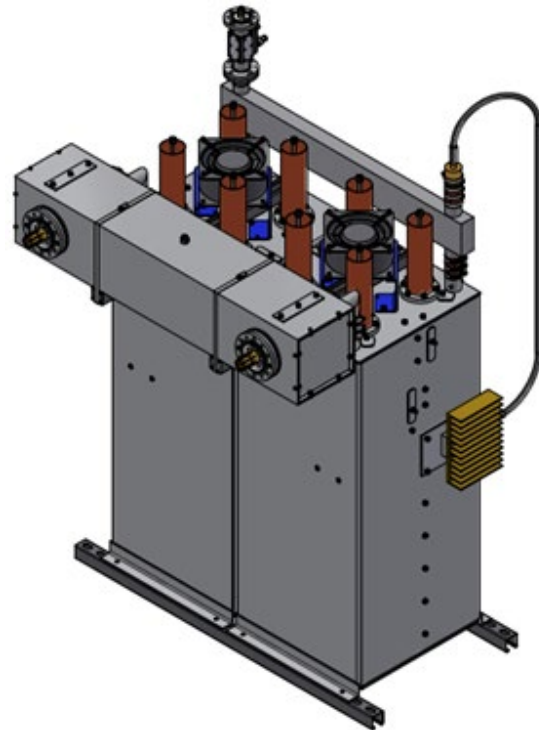


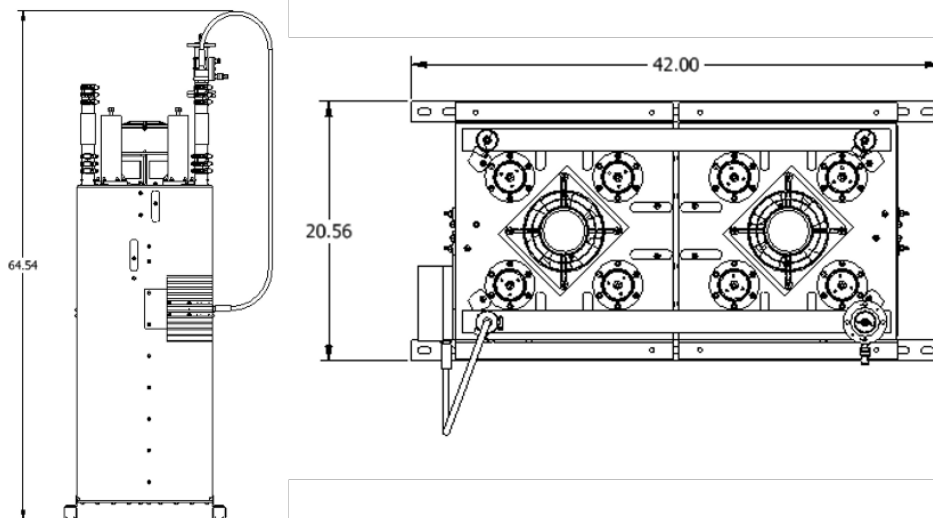
# FI940 Series Constant Impedance FM Combiner

## Features

- Includes cross-coupling for higher rejection for use in applications with closely spaced frequencies
- Folded design for minimum footprint
- ERI's Bellows Temperature-Compensation Technology, temperature stable using Invar
- Rugged 3/16-inch thick aluminum construction eliminates the oil-can effect from heating
- 1-5/8-inch EIA Flanged or Unflanged Input connection
- 1-5/8-inch or 3-1/8-inch Wideband Input and Output connections
- The filter can be tuned to different bandwidths based on the need
- Factory tuned to customer's specified channel yet can be easily field converted to any FM channel
- Ability to change frequency quickly and with a minimum of disassembly
- Easily assembled floor-standing unit (hardware for ceiling suspension available on request)



A new compact constant impedance FM bandpass filter from ERI with an innovative form factor and construction to provide the smallest footprint FM bandpass filter available capable of handling up to 10 kW average power. The filter is a four-section single cabinet design with a footprint of less than 21 by 42 inches (533 by 1067 millimeters). The filter includes the same field-proven Invar and bellows temperature compensation used in all models of ERI's medium and high-power FM filter products. The filter contains a cross-coupling standard for additional isolation in combiner systems with closely spaced frequencies. The filter is rated to handle up to 6 kW (depending on tuning) at the output after insertion losses, convection cooled, and the rating is increased to 10 kW with a forced air-cooling fan.



