Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00049

for

Dassault Falcon 6X

Type Certificate Holder
Dassault Aviation

9 Rond Point des, Champs Elysees
75008 Paris
France

Model(s):	Falcon 6X
Issue:	02
Date of issue:	01 July 2025

Section 1: General

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Section 1: General

Section 1 General

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

Section 2 Falcon 6X

I. General

1. Type/ Model/ Variant

a) Type: Dassault Falcon 6X
b) Model: Falcon 6X

2. Performance Class

A

3. Certifying Authority

European Union Aviation Safety Agency (EASA)
Konrad-Adenauer-Ufer 3
D-50668 Cologne
Germany

4. Manufacturer

Dassault Aviation
9 Rond Point des Champs Elysees
75008 Paris
France

5. EASA Type Certification Application Date

01 March 2011

6. UK CAA Type Validation Application Date

26 July 2022

7. EASA Type Certification Date

EASA TCDS EASA.A.580 issue 1 issued 22 August 2023

8. UK CAA Type Validation Date

11 March 2025

II. Certification Basis

1. Reference Date for determining the applicable requirements.

26th August 2018

2. State of Design Airworthiness Authority Type Certification Data Sheet No.

EASA.A.580

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3. State of Design Airworthiness Authority Certification Basis

Refer to EASA TCDS EASA.A.580.

4. UK CAA Airworthiness Requirements

CS-25 Amendment 21

CS-26 Issue 4

CS-AWO Initial Issue

CS-ACNS Initial Issue

CS-SIMD Initial Issue

CS-FCD Initial Issue

CS-MMEL Initial Issue

Except:

- For aircraft equipped with M-OPT0129 - “ROAAS function”:
  CS 25.705 Amendment 24

Note: CS-CCD “Cabin Crew Data” is not applicable since the maximum passenger configuration is below 20.

5. Special Conditions

B-01	High Incidence Protection System (icing and non-icing conditions)
B-02	Motion and effect of cockpit controls
B-03	Flight envelope protection
B-05	Static Directional, Lateral and Longitudinal Stability and Low energy awareness
C-13	Rudder Control Reversal Load Conditions
D-05	High Altitude Operations
D-08	Control Surface Position Awareness / Electronic Flight Control System and Flight control jams
D-09	Pilot Compartment view - Hydrophobic coatings in lieu of windshield wipers
D-12	All Engines Failed Condition
D-16	Use of Flaperons for Lift and Roll Control
D-37	Personal injury criteria of dynamic testing of side facing sofas
E-03	Water / Ice in Fuel System
F-09	Flight Recorders including Data Link recording
F-39	Security Protection of Aircraft Systems and Networks
F-43	Non-rechargeable Lithium Battery Installations
F-46	Airframe Ice Protection System performance above CS 25 Appendix C
F-48	Installation of a therapeutic oxygen system
F-55	Rechargeable Lithium Battery Installations
G-03	Performance Requirements for Operations on Contaminated Runways and landing Distance Assessment at Time Arrival

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MCSD-01	OSD Maintenance Certifying Staff (MCSD) Certification Basis

6. Exemptions

None

7. Deviations

F-02UK	Data Link Services for the Single European Sky
F-01UK	Flight Crew Alerting

Note, the UK certification basis does not include a deviation equivalent to EASA Deviation D-38: Wheel Flange Debris and Fuel Tank Protection. Refer to Section III.1 which confirms that embodiment of Modification M-0653 is mandatory in the UK, ensuring compliance to requirements CS 25.734 and CS 25.963(e)(1) such that no equivalent to EASA Deviation D-38 is required in the UK certification basis.

8. Equivalent Safety Findings

D-01	Flight Control System Failure Criteria
D-11	Pack off operations
D-28	Servicing Doors
D-30	Combined Aircraft Pressurization Outflow and Positive Pressure Differential Relief Valves
E-05	Fuel Tank Expansion
E-09	Ignition Switches
E-10	Powerplant Instruments - Colour Markings
E-12	Nacelle behind fire wall: TRAS compartment, absence of fire detection system
E-20	Thrust Reverser Testing
F-14	Landing Light Switch
F-29	Use of IRS for DFDR vertical acceleration
F-50	Minimum Mass Flow of Passenger Supplemental Oxygen
F-03UK	Degraded Flight instrument external probe heating systems
F-04UK	Terrain Information Display and Synthetic Vision System
ESF-F25-1303-01	Indication removal from Primary Flight Displays during ground phases (for aircraft equipped with M-OPT0131)

9. Environmental Protection

Noise:

CS-36 Amendment 6

ICAO, Annex 16, Volume I, Amendment 13, Chapter 4

For details of the certified noise levels see TCDS-N no. UK.TC.A.00049.

