



MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

- (84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Published:**

— *with international search report (Art. 21(3))*

**(88) Date of publication of the international search report:**

17 April 2025 (17.04.2025)

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US 24/32670

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC - INV. B64C 35/00, G05D 1/00 (2024.01)  
 ADD. B64D 27/24 (2024.01)

CPC - INV. B64C 35/00, G05D 1/106

ADD. B64C 35/007, B64D 27/24

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 See Search History document<sup>1</sup>

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 See Search History document

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2022/0382300 A1 (Regent Craft Inc) 01 December 2022 (01.12.2022) entire document (especially para [0055], [0064], [0082]-[0084], [0159]-[0160])	1-14
A	US 2015/0321745 A1 (Bray) 12 November 2015 (12.11.2015) entire document (especially para [0074]-[0079], [0194]-[0198])	1-14
A	US 2020/0201528 A1 (Honeywell International Inc.) 25 June 2020 (25.06.2020) entire document (especially para [0056]-[0058], [0067])	1-14
A	US 2021/0389475 A1 (The Boeing Company) 16 December 2021 (16.12.2021) entire document	1-14
A	US 2018/0134357 A1 (SRI INTERNATIONAL ) 17 May 2018 (17.05.2018) entire document	1-14

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"D" document cited by the applicant in the international application	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"E" earlier application or patent but published on or after the international filing date	"&" document member of the same patent family
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
 03 September 2024

Date of mailing of the international search report  
**SEP 20 2024**

Name and mailing address of the ISA/US  
 Mail Stop PCT, Attn: ISA/US, Commissioner for Patents  
 P.O. Box 1450, Alexandria, Virginia 22313-1450  
 Facsimile No. 571-273-8300

Authorized officer  
 Kari Rodriguez  
 Telephone No. PCT Helpdesk: 571-272-4300