicator (FTD)
- 34:** Initial Target Distance Indicator (ITD)
- 35:** Wake Vortex Indicator Infringement Alert (IIA)
- 36:** Sequence Warning (SQW)

- 37:** Catch Up Warning (CUW)
- 38:** Conflicting ATC Clearances (CATC)
- 39:** No ATC Clearance (NOCLR)
- 40:** Aircraft Not Moving despite ATC Clearance (NOMOV)
- 41:** Aircraft leaving/entering the aerodrome area without proper handover (NOH)
- 42:** Wrong Runway or Taxiway Type (WRTY)
- 43:** Stand Occupied (STOCC)
- 44:** Ongoing Alert (ONGOING)
- 97:** Lost Track Warning (LTW)
- 98:** Holding Volume Infringement (HVI)
- 99:** Airspace Infringement Warning (AIW)

Notes:

1. In applications where transactions of various types are 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.
3. Message Types 33 to 37 have been designed for applications supporting the ATCO in the optimisation of separation during final approach. They provide information required to indicate to the ATCO the closest possible distance of a following aircraft in relation to a leading aircraft. This allows to make optimum use of the available runway capacity.
4. The list of items present for the 31 types of messages is defined in the following 4 tables. M stands for mandatory, O for optional, X for never present. :

```

item 001 002 003 004 005 006 007 008
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 X M M M M M M M
I004/035 X X X X X X M X
I004/040 X M M M M M M M
I004/045 X 0 0 0 0 0 0 0
I004/060 M X X X X X X X
I004/070 X X X 0 0 X 0 X
I004/074 X M X X X X X X
I004/075 X X M X X X X M
I004/076 X X X X X 0 X 0
I004/100 X X X X M X X 0
I004/110 X 0 0 0 0 0 0 0
I004/120 X X X M M X M X
I004/170 X 0 0 0 0 0 0 0
I004/171 X X X X X X 0 X
I004/RE 0 0 0 0 0 0 0 0

```

```

item 009 010 011 012 013 014 015 016
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 M M M M M M M M
I004/035 M X M M M M O X
I004/040 M M M M M M M M
I004/045 0 0 0 0 0 0 0 0
I004/060 X X X X X X X X
I004/070 0 X 0 0 0 0 X
I004/074 X X X X X X X X
I004/075 X X X X X X X X

```

I004/076 X X X X X X X X
I004/100 M M M M M M M M
I004/110 0 0 0 0 0 0 0 0
I004/120 M M M M M 0 0 0
I004/170 0 0 0 0 0 0 0
I004/171 0 X 0 0 0 0 0 X
I004/RE 0 0 0 0 0 0 0 0

item 017 018 019 020 021 022 023 024
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 0 X M M M M M M
I004/035 0 X M X X X M X
I004/040 M M M M M M M M
I004/045 0 0 0 0 0 0 0 0
I004/060 X X X X X X X X
I004/070 X 0 0 X X 0 0 X
I004/074 X X X X X X X X
I004/075 X X X X X X X X
I004/076 X X X X X X X 0
I004/100 X X X 0 0 M M 0
I004/110 X X 0 0 0 0 0 0
I004/120 X X 0 M 0 M M 0
I004/170 X M 0 0 0 0 0 0
I004/171 X 0 0 X X X 0 X
I004/RE 0 M 0 0 0 0 0 0

item 025 026 027 028 029 030 031 032
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 M M M M M M M M
I004/035 X X X X 0 0 M 0
I004/040 M M M M M M M M
I004/045 0 0 0 0 0 0 0 0
I004/060 X X X X X X X X
I004/070 X X X X 0 0 0 0
I004/074 X X 0 X 0 X X X
I004/075 X X X X 0 X X X
I004/076 X 0 0 0 0 X X X
I004/100 0 0 0 0 0 0 0 0
I004/110 0 0 0 0 0 0 0 0
I004/120 0 0 0 X 0 0 0 0
I004/170 0 0 0 0 0 0 0 0
I004/171 X X X X 0 0 0 0
I004/RE 0 0 0 0 0 0 0 0

item 033 034 035 036 037 038 039 040
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 M M M M M M M M
I004/035 M M M X 0 M X X
I004/040 M M M M M M M M
I004/045 0 0 0 0 0 0 0 0
I004/060 X X X X X X X X
I004/070 0 0 M X X X X X

```

I004/074 X X X X X X X X X
I004/075 X X X X X X X X X
I004/076 X X X X X X X X X
I004/100 0 0 0 0 0 0 0 0
I004/110 X X X X X 0 0 0
I004/120 M M 0 X X M M M
I004/170 M M M M M 0 0 0
I004/171 M M M X M 0 X X
I004/RE 0 0 M 0 0 0 0 0

item 041 042 043 044 097 098 099
I004/000 M M M M M M M M
I004/010 M M M M M M M M
I004/015 0 0 0 0 0 0 0
I004/020 M M M M M M M M
I004/030 M M M M M M M M
I004/035 X X X 0 X X X
I004/040 M M M M M M M M
I004/045 0 0 0 0 0 0 0
I004/060 X X X X X X X X
I004/070 X X X X 0 0 0
I004/074 X X X X X X X X
I004/075 X X X X X X X X
I004/076 X X X X X X X X
I004/100 0 M M M 0 0 0
I004/110 0 0 0 0 0 0 0
I004/120 M 0 X X 0 0 0
I004/170 0 0 0 0 0 0 0
I004/171 X X X X X X X X
I004/RE 0 0 0 0 M 0 0

```

I004/010 - Data Source Identifier

definition: Identification of the Safety Nets server sending the message.

Group

I004/010/SAC - System Area Code

Element
bit size: 8
Raw Content

I004/010/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>).

