GENERAL INFORMATION

1.1. Product description

FCC ID: YWW-WFS
IC: 9319A-WFS

WF-OL US Automatic Devices (Outdoor lighting, fountain...)

ELECTRONIC MODULE DRIVEN FROM A SMARTPHONE OR A TABLET THANKS TO THE SOLEM "APP".

Applications :

Automatic management of outdoor lighting, foutain...

Features :

- ON/OFF /Auto mode
- LED indicator for monitoring operation
- Wi-Fi communication
- Indoor wall mounting, external transformer (120/24) supplied
- Barrier style terminal blocks
- Nonvolatile memory will save programming in case of power failure
- The internal clock will be maintained for 5 hours in case of power failure
- Programming will resume automatically in case of a power failure of less than 5 hours

Specifications :

- 4 output relays
- Can drive up to 8 maximum slave units (Wi-Fi access point)
- Compatible with Wi-Fi 802.11 b/g, WPA2-PSK, WPA, WEP.
- Wi-Fi range: about 100 meters (line of sight)

Electrical specifications :

- AC power :
  Primary power : 120V-60Hz
  Secondary power : 24V-60Hz
- Consumption 0.75 A on the secondary (18VA) maximum
- Outputs : 120V/16A relay NO type

Dimensions :

- Width : 11 cm
- Height : 14,5 cm
- Depth : 3,6 cm

Model :

- WF-OL : 4 relays

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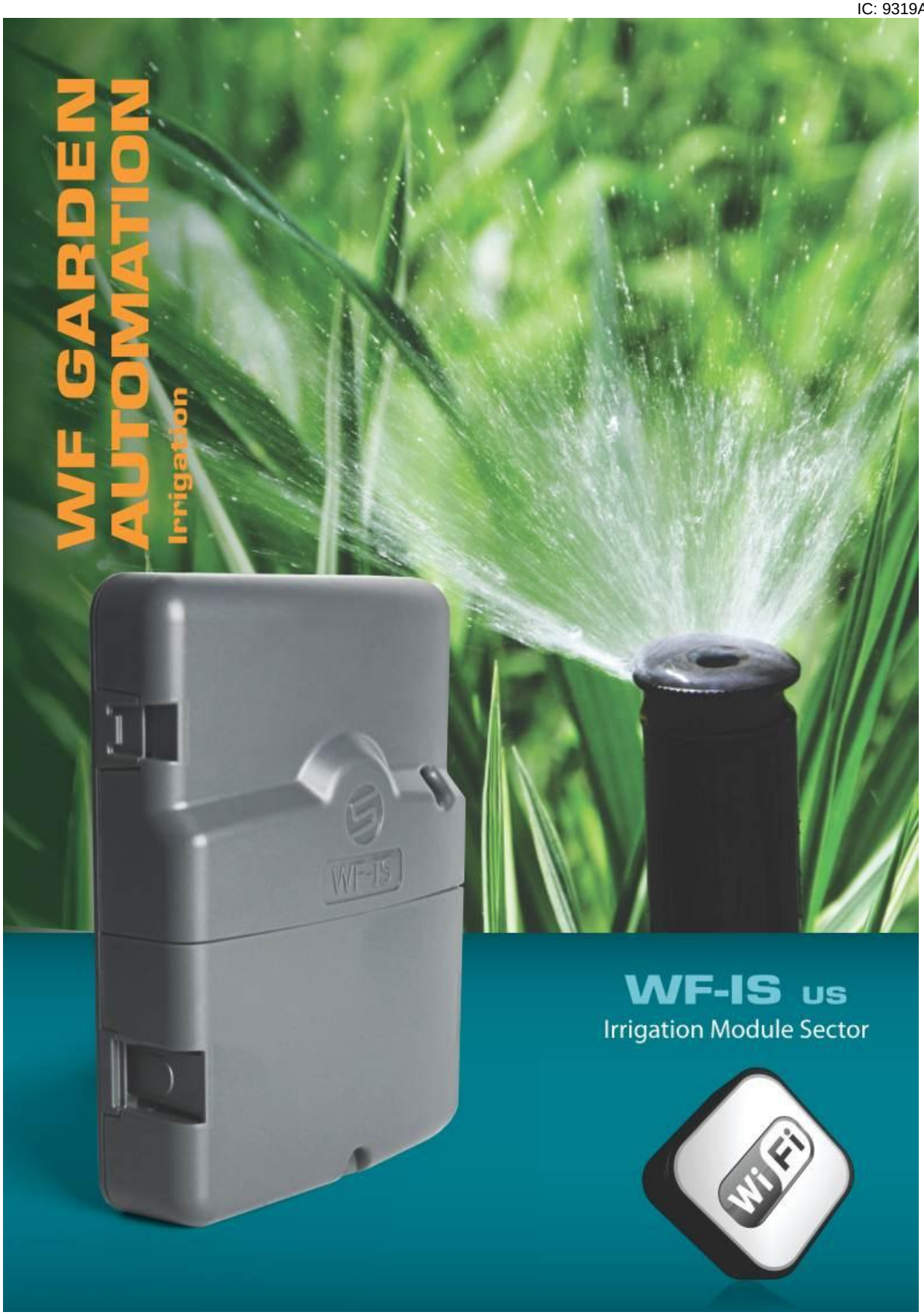