Fuel Venting & Emissions:

CS-34 Amendment 4

ICAO, Annex 16, Volume II, amendment 9, Part II, Chapter 2 for fuel venting

10. Additional Airworthiness Specifications

The following paragraphs of Assimilated Regulation (EU) 2020/1159:

Part 26.300, 26.301, 26.303, 26.304, 26.305

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

The Type Design aircraft configuration is the F6TC Std TC.26 version stored in an electronic format under the virtual product management tool ENOVIA©.

The Type Design definition is defined in DGT 145126 “01-105 - F6X - Type Design Definition” Issue 1 or later accepted/approved revisions.

Embodiment of modification M-0653 “WTF – Addition of Shields on Main Landing Gear Bay and Rear Tank” is mandatory prior to registration of a Falcon 6X on the UK register. (See Note 4)

2. Description

The Falcon 6X is a twin engine jet, long range, large aeroplane category.

3. Equipment

The F6TC version referenced under III.1 also contains the type design list of equipment.

4. Dimensions

Length	25.546 m
Span	25.942 m
Height	7.856 m
Gross wing area	72,4 m²

5. Engines

Two Rear mounted Pratt & Whitney Canada PW812D Engines. Refer to UK Type Certificate Data Sheet UK.TC.E.00089.

Note: Engine is approved for operation with thrust reverser per engine Installation and Operating Manual

Other engine limitations: see the relevant Engine Type Certification Data Sheet.

6. Auxiliary Power Unit

APU model SPU150[DA], from Safran Power Units

APU is TSO-C77b category 1 (essential)

APU limitations: according to applicable accepted/approved Airplane Flight Manual (AFM); AFM is referenced in Chapter IV.1.

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7. Propellers

N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

The fluids are defined in the applicable accepted/approved Airplane Flight Manual (AFM).

AFM is referenced in Chapter IV.1.

9. Fluid Capacities

9.1 Fuel

The fuel capacities are defined in the applicable accepted/approved Airplane Flight Manual (AFM).

AFM is referenced in Chapter IV.1.

See Note 1.

9.2 Oil

The oil capacity is defined in the applicable Installation and Operating Manual.

10. Airspeed Limits

The Airspeed Limits are defined in the applicable accepted/approved Airplane Flight Manual (AFM).

AFM is referenced in Chapter IV.1.

11. Flight Envelope

The Flight Envelope are defined in the applicable accepted/approved Airplane Flight Manual (AFM).

AFM is referenced in Chapter IV.1.

Maximum Operating Altitude: 15,544 m (51,000 ft)

12. Operating Limitations

See the appropriate accepted/approved Airplane Flight Manual.

12.1 Approved Operations

The Falcon 6X is eligible for the following kinds of operation when the appropriate equipment and instruments required by the operating requirements are installed, approved, and operating as defined by the MEL.

- VFR (Visual)
- IFR (Instrument)
- Day
- Night
- Icing
- Dry and wet runways operation
- Landing and take-off up to 9,000 ft.
- Manual or Automatic Category I approaches and non-precision approaches

- RNP RNAV operations
- Baro-VNAV and LPV approaches
- Polar operations (limited 85° North / 85° South)
- ADS-B Out function
- RVSM
- Steep Approach Landing (up to 5.5°)

12.2 Other Limitations

Other limitations as defined in the applicable accepted/approved Airplane Flight Manuals (AFM).

AFM is referenced in Chapter IV.1.

13. Maximum Certified Masses

	Mass kg (lbs)
Take-off	35,153 (77,500)
Landing	30,028 (66,200)
Zero fuel	20,820 (45,900)

See Note 1: for weight and balance calculation, refer to the Loading Manual in Chapter IV.3.

14. Centre of Gravity Range

The Centre of Gravity ranges are defined in the applicable accepted/approved Airplane Flight Manual (AFM).

AFM is referenced in Chapter IV.1.

15. Datum

0 % of mean aerodynamic chord (MAC) is 12.5196 m (492.9 in) from the forward end of the aircraft nose cone.

25 % of mean aerodynamic chord (MAC) is 13.3690 m (526.34 in) from the forward end of the aircraft nose cone.

16. Mean Aerodynamic Chord (MAC)

3.3978 m (133.772 in).

17. Levelling Means

Refer to Aircraft Maintenance Manual (AMM), part of Instructions for Continued Airworthiness (ICA) for level procedure.

