

## WIRELESS DAMPER INSPECTOR™

### APPLICATION

Ruskin's wireless damper system, utilizing wireless communication protocol by EnOcean®, is the ideal solution for mandatory testing of motorized life safety dampers per NFPA\* and Building Code requirements. The **Ruskin Wireless Inspector™** includes the **RFDI** (Radio Frequency Damper Interface) located at each damper with factory switch package and one **RFSC** (Radio Frequency Smart Communicator). The RFSC includes an LCD screen displaying RFDI serial numbers or tags and damper status after cycle testing. Performing the scan function will locate all dampers in range. A microprocessor in the RFSC stores all test results which can be downloaded using the factory provided USB cable and stored to your personal PC.

\*Reference NFPA 72, 80, 90A, 92B and 105.

### STANDARD CONSTRUCTION

#### ENCLOSURE

5" x 7" x 2 1/2" (127 x 178 x 63)  
18 gage (1) galvanized steel  
NEMA 1

#### CIRCUIT BOARD

Integrated transformer 120V primary 16V secondary  
Onboard LED diagnostics (damper position and relay contact)  
Manual test push button  
EnOcean communication protocol

#### HUMIDITY

99%, non-condensing

#### TEMPERATURE RANGE

0°F to 130°F

#### POWER REQUIREMENTS

115V 50/60 Hz

#### AGENCY LISTINGS

FCC ID: SZV-STM300C  
IC: 5713A-STM300C

#### RADIO FREQUENCY

315Mhz for USA Applications

#### NOTES:

1. Dimensions shown in parenthesis ( ) indicate metric units.
2. Refer to Installation Instructions for additional details.
3. Every system requires the purchase of (minimum of one) RFSC.



RFSC hand held Radio Frequency Smart Communicator



RFDI Radio Frequency Damper Interface



### FEATURES

- Wireless communication
- Satisfies NFPA 72, 80, 90 and 105 testing requirements
- 42" (1067) long wire harnesses factory terminated at circuit board
- RFDI with onboard LED diagnostics
- Integrated manual test button at each damper location
- USB cable for programming and downloading

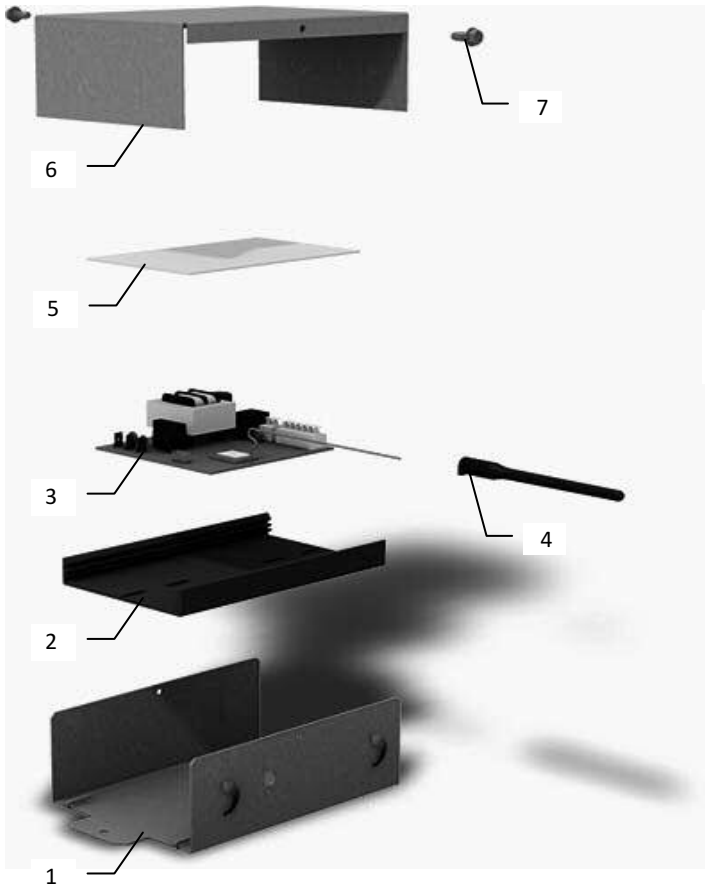
### VARIATIONS

Ruskin model RFDI is available with the following variations at additional cost.

