

EV-ZMU2 (-EU) Installation instructions

EV-ZMU2 (-EU) – Loop Powered Dual Input Zone Monitor Module with Isolator	EN 54-17: 2005 / AC: 2007 – Short Circuit Isolators EN 54-18: 2005 / AC: 2007 – Input / Output Devices
	<p>For use with Nittan Evolution Protocol Only.</p> <p> Loop Voltage: 20 to 38 Vdc Zone Voltage: 12 to 18 Vdc Loop Voltage: 24 to 38 Vdc Zone Voltage: 16 to 18 Vdc Quiescent Current: Up to 10.5mA Alarm Current: 35mA (2 Class B Circuits) Loop resistance: < 50 ohm/ km Input line resistance: < 50 ohm/ km EOL resistor: 4k7 ohm Input resistance: 375 to 680 ohm Input threshold level: ON : < 1.5k ohm, Short : <50 ohm, Open : > 20k ohm Min sw open voltage (Vso min): 11 Vdc Max sw open voltage (Vso max): 14 Vdc Min sw close voltage (Vsc min): 3 Vdc Max sw close voltage (Vsc max): 10 Vdc Max line current (Ic max): 500 mA Max switching current (Is max): 1500 mA Max leakage current (Il max): 15 mA Max switch resistance (Zc max): 150 mΩ Wire size: Min. 0.75mm² Max. 2.5mm² Operating temperature: -10°C to 55°C Storage temperature: -40°C to 80°C Max. relative humidity: 95%RH, non-condensing Mass EV-ZMU2: 140g Mass EV-ZMU2-EU: 125g </p> <p>Technical Data Sheet: TD-EV-ZMU2 (-EU)</p>
<p>DoP Number: 00641</p>	
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NOTE: Please read these instructions carefully and keep for future reference. The information in this document is subject to change without notice. For updates please refer to our website.

NOTE: Follow the requirements for the installation of the product in accordance with the Specifications. Otherwise it may cause malfunction

NOTE: Do not install the product in any location where oil, dust, iron powder, chemicals, or hydrogen sulphide may occur or affect the product. It may cause malfunction.

This package contains the following items:

- Main unit: x 1
- EOL resistor: 4k7 ohm x 2
- Jumper: x 1
- Allen Key x 1
- Mounting Screws M3.5 x 25mm x 2 (EV-ZMU2 Only)
- Manual: (this document) x 1

General Description

The EV-ZMU2 (-EU) Zone Monitor Module is an addressable zone module with –ve Line short circuit isolator. The EV-ZMU2 uses UK 2-gang box with surface and flush mount options, and the EV-ZMU2-EU uses European 503 electrical box flush-mounted.

The module is capable of monitoring zone circuits: one loop circuit (Class A) or two spur circuits (Class B) connecting conventional detectors.

The EV-ZMU2 (-EU) is able to identify the state of the zone circuit: normal, alarm, open circuit, or short circuit.

The module is equipped with a 2.5mA (typ.) constant current output for a remote LED indicator, which allows the remote indicator STA-R1 to be connected.

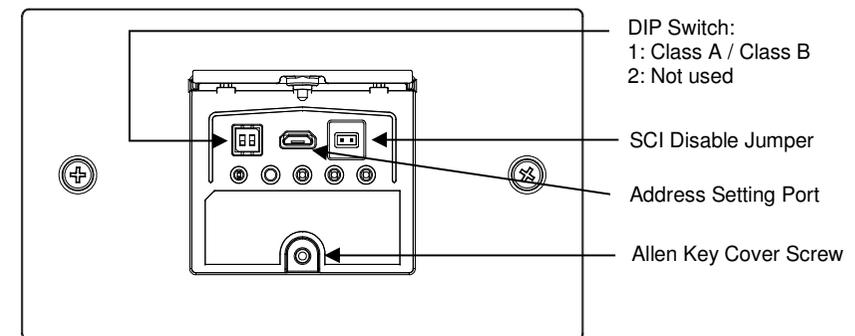


Figure 1

Address Setting

Loosen the Allen key screw to open the access door in the front, using the 1.5mm Allen key provided. It is possible to configure the address setting and change the setting of DIP switch or jumper pin (refer to Figure 1).

