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(54) Title (EN): GAS METER INTELLIGENT CONTROLLER AND FIRMWARE UPGRADE START-UP METHOD THEREFOR

(54) Title (FR): CONTRÔLEUR INTELLIGENT DE COMPTEUR DE GAZ ET PROCÉDÉ DE DÉMARRAGE DE MISE À NIVEAU DE MICROLOGICIEL CORRESPONDANT

(54) Title (ZH): 燃气表智能控制器及其固件升级启动方法

(57) Abstract:

(EN): A gas meter intelligent controller, comprising a casing (1), an output device (2), and an MCU (3), an accumulator (4), a CPLD (5), a flash memory module (6) and a communication module (7) that are provided in the casing; the accumulator, the CPLD, the communication module and the output device are connected to the MCU; and the flash memory module is connected to the MCU. Also provided is a firmware upgrade start-up method for a gas meter intelligent controller. By means of configuring the cooperation between main and standby start-up partitions and the CPLD, MCU firmware may be safely upgraded, which may greatly reduce the high risk of firmware upgrades for household intelligent gas meters.

(FR): L'invention concerne un contrôleur intelligent de compteur de gaz comprenant un boîtier (1), un dispositif de sortie (2), ainsi qu'une MCU (3), un accumulateur (4), un CPLD (5), un module de mémoire flash (6) et un module de communication (7) situés dans le boîtier; l'accumulateur, le CPLD, le module de communication et le dispositif de sortie sont connectés à la MCU; et le module de mémoire flash est connecté à la MCU. L'invention concerne également un procédé de démarrage de mise à niveau de micrologiciel d'un contrôleur intelligent de compteur de gaz. Grâce à la configuration de la coopération entre des partitions de démarrage principal et de secours et du CPLD, le micrologiciel MCU peut être mis à niveau en toute sécurité, ce qui peut réduire considérablement le risque élevé de mises à niveau de micrologiciel de compteurs de gaz intelligents domestiques.

(ZH): 一种燃气表智能控制器,包括一壳体(1)、一输出设备(2)以及设置于壳体内的一MCU(3)、一累加器(4)、一CPLD(5)、一闪存模块(6)和一通讯模组(7);累加器、CPLD、通讯模组和输出设备连接MCU;闪存模块连接所述MCU。还提供了一种燃气表智能控制器固件升级启动方法。通过设置主备启动分区和CPLD的配合可实现对MCU固件的安全升级,可极大减低家用智能燃气表进行固件升级所带来的高风险。

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Declarations:

Declaration made as applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate

Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv)) for the purposes of the designation of the United States of America