



Concentric Technology Solutions Inc

Solutions for the Wireless Industry

TC-5915APU

Pneumatic Shield Box

Data Sheet  **TESCOM**
WIRELESS



Introduction

TC-5915APU is the pneumatically operated version of TC-5915AU, providing shielding capabilities up to 12 GHz. The size of the TC-5915APU is a popular choice for performing RF testing on small wireless and mobile devices. In addition to shielding traditional 2.5 GHz technologies like WIFI, Zigbee, and Bluetooth, this shield box supports a range of up to 12 GHz to enable testing on forward-looking technologies such as 5G, UWB, and WIFI 6E variants. The box can be operated remotely via remote control, while additional features like the dual pressure control lid and sensor ensure enhanced user safety.

Features

- Reliable high RF shielding from 0.1 GHz to 12 GHz
- Pneumatic control of lid open/close and optional test fixture motions
- EMI filters on all data ports and power lines
- Easily customizable to suit various test needs
- Red and green LEDs for PASS/FAIL indication
- Remote operation by RS-232C / Ethernet

Mechanical Specifications

Standard RF Connector	None
Line Voltage	24 VDC, Max. 2 A
Remote Control	Ethernet, RS-232C
Air Connections	
Main Connector	6 mm OD hose, one-touch push-on fitting
Fixture Control Connector	6 mm OD hose, one-touch push-on fitting
Input Air Pressure	5 to 10 bar
Dimensions	
Inside	236(W) x 297(D) x 170(H) mm
Outside	324(W) x 435(D) x 258(H) mm, lid closed. 383(H) mm, lid open.
Weight	Approx. 11 kg
*Packing	
Size	490(W) x 550(D) x 380(H) mm
Weight	Approx. 13 kg

* The size or weight of a package may vary depending on how the product is packed.

RF Specifications

*The shielding effectiveness is measured with blank panels mounted; other I/O interface panel may result in different shielding effectiveness.

Frequency Range	0.1 GHz to 12 GHz
*Shielding Effectiveness (Typ.)	
0.1 GHz to 3 GHz	> 70 dB
3 GHz to 6 GHz	> 60 dB
6 GHz to 12 GHz	> 60 dB

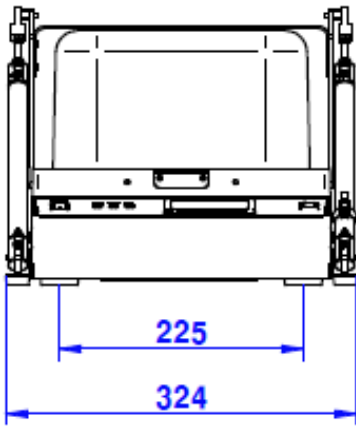
Absorber Reflectivity

Referring to a metal plate (0 dB @ 0.5 GHz to 12 GHz), signal reduction is measured with the RF absorber inserted.

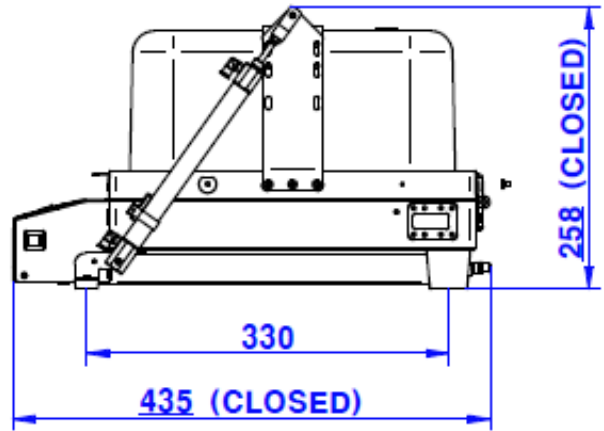
Frequency	Reflectivity (Typ.)
0.1 GHz to 3 GHz	3 dB
3 GHz to 6 GHz	6 dB
6 GHz to 12 GHz	10 dB

Outer Dimensions

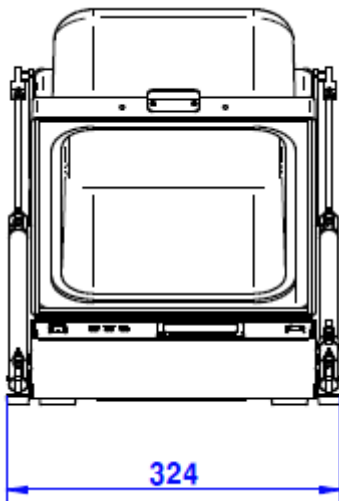
TC-5915APU Outer Dimensions (WxDxH): 324(W) x 435(D) x 258(H) mm, lid closed. 383(H) mm, lid open.



