

CERTIFICATE OF CONFORMITY

1. ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. **Certificate No:** FM23NUS0022
3. **Equipment:** FG-NET Water Leak Detection System
(Type Reference and Name)
4. **Name of Listing Company:** TTK SAS
5. **Address of Listing Company:** 7 Allee des Chataigniers,
Trappes, 78190, France

6. The examination and test results are recorded in confidential report number:

PR456641 dated 21st December 2020

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 7745:2019

8. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

9. Equipment Ratings:

10. Description of Equipment:

The FG-NET Leak Detection System provides water leak detection with a control panel, lengths of sensing cables and accessories.

11. Specific Conditions of Use:

1. Surge suppression required on detection circuits for installations that may be exposed to surge transients.

12. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

17 December 2023

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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FM Approvals LLC. One Technology Way, Norwood, MA 02062 USA

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13. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

14. Certificate History

Details of the supplements to this certificate are described below:

| Date | Description |
|------------------|--|
| 1 December 2020 | Original Issue. |
| 21 December 2020 | <u>Supplement 1:</u> Report Reference: PR456641-R1 dated 21 December 2020. Description of the Change(s): Corrected FG-EC maximum temperature rating. |
| 17 December 2023 | <u>Supplement 2:</u> Report Reference: RR239446 dated 17 December 2023. Description of the Change(s): Addition of FG-AC and FG-ACS Cable Sensors. |

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ANNEX

FG-NET a; Water Leak Detection Panel

Equipment Ratings:

100 to 240 VAC input power, 36VA;
Type1, IP40, rated 41°F to 131°F (5°C to 55°C).

Description of Equipment:

The FG-NET Leak Detection Panel is available with a wall mounted enclosure (F suffix) that measures approximately 9 in. x 12 in. x 3 in. (228 mm x 303 mm x 67 mm) or a rack mounted version (E suffix) for installation in a standard 19 inch 4U in height rack. The panel has a 7 in. (175 mm) touch screen providing detailed indication of the system status. Three leak detection circuits per panel, maximum 120 lengths of sensing cable or 1800 meters. Each panel has eight configurable relay outputs and one dedicated relay output for power failure.

A 7" (175mm) touch-screen gives detailed indication of the system status. Three leak detection circuits per panel, maximum 120 lengths of sensing cable or 1800 meters. Each panel has eight configurable relay outputs and one dedicated relay output for power failure.

a = E (wall mount), F (rack mount)

FG-ACS/X, Water Sensing Cable

Equipment Ratings:

Rated 32°F to 185°F (0°C to 85°C)

Description of Equipment:

The FG-ACS Sensing Cables are multi-conductor cables in a helical construction for detection of the presence of water across the conductors. The FG-ACS cable must be connected to the to the panel detection circuit bus with the FG-DTCS Derivation Box.

Water Sensing Cable (X = length in meters)

FG-AC/X, Water Sensing Cable

Equipment Ratings:

Rated 32°F to 140°F (0°C to 60°C)

Description of Equipment:

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The FG-AC Sensing Cables are multi-conductor cables in a helical construction for detection of the presence of water across the conductors. The FG-AC cable is constructed with an encapsulated addressable circuit board integral to the connector and has a high visibility LED to provide quick green/red identification of the cable status. The FG-AC can be connected to the panel and in series with other FG-AC or FG-EC cables. FG-AC cable strings must be terminated with the FG-TMC Terminator.

Water Sensing Cable (X = length in meters)

FG-EC/X, Water Sensing Cable

Equipment Ratings:

Rated 32°F to 140°F (0°C to 60°C)

Description of Equipment:

The FG-EC Sensing Cables are multi-conductor cables in a helical construction for detection of the presence of water across the conductors. The FG-EC cable is constructed with an encapsulated addressable circuit board integral to the connector and has a high visibility LED to provide quick green/red identification of the cable status. The FG-EC can be connected to the panel and in series with other FG-EC or FG-AC cables. FG-EC cable strings must be terminated with the FG-TMC Terminator.

Water Sensing Cable (X = length in meters)

FG-ECS/X, Water Sensing Cable

Equipment Ratings:

Rated 32°F to 185°F (0°C to 85°C)

Description of Equipment:

The FG-ECS Sensing Cables are multi-conductor cables in a helical construction for detection of the presence of water across the conductors. The FG-ECS cable must be connected to the to the panel detection circuit bus with the FG-DTCS Derivation Box.

Water Sensing Cable (X = length in meters)

FG-CLC-X, Leader Cable

Equipment Ratings:

Rated 5°F to 149°F (-15°C to 85°C)

Description of Equipment:

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The FG-CLC-X Leader Cable connects directly to the FG-NET control panel and must be used as the leader for connection of sensing cables to the FG-NET control panel.

Leader cable used to connect sensing cable to the detection panel unit.

FG-DTC, Bus Diversion Box

Equipment Ratings:

Rated 5°F to 149°F (-15°C to 65°C)

Description of Equipment:

The FG-DTC Bus Derivation Box splits a detection circuit into two parts for connection of two separate FG-EC or FG-AC cables. The FG-DTC has a high visibility LED to provide quick green/red identification of the cable status. The FG-DTC is enclosed in an ABS enclosure that measures approximately 4 in. x 3 in. x 2 in. (105 mm x 75 mm x 55 mm). This diversion box allows breaking up a detection circuit into two parts.

FG-DTCS, Bus Diversion Box

Equipment Ratings:

Rated 5°F to 149°F (-15°C to 65°C)

Description of Equipment:

The FG-DTCS Derivation Box provides for T-connection of FG-ECS or FG-ACS cables to the FGNET control panel detection circuit bus. The box has a high visibility LED to provide quick green/red identification of the cable status. The FG-DTCS is enclosed in an ABS enclosure that measures approximately 4 in. x 3 in. x 2 in. (105 mm x 75 mm x 55 mm).

This diversion box allows breaking up a detection circuit into two parts.

FG-NCX, Jumper Cable

Equipment Ratings:

Rated 5°F to 149°F (-15°C to 85°C)

Description of Equipment:

The FG-NCX Jumper Cable is a neutral cable for connection between FG-AC or FG-EC sensing cables in areas where leak detection is not required.

Jumper cable use to connect two FG-AC or FG-EC sensing cables.

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FG-TMC, Cable Terminator

Equipment Ratings:

Rated 5°F to 149°F (-15°C to 85°C)

Description of Equipment:

Cable Terminator for FG-AC or FG-EC sensing cables.

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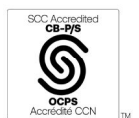
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