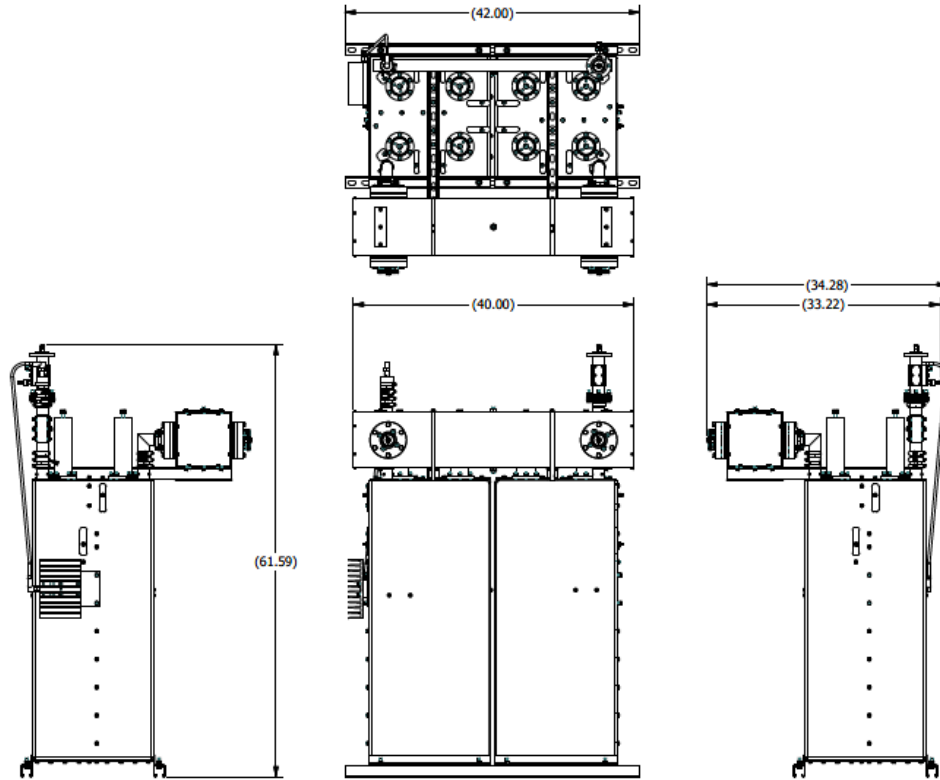
**ERI Model FI940-8C22-10-10 Constant Impedance FM Combiner Module with CH210 3 dB Input and Output Hybrids with 1/5/8-inch narrowband input and 1-5/8-inch wideband input and output. The dimensions shown are inches.**