I004/015 - SDPS Identifier

definition: Identification of the SDPS providing data to the safety nets server.

Repetitive

Regular, 1 byte(s) REP field size.

Group

I004/015/SAC - System Area Code

Element
bit size: 8
Raw Content

I004/015/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>).

I004/020 - Time of Message

definition: Absolute time stamping of the message in the form of elapsed time since last midnight

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

This time is given at an application level (e.g. time at which a message is filled), and not at the communication level (i.e. not the time at which the data-block containing the message is sent).

I004/030 - Track Number 1

definition: Identification of a track number related to conflict

Element
bit size: 16
Raw Content

Notes:

1. This is the track number of the first track involved in the conflict in case of an STCA or a RIMCA or the track involved in case of one of the other Safety Net functions.
2. This track number is distributed in this field exactly as it was received from the Radar Processor Unit (identified by I004/015) and its range is depending on the range used by that unit.
3. In case of Message Type = 33 (Final Target Distance Indicator - FTD) this represents the Track Number of the following aircraft.
4. In case of Message Type = 34 (Initial Target Distance Indicator - ITD) this represents the Track Number of the following aircraft.
5. In case of Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this represents the track number of the following aircraft.
6. In case of Message Type = 37 (Catch-Up Warning - CUW) this represents the track number of the following aircraft (i.e. the one catching up).

I004/035 - Track Number 2

definition: Together with I004/030, this item defines the track pair in conflict.

Element
bit size: 16
Raw Content

Notes:

1. This is the track number of the second track involved in the conflict in case of an STCA, a RIMCA, a NTCA, a VCD or in message types 33 to 35 and 37.
2. For the other Safety Net functions, this item is not used.
3. This track number is distributed in this field exactly as it was received from the Radar Processor Unit and its range is depending on the range used by that unit.
4. In case of Message Type = 33 (Final Target Distance Indicator - FTD) this represents the Track Number of the leading aircraft
5. In case of Message Type = 34 (Initial Target Distance Indicator - ITD) this represents the Track Number of the leading aircraft.
6. In case of Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this represents the track number of the leading aircraft.
7. In case of Message Type = 37 (Catch-Up Warning - CUW) this represents the track number of the leading aircraft.
8. In case of Message Type = 38 (Conflicting ATC Clearances - CATC) this represents the track number of the aircraft to which the first ATC Clearance was issued.

I004/040 - Alert Identifier

definition: Identification of an alert (Alert number)

Element

bit size: 16

Raw Content

Notes:

1. This item is the Alert Identification of the conflict in the system
2. This number shall be assigned, by the Safety Net Server, for instance incrementally to every new alert and restart on zero after reaching the maximum value (65535)

I004/045 - Alert Status

definition: Information concerning status of the alert

Group

Spare bits: 4

I004/045/STAT - Status of the Alert

Element

bit size: 3

Raw Content

Spare bits: 1

I004/060 - Safety Net Function and System Status

definition: Status of the Safety Nets functions handled by the system

Extended

I004/060/MRVA

Element

bit size: 1

Values:

0: Default

1: MRVA function

I004/060/RAMLD

Element

bit size: 1

Values:

0: Default

1: RAMLD function

I004/060/RAMHD

Element

bit size: 1

Values:

0: Default

1: RAMHD function

I004/060/MSAW

Element

bit size: 1

Values:

0: Default

1: MSAW function

I004/060/APW

Element

bit size: 1

Values:

0: Default

1: APW function

I004/060/CLAM

Element

bit size: 1

Values:

0: Default

1: CLAM function

I004/060/STCA

Element

bit size: 1

Values:

0: Default

1: STCA function

(FX) - extension bit

I004/060/APM

Element

bit size: 1

Values:

0: Default

1: APM function

I004/060/RIMCA

Element

bit size: 1

Values:

0: Default

1: RIMCA function

I004/060/ACASRA

Element
bit size: 1
Values:
0: Default
1: ACAS RA function

I004/060/NTCA

Element
bit size: 1
Values:
0: Default
1: NTCA function

I004/060/DG

Element
bit size: 1
Values:
0: Default
1: System degraded

I004/060/OF

Element
bit size: 1
Values:
0: Default
1: Overflow error

I004/060/OL

Element
bit size: 1
Values:
0: Default
1: Overload error

(FX) - extension bit

I004/060/AIW

Element
bit size: 1
Values:
0: Default
1: AIW function

I004/060/PAIW

Element
bit size: 1
Values:
0: Default
1: PAIW function

I004/060/OCAT

Element
bit size: 1
Values:
0: Default
1: OCAT function

I004/060/SAM

Element
bit size: 1
Values:

0: Default
1: SAM function

I004/060/VCD

Element
bit size: 1
Values:
0: Default
1: VCD function

I004/060/CHAM

Element
bit size: 1
Values:
0: Default
1: CHAM function

I004/060/DSAM

Element
bit size: 1
Values:
0: Default
1: DSAM function

(FX) - extension bit

I004/060/DBPSMARR

Element
bit size: 1
Values:
0: Default
1: DBPSM ARR sub-function

I004/060/DBPSMDEP

Element
bit size: 1
Values:
0: Default
1: DBPSM DEP sub-function

I004/060/DBPSMTL

Element
bit size: 1
Values:
0: Default
1: DBPSM TL sub-function

I004/060/VRAMCRM

Element
bit size: 1
Values:
0: Default
1: VRAM CRM sub-function

I004/060/VRAMVTM

Element
bit size: 1
Values:
0: Default
1: VRAM VTM sub-function

I004/060/VRAMVRM

Element
bit size: 1
Values:
0: Default
1: VRAM VRM sub-function

I004/060/HAMHD

Element
bit size: 1
Values:
0: Default
1: HAM HD sub-function

(FX) - extension bit

I004/060/HAMRD

Element
bit size: 1
Values:
0: Default
1: HAM RD sub-function

I004/060/HAMVD

Element
bit size: 1
Values:
0: Default
1: HAM VD sub-function

I004/060/HVI

Element
bit size: 1
Values:
0: Default
1: HVI function

I004/060/LTW

Element
bit size: 1
Values:
0: Default
1: LTW function

I004/060/VPM

Element
bit size: 1
Values:
0: Default
1: VPM function

I004/060/TTA

Element
bit size: 1
Values:
0: Default
1: TTA function

I004/060/CRA

Element
bit size: 1
Values:

0: Default
1: CRA function

(FX) - extension bit

I004/060/ASM

Element
bit size: 1
Values:
0: Default
1: ASM sub-function

I004/060/IAVM

Element
bit size: 1
Values:
0: Default
1: IAVM sub-function

I004/060/FTD

Element
bit size: 1
Values:
0: Default
1: FTD Function

I004/060/ITD

Element
bit size: 1
Values:
0: Default
1: ITD function

I004/060/IIA

Element
bit size: 1
Values:
0: Default
1: IIA function

I004/060/SQW

Element
bit size: 1
Values:
0: Default
1: SQW function

I004/060/CUW

Element
bit size: 1
Values:
0: Default
1: CUW function

(FX) - extension bit

I004/060/CATC

Element
bit size: 1
Values:
0: Default
1: CATC function

I004/060/NOCLR

Element
bit size: 1
Values:
0: Default
1: NOCLR sub-function

I004/060/NOMOV

Element
bit size: 1
Values:
0: Default
1: NOMOV Function

I004/060/NOH

Element
bit size: 1
Values:
0: Default
1: NOH function

I004/060/WRTY

Element
bit size: 1
Values:
0: Default
1: WRTY function

I004/060/STOCC

Element
bit size: 1
Values:
0: Default
1: STOCC function

I004/060/ONGOING

Element
bit size: 1
Values:
0: Default
1: ONGOING function

(FX) - extension bit

Notes:

1. This item only sent in “alive messages” to describe the status of the Safety Net functions, handled by the system
2. Value 0 means either that the function is not managed by the system or has failed.
3. Value 1 means that the function is managed by the system and is running well
4. “Overflow” is defined as a situation where the number of alerts in the system has exceeded the threshold for safe operation. Potential prioritization of the alerts may lead to a loss of information.
5. “Overload” is defined as a system status in which the number of alerts does not allow for a reliable performance. A correct calculation and transmission cannot be guaranteed.
6. “System degraded” means that information from one or more sensors is lost.

I004/070 - Conflict Timing and Separation

definition: Information on Timing and Aircraft Separation
Compound

I004/070/TC - Time to Conflict

description: Time remaining to actual conflict situation
Element
bit size: 24
Unsigned quantity
 $LSB = 1/2^7 \text{ s} \approx 7.8125e - 3 \text{ s}$
unit: "s"

I004/070/TCA - Time to Closest Approach

description: Time to closest proximity between entities in conflict
Element
bit size: 24
Unsigned quantity
 $LSB = 1/2^7 \text{ s} \approx 7.8125e - 3 \text{ s}$
unit: "s"

I004/070/CHS - Current Horizontal Separation

description: Current horizontal separation
Element
bit size: 24
Unsigned quantity
 $LSB = 1/2 \text{ m} \approx 0.5 \text{ m}$
unit: "m"

I004/070/MHS - Estimated Minimum Horizontal Separation

description: Estimated minimum horizontal separation.
Element
bit size: 16
Unsigned quantity
 $LSB = 1/2 \text{ m} \approx 0.5 \text{ m}$
unit: "m"

I004/070/CSV - Current Vertical Separation

description: Current vertical separation
Element
bit size: 16
Unsigned quantity
 $LSB = 25 \text{ ft} \approx 25.0 \text{ ft}$
unit: "ft"

I004/070/MVS - Estimated Minimum Vertical Separation

description: Estimated Minimum Vertical Separation
Element
bit size: 16
Unsigned quantity
 $LSB = 25 \text{ ft} \approx 25.0 \text{ ft}$
unit: "ft"

I004/074 - Longitudinal Deviation

definition: Longitudinal deviation for Route Adherence Monitoring, in two's complement.

Element
bit size: 16
Signed quantity
 $LSB = 32 \text{ m} \approx 32.0 \text{ m}$
unit: "m"

Note:

- Longitudinal deviation will be positive if the aircraft is ahead of its planned position. Longitudinal deviation will be negative if the aircraft is behind its planned position.

I004/075 - Transversal Distance Deviation

definition: Transversal distance deviation for Route Adherence Monitoring, in two's complement.