Use EV-AD2-EXT to set the address of the EV-ZMU2 (-EU). The factory default address of 1 is given to the module. Connect the EV-AD2-EXT to the address setting port with the Micro USB cable for the programmer, and change the address to any of 1-254, with reference to the instruction manual of EV-AD2-EXT programmer. (Note that the number of available addresses can be less depending on a control panel model.) The address can be set regardless of whether power supply from the control panel is turned on or off.

Address setting is possible even after connecting the module to the Loop.

DIP Switch Operation

With the DIP switch 1, it is possible to select Class A or Class B configuration (Refer to Figure 1 and Table 1).

The DIP switch 1 is OFF for Class B configuration, and ON for Class A configuration.

The DIP switch 2 is not used (Refer to Table 1).

Make sure to select the DIP switch 1 setting before power is on. If selected after power on, the setting is not reflected.

DIP switch	Position	Function
1	ON	Class A
	OFF	Class B
2	Not used	

Table 1

LED Operation

Four LEDs are visible through the translucent access door of the enclosure (refer to Figure 2 and Table 2).

Polling LED: flashes green during polling from the control panel.

Input LED: illuminates red when a detector on the zone goes into an alarm condition.

Fault LED: illuminates yellow when a fault condition, i.e. an open or short circuit is detected in the zone circuit.

SCI LED: illuminates yellow when a short circuit is detected in the loop and the short circuit isolator (SCI) is activated.

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Indicating LEDs

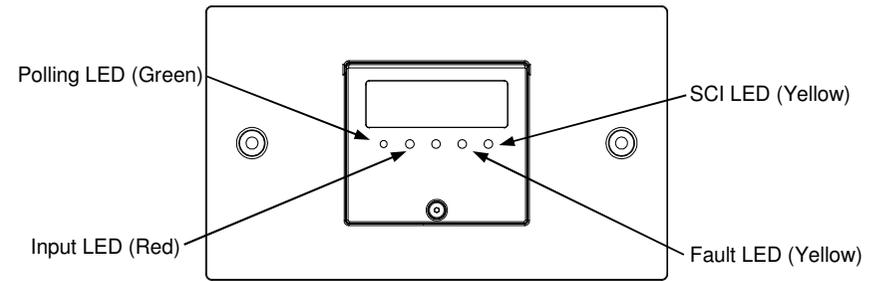


Figure 2

	Colour	Function	State of module	State of LED
Polling LED	Green	Polling	Polling	Flashing
Input LED	Red	Zone Input	Alarm	Steady on
Fault LED	Yellow	Fault	Open/short	Steady on
SCI LED	Yellow	Loop	SCI	Steady on

Table 2

Installation

The EV-ZMU2 is designed to mount on the range of 2-Gang back boxes widely available in the UK (Min 35mm depth). Refer figure 3. The EV-ZMU2-EU is designed to mount on the European 503 series back boxes available in many European countries. Refer figure 4.