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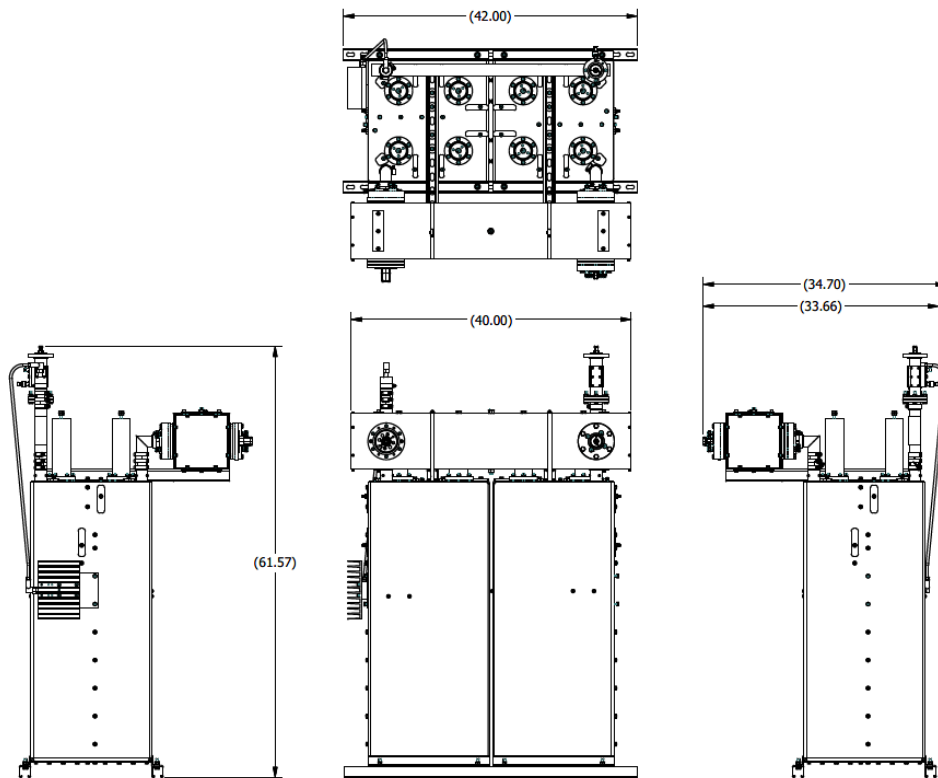
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F1940 Series Constant Impedance FM Combiner

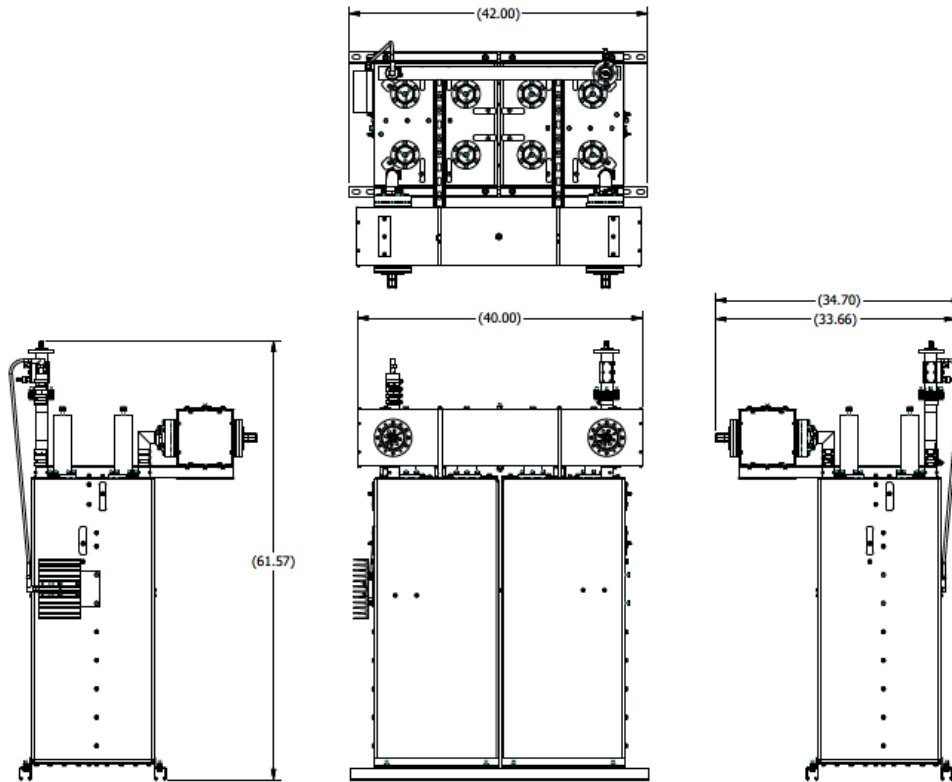


**ERI Model F1940-8C22-10-1T Constant Impedance FM Combiner Module with CH210 Input 3 dB Hybrid with 1/5/8-inch narrowband input and HY0241T Output 3 dB Hybrid with 1-5/8-inch wideband input and output. The dimensions shown are inches.**