18. Minimum Flight Crew

For all flights: 2 (pilots and co-pilot).

19. Minimum Cabin Crew

None

20. Maximum Seating Capacity

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Total number of occupants shall not exceed 22: 2 pilots +1 crew (third crew member seat authorized for take-off and landing in the cockpit) + up to 19 passenger seats.

The number of passengers shall not exceed 19 as determined by emergency exit requirements, nor shall the number of passengers exceed the number of seating accommodations approved for take-off and landing.

See interior layout drawing for the maximum passenger capacities approved for each aeroplane when delivered.

See Note 2.

21. Baggage/ Cargo Compartment

Refer to Falcon 6X Weight and Balance Manual.

See Note 1.

22. Wheels and Tyres

Main wheels tires: H type radial tubeless tires - size H33 × 10.5 R17

Nose wheel tires: single chine radial tubeless tires - size 16 × 6.0 R6

23. ETOPS

None.

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IV. Operating and Service Instructions

The Operating and Service Instructions listed below are approved by the European Union Aviation Safety Agency under EASA Type Certificate EASA.A.580 in accordance with Commission Regulation (EU) 748/2012 as amended. Note 3

These instructions and any future revisions are either accepted under Article 13 of Annex 30 of the UK-EU Trade and Cooperation Agreement or subject to approval by Validation under Article 10 of Annex 30 of the UK-EU Trade and Cooperation Agreement, for use by UK operators.

The Type Certificate Holder should be contacted to verify the applicability of any Operational and Service Instructions within the UK.

1. Airplane Flight Manual (AFM) Note 3

DGT 2013786, Airplane Flight Manual (AFM) Model Falcon 6X – Revision 1 dated 20 November 2023 or later accepted/approved revisions.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

Included in FIELD publication. ICA for Model Falcon 6X consists of:

- DGSM270636, Maintenance Planning Document (MPD)
- DGSM270635, Airworthiness Limitations Section (ALS) (section 5-40 of MPD) Revision 1 dated October 2023 or later accepted/approved revisions. NOTE 3
- Aircraft Maintenance Manual (AMM)
- Illustrated Part Catalog (IPC) (part list section only)
- Illustrated Tool and Equipment Manual (ITEM)
- Fault Isolation Manual (FIM)
- Structural Repair Manual (SRM)
- Wiring Diagram Manual (WDM)
- Electrical Standard Practice Manual (ESPM)

3. Weight and Balance Manual (WBM)

DGT2020160, Loading Manual (LM) for Model Falcon 6X Original Issue dated 22nd August 2023 or later accepted/approved revisions.

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V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Union Aviation Safety Agency under EASA Type Certificate EASA.A.580 in accordance with Commission Regulation (EU) 748/2012 as amended. Note 3

These OSD elements and any future revisions are either accepted under Article 13 of Annex 30 of the UK-EU Trade and Cooperation Agreement or subject to approval by Validation under Article 10 of Annex 30 of the UK-EU Trade and Cooperation Agreement, for use by UK operators.

1. Master Minimum Equipment List

The MMEL approved, as per the defined OSD certification basis in chapter II.4, is the Falcon 6X Operational Suitability Manual – Master Minimum Equipment List (OSM-MMEL) DGT 2016490 Original Issue dated 22nd August 2023 or later accepted or approved revisions. The Type Certificate Holder should be contacted to verify the applicability of any MMEL revision within the UK.

2. Flight Crew Data

The Flight Crew Data approved, as per the defined OSD certification basis in chapter II.4, is the Falcon 6X Operational Suitability Manual – Flight Crew (OSM-FC) DGT 148655 Original Issue dated 22nd August 2023 or later accepted or approved revisions. The Type Certificate Holder should be contacted to verify the applicability of any FCD revision within the UK.

Pilot Type Rating: The license endorsement for the Falcon 6X is “Falcon 6X”

3. Cabin Crew Data

Not Applicable

4. Simulator Data

The Simulator Data approved, as per the defined OSD certification basis in chapter II.4, is the Operational Suitability Manual - Simulator (OSM-SIM) DGT 2005884 Revision 4 dated 19th July 2023 or later accepted or approved revisions. The Type Certificate Holder should be contacted to verify the applicability of any SIMD revision within the UK.

5. Maintenance Certifying Staff Data

The Maintenance Certifying Staff Data approved as per the CRI SC MCSD-01 in chapter II.5, is the Operational Suitability Manual - Maintenance Certifying Staff (OSM-MCS) DGSM 262153 Original Issue dated 22nd August 2023 or later accepted or approved revisions. The Type Certificate Holder should be contacted to verify the applicability of any MCSD revision within the UK.

