

## Dual Port Adapter with Internal DC Loads for AM / FM Broadcast Signals

### Features

- internal DC loads for phantom voltage supplies
- optical indication of phantom voltage
- compact and rugged design

### Applications

- AM, FM
- automotive infotainment tests
- R&D
- production



### Overview

The FDML complements the WSDU broadband signal distributions by a compact, cost saving, AM/FM dual port adapter. FDML separates one common broadcast signal line to two outputs in the AM/FM frequency range.

### Internal DC Loads

FDML provides a fixed DC load at each output to emulate the behaviour of active supplied antennas. This way, the phantom supply voltages of the DUTs can be tested.

### Optical Indication

The presence of the phantom supply voltages is indicated by LEDs.

## RF Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	$Z_{in} / Z_{out}$		50		Ohm	
low frequency	$f_{min}$		36 <sup>1</sup>	150	kHz	AM
high frequency	$f_{max}$	30	76		MHz	
return loss	$S_{11}$		-22	-17	dB	
	$S_{22}$		-17	-13	dB	$f < 500 \text{ kHz}$
	$S_{22}$		-20	-17	dB	$500 \text{ kHz} \leq f \leq 30 \text{ MHz}$
insertion loss	$S_{21}$	-4.5	-3.5	-3.0	dB	
output isolation	$S_{23}$		-20	-17	dB	$f < 500 \text{ kHz}$
	$S_{23}$		-28	-23	dB	$500 \text{ kHz} \leq f \leq 30 \text{ MHz}$
low frequency	$f_{min}$		30	76	MHz	FM
high frequency	$f_{max}$	108	140 <sup>1</sup>		MHz	
return loss	$S_{11}$		-22	-17	dB	
	$S_{22}$		-22	-17	dB	
insertion loss	$S_{21}$	-5.0	-4.0	-3.0	dB	
output isolation	$S_{23}$		-30	-25	dB	
attenuation	$A_{DAB3}$		-20	-10	dBr	DAB BD3 (174...228 MHz)
	$A_{2G4}$		-80	-60	dBr	$474 \text{ MHz} \leq f \leq 2345 \text{ MHz}$
RF input power	$P_{in}$			+10	dBm	
DC load* <sup>2</sup>	$I_L$	32	35	38	mA	@ 8.5 V $U_{Phantom}$
	$U_L$	-4	8.5	10	V	$R_L = 248 \Omega$ , 400 mW
connector		Dual Fakra B plug (male)		colour: white		