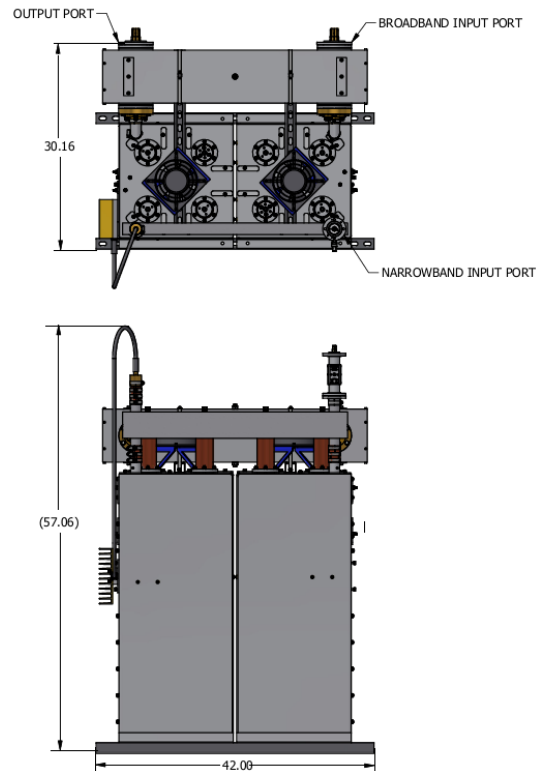
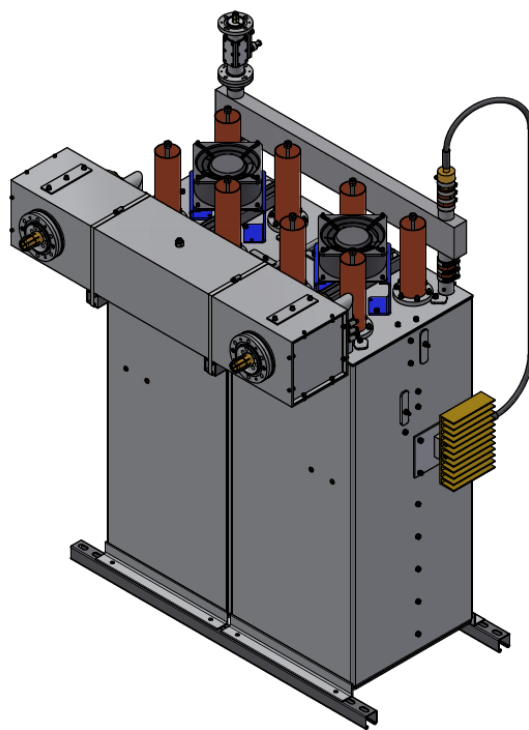


**ERI Model F1940-8C23-10-1T Constant Impedance FM Combiner Module with CH210 Input 3 dB Hybrid with 1/5/8-inch narrowband input and HY0241V Output 3 dB Hybrid with 1-5/8-inch wideband input and a 3-1/8-inch wideband output. The dimensions shown are inches.**

F1940 Series Constant Impedance FM Combiner



ERI Model F1940-8C23-10-1U Constant Impedance FM Combiner Module with CH210 Input 3 dB Hybrid with 1/5/8-inch narrowband input and HY0241 Output 3 dB Hybrid with 3-1/8-inch wideband input and output. The dimensions shown are inches.