Element
bit size: 24
Signed quantity
LSB = 1/2 m ≈ 0.5 m
unit: "m"

Note:

- Deviation to the right of the track will be coded as a positive value. Deviation to the left of the track will be coded as a negative value

I004/076 - Vertical Deviation

definition: Vertical Deviation from planned altitude, in two's complement

Element
bit size: 16
Signed quantity
LSB = 25 ft ≈ 25.0 ft
unit: "ft"

Note:

- Positive value if aircraft is above planned altitude Negative value if aircraft is below planned altitude

I004/100 - Area Definition

definition: Name of the area involved in a Safety Net alarm

Compound

I004/100/AN - Area Name

description: Name of the area involved in a Safety Net alarm. Characters 1-8 (coded on 6 bits each) defining the name of the area. Coding rules are provided in [3]Section 3.1.2.9"

Element
bit size: 48
ICAO string (6-bits per char)

I004/100/CAN - Crossing Area Name

description: Name of Crossing Area Involved in RIMCA. Each octet is an ASCII character defining the name of the crossing area involved in a runway/taxiway crossing alert (message type 013)

Element
bit size: 56
Ascii string (8-bits per char)

I004/100/RT1 - Runway/Taxiway Designator 1

description: Designator of Runway/Taxiway 1 Involved in a RIMCA Each octet is an ASCII character defining the runway designator

Element
bit size: 56
Ascii string (8-bits per char)

I004/100/RT2 - Runway/Taxiway Designator 2

description: Designator of Runway/Taxiway 2 Involved in a RIMCA
Each octet is an ASCII character defining the runway designator

Element
bit size: 56
Ascii string (8-bits per char)

I004/100/SB - Stop Bar Designator

description: Designator of Stop-Bar Involved in RIMCA Each octet is an ASCII character defining the stop-bar involved in a stop-bar crossed alert (message type 016)

Element
bit size: 56
Ascii string (8-bits per char)

I004/100/G - Gate Designator

description: Gate Designator (in 7 characters) of the approaching aircraft in a RIMCA or a STOCC message, Each octet is an ASCII character defining the gate for the approaching aircraft

Element
bit size: 56
Ascii string (8-bits per char)

Notes:

1. The area name is always left adjusted. If needed, the remaining characters are filled with space character.
2. The name of the crossing area is always left adjusted. If needed, the remaining characters are filled with space characters.
3. The runway designator is always left adjusted. If needed, the remaining characters are filled with space characters. The runway is encoded as follows: Location indicator, runway direction, left or right. Example: EGLL09L means London Heathrow (EGLL), Runway 09 (direction 090 degrees) left runway
4. The runway designator is always left adjusted. If needed, the remaining characters are filled with space characters. The runway is encoded as follows: Location indicator, runway direction, left or right. Example: EGLL09L means London Heathrow (EGLL), Runway 09 (direction 090 degrees) left runway
5. The stop-bar designator is always left adjusted. If needed, the remaining characters are filled with space characters.
6. The gate designator is always left adjusted. If needed, the remaining characters are filled with space character.

I004/110 - FDPS Sector Control Identification

definition: Identification of a list of FDPS Sector Control Positions in charge of the involved targets, as provided by the FDPS

Repetitive

Regular, 1 byte(s) REP field size.

Group

I004/110/CEN

description: Centre identification code

Element
bit size: 8
Raw Content

I004/110/POS

description: Control position identification code

Element
bit size: 8
Raw Content

Note:

- The Centre identification code and the Control position identification code must be defined between the communication partners.

I004/120 - Conflict Characteristics

definition: Description of the Conflict Properties

Compound

I004/120/CN - Conflict Nature

description: Nature of the conflict expressed by a set of properties
Extended

I004/120/CN/MAS - Conflict Location in Military Airspace

Element
bit size: 1
Values:

- 0:** Conflict not predicted to occur in military airspace
1: Conflict predicted to occur in military airspace

I004/120/CN/CAS - Conflict Location in Civil Airspace

Element
bit size: 1
Values:

- 0:** Conflict not predicted to occur in civil airspace
1: Conflict predicted to occur in civil airspace

I004/120/CN/FLD - Fast Lateral Divergence

Element
bit size: 1
Values:

- 0:** Aircraft are not fast diverging laterally at current time
1: Aircraft are fast diverging laterally at current time

I004/120/CN/FVD - Fast Vertical Divergence

Element
bit size: 1
Values:

- 0:** Aircraft are not fast diverging vertically at current time
1: Aircraft are fast diverging vertically at current time

I004/120/CN/TYPE - Type of Separation Infringement

Element
bit size: 1
Values:

- 0:** Minor separation infringement

1: Major separation infringement

I004/120/CN/CROSS - Crossing Test

Element

bit size: 1

Values:

0: Aircraft have not crossed at starting time of conflict

1: Aircraft have crossed at starting time of conflict

I004/120/CN/DIV - Divergence Test

Element

bit size: 1

Values:

0: Aircraft are not diverging at starting time of conflict

1: Aircraft are diverging at starting time of conflict

(FX) - extension bit

I004/120/CN/RRC - Runway/Runway Crossing in RIMCAS

Element

bit size: 1

Values:

0: Default

1: Runway/Runway Crossing

I004/120/CN/RTC - Runway/Taxiway Crossing in RIMCAS

Element

bit size: 1

Values:

0: Default

1: Runway/Taxiway Crossing

I004/120/CN/MRVA

Element

bit size: 1

Values:

0: Default

1: Msg Type 4 (MSAW) indicates MRVA

I004/120/CN/VRAMCRM

Element

bit size: 1

Values:

0: Default

1: Msg Type 25 (VRAM) indicates CRM

I004/120/CN/VRAMVRM

Element

bit size: 1

Values:

0: Default

1: Msg Type 25 (VRAM) indicates VRM

I004/120/CN/VRAMVTM

Element

bit size: 1

Values:

0: Default

1: Msg Type 25 (VRAM) indicates VTM

I004/120/CN/HAMHD

Element

bit size: 1

Values:

0: Default

1: Msg Type 29 (HAM) indicates HD

(FX) - extension bit

I004/120/CN/HAMRD

Element

bit size: 1

Values:

0: Default

1: Msg Type 29 (HAM) indicates RD

I004/120/CN/HAMVD

Element

bit size: 1

Values:

0: Default

1: Msg Type 29 (HAM) indicates VD

I004/120/CN/DBPSMARR

Element

bit size: 1

Values:

0: Default

1: Msg Type 20 (DBPSM) indicates ARR

I004/120/CN/DBPSMDEP

Element

bit size: 1

Values:

0: Default

1: Msg Type 20 (DBPSM) indicates DEP

I004/120/CN/DBPSMTL

Element

bit size: 1

Values:

0: Default

1: Msg Type 20 (DBPSM) indicates above TL

I004/120/CN/AIW

Element

bit size: 1

Values:

0: Default

1: Msg Type 99 (AIW) indicates pAIW Alert

Spare bits: 1

(FX) - extension bit

I004/120/CC - Conflict Classification

description: Severity classification of the conflict

Group

I004/120/CC/TID - Identification of Conflict Categories

Definition Table

Element

bit size: 4

Raw Content

I004/120/CC/CPC - Conflict Properties Class

Depending on: (000, 120/CC/TID)

(5, 1): Element

bit size: 3

Values:

0: APW Low Severity
1: APW Medium Severity
2: APW High Severity

(7, 0): Element

bit size: 3

Values:

- 1:** Major separation infringement and not (crossed and diverging)
- 2:** Minor separation infringement and not (crossed and diverging)
- 3:** Major separation infringement and (crossed and diverging)
- 4:** Minor separation infringement and (crossed and diverging)

(7, 1): Group

I004/120/CC/CPC/LPF - Linear Prediction Filter

Element

bit size: 1

Values:

- 0:** Filter not set
- 1:** Filter set

I004/120/CC/CPC/CPF - Current Proximity Filter

Element

bit size: 1

Values:

- 0:** Filter not set
- 1:** Filter set

I004/120/CC/CPC/MHF - Manoeuvre Hazard Filter

Element

bit size: 1

Values:

- 0:** Filter not set
- 1:** Filter set

(9, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element

bit size: 1

Values:

- 0:** Stage One Alert
- 1:** Stage Two Alert

Spare bits: 2

(10, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element

bit size: 1

Values:

- 0:** Stage One Alert
- 1:** Stage Two Alert

Spare bits: 2

(11, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element

bit size: 1

Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(12, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element
bit size: 1
Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(13, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element
bit size: 1
Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(14, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element
bit size: 1
Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(15, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element
bit size: 1
Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(16, 2): Group

I004/120/CC/CPC/RAS - RIMCAS Alert Stage

Element
bit size: 1
Values:

0: Stage One Alert
1: Stage Two Alert

Spare bits: 2

(15, 1): Element

bit size: 3

Values:

- 0:** 2 aircraft, same taxiway, opposite direction
- 1:** Aircraft entering wrong direction
- 2:** Aircraft entering wrong taxiway
- 3:** Speed violation

(24, 1): Element

bit size: 3

Values:

0: VRM Slow Climb
1: VRM Slow Descent

(24, 2): Element

bit size: 3

Values:

0: VTM Fast Climb
1: VTM Fast Descent

(26, 1): Element

bit size: 3

Values:

0: Vertical manoeuvre deviation prior to reaching its expected level

1: Vertical manoeuvre deviation past its expected level

(27, 1): Element

bit size: 3

Values:

0: Slow Descent

1: Fast Descent

2: Slow Climb

3: Fast Climb

(27, 2): Element

bit size: 3

Values:

0: Above

1: Below

(33, 1): Element

bit size: 3

Values:

0: Table - Single RWY Operation

1: MRS - Single RWY Operation

2: ROT - Single RWY Operation

3: GAP - Single RWY Operation

4: Table - Parallel RWY Operation

5: MRS - Parallel RWY Operation

6: ROT - Parallel RWY Operation

7: GAP - Parallel RWY Operation

(34, 1): Element

bit size: 3

Values:

0: Table - Single RWY Operation

1: MRS - Single RWY Operation

2: ROT - Single RWY Operation

3: GAP - Single RWY Operation

4: Table - Parallel RWY Operation

5: MRS - Parallel RWY Operation

6: ROT - Parallel RWY Operation

7: GAP - Parallel RWY Operation

(35, 1): Element

bit size: 3

Values:

0: End of Alert

1: Planned Alert

2: Alert on TABLE Indicator

3: Alert on MRS Indicator

4: Alert on ROT Indicator

5: Alert on GAP Indicator

- (38, 0):** Element
bit size: 3
Values:
- 0:** Line-Up vs. Line-Up
 - 1:** Line-Up vs. Cross or Enter
 - 2:** Line-Up vs. Take-Off
 - 3:** Line-Up vs. Landing
- (38, 1):** Element
bit size: 3
Values:
- 0:** Cross or Enter vs. Line-Up
 - 1:** Cross or Enter vs. Cross or Enter
 - 2:** Cross or Enter vs. Take-Off
 - 3:** Cross or Enter vs. Landing
- (38, 2):** Element
bit size: 3
Values:
- 0:** Take-Off vs. Line-Up
 - 1:** Take-Off vs. Cross or Enter
 - 2:** Take-Off vs. Take-Off
 - 3:** Take-Off vs. Landing
- (38, 3):** Element
bit size: 3
Values:
- 0:** Landing vs. Line-Up
 - 1:** Landing vs. Cross or Enter
 - 2:** Landing vs. Take-Off
 - 3:** Landing vs. Landing
- (38, 4):** Element
bit size: 3
Values:
- 0:** Push-Back vs. Push-Back
 - 1:** Push-Back vs. Taxi
- (38, 5):** Element
bit size: 3
Values:
- 0:** Taxi vs. Push-Back
 - 1:** Taxi vs. Taxi
- (39, 1):** Element
bit size: 3
Values:
- 0:** No Push-Back Clearance
 - 1:** No Taxi Clearance
 - 2:** No Line-Up Clearance
 - 3:** No Crossing Clearance
 - 4:** No Enter Clearance
 - 5:** No Take-Off Clearance
 - 6:** Landing Clearance
- (40, 1):** Element
bit size: 3
Values:
- 0:** After Push-Back Clearance
 - 1:** After Taxi Clearance
 - 2:** After Line-Up Clearance
 - 3:** After Crossing Clearance
 - 4:** After Enter Clearance
 - 5:** After Take-Off Clearance
 - 6:** Stationary on Runway