Maintenance Type Rating: Part 66 license endorsement for the Falcon 6X is “Falcon 6X (PW812D)”

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VI. Notes

Note 1:

a) The airplane must be loaded according to the appropriate approved Loading Manual (for Weight and Balance calculation). The list of equipment included in certificated empty mass must be provided for each airplane at the time of original certification. A current weight and balance report must be carried in the aircraft at all times from the moment the aircraft is originally certified. The certified empty mass and corresponding centre of gravity location must include the fluids of chapter III.9.

b) Loading of the airplane must be accomplished in a manner that always maintains the centre of gravity within the specified limits considering crew and passenger movements as well as fuel consumption and transfer.

Note 2: Cabin interior and seating configuration must be approved.

Note 3: An accepted or approved change to the AFM, ALS and OSD elements can be released either through a full revision of the manual or through a Change Project (CP) number bearing the same reference as the related manual.

Note 4: Design change M-0653 is required to be implemented through retrofit on any individual aircraft delivered with a design that is not fully compliant with requirements CS 25.734 and CS 25.963(e)(1) at amendment 21 and is compliant only with EASA Deviation D-38. Full compliance on the concerned fuel tanks is restored by embodiment of modification M-0653.

Section 3 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
AFM	Airplane Flight Manual
ALS	Airworthiness Limitations Section
AMM	Aircraft Maintenance Manual
APU	Auxiliary Power Unit
ATN	Aeronautical Telecommunication Network
AWO	All Weather Operations
CCD	Cabin Crew Data
CPDLC	Controller Pilot Data Link Communication
CRI	Certification Review Item
CS	Certification Specification
EASA	European Union Aviation Safety Agency
ESF	Equivalent Safety Finding
FANS	Future Air Navigation System
FCD	Flight Crew Data
FIM	Fault Isolation Manual
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
IPC	Illustrated Part Catalog
MAC	Mean Aerodynamic Chord
MCS	Maintenance Certifying Staff
MCSD	Maintenance Certifying Staff Data
MEL	Minimum Equipment List
MMEL	Master Minimum Equipment List
MPD	Maintenance Planning Document
OSD	Operational Suitability Data
P/N	Part Number
SC	Special Condition
SIMD	Simulator Data
SRM	Structural Repair Manual
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
TRAS	Thrust Reverser Actuation System
WDM	Wiring Diagram Manual

Section 3: Administration

II. Type Certificate Holder Record

TCH Record	Period
Dassault Aviation 9 Rond-Point des Champs Elysees 75008 Paris France	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
01	11 Mar 2025	Initial Issue.	Issue 1 11 Mar 2025
02	01 July 2025	The following changes are introduced through project UK.ADMIN.00166 to align with EASA TCDS EASA.A.580 Issue 3: - Section 2.II.4 – Added requirement 25.705 at Amendment 24 for ROAAS equipped aircraft. - Section 2.II.8 – Added ESF-F25-1303-01. - Section 2.III.12.1 - Added RVSM and Steep Approach Landing capabilities. - Sections 2.IV – Operating and Servicing Instructions version updated. - Section 3.I – Updated Acronyms to capture new content. - Explanatory Note: Added Deviation F-02UK	-

Explanatory Note to TCDS UK.TC.A.00049

This explanatory note was created to make public non-proprietary data contained in all UK specific Special Conditions, Deviations, or Equivalent Safety Findings that are part of the applicable Certification Basis as recorded in TCDS UK.TC.A.00049.

For all Special Conditions, Deviations or Equivalent Safety Findings adopted to the UK Certification Basis, refer to the Explanatory Note to EASA TCDS EASA.A.580.

Special Conditions:

None

Deviations:

F-01UK: Flight Crew Alerting (UK.DEV.F.0001)

F-02UK: Data Link Services for the Single European Sky

Equivalent Safety Findings:

F-03UK: Degraded flight instrument external probe heating system (UK.ESF.F.0001)

F-04UK: Terrain Information Display and Synthetic Vision System (UK.ESF.F.0002)

Disclaimer – This Explanatory Note may not be exhaustive and it will be updated gradually along with the aircraft lifecycle.

