APRON

Safedock FleX A-VDGS

Advanced Visual Docking Guidance System

Intelligent Apron Management for Safe, Fast and Predictable Aircraft Turns

ADB SAFEGATE's Safedock FleX (SDK FleX) is a new generation of Advanced Visual Guidance Systems (A-VDGS), designed with safety and availability in mind.

The Safedock FleX introduces a new modular approach that let's users choose the desired A-VDGS functionality to match their needs. The modularity of the system is enhanced by a split design that offers the possibility of a smaller or larger, high-resolution pilot display. The A-VDGS is managed from the apron with the Fixed Operator Panel 2 (FOP2), which is a full-color touch screen display.

Features and Benefits

- 3D laser scanning technique tracks the lateral and longitudinal position of an approaching aircraft
- 3D laser scan verifies that the approaching aircraft is compatible with gate and adjacent gate rules
- One system is capable of handling all commercial aircraft types intended for use at contact stands
- Intuitive active guidance is provided to both pilots based on the position of the aircraft
- Passenger Boarding Bridge (PBB) interface capability enhances ramp safety (dry-contacts)
- Direct interface with airport and airline systems and ground support equipment for real-time gate and apron intelligence via AiPRON Manager
- Easy to maintain and update, high reliability and low cost of ownership
- Improved temperature specifications, –25°C–55°C (–13°F–131°F)

Optional Features and Benefits

- Stop-position boundaries within 8–50 meters (26.2–164 feet)
- Expanded stop-position boundaries within 2–65 meters (6.5–213 feet)
- Apron scan capacities 0.3× 0.3 meters at 70 meters, 0.5×0.5 meters at 100 meters
  (1×1 foot at 230 feet, 1.5×1.5 feet at 328 feet)
- Apron scan light capacities 1×1 meter at 65 meters
  (3×3 feet at 213 feet)

[1] Under development, available at later release

- Integrated IP camera records every docking and can be used for ramp surveillance
- The Safedock FleX can handle up to three centerlines within ±15° from the center of the scanner unit
- The Pilot Display FleX (PDFleX) high-resolution full-color LED pilot display for docking guidance and RIDS/A-CDM capabilities to improve turn awareness
- The Pilot Display X (PDX) is a larger, higher resolution full-color LED pilot display for docking guidance and RIDS/A-CDM capabilities to improve turn awareness
- Multiple display-support [1]
- FOP2, used to manage the A-VDGS from the apron and includes an emergency stop function. For more information about FOP2, see separate datasheet and user manual.
- PBB and SEQ interface capacity
- Advanced Surface Movement Guidance and Control System (A-SMGCS) integration allows just-in-time fully automated docking, provides aircraft position data within the gate area and sends pushback alerts
- Approach monitoring capacities ensure aircraft entering the stand are correctly aligned in order to maintain clearances
- Individual UPS

Power Supply

Required power supply	100~240 VAC ±10% fluctuation, 50/60 Hz
Maximum power consumption [1]	600 W
Power consumption during operation [2]	438 W

Notes

[1] Depending on configuration
[2] With one cooler

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Technical Specifications for Scanner Unit

Sensor technology	Infrared laser with 3D scan
Apron scan (Options)	• Distance 0–70 m (0–230 ft), object size 30×30×30 cm (12×12×12 in) • Distance 70–100 m (230–328 ft), object size 50×50×50 cm (20×20×20 i n)
Apron scan light (Option)	Distance 0–65 m (0–213 ft), object size 100×100×100 cm (40×40×40 in)
Stop position accuracy	10 cm (4 in)
Stop position distance (Options)	• 8–50 m (26–164 ft) • 2–65 m (6.5–213 ft)
Azimuth accuracy	10 cm (4 in)
Azimuth distance	Up to 120 m (394 ft), depending on configuration
Horizontal scanning angle	±30°
Maximum separation between centerlines	±15°
Laser classification	Class 1 eye safe/digital
Data interface	Ethernet
Wind load	Up to 44 m/s (144 ft/s)
Snow load	Up to 1000 N/m² (92 N/ft²)
IP classification	IP54 [1]

Notes
[1] FOP2 IP65

Technical Specification for Pilot Displays

	PDFleX	PDX
LED configuration	6 LED modules	20 LED modules
LED resolution	80×90 p	160×200 p
LED color	RGB	RGB
Visibility angle	140°	140°
Readability distance	180 m (590 ft)	200 m (656.2 ft)
Active surface (H×W)	900×800 mm (35.4×31.5 in)	1200×960 mm (47.2×37.8 in)
Number of RIDS characters	50 static alphanumeric, can alternate and scroll text on any line	

Dimension and Weight

Table 1: Dimension (H×W×D)

PDFleX [1]	979×815×186 mm (38.5×32×7 in)
PDX [1]	1300×1030×200 mm (51.2×40.6×7.9 in)
Scanner unit	801×877×700 mm (31.5×34.5×27.5 in)

Notes
[1] Mounting rails excluded

Table 2: Weight

Scanner unit	50 kg (110 lb)
PDFleX	46 kg (101 lb)
PDX	Without UPS: 74 kg (163 lb) With UPS: 80 kg (176 lb)
SDK FleX unit	With PDFleX: 96 kg (211 lb) With PDX: 124 kg [1] (273 lb) or 130 kg [2] (286 lb)

Notes
[1] PDX without UPS
[2] PDX with UPS

Operating Conditions

	PDFleX	PDX
Operating temperature	–25°C–55°C (–13°F–131°F)	–40°C–60°C (–40°F–140°F)
Storage temperature	–25°C–55°C (–13°F–131°F)	–20°C–60°C (–4°F–140°F)
Relative humidity – operational	95%, maximum temperature of 35°C (95°F) 60%, maximum temperature above 35°C (95°F)	
Relative humidity – storage	75%, maximum temperature of 60°C (140°F)	