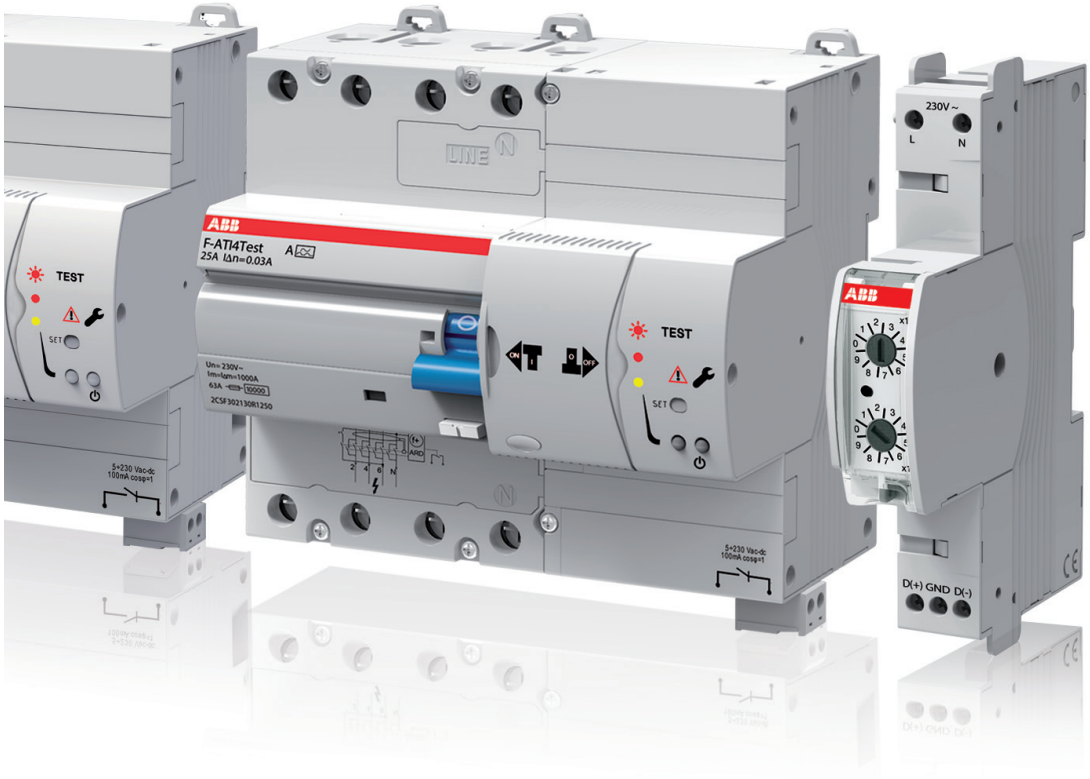



# New autoreclosing devices with automatic test features

# Introduction

F-ATI and F-ARI Test are RCCBs equipped with automatic test features. RCCBs are supposed to be checked every six months in order to make sure that the contacts are working properly and the device is able to trip in case of a leakage to earth.This operation affects the operational continuity of the circuits downstream. F-ATI and F-ARI Test ranges push the periodic test to another level as this is run automatically and with no interruption at all of the service. Therefore, also the operations carried out by maintenance personnel are reduced to the very minimum.
In addition to the automatic test, F-ARI Range features a reclosing unit that tries to reclose the RCCB as it trips. The reclosing operations are based on an insulation check to make sure that no permanent fault is present. Moreover, the results coming from each and every circuit are collected at once thanks to ARBus interface.




F-ARI and F-ATI are particularly recommended for environments where operational continuity is key and the impact of maintenance cost is significant. In fact, applications such as airports and hospitals need a thorough check of the installed RCCBs to make sure they are always up and running.
Not only is the periodic test performed automatically with no interruption of the service, but also it can be automated remotely thanks to the communication unit, via protocol Modbus RS485.




### Saving

Maintenance costs are cut down as the device runs automatically the test monthly in accordance with EN 61008 provisions.

### Time saving

A full array of 99 devices can be commanded and read by remote by the means of the ARBus interface.

### Quality

F-ATI Test range is approved by VDE while F-ARI Test
is approved by IMQ CSV.

### Reliability

Suitable for demanding environments up to 60 °C.

### Uptime

While running the test, no disconnection of the supply occurs like in the traditional RCCB units.

### Easy installation

The unit is factory fitted and it needs no coupling.