Deviation F-01UK: Flight Crew Alerting (UK.DEV.F.0001)

Applicability:	Falcon 6X
Requirements:	CS 25.1322
Advisory Material:	AMC 25.1322

1. APPLICABILITY

CS-25 large aeroplanes

1.1 AFFECTED CS

The following paragraphs of CS-25 are affected to which compliance cannot be demonstrated for the alerts and messages as detailed below:

- CS 25.1322 “Flight Crew Alerting”
  - a) …
  - b) Alerts must conform to the following prioritisation hierarchy based on the urgency of flight crew awareness and response:
    - (1) Warning: For conditions that require immediate flight crew awareness and immediate flight crew response.
    - (2) Caution: For conditions that require immediate flight crew awareness and subsequent flight crew response.
    - (3) Advisory: For conditions that require flight crew awareness and may require subsequent flight crew response.
  - c) Warning and Caution alerts must:
    - (2) provide timely attention-getting cues through at least two different senses by a combination of aural, visual, or tactile indications;
  - d) …
  - e) Visual alert indications must:
    - (1) conform to the following colour convention:
      - (i) Red for Warning alert indications.
      - (ii) Amber or yellow for Caution alert indications.
      - (iii) Any colour except red or green for Advisory alert indications.
  - f) …

1.2 Pre-Conditions for Application of the Deviation

Exceptional deviation with a limited number of CS 25.1322 non-compliances that can be well covered by adequate mitigations. Full CS 25.1322 Amdt. 20 or higher Amdt. compliance required with the next change to Type Certificate affecting alerting functions.

2. APPLICABLE ESSENTIAL REQUIREMENTS FOR AIRWORTHINESS OF REGULATION (EU) 2018/1139 (Annex II)

The following paragraphs of the "*Essential Requirements for Airworthiness*" as defined in Annex II of Assimilated Regulation (EU) 2018/1139 are affected by the actual design:

Paragraph 1.3.4:

"Information needed for the safe conduct of the flight and information concerning unsafe conditions must be provided to the crew or maintenance personnel, as appropriate, in a clear, consistent and unambiguous manner. Systems, equipment and controls, including signs and announcements must be designed and located to minimise errors which could contribute to the creation of hazards."

and

paragraph 2.3(c):

"Crew compartments, as appropriate to the type of operations, must be arranged in order to facilitate flight operations, including means providing situational awareness, and management of any expected situation and emergencies. The environment of crew compartments must not jeopardise the crew's ability to perform their tasks and its design must be such as to avoid interference during operation and misuse of the controls."

3. MITIGATING FACTORS

The following mitigating factors have been identified as alternative means to ensure compliance with the above identified essential requirements.

Table 3 details the mitigating factors for the non-compliances described in Table 1 (System Status Flags), while Table 4 details the mitigating factors for the non-compliances described in Table 2 (Approach Flags).

ID	Flight Phase	Abnormal condition	Mitigation
1	Take-Off	**Miscompare** of IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector)	Addition of an AFM memory item for the identified Warnings linked to primary flight parameters, requesting the flight crew to immediately revert to the Electronic Stand-by Instrument
2	Climb Cruise Descent	**Miscompare** of IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector)	Addition of an AFM memory item for the identified Warnings linked to primary flight parameters, requesting the flight crew to immediately revert to the Electronic Stand-by Instrument
3	Approach Landing	**Miscompare of** IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector) HDG (Heading) ALT (Altitude)	Addition of an AFM memory item for the identified Warnings linked to primary flight parameters, requesting the flight crew to immediately revert to the Electronic Stand-by Instrument
4 5	Take-Off	**Loss of** RA (radioaltitude) ALT (altitude) HDG (Heading) VS (vertical speed) LOC (Localizer)	Addition in the AFM of the necessary crew instructions and information (e.g. memory item)
6	Climb Cruise Descent	**Loss of** IAS (indicated airspeed) RA (radioaltitude) ALT (altitude) HDG (Heading) VS (vertical speed)	Addition in the AFM of the necessary crew instructions and information (e.g. memory item)
7	Approach Landing	**Loss of** RA (radioaltitude) VS (vertical speed)	Addition in the AFM of the necessary crew instructions and information (e.g. memory item)

Table 3 - System Status Flags: Cases and Mitigations

ID	Approach Type	Abnormal condition	Mitigation
8	Non precision approaches: LOC B/C (Back Course) LOC/DME	**Loss** of ILS beam while flying the approach manually using FD or raw data. Red flag LOC displayed	Addition of dedicated mention in the AFM to detail the flight deck effect (removal of Flight Director / Raw data) which may stop the procedure. and Removal of the SVS (including the synthetic runway) on PFD to emphasizes the visual cues indicating the loss of ILS data in case of manual CAT1 approach (or manual LOC, B/C or LOC/DME)
9	Precision approach: ILS CAT1	**Loss** of ILS beam while flying the approach manually using FD or raw data. Red flag LOC and G/S displayed	
10	Non precision Approaches: NAV LNAV/VNAV	**Loss** of a required system for approach Amber CAS Message displayed	Addition of dedicated mention in the AFM to detail the flight deck effect (amber CAS message) which may stop the procedure. This AFM mention will remind the current design specificities on the need for immediate actions with the goal to enhance the flight crew decision making.

