

iISOLATE501

Ultra-wide band RF isolator



II 3 (1) G D Ex nA [Ex ia Ga] IIC T6 Gc,
Ex ic [Ex ia Da] IIIC T85°C Dc

I (M1) [Ex ia Ma] I

Class I, II Div 2, Class III Div 1 & 2
Groups A-G. Class I, Zone 0, Group IIC. T4
Associated equipment Class I, II, III Div 1,
Groups A-G

- Intrinsically safe
- High performance over ultra-wide bandwidth
- Compact design

The iISOLATE501 is an ATEX and IECEx approved RF galvanic isolator for use in Zones 0, 1, 2, 22, and mining applications. It is the next generation of Extronics' ground-breaking RF isolation technology, designed to improve further on the performance of the industry-proven iISOLATE500.

The iISOLATE501's galvanic isolation protects against dangerous transients being transmitted through to the antenna, making the majority of standard RF outputs intrinsically safe. This means that you can use non-certified antennas within hazardous areas, as long as they meet the simple apparatus requirements laid out in the installation standards. The Extronics iANT2xx range of high quality and rugged outdoor antennas have all been assessed by our team of engineers to ensure they meet these requirements.

Highly compact

Thanks to its unique design, the iISOLATE501 is small and lightweight; a practical solution for a number of different applications.

Efficient deployment

Quickly install your solution; antennas with an SMA connector can be connected directly to the iISOLATE501. We can also provide accessories such as junction boxes and couplers to enable N-type connection, as well as DIN rail mounting clips. Antennas can also be hot-swapped, giving greater flexibility and ROI.

Ultra-wide bandwidth



The innovative iISOLATE501 gives exceptional performance over an ultra-wide frequency band of 150 MHz to 8 GHz, with minimal losses.


Maximise performance

Intrinsically safe, galvanically isolated outputs enable the use of non-certified antennas, such as the Extronics iANT2xx range of high quality, rugged, outdoor antennas, giving you a wider choice to best suit the application without costly and time-consuming assessment by notified bodies.



Specification

Certification  II 3 (1) G D Ex nA [Ex ia Ga] IIC T6 Gc, Ex ic [Ex ia Da] IIIC T85°C Dc
 I (M1) [Ex ia Ma] I
 Certificates TRAC15ATEX0050X, IECEx TRC 15.0015X

 Class I, II Div 2, Class III Div 1 & 2 Groups A-G. Class I, Zone 0, Group IIC T4. Associated equipment Class I, II, III Div 1, Groups A-G.
 Listing Number E113811:Project 88100

Weight Approximately 38g (1.34oz)

Dimensions 57 x 28 x 14mm (2.24 x 1.1 x 0.55in)

Temperature Operating temperature -40°C to +80°C (-40°F to +176°F)

Humidity Relative humidity 0 to 95%, non-condensing

Enclosure material¹ Anodised aluminium

Input/output connections 2 x female SMA

Maximum input power ²	ATEX/IECEx Equipment Group	Maximum RF Threshold Power (Watts)	Maximum RF Threshold Power (dBm)
	Mining Group I		6
Gas Group IIA		6	37.7
Gas Group IIB		3.5	35.4
Gas Group IIC		2	33
Dust Group III		6	37.7

Typical performance @ 25°C	Frequency band	Insertion Loss (dB)
	150MHz -1GHz	0.3
	1GHz - 3.5GHz	0.46
	3.5GHz - 6GHz	1.09
	6GHz - 8Ghz	1.41
	Spot frequency	Insertion Loss (dB)
	400MHz	0.12
	900MHz	0.16
	2.45GHz	0.48
	5.5GHz	1.28

¹ To maintain safe operation, the iISOLATE501 MUST be earthed to IEC60079-14 clause 16.2.3

² Please note it is the customer's responsibility to ensure the maximum values of RF Threshold power as per Table 4.0 of IEC 60079-0:2011 are not exceeded. The maximum RF output of the wireless transmitter and the antenna gain must be taken into account when installing equipment.