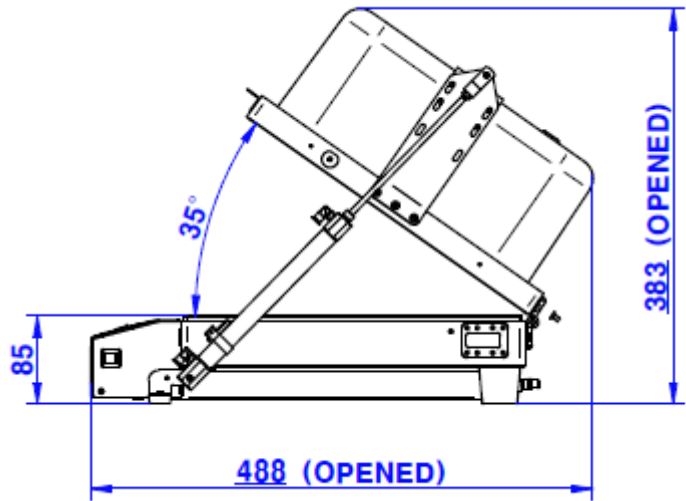
Front View (Closed)



Side View (Closed)



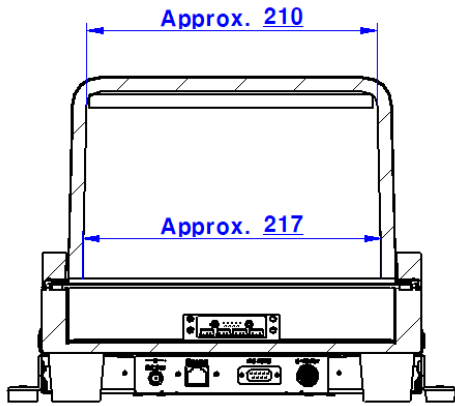
Front View (Opened)



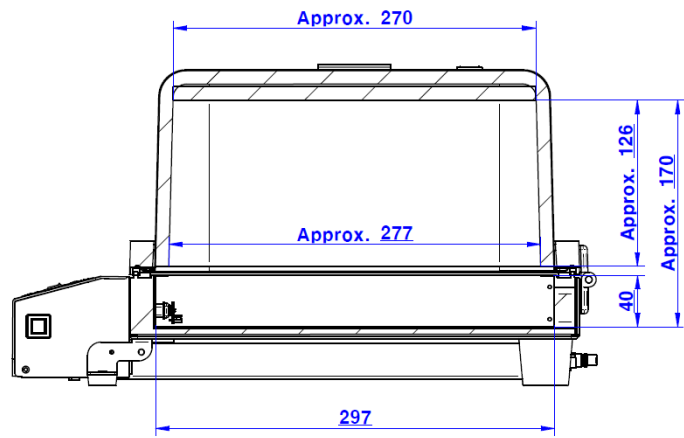
Side View (Opened)

Inner Dimensions

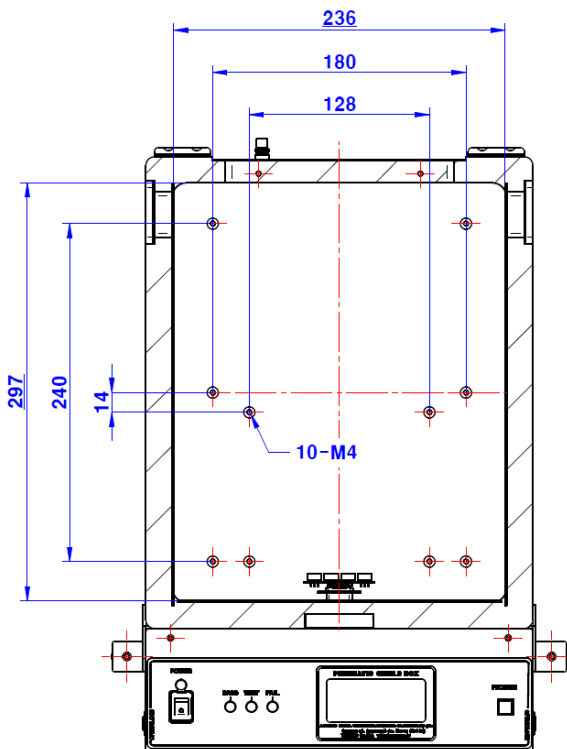
TC-5915APU Inner Dimensions (WxDxH): 236(W) x 297(D) x 170(H) mm



Rear Inner View



Side Inner View



Bottom Inner View

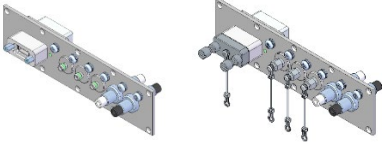
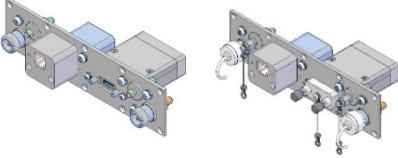
Ordering Information