Table 4 - Approach Flags: Cases

Appendix

Detailed Scenarios and Non-Compliances

The tables here below report the identified non-compliances along with the details on the flight phases in which they xxxx are identified.

Table 1 details the scenarios linked to System Status Flags, while Table 2 is about Approach Flags.

ID	Flight Phase	Abnormal condition	Non-Compliance (description)	Non-Compliance (req. para)
1	Take-Off	**Miscompare** of IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector)	For this scenario the design is not compliant since: • The applicant has declared this alert as a Warning whereas the alert has been designed as a Caution. This misclassification results in a non compliance to CS25.1322(b)(1). • Warning situations require a red visual indication as imposed by CS25.1322(e)(1)(i).	CS25.1322(b)(1) CS25.1322(e)(1)(i)
2	Climb Cruise Descent	**Miscompare** of IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector)	For this scenario the design is not compliant since: • The applicant has declared this alert as a Warning whereas the alert has been designed as a Caution. This misclassification results in a non compliance to CS25.1322(b)(1). • Warning situations require a red visual indication as imposed by CS25.1322(e)(1)(i).	CS25.1322(b)(1) CS25.1322(e)(1)(i)
3	Approach Landing	**Miscompare** of IAS (indicated airspeed) ATT (attitude) FPV (Flight Path vector) HDG (Heading) ALT (Altitude)	For this scenario the design is not compliant since: • The applicant has declared this alert as a Warning whereas the alert has been designed as a Caution. This misclassification results in a non compliance to CS25.1322(b)(1). • Warning situations require a red visual indication as imposed by CS25.1322(e)(1)(i).	CS25.1322(b)(1) CS25.1322(e)(1)(i)
4	Take-Off	**Loss of** **RA (radioaltitude) ALT (altitude) HDG (Heading)** **VS (vertical speed) LOC (Localizer)**	For this scenario the design is not compliant since: • The applicant has declared this alert as a Caution whereas the alert has been designed as a Warning. This misclassification results in a non compliance to CS25.1322(b)(2). • Caution situations require a amber visual indication as imposed by CS25.1322(e)(1)(ii).	CS25.1322(b)(2) CS25.1322(e)(1)(ii)

ID	Flight Phase	Abnormal condition	Non-Compliance (description)	Non-Compliance (req. para)
5	Take-Off	**Loss of** **LOC (Localizer)**	For this scenario the design is not compliant since: • The applicant has declared this alert as a Advisory whereas the alert has been designed as a Warning. This misclassification results in a non compliance to CS25.1322(b)(3). • Advisory situations require a visual indication not red or green as imposed by CS25.1322(e)(1)(iii).	CS25.1322(b)(3) CS25.1322(e)(1)(iii)
6	Climb Cruise Descent	**Loss of** **IAS (indicated airspeed)** **RA (radioaltitude)** **ALT (altitude) HDG (Heading)** **VS (vertical speed)**	For this scenario the design is not compliant since: • The applicant has declared this alert as a Caution whereas the alert has been designed as a Warning. This misclassification results in a non compliance to CS25.1322(b)(2). • Caution situations require a amber visual indication as imposed by CS25.1322(e)(1)(ii).	CS25.1322(b)(2) CS25.1322(e)(1)(ii)
7	Approach Landing	**Loss of** **RA (radioaltitude) VS (vertical speed)**	For this scenario the design is not compliant since: • The applicant has declared this alert as a Caution whereas the alert has been designed as a Warning. This misclassification results in a non compliance to CS25.1322(b)(2). • Caution situations require a amber visual indication as imposed by CS25.1322(e)(1)(ii).	CS25.1322(b)(2) CS25.1322 (e)(1)(ii)