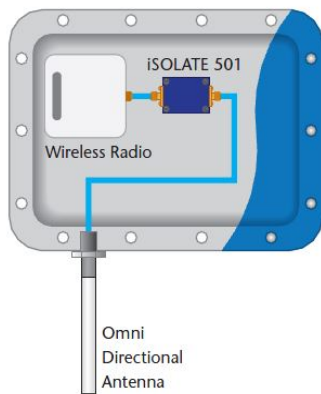
Typical Applications

Marine VHF 156-163 MHz
 ISM 433MHz and 915MHz
 Tetra Mobile Stations 380-470MHz

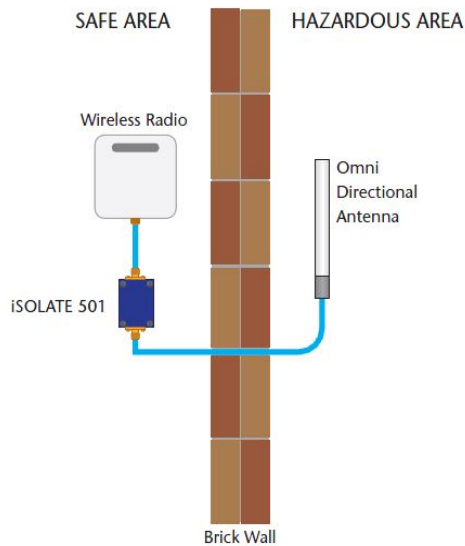
GSM 850/1900MHz, 900/1800MHz
 UHF RFID 860MHz-960MHz
 Wireless LANs 2400MHz/5800MHz

Typical Installations

Typical Ex d Installation



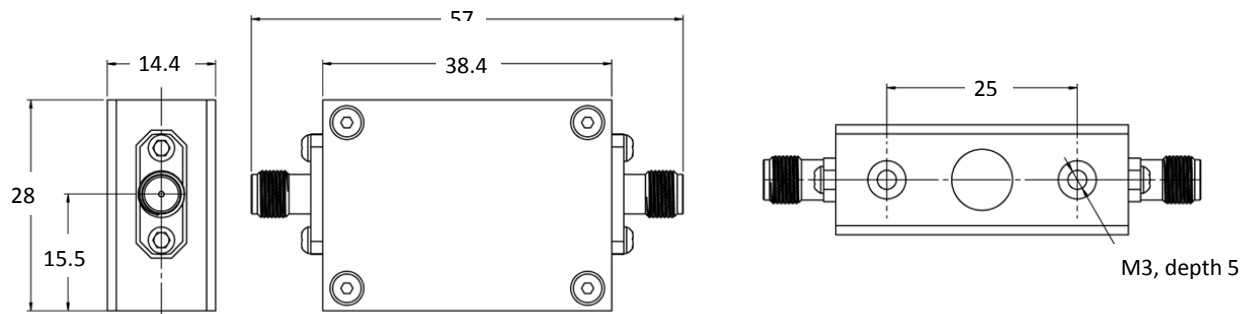
Typical Safe Area Installation



When situated in hazardous gas atmospheres, the iSOLATE501 should be mounted in an IECEx/ATEX approved Ex 'n' or Ex 'e' enclosure (or better) with minimum IP54 rating. In a hazardous dust atmosphere an IECEx/ATEX approved Ex 'e' enclosure (or better) with minimum IP54 rating should be used.

Users should ensure that any antennas used meet the installation standard requirements – the Extronics iANT2xx range has already been assessed as suitable.

Dimensional Drawing (mm)



Ordering Information

Description

ISOLATE501 Ultra-wide band IS RF isolator

Part Number

ISOLATE501

Related products

Explosion-proof N-type RF connector transit with
M20 thread and N-female connector

ISOLATE-CT-01

Explosion-proof N-type RF connector transit with
 $\frac{3}{4}$ " NPT thread and N-female connector

ISOLATE-CT-02

iANT2xx range of simple apparatus antennas – see antenna datasheets for more information and specific order codes