### Smart

Complete monitoring over the application thanks to a fault check system and a programmable aux contact.

### High immunity

RCCBs Type A APR provides anytime a reliable protection that prevents the unit from unwanted trippings.

# F-ATI test and F-ARI Test
# Technical features





| Type | | F-ATI Test | F-ARI Test |
|---|---|---|---|
| Reference Standards | | EN61008-1, VDE V 0664-120 (annex M) | EN61008-1, CPT054, EN50557 |
| Electrical features | Distribution system | TN, TT, IT | TN, TT |
| | Rated voltage $U_e$ | 230-400 V a.c. -15% ÷ 10% | |
| | Rated frequency | 50 Hz | |
| | Rated current $I_n$ | 25, 40, 63 A | |
| | Rated sensitivity $I_{\Delta n}$ | 30, 300 mA | |
| | Type | A, AP-R | |
| | Poles | 2P, 4P | |
| | Insulation voltage $U_i$ | 500 V d.c. | |
| | Minimum test voltage $U_{tmin}$ | 195 V a.c. | |
| | Rated non-operating resistance between live parts and earth $R_{do}$ | 8 kΩ (30 mA) | 2,5 kΩ (300 mA) |
| | Rated operating resistance between live parts and earth $R_d$ | 16 kΩ (30 mA) | 5 kΩ (300 mA) |
| | Rated conditional short-circuit Inc | 10 kA (SCPD – gL fuse 63 A for In 25, 40 A; gL fuse 80 A for In 63 A) | |
| | Dielectric test voltage at ind. freq. for 1 min | 2,5 kV | |
| | Rated impulse withstand voltage (1,2/50) $U_{imp}$ | 4 kV | |
| | Power consumption | 3.5 W (25 A); 6 W (40 A); 12 W (63 A) | 2.2 W (25 A); 5.4 W (40 A); 6.2 W (63 A) |
| | Power consumption during operation | 41 VA | |
| Other features | Test cycle time | < 7 s | |
| | Reclosing time | < 10 s (6 s check, 3 s reclosing) | |
| Mechanical features | Protection degree | IP20 (terminals) | IP40 (housing) |
| | Contact position indicator CPI | yes | |
| | Mechanical life | 4000 | |
| Installation | Tightening torque | 2 Nm | |
| | Ambient temperature | -25…+60 °C | |
| | Storage temperature | -40…+70 °C | |
| Auxiliary contact | Type | NO-NC-NO+pulse (100 ms) | |
| | Operating features | 5 ÷ 230 V a.c./d.c. $I_{max}$ 100 mA | |
| | Terminals cross section | 2,5 $mm^2$ | |
| | Tightening torque | 0,4 Nm | |
| Dimensions | DIN modules | 5 (2P); 7 (4P) | |
| | Weight | 550 g (2P); 900 g (4P) | |



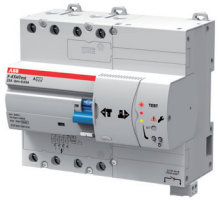
| | | ARBus |
|---|---|---|
| Electrical features | Rated voltage $U_e$ | 230 V a.c. -15% ÷ 10% |
| | Rated frequency | 50 Hz |
| | Insulation voltage $U_i$ | 500 V d.c. |
| | Rated conditional short-circuit $I_{nc}$ | 10 kA (SCPD – gL fuse 63 A for In 25, 40 A; gL fuse 80 A for In 63 A) |
| | Rated impulse withstand voltage (1,2/50) $U_{imp}$ | 4 kV |
| | Power consumption | 1 W |
| Installation | Terminals | 2,5 $mm^2$ |
| | Tightening torque | 0,4 Nm |
| | Ambient temperature | -25…+60 °C |
| | Storage temperature | -40…+70 °C |
| Communication | Protocol | Modbus RS485 |
| | Baud rate | 38400 |
| | Addresses | 1…99 |
| | Tightening torque | 0,4 Nm |
| Dimensions | DIN modules | 1 |
| | Weight | 180 gr |