Table 1 – System Status Flags: Cases and Non-Compliances

ID	Flight Phase	Abnormal condition	Non-Compliance (description)	Non-Compliance (req. para)
8	Non precision approaches: LOC B/C (Back Course) LOC/DME	**Loss** of ILS beam[1] while flying the approach manually using FD or raw data. Red flag LOC displayed	For this scenario the design is not compliant since there is a lack of attention getting through a second sense (only the visual cue is available).	CS25.1322(c)(2)
9	Precision approach: ILS CAT1	**Loss** of ILS beam[1] while flying the approach manually using FD or raw data. Red flag LOC and G/S displayed		
10	Non precision Approaches: LNAV LNAV/VNAV	**Loss** of a required system for approach Amber CAS Message displayed	For this scenario the design is not compliant since: • The applicant has declared this alert as a Warning whereas the alert has been designed as a Caution. This misclassification results in a non compliance to CS25.1322(b)(1). • Warning situations require a red visual indication as imposed by CS25.1322(e)(1)(i).	CS25.1322(b)(1) CS25.1322(e)(1)(i)

Table 2 – Approach Flags: Cases and Non-Compliances

[1] The loss of ILS beam is not due to an airborne system failure.

Explanatory Note to UK.TC.A.00049

Deviation F-02UK: Data Link Services for the Single European Sky

Applicability:	Falcon 6X
Requirements:	CS ACNS.B.DLS.B1.015, CS ACNS.B.DLS.B1.085
Advisory Material:	AMC1.CS ACNS.B.DLS.B1.015, AMC1.CS ACNS.B.DLS.B1.085

1. APPLICABILITY

CS-25 large aeroplanes

1.1 AFFECTED CS

The following paragraphs of CS-ACNS are affected because compliance cannot be demonstrated:

- CS ACNS.B.DLS.B1.015 “Dual Data Link Capabilities (Dual stack)”

  For aircraft integrating both FANS 1/A and ATN B1 CPDLC applications:

  (a) Control and display: Messages with the same intent that are transmitted or received through these technologies are displayed in the same way.

  (b) Alerting: Where a common alerting is not demonstrable, a mean is provided to distinguish between the alerting scheme in a format that is easy to comprehend .

- CS ACNS.B.DLS.B1.085 “ATC Communications Management (ACM) Service”

  The data link system for ACM conforms with section 5.1.1, 5.1.2.3 (excluding requirements relating to downstream clearance) and 5.1.3.2 of EUROCAE Document ED-120 Safety and Performance Requirements Standard for Initial Air Traffic Data Link Services In Continental Airspace, including change 1 and change 2.

2. MITIGATING FACTORS

The Dassault Aviation Falcon 6X includes a Data Link (DL) system that includes ATN B1 and FANS 1/A CPDLC with common human machine interface integrated with the EASy Avionics Suite.

Nevertheless,

- the system installed does not use the urgency attribute which could allow to specify precedence in message presentation and indication to the recipient.

  UK CAA finds this deviation from requirement CS ACNS.B.DLS.B1.015 and related AMC1.ACNS.B.DLS.B1.015 acceptable as this attribute is currently not used neither in FANS nor in ATN B1. This shall be fixed for future applications such as ATN B2.

- When the CPDLC is in Armed mode, the system is unable to terminate CPDLC without transfer of CPDLC or change of frequency (ED-120 §5.1.1.1 (g)).

  UK CAA finds this deviation from requirement CS ACNS.B.DLS.B1.085 acceptable as:

  - The crew may elect to turn off datalink completely.
  - If an unexpected ATC centre connects to the aircraft, the crew will then be able to disconnect and return CPDLC to inhibit state.
  - Situations when an unexpected ATC centre may connect to the aircraft are corner cases that could happen only in very specific configurations such as a flight plan change just before changing ATC centres.

Explanatory Note to UK.TC.A.00049

Equivalent Safety Finding F-03UK: Degraded flight instrument external probe heating system (UK.ESF.F.0001)

Applicability:	Falcon 6X
Requirements:	CS 25.1326(b)(2) at Amdt. 21
Advisory Material:	AMC 25.1326

1. APPLICABILITY

This ESF is applicable to CS-25 Large Aeroplanes.

