

Flexible Solar Charging Pack for On-Site Inspection

Wednesday, June 21, 2023 10:32 AM (1 minute)

For most of the inspection area, there would be no electricity supply. The inspection team should be self-sufficient especially for the perspective of electricity supply, since that most of the mission critical or health and safety equipment would rely almost solely on electric power. This work proposes a portable flexible solar charging pack for on-site inspection activities. Flexible solar cell is a new type of energy material which is flexible in physical nature and its power capacity could be enough to provide emergent charging supply to the inspectors' portable equipment during field operations. Via cascade connection, several solar charging units could jointly provide more power supply to other power-consuming equipment. The folding size of one solar charging unit is 29cm16.5cm, with the expansion size of 120cm29cm. Its power and weight are 37w and 0.48kg respectively. As a result, a single solar charging pack consisting of three solar charging units would have more than 100w of power capacity, with USB or other customized output connectors. The portable flexible solar charging pack has been tested under hot, humid and extremely cold environments and has other characteristics of waterproof and high reliability. The working team is looking forward to the practical test trial at the upcoming 2025 Integrated Field Exercise.

E-mail

lipeng1406@163.com

Promotional text

This work would propose a portable flexible solar charging pack for on-site inspection activities. The working team is looking forward to the practical test trial at the upcoming 2025 Integrated Field Exercise.

Oral preference format

Primary authors: Ms YANG, Jing (HOPE Investment Development Co. Ltd.); Mr ZHONG, Hao (China Electronics Technology Energy Group Co., Ltd.)

Co-authors: Mr LI, Peng (China Arms Control and Disarmament Association); Mr LIU, Xin (China Electronics Technology Energy Group Co., Ltd.); Mr ZHANG, Hongxi (China Electronics Technology Energy Group Co., Ltd.); Mr QIU, Haibo (China Electronics Technology Energy Group Co., Ltd.); Mr ZHANG, Weikang (China Electronics Technology Energy Group Co., Ltd.); Mr XIA, Kun (HOPE Investment Development Co. Ltd.); Mrs JIA, Zixi (China Electronics Technology Energy Group Co., Ltd.); Mr XUE, Hang (HOPE Investment Development Co. Ltd.)

Presenter: Ms YANG, Jing (HOPE Investment Development Co. Ltd.)

Session Classification: Lightning talks: P2.5, P4.1, P4.2, P4.3

Track Classification: Theme 4. Sustainment of Networks, Performance Evaluation, and Optimization: T4.2 Systems Engineering for International Monitoring System and On-Site Inspection