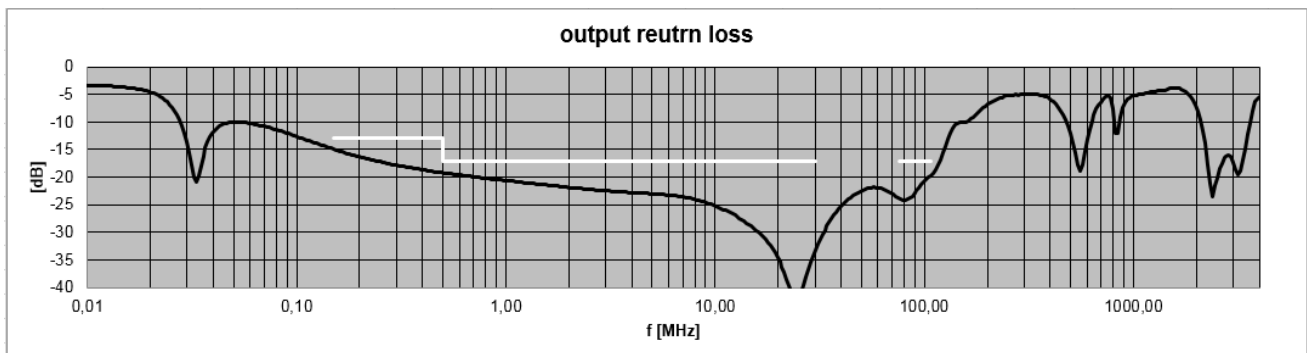
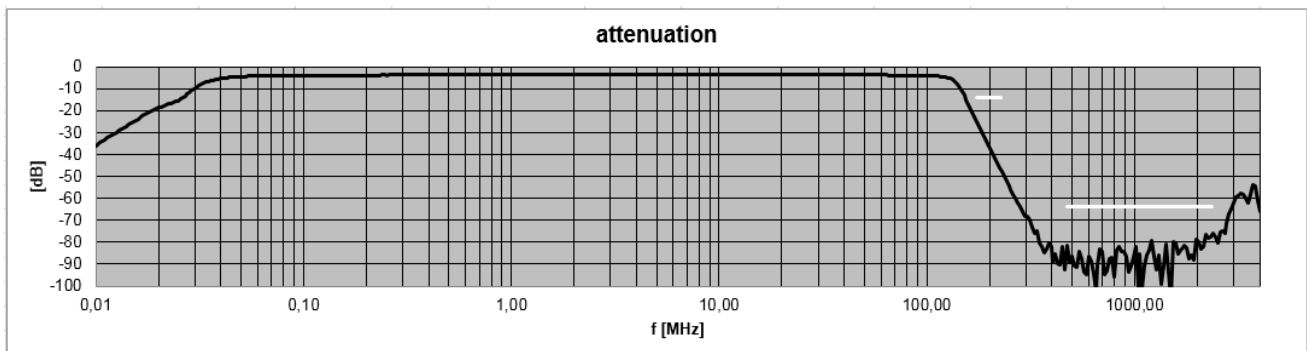
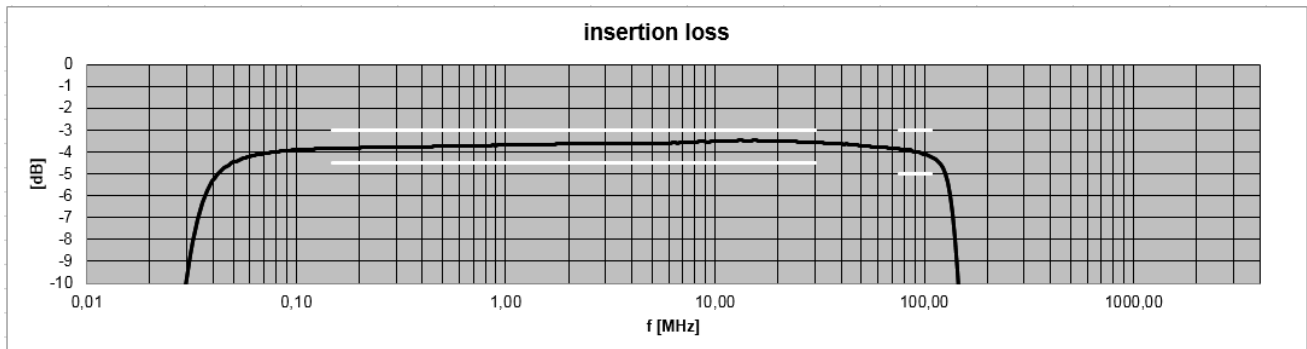
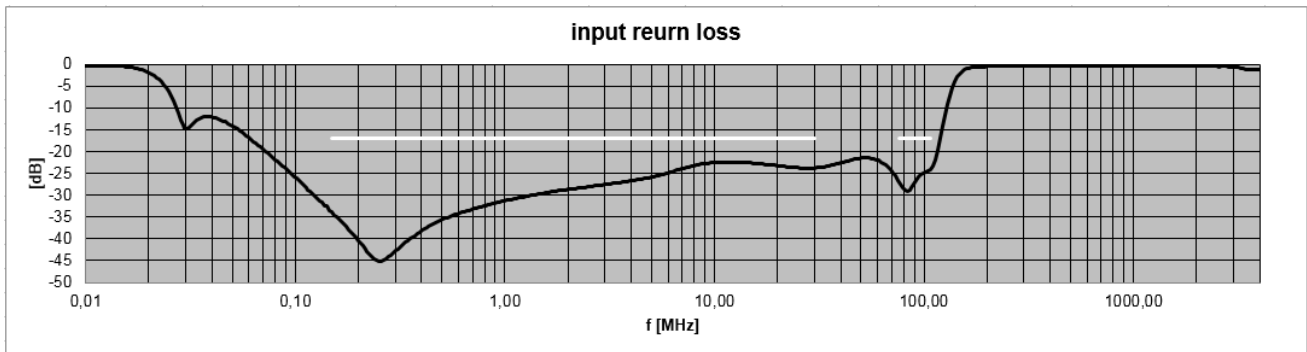
Note 1: -3 dBr typ.

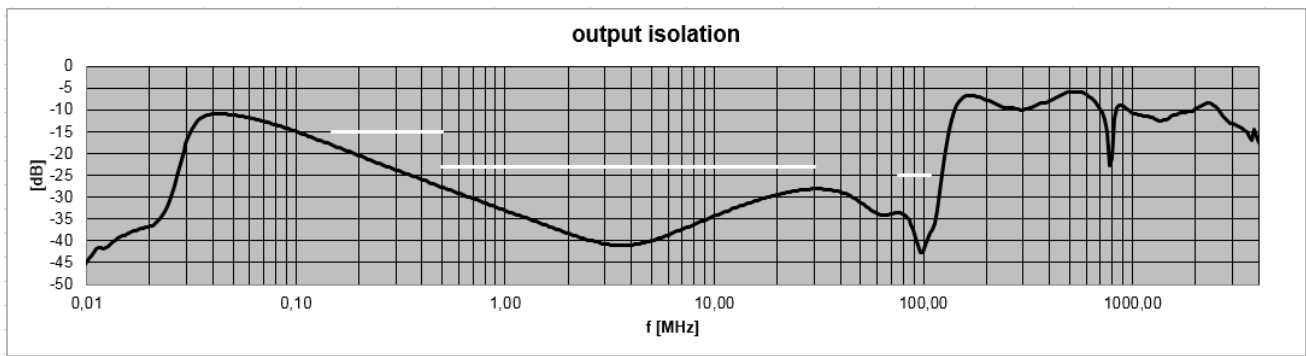
## Common Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
dimensions		approx. 120 x 59 x 36			mm	incl. feet and connectors
weight	m		330		g	
Operating temp. range	$T_o$	+5		+40	°C	
Storage temp. range	$T_s$	-40		+70	°C	
Ordering information		FDML		1310.6103.1		
		FDML-CS <sup>1</sup>		1310.0117.1		RF Fakra cable set, AM/FM (dual), l = 1 m (1 pcs.)