## Back-up

| 2P | Rated current [A] | | 25 | 40 | 63 | 80 | 100 |
|---|---|---|---|---|---|---|---|
| Single phase circuit with neutral 230-240 V | Fuse gG 25 A | kA | 10 | | | | |
| | Fuse gG 40 A | | 10 | 10 | | | |
| | Fuse gG 63 A | | 10 | 10 | 10 | | |
| | Fuse gG 100 A | | 10 | 10 | 10 | | |
| | S800 S | | 6 | 9 | 10 | | |
| | S800 N | | 6 | 9 | 10 | | |
| | S200 | | 7 | 7 | 5 | | |
| | S200 M | | 7 | 7 | 5 | | |
| | S200 P | | 7 | 7 | 5 | | |
| 4P | Rated current [A] | | 25 | 40 | 63 | 80 | 100 |
| Three phase circuit with neutral 400-415 V | Fuse gG 25 A | kA | 10 | | | | |
| | Fuse gG 40 A | | 10 | 10 | | | |
| | Fuse gG 63 A | | 10 | 10 | 10 | | |
| | Fuse gG 100 A | | 10 | 10 | 10 | 10 | 10 |
| | S800 S | | 10 | 10 | 10 | 10 | 10 |
| | S800 N | | 10 | 10 | 10 | 10 | 10 |
| | S200 | | 10 | 10 | 10 | 10 | 10 |
| | S200 M | | 10 | 10 | 10 | 10 | 10 |
| | S200 P | | 10 | 10 | 10 | 10 | 10 |

# F-ATI test and F-ARI Test
# Order codes

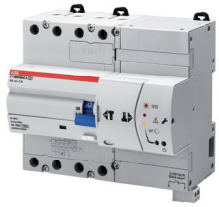




**F-ATI Test series**

| Poles | Rated current In [A] | Sensitivity mA | ABB type | ABB code | Bbn 8012542 | Modules | Weight g |
|---|---|---|---|---|---|---|---|
| 1P+N | 25 | 30 | F-ATI2Test A-25/0.03 | 2CSF302130R1250 | 288855 | 5 | 550 |
| | 40 | 30 | F-ATI2Test A-40/0.03 | 2CSF302130R1400 | 288954 | 5 | 550 |
| | 63 | 30 | F-ATI2Test A-63/0.03 | 2CSF302130R1630 | 289050 | 5 | 550 |
| 3P+N | 25 | 30 | F-ATI4Test A-25/0.03 | 2CSF304130R1250 | 289159 | 7 | 900 |
| | 40 | 30 | F-ATI4Test A-40/0.03 | 2CSF304130R1400 | 289258 | 7 | 900 |
| | 63 | 30 | F-ATI4Test A-63/0.03 | 2CSF304130R1630 | 289357 | 7 | 900 |
| | 25 | 300 | F-ATI4Test A-25/0.3 | 2CSF304130R3250 | 289456 | 7 | 900 |
| | 40 | 300 | F-ATI4Test A-40/0.3 | 2CSF304130R3400 | 289555 | 7 | 900 |
| | 63 | 300 | F-ATI4Test A-63/0.3 | 2CSF304130R3630 | 289654 | 7 | 900 |





**F-ARI Test series**

| Poles | Rated current In [A] | Sensitivity mA | ABB type | ABB code | Bbn 8012542 | Modules | Weight g |
|---|---|---|---|---|---|---|---|
| 1P+N | 25 | 30 | F-ARI2Test A-25/0.03 | 2CSF302131R1250 | 289753 | 5 | 550 |
| | 40 | 30 | F-ARI2Test A-40/0.03 | 2CSF302131R1400 | 289852 | 5 | 550 |
| | 63 | 30 | F-ARI2Test A-63/0.03 | 2CSF302131R1630 | 293453 | 5 | 550 |
| 3P+N | 25 | 30 | F-ARI4Test A-25/0.03 | 2CSF304131R1250 | 289951 | 7 | 900 |
| | 40 | 30 | F-ARI4Test A-40/0.03 | 2CSF304131R1400 | 290056 | 7 | 900 |
| | 63 | 30 | F-ARI4Test A-63/0.03 | 2CSF304131R1630 | 290155 | 7 | 900 |
| | 25 | 300 | F-ARI4Test A-25/0.3 | 2CSF304131R3250 | 290254 | 7 | 900 |
| | 40 | 300 | F-ARI4Test A-40/0.3 | 2CSF304131R3400 | 290353 | 7 | 900 |
| | 63 | 300 | F-ARI4Test A-63/0.3 | 2CSF304131R3630 | 290452 | 7 | 900 |



**ARBus series**

| ABB type | ABB code | Bbn 8012542 | Modules | Weight g |
|---|---|---|---|---|
| ARBus | 2CSF300130R1989 | 293354 | 1 | 180 |

# F-ATI test and F-ARI Test FAQ

**What's the difference between F-ATI and F-ARI range?**
F-ATI range features the automatic test of the RCCB unit, whilst F-ARI range features also the automatic reclosing in case of non permanent fault to earth.