7: Stationary on Taxiway
(41, 1): Element
bit size: 3
Values:
0: No contact (receiving ATSU)
1: No transfer (leaving ATSU)

Default:

Element
bit size: 3
Raw Content

I004/120/CC/CS - Conflict Severity

Element
bit size: 1
Values:
0: LOW
1: HIGH

I004/120/CP - Conflict Probability

description: Probability of the conflict
Element
bit size: 8
Unsigned quantity
 $LSB = 1/2\% \approx 0.5\%$
unit: "%"

I004/120/CD - Conflict Duration

description: The duration of the conflict is the elapsed time since the declaration of the conflict.

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

Note: If no Table Id is defined for a message type, only the value of the CS bit may be of relevance. In that case, for this message type, Table Id and Conflict Properties are meaningless and shall be set to "0000" and "000" respectively. 1. Additional conflict classes may be defined by introducing additional properties of a conflict. 2. For FTD (Message Type = 033), ITD (Message Type = 034) and IIA (Message Type = 035) the following types of separation have been applied: Table: application of the values contained in the separation table according to the different wake vortex categories of the two aircraft. MRS: Minimum Radar Separation for the arrival runway ROT: Runway Occupancy Time – separation to achieve a specific ROT. GAP: separation based on a gap manually input by the ATCO

I004/170 - Aircraft Identification and Characteristics 1

definition: Identification & Characteristics of Aircraft 1 Involved in the Conflict.
Compound

I004/170/AI1 - Aircraft Identifier (in 7 Characters) of Aircraft 1 Involved in the Conflict

Element
bit size: 56
Ascii string (8-bits per char)

I004/170/M31 - Mode 3/A Code Aircraft 1

Group

Spare bits: 4

I004/170/M31/MODE3A - Mode-3/A Code (Converted Into Octal Representation) of Aircraft 1 Involved in the Conflict

Element
bit size: 12
Octal string (3-bits per char)

I004/170/CPW - Predicted Conflict Position Target 1 in WGS-84 Coordinates

Group

I004/170/CPW/LAT - Latitude in WGS-84 in Two's Complement

Element
bit size: 32
Signed quantity
 $LSB = 180/2^{25} \text{ } \circ \approx 5.36441802978515625e - 6 \text{ } \circ$
unit: "°"
 ≥ -90.0
 ≤ 90.0

I004/170/CPW/LON - Longitude in WGS-84 in Two's Complement

Element
bit size: 32
Signed quantity
 $LSB = 180/2^{25} \text{ } \circ \approx 5.36441802978515625e - 6 \text{ } \circ$
unit: "°"
 ≥ -180.0
 < 180.0

I004/170/CPW/ALT - Altitude of Predicted Conflict

Element
bit size: 16
Signed quantity
 $LSB = 25 \text{ ft} \approx 25.0 \text{ ft}$
unit: "ft"
 ≥ -1500.0
 ≤ 150000.0

I004/170/CPC - Predicted Conflict Position for the Aircraft 1 Involved in the Conflict

Group

I004/170/CPC/X - Starting X-position of the Conflict

Element
bit size: 24
Signed quantity
 $LSB = 1/2 \text{ m} \approx 0.5 \text{ m}$
unit: "m"

I004/170/CPC/Y - Starting Y-position of the Conflict

Element
bit size: 24
Signed quantity
 $LSB = 1/2 \text{ m} \approx 0.5 \text{ m}$
unit: "m"

I004/170/CPC/Z - Starting Z-position of the Conflict

Element
bit size: 16
Signed quantity
 $LSB = 25 \text{ ft} \approx 25.0 \text{ ft}$

unit: "ft"
>= -1500.0
≤ 150000.0

I004/170/TT1 - Time to Runway Threshold for First Approaching Aircraft in a RIMCA

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

I004/170/DT1 - Distance to Runway Threshold for Aircraft 1 Involved in a RIMCA

Element
bit size: 16
Unsigned quantity
 $LSB = 1/2 \text{ m} \approx 0.5 \text{ m}$
unit: "m"

I004/170/AC1 - Characteristics of Aircraft 1 Involved in the Conflict

Extended

I004/170/AC1/GATOAT - Identification of Conflict Categories Definition Table

Element
bit size: 2
Values:
0: Unknown
1: General Air Traffic
2: Operational Air Traffic
3: Not applicable

I004/170/AC1/FR1FR2 - Flight Rules

Element
bit size: 2
Values:
0: Instrument Flight Rules
1: Visual Flight rules
2: Not applicable
3: Controlled Visual Flight Rules

I004/170/AC1/RVSM

Element
bit size: 2
Values:
0: Unknown
1: Approved
2: Exempt
3: Not Approved

I004/170/AC1/HPR

Element
bit size: 1
Values:
0: Normal Priority Flight
1: High Priority Flight

(FX) - extension bit

I004/170/AC1/CDM - Climbing/Descending Mode

Element
bit size: 2
Values:

- 0:** Maintaining
- 1:** Climbing
- 2:** Descending
- 3:** Invalid

I004/170/AC1/PRI

Element

bit size: 1

Values:

- 0:** Non primary target
- 1:** Primary target

I004/170/AC1/GV

Element

bit size: 1

Values:

- 0:** Default
- 1:** Ground Vehicle

Spare bits: 3

(FX) - extension bit

I004/170/MS1 - Aircraft Identification Downloaded from Aircraft 1 Involved in the Conflict If Equipped with a Mode-S Transponder

Element

bit size: 48

ICAO string (6-bits per char)

I004/170/FP1 - Number of the Flight Plan Correlated to Aircraft 1 Involved in the Conflict

Group

Spare bits: 5

I004/170/FP1/NBR

Element

bit size: 27

Unsigned quantity

LSB = 1 ≈ 1.0

unit: ""

>= 0.0

<= 9.999999e7

I004/170/CF1 - Cleared Flight Level for Aircraft 1 Involved in the Conflict

Element

bit size: 16

Unsigned quantity

LSB = 1/2² FL ≈ 0.25 FL

unit: "FL"

Notes:

1. The aircraft identifier is always left adjusted. If needed, the remaining characters are filled with space character.
2. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the aircraft identifier of the following aircraft.
3. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the aircraft identifier of the following aircraft.
4. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the aircraft identifier of the following aircraft.
5. For Message Type = 37 (Catch-Up Warning - CUW) this contains the aircraft identifier of the following aircraft (i.e. the one catching up).
6. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode 3/A Code of the following aircraft.

7. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode 3/A Code of the following aircraft.
8. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode 3/A Code of the following aircraft.
9. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode 3/A code of the following aircraft (i.e. the one catching up).
10. Altitude expressed in two's complement.
11. For Message Type = 33 (Final Target Distance Indicator - FTD) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
12. For Message Type = 34 (Initial Target Distance Indicator - ITD) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
13. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this data item contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
14. For Message Type = 37 (Catch-Up Warning - CUW) this contains the position (in WGS-84) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
15. Two's complement fixed-point format.
16. For Message Type = 33 (Final Target Distance Indicator - FTD) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
17. For Message Type = 34 (Initial Target Distance Indicator - ITD) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
18. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
19. For Message Type = 37 (Catch-Up Warning - CUW) this data item contains the position (in Cartesian Coordinates) of the Separation Indicator presented to the ATCO. In this case bits 16/1 are meaningless.
20. Time to Threshold expressed in Two's Complement
21. For Message Type = 33 (Final Target Distance Indicator - FTD) and for Message Type = 34 (Initial Target Distance Indicator - ITD) this data item contains the additional gap in spacing between two approaching aircraft as manually inserted by the ATCO. This could be used, for example, to increase the spacing between approaching aircraft in order to generate sufficient spacing to clear a departing aircraft.
22. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Aircraft Characteristics of the following aircraft.
23. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Aircraft Characteristics of the following aircraft.
24. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Aircraft Characteristics of the following aircraft.
25. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Aircraft Characteristics of the following aircraft.
26. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode-S Identifier of the following aircraft.
27. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode-S Identifier of the following aircraft.
28. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode-S Identifier of the following aircraft.
29. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode-S Identifier of the following aircraft.
30. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Flight Plan Number of the following aircraft.
31. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Flight Plan Number of the following aircraft.
32. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA)

- this contains the Flight Plan Number of the following aircraft.
33. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Flight Plan Number of the following aircraft.
 34. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Cleared Flight Level of the following aircraft.
 35. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Cleared Flight Level of the following aircraft.
 36. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Cleared Flight Level of the following aircraft.
 37. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Cleared Flight Level of the following aircraft.

I004/171 - Aircraft Identification and Characteristics 2

definition: Identification & Characteristics of Aircraft 2 Involved in the Conflict.
Compound

I004/171/AI2 - Aircraft Identifier (in 7 Characters) of Aircraft 2 Involved in the Conflict

Element
bit size: 56
Ascii string (8-bits per char)

I004/171/M32 - Mode 3/A Code Aircraft 2

Group

Spare bits: 4

I004/171/M32/MODE3A - Mode-3/A Code (Converted Into Octal Representation) of Aircraft 2 Involved in the Conflict

Element
bit size: 12
Octal string (3-bits per char)

I004/171/CPW - Predicted Conflict Position Target 2 in WGS-84 Coordinates

Group

I004/171/CPW/LAT - Latitude in WGS-84 in Two's Complement

Element
bit size: 32
Signed quantity
LSB = $180/2^{32} \text{ } ^\circ \approx 5.36441802978515625e - 6 \text{ } ^\circ$
unit: "°"
 ≥ -90.0
 ≤ 90.0

I004/171/CPW/LON - Longitude in WGS-84 in Two's Complement

Element
bit size: 32
Signed quantity
LSB = $180/2^{32} \text{ } ^\circ \approx 5.36441802978515625e - 6 \text{ } ^\circ$
unit: "°"
 ≥ -180.0
 < 180.0

I004/171/CPW/ALT - Altitude of Predicted Conflict

Element
bit size: 16
Signed quantity

LSB = 25 ft \approx 25.0 ft
unit: "ft"
 ≥ -1500.0
 ≤ 150000.0

I004/171/CPL - Predicted Conflict Position for the Aircraft 2 Involved in the Conflict

Group

I004/171/CPL/X - Starting X-position of the Conflict

Element
bit size: 24
Signed quantity
LSB = 1/2 m \approx 0.5 m
unit: "m"

I004/171/CPL/Y - Starting Y-position of the Conflict

Element
bit size: 24
Signed quantity
LSB = 1/2 m \approx 0.5 m
unit: "m"

I004/171/CPL/Z - Starting Z-position of the Conflict

Element
bit size: 16
Signed quantity
LSB = 25 ft \approx 25.0 ft
unit: "ft"
 ≥ -1500.0
 ≤ 150000.0