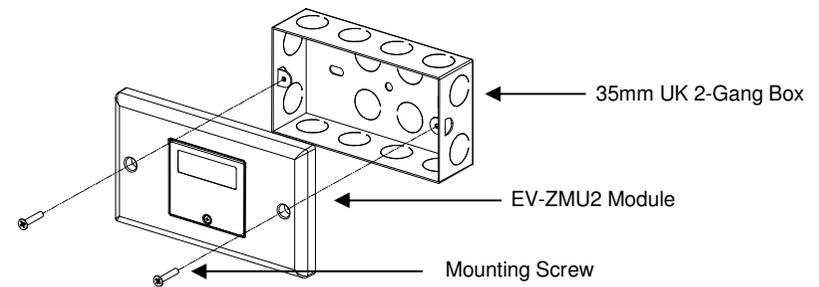


Figure 3 – EV-ZMU2

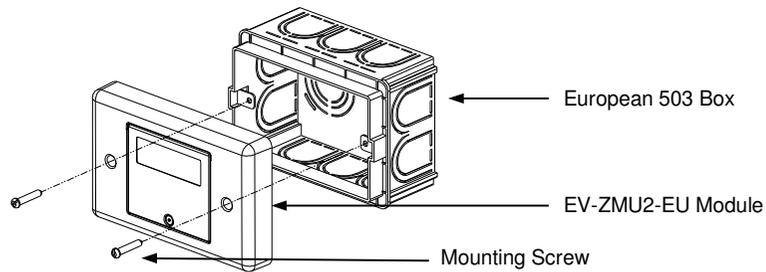


Figure 4 – EV-ZMU2-EU

Connections

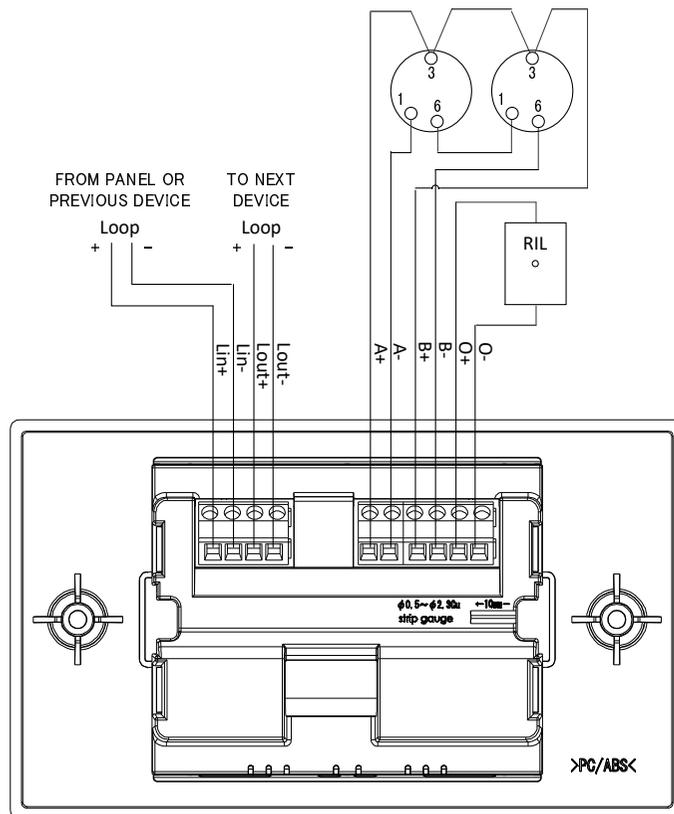


Figure 5 – Class A

Service and Maintenance

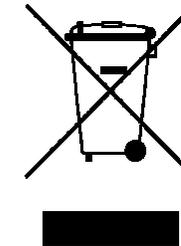
Inspection and tests of the module shall be carried out periodically according to the requirements of BS 5839 Part 1, Fire Detection and Alarm Systems for Buildings: Code of Practice for System Design, Installation and Servicing, or equivalent local codes of practice.

For a routine inspection, ensure the module is secure and undamaged.

When carrying out site testing of the module, set the Fire Alarm Control Panel to test mode and take any necessary precautions, so as to limit the activation of alarm sounders/bells and any fire service summoning device.

End of Life Disposal

Like all electronic equipment, at the end of its working life this unit should not be disposed of in a refuse bin. All Nittan products since 2005 have been marked with the WEEE Logo in compliance with European Directive 2012/19/EU and Nittan Europe Limited is a member of a WEEE Compliance Scheme. Contact sales@nittan.co.uk for a copy of our WEEE Compliance Policy.



RoHS Compliance Statement

This product complies with the European Union RoHS (Restriction of Hazardous Substances) directive (EU) 2015/863 which restricts the use of the following ten hazardous materials in the manufacture of electronic and electrical equipment.