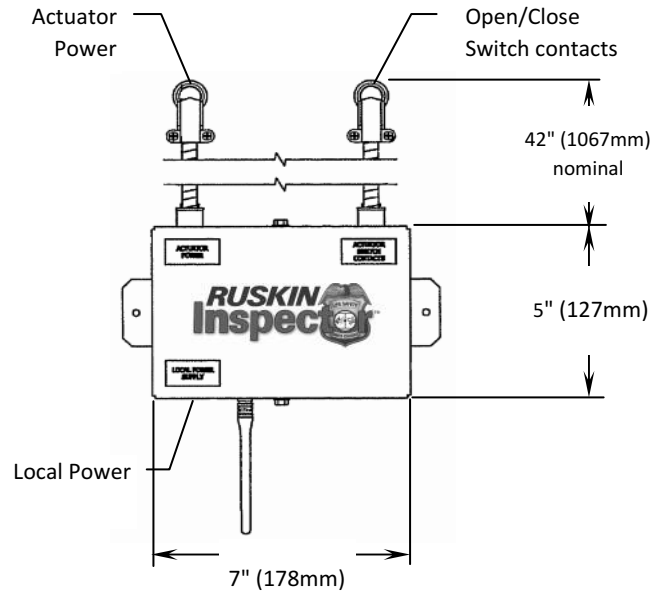
- Factory programming of RFSC (damper tag/ID)
- 868.3Mhz radio frequency (Europe and Asia)

The cycling of actuators for fire/smoke and smoke dampers is a common practice and can be accomplished in a variety of ways. The easiest and most economical process is with Ruskin's patented Damper Inspector™ system. Available in both wired and wireless versions, our Damper Inspector products save time and money ensuring that your life safety products protect the building structure and save lives. USA Patent 7241218 – Fire/Smoke Damper Control System. Other patents pending.

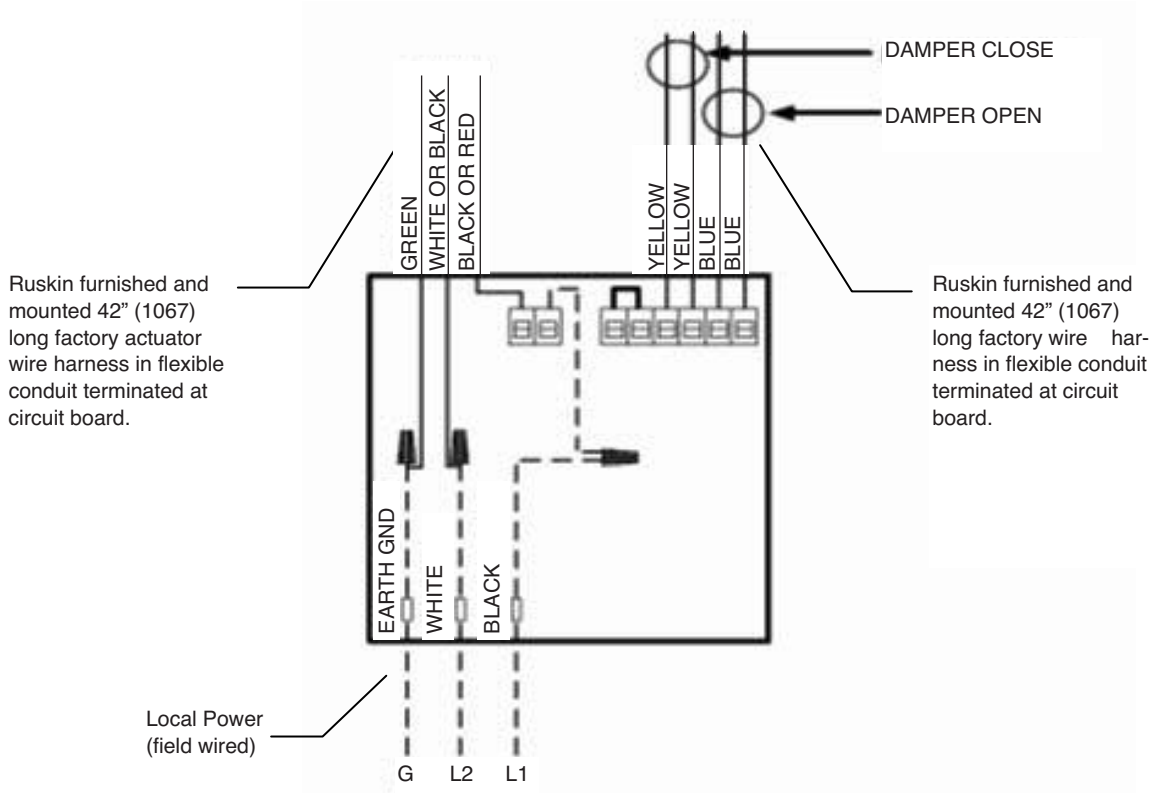
## RFDI DIMENSIONAL DETAILS



1. RFDI enclosure base
2. Circuit board snap track
3. Circuit board with transformer and RF engine
4. Antenna shield
5. Installation instructions
6. RFDI enclosure cover
7. Enclosure cover fasteners