**What are the products that fit with ARBus communication unit?**
ARBus fits with all the devices belonging to either F-ATI and F-ARI range.

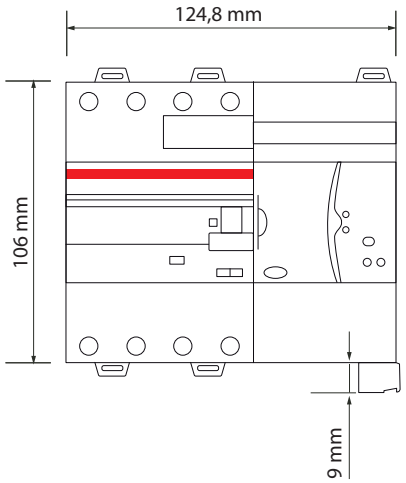
**How many reclosing attempts does F-ARI range?**
F-ARI series does not attempt to reclose, rather it recloses the circuit as soon as the insulation check run every 2 minutes provides a positive outcome.

**Can the periodic test be operated manually?**
Yes, it can be operated manually pushing the "test" pushbutton like in regular RCDs. In this case, the load won't be supplied.

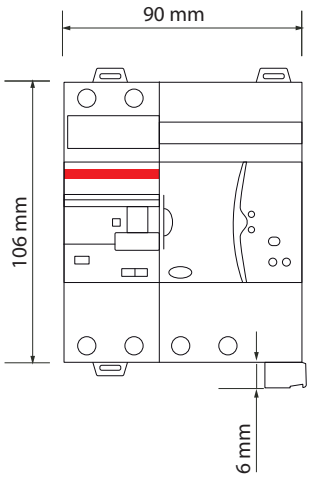
**When is the automatic test run?**
the autotest is run every 28 days.

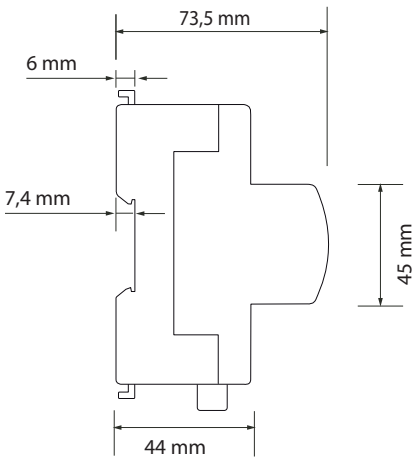
## Overall dimensions:

**F-ATI Test**

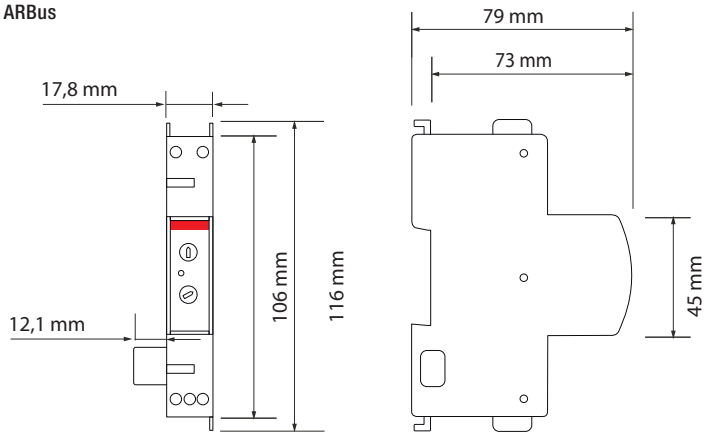



**F-ARI Test**




**ARBus**



# Contact us

**ABB SACE**
**A division of ABB S.p.A**
Viale dell'Industria, 18
20010 Vittuone (MI)
Tel.: +39 02 9034 1
Fax: +39 02 9034 7609

**www.abb.com**

The data and illustrations are not binding. We reserve the right to modify the contents of this document on the basis of technical development of the products, without prior notice.

Copyright 2016 ABB. All rights reserved.

2CSC423010B0901 - 03/2017 - 4.000 pz. - CAL.

Power and productivity
for a better world™