- Cadmium (Cd): < 100 ppm
- Lead (Pb): < 1000 ppm
- Mercury (Hg): < 1000 ppm
- Hexavalent Chromium (Cr VI): < 1000 ppm
- Polybrominated Biphenyls (PBB): < 1000 ppm
- Polybrominated Diphenyl Ethers (PBDE): < 1000 ppm
- Bis(2-Ethylhexyl) phthalate (DEHP): < 1000 ppm
- Benzyl butyl phthalate (BBP): < 1000 ppm
- Dibutyl phthalate (DBP): < 1000 ppm
- Diisobutyl phthalate (DIBP): < 1000 ppm

Trouble shooting

Problem	Possible cause
No response	The module falls off. Address setting is not correct. Duplicate address. Loop wiring is not correct. An open or short circuit in the loop. Loop voltage is too low.
Communication error	Duplicate address. Loop voltage is too low.
The module information is not found on the panel	Data registered on the control panel is not correct.
Open circuit is detected in the input circuit	Zone Input wiring is not correct. An open circuit in the input circuit. EOL resistor is removed. EOL resistor is not appropriate.
Short circuit is detected in the input circuit	Zone Input wiring is shorted.
Input condition is latched (Constant alarm)	Insulation in the zone input circuit is not enough. Zone input wiring is not correct. EOL resistor is not appropriate.
Alarm Input is not detected	Zone Input wiring is not correct. Connected detector(s) is not compatible. There is a problem with a detector.
Short circuit is detected in alarm condition	Zone input wiring is not correct. Connected detector is not compatible.
SCI operates	There is a short circuit in the loop. Too many devices (over 20mA in total in a standby condition) are connected between the module and the next SCI.

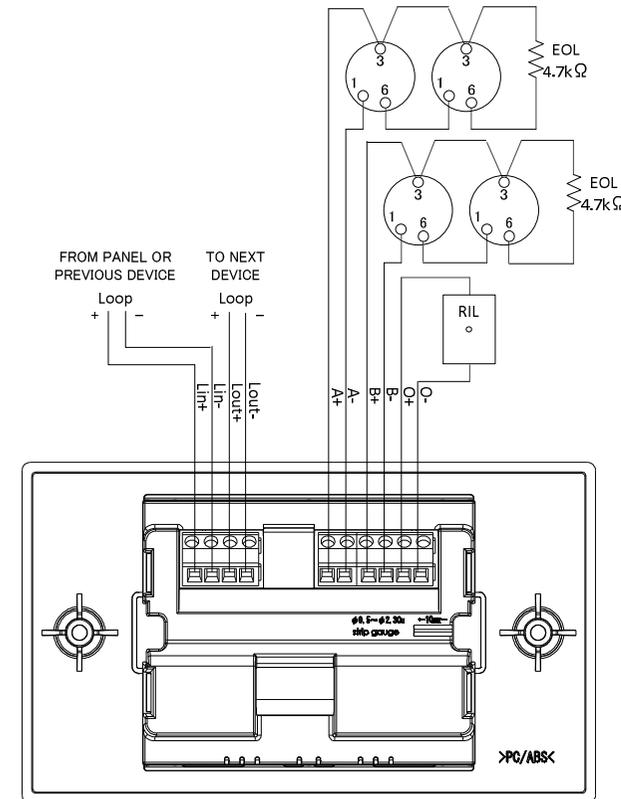


Figure 6 – Class B

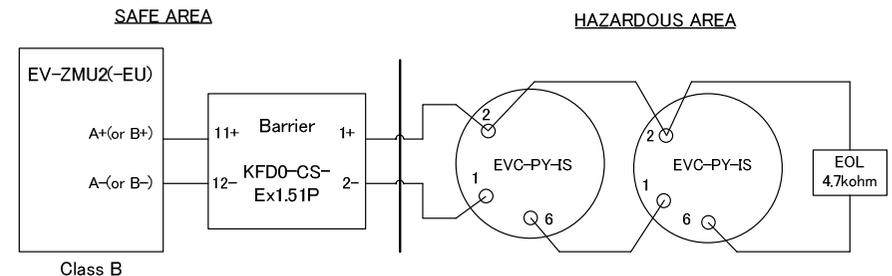


Figure 7 – Hazardous Zone (Class B Only)

Recommended Detectors and quantities

The following quantity of detectors can be connected to EV-ZMU2 (-EU) per zone spur. In Class B wiring there are 2 zone inputs, therefore, 40 units (20 units x 2 zones) of EVC-P can be connected to one EV-ZMU2 (-EU), for instance.

