



Concentric Technology Solutions Inc

Solutions for the Wireless Industry

TC-5910DPU

Pneumatic Shield Box

Data Sheet  **TESCOM**
WIRELESS



Introduction

TC-5910DPU Pneumatic Shield Box is suitable for wireless testing of small devices such as smartphones, the door can be opened and closed automatically using pneumatics.

TC-5910DPU provides shielding effectiveness with a frequency range of 0.1 GHz to 12 GHz, and can be used for wireless testing for not only on traditional technologies such as LTE, WIFI, Bluetooth, Zigbee but also on forward-looking wireless communication technologies like 5G, WIFI 6E, UWB.

TC-5910DPU can be remotely controlled through RS-232C and Ethernet, its measurement automation system can be built through PC program.

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

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	142(W) x 243(D) x 134(H) mm
Outside	218(W) x 375(D) x 210(H) mm, lid closed. 373(H) mm, lid open.
Weight	Approx. 7 kg
*Packing	
Size	370(W) x 460(D) x 280(H) mm
Weight	Approx. 8 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

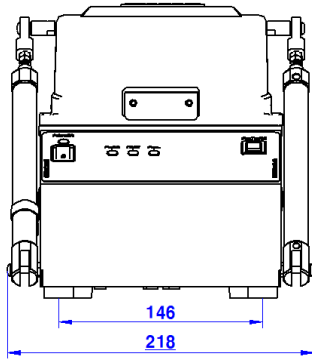
Absorber Reflectivity

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

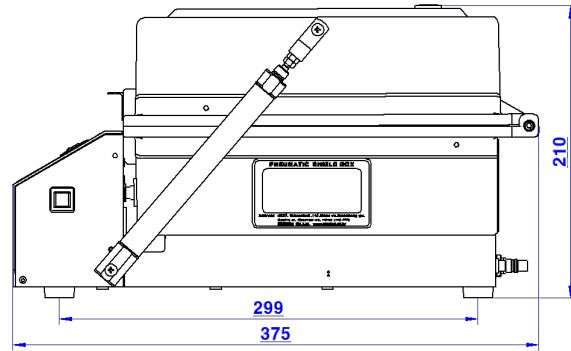
Frequency	Reflectivity (Typ.)
0.1 GHz to 3 GHz	3 dB
3 GHz to 6 GHz	6 dB
6 GHz to 12 GHz	10 dB

Outer Dimensions

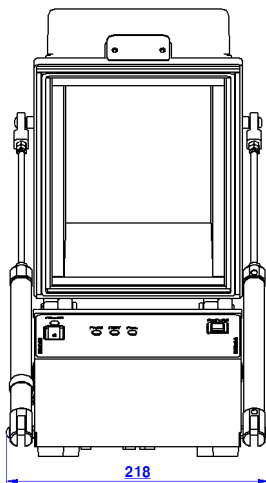
TC-5910DPU Outer Dimensions (WxDxH): 218(W) x 375(D) x 210(H) mm



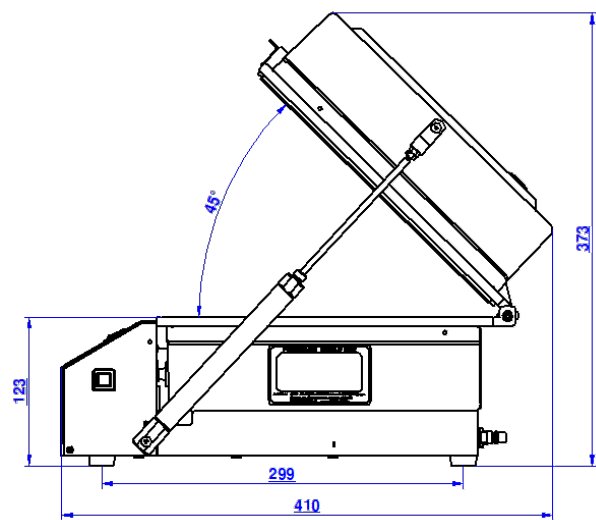
Front View (Closed)



Side View (Closed)