## RFDI ELECTRICAL DATA



## HOW IT WORKS

Any actuated life safety damper with factory supplied damper switch packages or actuators with switches can be remotely cycled from up to 90 feet away when equipped with a Ruskin Wireless Damper Inspector™. The Ruskin Wireless Damper Inspector™ consists of a Radio Frequency Damper Interface (RFDI) and a Radio Frequency Smart communicator (RFSC). An RFDI is installed at each damper location. The circuit is encoded with a unique address that identifies the damper.

While walking through the structure, the RFSC smart communicator pings all RFDI's within range. A list of dampers, identified by tag and location, are displayed on the RFSC screen. The user can scroll up and down through the list of dampers. Each damper can be tested from this menu. After all the dampers have been tested, the user can walk to the next location and repeat the steps.

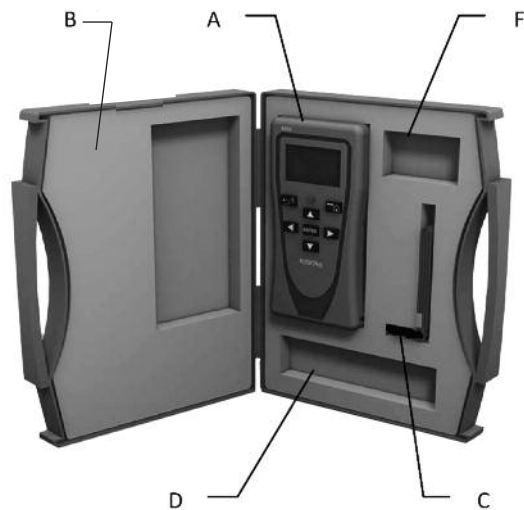
All test data are stored in the RFSC until uploaded into any personal computer. The RFSC comes with necessary USB cable and software. Ruskin Wireless Damper Inspector™ is the perfect solution for those few hard to reach or inaccessible dampers found at every job site.

- Damper tags can be field modified using the RFSC.
- Dampers can be added in the field using the RFSC and furnished software.