EVC-H-A2S:	20 units
EVC-H-CS:	20 units
EVC-P:	20 units
EVC-DP:	20 units (Loop voltage should be over 24V)
EVC-IR	5 units
EVC-PY-IS:	15 units (use with KFD0-CS-Ex1.51P/KFD0-CS-Ex2.51P)

Compatible Intrinsically Safe Barrier

The KFD0-CS-Ex1.51P (Single channel) & KFD0-CS-Ex2.51P (Dual channel) are compatible with the EV-ZMU2 (-EU).

Note: Use Nittan intrinsically safe detector EVC-PY-IS with KFD0-CS-Ex1.51P or KFD0-CS-Ex2.51P (Class B Only).

Conventional Detectors Other Than the Above

Operating voltage : 12 - 32V

Alarm Internal Resistor: 375 - 680 Ohm

Standby current total: 0.6mA Maximum

Note : The total standby current must not exceed 0.6mA if connecting multiple detectors.

Note : Ensure that the detectors operate correctly after the installation.

Compatible Remote LED Indicator

The STA-R1 remote indicator is compatible with the EV-ZMU2 (-EU).

Interchangeability with Existing Products

It is necessary to update the firmware of the control panel to respond to EV-ZMU2, prior to the replacement of the existing model EV-ZMU.

NOTE: Product Not compatible with Advanced MxPro4 Panel

SCI Function

The EV-ZMU2 (-EU) has a built-in -ve Line short circuit isolator. The SCI circuit prevents entire loop failure in the event of a short between L+ and L- on the loop. If a short circuit is detected, the section of line containing a short circuit is automatically isolated. If not required the Isolator can be bypassed using the Jumper provided.

NOTE: It is not possible to mix -ve and older +ve isolator styles on a system.

Dimensions

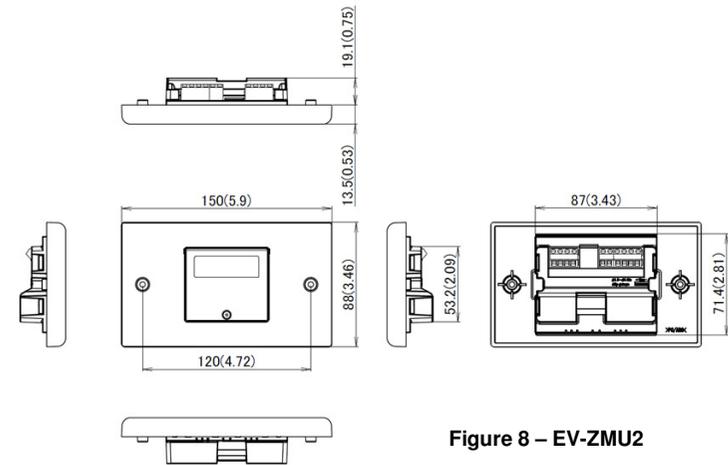


Figure 8 – EV-ZMU2

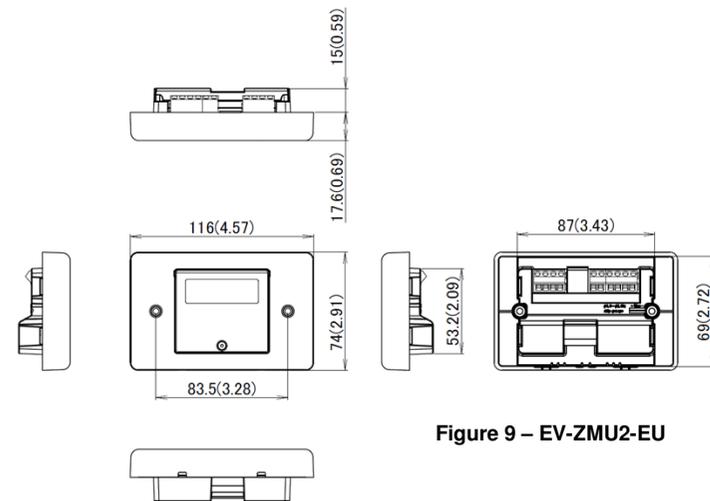


Figure 9 – EV-ZMU2-EU