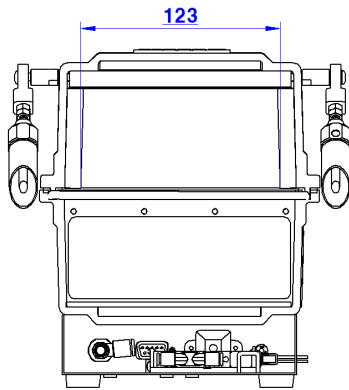
Front View (Opened)



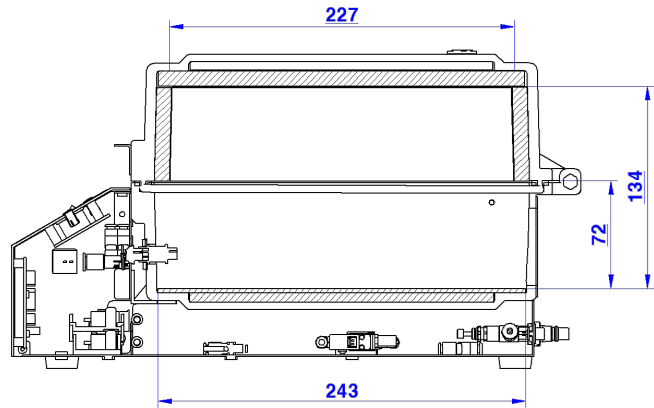
Side View (Opened)

Inner Dimensions

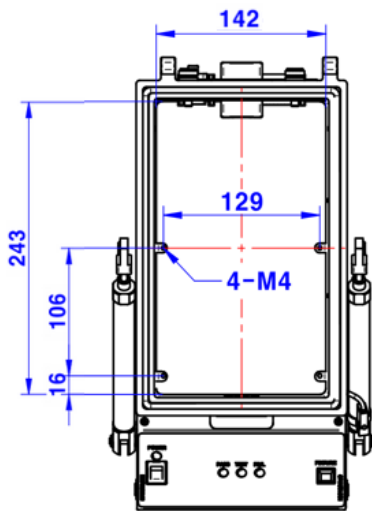
TC-5910DPU Inner Dimensions (WxDxH): 142(W) x 243(D) x 134(H) mm



Rear Inner View



Side Inner View



Bottom Inner View

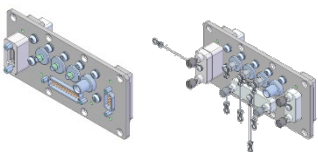
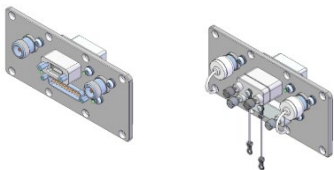
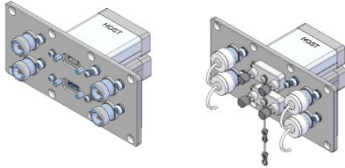
Ordering Information

Order Number	Product
TC-5910DPU	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
C5910DP-0001	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
 <p>Data Interface Panel</p>	M01001A	three (3), SMA (f) outside and SMA (f) inside one (1), DB25(p) outside and DB25(s) inside, 1000 pF Pi filter one (1), DB9(p) outside and DB9(s) inside, 100 pF Pi filter one (1), USB 2.0 outside and inside one (1), DC Power Jack Adaptor
 <p>Data Interface Panel</p>	M01002A	two (2), N (f) outside and SMA (f) inside one (1), DB25(p) outside and DB25(s) inside, 1000 pF Pi filter one (1), USB 2.0 outside and inside
 <p>Data Interface Panel</p>	M01003A	four (4), N (f) outside and SMA (f) inside one (1), USB 3.2 Gen1 Type-A outside and inside one (1), USB 3.2 Gen2 Type-A outside and inside

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

Fixtures

We offers 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
	F59106A	Antenna Coupler fixed type fixture Antenna Coupler (Optional): TC-93026A 140(W) x 210(D) x 23.5(H) mm
	Custom Fixture: Pneumatic Fixture	<ul style="list-style-type: none"> · Cylinder for Horizontal movement · Cylinder for Up/Down movement

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 3.0 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

I/O Filters	Code	Description	*Typical Shielding
	3409-0046A USB 3.2 Gen 2 Type C Adapter (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 our 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

