

Federal Communications Commission
Authorization and Evaluation division

Equipment Authorization Branch

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2020.03.16

Subject: **Limited Modular Approval - FCC**

Source: § 15.212 Modular transmitters.

To Whom It May Concern:

Labelling requirements for Host device:

(A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: XYZMODEL1" or "Contains FCC ID: XYZMODEL1." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization.

(B) If the modular transmitter uses an electronic display of the FCC identification number, the information must be readily accessible and visible on the modular transmitter or on the device in which it is installed. If the module is installed inside another device, then the outside of the device into which the module is installed must display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC certified transmitter module(s)." Any similar wording that expresses the same meaning may be used. The user manual must include instructions on how to access the electronic display. A copy of these instructions must be included in the application for equipment authorization. The modular transmitter must comply with any applicable RF exposure requirements in its final configuration.

Limited Modular Approval Request Letter

Date: 2020-03-16

FCC ID: OUY-HC-003-34

Type of Equipment: Radio module for Kamstrup Heat/cooling meters MULTICAL®403/ MULTICAL®603/ MULTICAL®803

This transmitter, model: HC-003-34 is designed by us.

It complies with the modular transmitters basic requirements (Item 1 to 8) in FCC Part 15 Subpart C Section 15.212 as indicated below:

Modular approval requirement	Yes	No
i Have its own shielding	<input checked="" type="checkbox"/> See internal pictures	<input type="checkbox"/>
ii Have buffered modulation/data inputs	<input checked="" type="checkbox"/> All data and timing of the RF IC is controlled by a dedicated MCU which process the serial data from the meter.	<input type="checkbox"/>
iii Have its own power supply regulation	<input checked="" type="checkbox"/> The RF chip used as a build in DC-DC converter which provides constant output power over the complete supply range while the supply to the TCXO is regulated by an LDO. A voltage detector on the supply voltage stops the RF operation below a minimum voltage.	<input type="checkbox"/>
iv Comply with the antenna and transmission system requirements of § 15.203, 15.204(b) and 15.204	<input checked="" type="checkbox"/> As mentioned in KDB 353028 D01, use of a standard connector is allowed if the connector is within the transmitter enclosure and can only be accessed by disassembly of the transmitter. In our case the module is placed in the meter housing and the meter sealed after placing the module and connecting the antenna. Module exchange should only be performed as a professional installation using the dedicated antenna for this meter. Service operation like RF module installation or exchange is the responsibility of the metering utility which needs to hire trained personal for this task.	<input type="checkbox"/>
v Tested in a stand-alone configuration. Unless the transmitter module will be battery powered, it must comply with the AC line conducted requirements found in FCC § 15.207. AC or DC power lines and data input/output lines connected to the module must not contain ferrites, unless they will be marketed with the module. The length of these lines shall be the length typical of actual use or, if that length is unknown, at least 10 centimeters to insure that there is no coupling between the case of the module and supporting equipment. Any accessories, peripherals, or support equipment connected to the module during testing shall be unmodified and commercially available.	<input type="checkbox"/>	<input checked="" type="checkbox"/> We can use a cable extender and disconnect the meter and maintain RF operation and this setup was tested for AC line conducted requirement. Radiated performances were tested inside one of the host
vi Equipped with either a permanently affixed	<input checked="" type="checkbox"/>	<input type="checkbox"/>

label or must be capable of electronically displaying its FCC ID. If the FCC ID is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module.	See internal pictures	
vii Comply with any specific rules or operating requirements that ordinarily apply to a complete transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements.	<input checked="" type="checkbox"/> See RF report	<input type="checkbox"/>
viii Comply with any applicable RF exposure requirements in its final configurations: The modular transmitter complies with FCC radiation exposure requirement.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please contact me if there is any information you may need.

Sincerely,

Kamstrup A/S

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