Note 1: included accessories

## S-Parameters (typical responses)

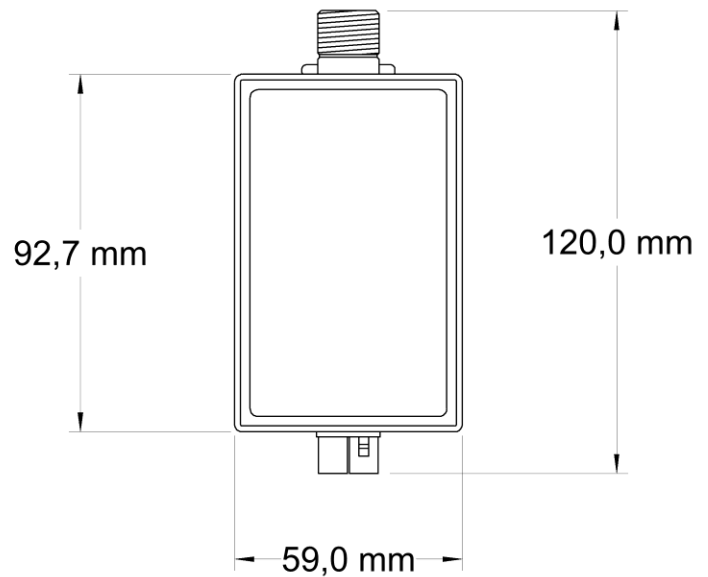
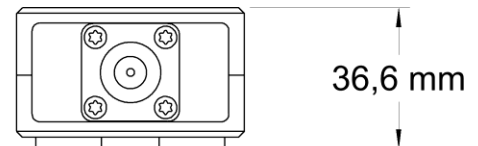
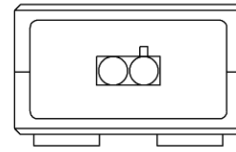
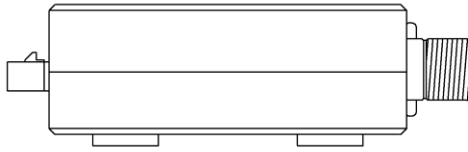




### Front / Rear View

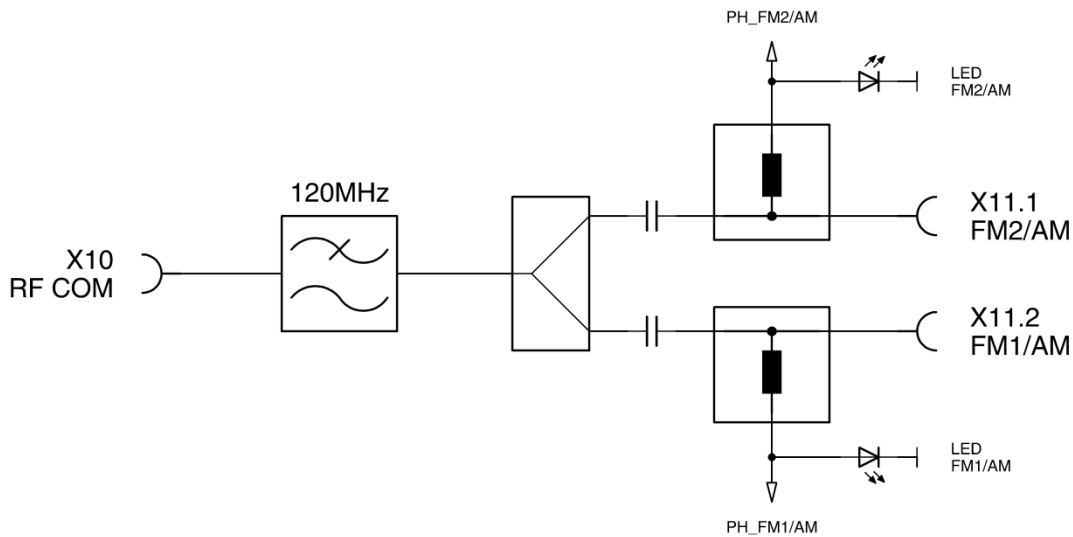


## Mechanical Drawing



all dimensions in mm  
 $\pm 2$  mm

## Block Diagram



## Related Products

Product	Description	P/N
FDMX	Frequency Demultiplexer for all common broadcast and navigation standards	1310.6003.1
FDMX-PT	Frequency Demultiplexer for all common broadcast and navigation standards with programmable DC loads	1310.6003.2