I004/171/TT2 - Time to Runway Threshold for Second Approaching Aircraft in a RIMCA

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

I004/171/DT2 - Distance to Runway Threshold for Aircraft 2 Involved in a RIMCA

Element
bit size: 16
Unsigned quantity
LSB = 1/2 m \approx 0.5 m
unit: "m"

I004/171/AC2 - Characteristics of Aircraft 2 Involved in the Conflict

Extended

I004/171/AC2/GATOAT - Identification of Conflict Categories Definition Table

Element
bit size: 2
Values:
0: Unknown
1: General Air Traffic
2: Operational Air Traffic
3: Not applicable

I004/171/AC2/FR1FR2 - Flight Rules

Element
bit size: 2
Values:

- 0:** Instrument Flight Rules
- 1:** Visual Flight rules
- 2:** Not applicable
- 3:** Controlled Visual Flight Rules

I004/171/AC2/RVSM

Element
bit size: 2
Values:
0: Unknown
1: Approved
2: Exempt
3: Not Approved

I004/171/AC2/HPR

Element
bit size: 1
Values:
0: Normal Priority Flight
1: High Priority Flight

(FX) - extension bit

I004/171/AC2/CDM - Climbing/Descending Mode

Element
bit size: 2
Values:
0: Maintaining
1: Climbing
2: Descending
3: Invalid

I004/171/AC2/PRI

Element
bit size: 1
Values:
0: Non primary target
1: Primary target

I004/171/AC2/GV

Element
bit size: 1
Values:
0: Default
1: Ground Vehicle

Spare bits: 3

(FX) - extension bit

I004/171/MS2 - Aircraft Identification Downloaded From Aircraft 2 Involved in the Conflict If Eequipped With a Mode-S Transponder

Element
bit size: 48
ICAO string (6-bits per char)

I004/171/FP2 - Number of the Flight Plan Correlated to Aircraft 2 Involved in the Conflict

Group

Spare bits: 5

I004/171/FP2/NBR

Element
bit size: 27
Unsigned quantity
LSB = 1 ≈ 1.0
unit: ""
>= 0.0
<= 9.999999e7

I004/171/CF2 - Cleared Flight Level for Aircraft 2 Involved in the Conflict

Element
bit size: 16
Unsigned quantity
 $LSB = 1/2^2$ FL ≈ 0.25 FL
unit: "FL"

Notes:

1. The aircraft identifier is always left adjusted. If needed, the remaining characters are filled with space character.
2. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the aircraft identifier of the leading aircraft.
3. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the aircraft identifier of the leading aircraft.
4. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the aircraft identifier of the leading aircraft.
5. For Message Type = 37 (Catch-Up Warning - CUW) this contains the aircraft identifier of the leading aircraft.
6. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode 3/A Code of the leading aircraft.
7. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode 3/A Code of the leading aircraft.
8. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode 3/A Code of the leading aircraft.
9. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode 3/A code of the leading aircraft.
10. Altitude expressed in two's complement.
11. FTwo's complement.
12. Time to Threshold expressed in Two's Complement
13. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Aircraft Characteristics of the leading aircraft.
14. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Aircraft Characteristics of the leading aircraft.
15. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Aircraft Characteristics of the leading aircraft.
16. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Aircraft Characteristics of the leading aircraft.
17. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Mode-S Identifier of the leading aircraft.
18. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Mode-S Identifier of the leading aircraft.
19. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Mode-S Identifier of the leading aircraft.
20. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Mode-S Identifier of the leading aircraft.
21. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Flight Plan Number of the leading aircraft.
22. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Flight Plan Number of the leading aircraft.
23. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Flight Plan Number of the leading aircraft.
24. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Flight Plan Number of the leading aircraft.
25. The value shall be within the range described by ICAO Annex 10
26. For Message Type = 33 (Final Target Distance Indicator - FTD) this contains the Cleared Flight Level of the leading aircraft.
27. For Message Type = 34 (Initial Target Distance Indicator - ITD) this contains the Cleared Flight Level of the leading aircraft.

28. For Message Type = 35 (Wake Vortex Indicator Infringement Alert - IIA) this contains the Cleared Flight Level of the leading aircraft.
29. For Message Type = 37 (Catch-Up Warning - CUW) this contains the Cleared Flight Level of the leading aircraft.

I004/RE - Reserved Expansion Field

definition: Expansion
 Explicit (ReservedExpansion)

I004/SP - Special Purpose Field

definition: Special Purpose Field
 Explicit (SpecialPurpose)

User Application Profile

- 1: I004/010 - Data Source Identifier
- 2: I004/000 - Message Type
- 3: I004/015 - SDPS Identifier
- 4: I004/020 - Time of Message
- 5: I004/040 - Alert Identifier
- 6: I004/045 - Alert Status
- 7: I004/060 - Safety Net Function and System Status
- (FX) - Field extension indicator
- 8: I004/030 - Track Number 1
- 9: I004/170 - Aircraft Identification and Characteristics 1
- 10: I004/120 - Conflict Characteristics
- 11: I004/070 - Conflict Timing and Separation
- 12: I004/076 - Vertical Deviation
- 13: I004/074 - Longitudinal Deviation
- 14: I004/075 - Transversal Distance Deviation
- (FX) - Field extension indicator
- 15: I004/100 - Area Definition
- 16: I004/035 - Track Number 2
- 17: I004/171 - Aircraft Identification and Characteristics 2
- 18: I004/110 - FDPS Sector Control Identification
- *Spare*
- 20: I004/RE - Reserved Expansion Field
- 21: I004/SP - Special Purpose Field
- (FX) - Field extension indicator