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WF-IS US Irrigation Module Sector

ELECTRONIC MODULE DRIVEN FROM A SMARTPHONE OR A TABLET THANKS TO THE SOLEM "APP".

Applications :

Automatic Irrigation of private gardens, public areas, sport fields….

Features :

- Rain-delay function
- LED indicator for monitoring operation.
- Wi-Fi communication.
- Indoor wall mounting, external transformer (120/24) supplied
- Barrier style terminal blocks
- Non volatile memory will save programming in case of power failure.
- The internal clock will be maintained for 5 hours in case of power failure.
- Programming will resume automatically in case of a power failure of less than 5 hours.

Specifications :

- 2, 4, 6 stations
- Master valve connection
- Rain sensor connection
- Can drive up to 8 maximum slave units (Wi-Fi access point)
- Compatible with Wi-Fi 802.11 b/g, WPA2-PSK, WPA, WEP
- Wi-Fi range : about 100 meters (line of sight)

Electrical specifications :

- AC power:
  Primary power: 120V-60Hz
  Secondary power: 24V-60Hz
- Consumption 0.75 A on the secondary (18VA) maximum.
- Ability to power a 24Vac solenoid valve plus a master valve (or pump start relay).
- Surge protection to 4kV on all inputs / outputs

Dimensions :

- Width: 11 cm
- Height: 14,5 cm
- Depth: 3,6 cm

Models :

- WF-IS-2 : 2 stations
- WF-IS-4 : 4 stations
- WF-IS-6 : 6 stations

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1.2. Related Submittal(s) / Grant(s)

All host equipments used in the test configuration are FCC granted, when relevant.

1.3. Tested System Details

The FCC IDs for all equipment, with description of all cables used in the tested system are:

The system was configured for testing in a typical fashion (as a customer would normally use it).
WF-IS and WF-OL uses same WIFI module, only modification is number of way and type:

- WF-IS-2, 2 stations
- WF-IS-4, 4 stations
- WF-IS-6, 6 stations
- WF-OL-4, 4 relays

Power supply is the same; to show compliance to standard, all tests are performed on WF-IS-6 (worst case) and partial and WF-OL-4.

- Internal max frequencies: 44MHz

Power supply:
- AC / AC Adaptor: GPU482400750WA00, Sn : None
- Rating: 120VAC/60Hz to 24VAC – 50Hz 0.75A

During all the tests, EUT is supplied by this adaptor.

- **Input/output and cable:**

- 1 x Power supply, 2 wires, unshielded, to adaptor, length: 1.5m
- 6 x 2 ways Master, slave and sensor (WF-IS-6)
- 4 x 2 ways (WF-OL)

- **Auxiliaries used for testing:**

- Laptop ASUS, provided by customer

- **Equipment information:** (Declared by provider)

- Frequency band:	[2400.0 – 2483.5] MHz		
- Standard:	☒Wifi 802.11b	☐Bluetooth	☐Zigbee
- Spectrum Modulation:	☐FHSS		☒DSSS
- Number of channel:	11		
- Channel separation:	☒5MHz	☐2MHz	☐1MHz
- Channel bandwidth:	☐10MHz	☒20MHz	☐1MHz
- Channel tested:	Full test on C1: 2412MHz, C6: 2437MHz and C11:2462MHz		
- RF mode:	☒TX/RX	☐RX	☐Standby
- Antenna type:	PCB		
- Antenna gain:	1dBi		
- Antenna connector:	☐Permanent external	☐Permanent internal	
	☒None	☒Temporary (only for tests)	
- Normal power source:	24VAC + Adaptor AC/AC supply network		

1.4. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-2003, FCC Part 15 Subpart C.
Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.5. Test facility

Tests have been performed from December 2nd to 11th, 2013.

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4-2003 in a letter dated March 25th, 2008 (registration number 94821).
This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, accreditation number 1-1633 as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.