Order Number	Product
TC-5915APU	Pneumatic Shield Box

Standard Accessories

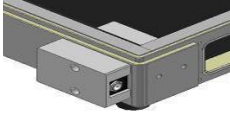
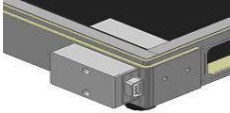
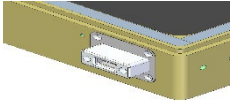
Product	Description
4011-0144	SS-402, N(m)ST to N(m) ST, 1 m, 1 pc
4003-0073	USB to RS-232C(male) Cable, 2 m, 1 pc
9703-0074	Air Coupler, 1 pc
C5915AP-0010	Top Cover Bracket, 1 pc
3001-0039	Switching Power Supply, 1 pc
4010-0002	Power Cable, 220 V
Test Report	

Pre-configured I/O Interface Panels

Product	Code	Configuration
	M05009A	three (3), SMA (f) outside and SMA (f) inside one (1), USB 2.0 outside and inside one (1), Banana Jack type DC power adaptor
Data Interface Panel		
	M05010A	two (2), N (f) outside and SMA (f) inside two (2), SMA (f) outside and SMA (f) inside one (1), USB 3.2 Gen1 Type-A outside and inside (USB3.0) one (1), RJ-45 outside and inside
Data Interface Panel		

Customized I/O Interface Panel is available by selecting below I/O Filters and combine. Please contact our sales team or your local distributor.

Pre-configured Side I/O Interface Panels

Product	Code	Configuration
	M591532A	one (1), DC Power Jack Adaptor
DC Power Side Interface Panel		
	M591533A	one (1), DB9(p) outside and DB9(s) inside, 1000 pF pi filter
DB9 Side Interface Panel		
	M591534B	one (1), USB 2.0 outside and inside
Data Interface Panel		

Fixtures

We offer standard grid fixtures that can change the position of DUT holding blocks. An optimal fit for different shapes of DUT can be made within seconds. Also, fully customized fixtures can be manufactured and supplied if necessary to meet the customer's demands.

In addition to the fixture, various types of antenna coupler options can form an ideal measuring environment for characteristics of each DUT.

Product	Code	Configuration
	F59154A	Antenna Coupler fixed type fixture Antenna Coupler (Optional): TC-93026A 300(W) x 270(D) x 22(H) mm

I/O Filters

I/O Filters	Code	Description	*Typical Shielding
	3409-0009-1 DB25, 1000pF pi Filter	3 Mbps / 100 VDC 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3409-0014-1 DB25, 100pF pi Filter	10 Mbps / 100 VDC 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz
	3409-0008-1 DB9, 1000pF pi Filter	3 Mbps / 100 VDC 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3409-0010-1 DB9, 100pF pi Filter	10 Mbps / 100 VDC 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz
	3409-0018A-3^(*) USB 2.0 Filter	480 Mbps / 5 V, 500 mA Max Current: 5 A	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz >70 dB from 6 to 12 GHz
	3409-0042A-2^(*) USB 3.2 Gen 1, Type A Filter (Active)	5000 Mbps/ 5 V, 600 mA Max Current: 1.5 A	>80 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >75 dB from 3 to 6 GHz >55 dB from 6 to 12 GHz
	3409-0046A USB 3.2 Gen 2, Type C Filter (Active)	10 Gbps / 4 - 22V Max Current: 5 A	>70 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz >70 dB from 6 to 12 GHz
	3904-0296A RJ-45 Filter	1 Gbit/s Copper-Line Ethernet (1000 BASE-T)	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz >60 dB from 6 to 12 GHz
	3406-0004A DC Power Adaptor	50 VDC 3 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz >70 dB from 6 to 12 GHz
	3406-0005A (Black) 3406-0006A (White) DC Power Adaptor (Banana Jack Type)	50 VDC 10 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz >70 dB from 6 to 12 GHz
	3103-0009A AC Power Adaptor	250 VAC 7 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz >70 dB from 6 to 12 GHz
	3408-0100 RF, N-SMA Connector	From DC to 12 GHz 50 Ω / 1.3 max	N/A
	3408-0101 RF, SMA-SMA Connector	From DC to 18 GHz 50 Ω / 1.3 max	N/A

*Typical Shielding is an estimated value with I/O interface applied.

** Exclusive cables should be used. (USB Cable, 4008-0079A, 2 M, USB 3.0 A(M) - USB 3.0 A(M), Housing: Aluminum)

The data above were measured by internal standards, and they may be different depending on the measuring method and environment. Each shielding effectiveness is measured without any cable, so it will be likely affected when a cable is connected. Also, it may vary depending on the type of cable.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