ERI Model F1940-8A23-1U Constant Impedance FM Combiner Module with CH210 Input 3 dB Hybrid with 1/5/8-inch narrowband input and HY0241 Output 3 dB Hybrid with 3-1/8-inch wideband input and output. The dimensions shown are inches.

## FI940 Series Constant Impedance FM Combiner Specifications

Filter Type:	Constant Impedance FM Bandpass		
Frequency:	All FM Broadcast Channels (88 to 108 MHz)		
Poles:	Four (4) section		
	Standard Tune <sup>1</sup>	Wide Tune <sup>2</sup>	
Minimum Channel Spacing:	0.8 MHz	1.2 MHz	
Insertion Loss:	<0.60 dB	<0.45 dB	
Group Delay Variation ±200 kHz:	<250 ns	<75 ns	
Rejection:	-40 dB ± 0.8 MHz	-40 dB ± 1.0 MHz	
VSWR <sup>3</sup> :	1.1:1 ±200 kHz, maximum		
Narrowband Input Connector:	1-5/8-inch Unflanged or Flanged		
Narrowband Input Power Rating:	Convection Cooled <sup>4</sup>	Forced Air Cooling	
	6 kW	10 kW	
Narrowband to Broad Port Isolation:	≥-30 dB		
Narrowband Port-to-Port Isolation:	≥-55 dB, with two or more modules		
Part Number <sup>5</sup> :	Output Power Rating	Wideband Input	Wideband Output
FI940-8C22-10-10	10 kW	1-5/8-inch Unflanged or Flanged	1-5/8-inch Unflanged or Flanged
FI940-8C22-10-1T	13 kW	1-5/8-inch Unflanged or Flanged	1-5/8-inch Flanged
FI940-8C23-10-1V	20 kW	1-5/8-inch Unflanged or Flanged	3-1/8-inch Flanged
FI940-8C33-10-1U	20 kW	3-1/8-inch Flanged	3-1/8-inch Flanged
<b>Multiple Station Broad Port:</b>			
Frequency:	All FM Broadcast Channels (88 to 108MHz)		
Connector:	1-5/8-inch or 3-1/8-inch		
Insertion Loss:	-0.05dB Typical		
<b>Filter Size and Weight:</b>			
Height (tuned to 107.9 MHz):			
FI940-8C22-10-10		64.54 in	1639 mm
FI940-8C22-10-1T		57.06 in	1449 mm
FI940-8C23-10-1V		61.57 in	1564 mm
FI940-8C23-10-1U		61.57 in	1564 mm
Width:			
FI940-8C22-10-10		20.56 in	522 mm
FI940-8C22-10-1T		34.70 in	881 mm
FI940-8C23-10-1V		34.70 in	881 mm
FI940-8C23-10-1U		34.70 in	881 mm
Length:		42.00 in	1067 mm
Weight <sup>6</sup> :			
FI940-8C22-10-10		248 lbm	112 kg
FI940-8C22-10-1T		341 lbm	155 kg
FI940-8C23-10-1V		402 lbm	182 kg
FI940-8C23-10-1U		398 lbm	181 kg
Forced Air AC Power Required:		120 VAC	1.34 amp

- 1) Tuning for applications with adjacent frequencies with a minimum spacing of 0.8 MHz.
  - 2) Tuning for applications with adjacent frequencies with a minimum spacing of 1.2 MHz.
  - 3) When terminated in 50-Ohm resistive load.
  - 4) Depending on tuning, some applications may require forced air cooling.
  - 5) Convection-cooled Part Numbers listed. Forced Air Cooled versions substitute "A" for "C" in Part Number.
  - 6) The weight listed is for convection-cooled models. Add 10 lbm (4.5 kg) for Forced Air Cooled versions.
- Specifications presented are typical, total system performance may vary. ERI reserves the right to change specifications and features in a continuing effort to improve its products.