RFSC hand held radio frequency smart communicator

## RFSC DETAILS (CAN BE ORDERED SEPARATELY OR AS PART OF COMPLETE WIRELESS INSPECTOR™ SYSTEM)

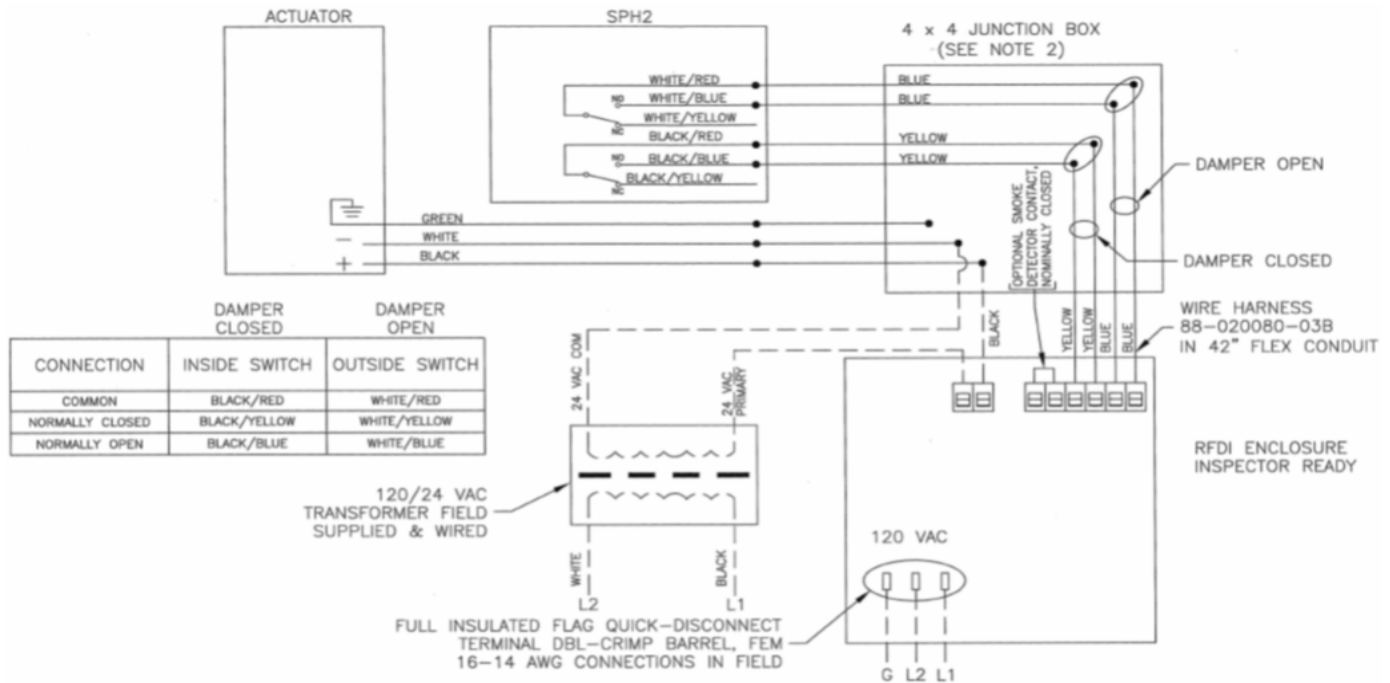


Ruskin model **RFSC** – Radio Frequency Smart Communicator – is designed to work exclusively with the Ruskin **RFDI** – Radio Frequency Damper Interface. The hand-held **RFSC** is equipped with EnOcean® open protocol software, permitting the building maintenance personnel to scan each onboard transceiver to locate and cycle test each damper.

### NOTES:

- A. RFSC radio frequency smart communicator
- B. Plastic, foam-lined protective carrying case
- C. Wrist strap
- D. USB cable compartment (cable furnished)
- E. Battery compartment (batteries furnished)

# TYPICAL SCHEMATIC FOR DAMPER WITH 24V ACTUATOR, RFD1 & FACTORY SWITCH PACKAGE



## NOTES:

1. - - - - - denotes field wired.
2. RFD1 enclosure ships loose. Terminate factory wires in 4 x 4 box, as shown, in field.
3. 24V actuators use red, black, green/gnd.

## SUGGESTED SPECIFICATION

Furnish and install at locations shown on the plans or as described in schedules, a radio frequency wireless damper test system for motorized life safety dampers including combination fire/smoke or smoke dampers as indicated.

In accordance with NFPA and IBC requirements, a completed test of each damper shall be accomplished and recorded prior to turning the building over. The wireless system shall include a transceiver located at each life safety damper that communicates to the transceiver located in the hand-held smart controller. **The radio frequency damper interface (RFDI)**, located at each damper, shall be housed in an 18ga galvanized electrical enclosure with standard knockouts for power wire termination. The RFDI shall be suitable to receive 120VAC (24VAC optional) and shall bear FCC and IC listings on the outside of the enclosure. All circuit boards shall be RoHS compliant. Local power and termination at each damper shall be completed by the electrical contractor of record. The RFDI shall have onboard LED diagnostics to aid in termination at each damper shall be completed by the electrical contractor of record. The RFDI shall have onboard LED diagnostics to aid in damper setup without penetrating the duct. LED Lights shall indicate open or closed damper status, smoke alarm contact, power to

circuit board and relay contact. A manual test button at each RFDI shall also be furnished for local testing. The RFDI assembly, including wire harnesses and termination to the circuit board, shall be accomplished by the manufacturer in an ISO9001 certified facility.

To complete the wireless communication system, each project shall include at least one **radio frequency smart communicator (RFSC)**. The address of each RFDI shall be programmed into the RFSC at the factory utilizing EnOcean® communication protocol. The hand-held RFSC shall facilitate remote testing and inspection of the all actuated life safety dampers. Each damper address and confirmation of the damper's operation shall be displayed on an LCD screen. The RFSC shall be re-programmable and re-addressable at the building job site. The operating range of the radio transceivers shall be at least 90 feet. User-defined dampers shall have the ability to be locked out and password protected. The RFSC shall have the ability to connect to a personal computer via USB for downloading test results and upgrading software. Manufacturer shall provide all necessary software.

The life safety testing and reporting system shall be in all respects equivalent to Ruskin Wireless Damper Inspector™.