US 20240215175A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0215175 A1**

VOLCKAERT (43) **Pub. Date: Jun. 27, 2024**

(54) **MODULAR STACKED CONTROL LOOP APPLICATION SYSTEM, METHOD OF COMPOSING A CONTROL LOOP APPLICATION SYSTEM AND USE OF A COMPOSED CONTROL LOOP APPLICATION SYSTEM**

(71) Applicant: **SOL.ONE**, Brugges (BE)

(72) Inventor: **Nico VOLCKAERT**, Brugges (BE)

(21) Appl. No.: **18/571,697**

(22) PCT Filed: **May 20, 2022**

(86) PCT No.: **PCT/EP2022/025237**

§ 371 (c)(1),
(2) Date: **Dec. 18, 2023**

(30) **Foreign Application Priority Data**

May 21, 2021 (BE) BE2021/5416

Publication Classification

(51) **Int. Cl.**
H05K 5/00 (2006.01)
G06F 1/18 (2006.01)

(52) **U.S. Cl.**
CPC ***H05K 5/0021*** (2013.01); ***G06F 1/181*** (2013.01); ***G06F 1/188*** (2013.01)

(57) **ABSTRACT**

The invention relates to a control loop application system, the system comprises a number of units of electronic circuit boards arranged in a stacked configuration. The system further comprises a top-level unit (**520**, **620**) and at least one additional unit (**521-524**), the top-level unit (**520**) having components such that the top-level unit is able to perform as a standalone unit and the at least one additional unit (**521-524**) having components needed to perform at least one specific function for which the at least one additional unit (**521-524**) is designed. The invention further relates to a method to determine the number of additional units (**521-524**) in the control loop application system, the position of the additional units (**521-524**) in the control loop application system. The invention also relates to a method to compile the control loop application system and to use pre-certified units in the control loop application system.