1.1 AFFECTED CS

CS 25.1326(b)(2) at Amdt 21. Flight instrument external probes heating systems alert

2. COMPENSATING FACTORS

The ADSP and TAT probe heating system, although not literally compliant with CS 25.1326(b)(2) for certain failure modes leading to degraded anti-icing performance, may be installed and safely operated within the aircraft flight envelope provided that the below compensating factors are complied with.

g) For ADSP

1) The failure of one ADSP heater having an effect on operational capability or safety shall be detected, based on the following logics
   - If the degraded heating leads to small bias below the DFCS monitoring threshold, there is no effect on operational capability or safety and the aircraft will pursue the flight safely and so as per AMC 25.1326, there is no need to provide alert to the crew.
   - If the degraded heating leads to bias higher than the DFCS monitoring threshold (erroneous data), the DFCS monitoring system allows to detect the erroneous ADS data and trigger a root cause for dispatch purpose and possibly a caution CAS message “ADS x: FAIL”.
2) The DFCS shall embed sufficient monitoring capabilities that enable 2 ADS erroneous data not to have higher than hazardous consequences and may trigger a caution CAS message “ADS x+y: FAIL” (e.g., subsequent failures) or a warning CAS message “ADS: ALL UNRELIABLE” (e.g., simultaneous failures).
3) In case of 3 or more ADS erroneous data there shall be sufficient monitoring capabilities that may trigger a warning CAS message “ADS: ALL UNRELIABLE”.
4) the Instructions for Continued Airworthiness (ICA) shall include:
   - maintenance tasks checking the probe heating system following the generic ADS fault messages triggered to avoid latent failures remaining in the system.
   - a scheduled maintenance task (through a Certification Maintenance Requirement (CMR)) aimed at checking the ADSP heater in order to detect potential latent failures modes degrading the anti-icing/de-icing capability. The CMR interval shall adequately compensate the duration of operation with the latent failure(s).

Notes:

With those CAS messages, pilots would be aware of a failure of the ADS but would not be informed of the origin of the failure.

The AFM procedures associated to CAS message “ADS x(+y): FAIL” and “ADS x(+y): PROBE HEAT FAIL” require the same pilot actions: reversion to the valid ADS/IRS source or disregard of ADS driven parameters in SFD, as applicable.

The AFM procedure associated to CAS “ADS: ALL UNRELIABLE” does not require different pilot action whether it is an ADS failure or an ADSP heater failure that drives this CAS message.

h) For TAT Probes

1) The failure of one TAT heater – leading to 2 erroneous temperature data - having an effect on operational capability or safety shall be detected. The crew is aware of erroneous TAT thanks to the caution CAS message “ADS: TAT MISCOMPARE”.
2) In case of 3 or more erroneous temperature data, there shall be sufficient monitoring capabilities that may trigger a caution CAS message “ADS: TAT MISCOMPARE” leading the crew to leave icing conditions which is considered as major.
3) the Instructions for Continued Airworthiness (ICA) shall include:
   - maintenance tasks checking the probe heating system following the generic TAT fault messages triggered to avoid latent failures remaining in the system
   - a scheduled maintenance task (through a Certification Maintenance Requirement (CMR)) aimed at checking the TAT heater in order to detect potential latent failures modes degrading the anti-icing/de-icing capability. The CMR interval shall adequately compensate the duration of operation with the latent failure(s).

Note: In case of triggering of the CAS message “ADS: TAT MISCOMPARE”, the procedure differs from “ADS x+y: TAT HEAT FAIL” and the pilot is required to avoid or leave the icing conditions and increase speed and landing distance.

Explanatory Note to UK.TC.A.00049

Equivalent Safety Finding F-04UK: Terrain Information Display and Synthetic Vision System (UK.ESF.F.0002)

Applicability:	Falcon 6X
Requirements:	CS ACNS.E.TAWS.030 (b)(3), (b)(4), and (e) at Initial issue
Advisory Material:	AMC1 ACNS.E.TAWS.030

1. APPLICABILITY

This ESF is applicable to all aeroplanes equipped with an avionics system incorporating a TAWS and with a SVS on PFD.

1.1 AFFECTED CS

CS ACNS.E.TAWS.030 (b)(3), (b)(4), and (e) at Initial issue

2. SCOPE

In lieu of direct compliance with CS ACNS.E.TAWS.030 (b)(3), (b)(4), and (e), and provided that the below compensating factors are complied with, the PFD may display SVS using colour codes based on absolute terrain elevation.

3. COMPENSATING FACTORS

a) In addition to SVS, a separate window must display in the maximum field of view a two-dimensional terrain view that complies with CS ACNS.E.TAWS.030 (b)(3) and (b)(4) during Forward Looking Terrain Avoidance (FLTA) alerts or upon crew activation, ensuring that the flight crew is aware of the relative elevation of the surrounding terrain that could become a threat as well as of the areas that generate an alert when present.

b) The Flight Path Vector (FPV) must be displayed on the SVS, which anticipate the future position of the aeroplane, giving an indication of potential collision when overlapping the synthetic terrain and, conversely, showing that the short-term flight path remains above any threatening terrain.