

FM 4-Pole 400 mm Balanced Combiner

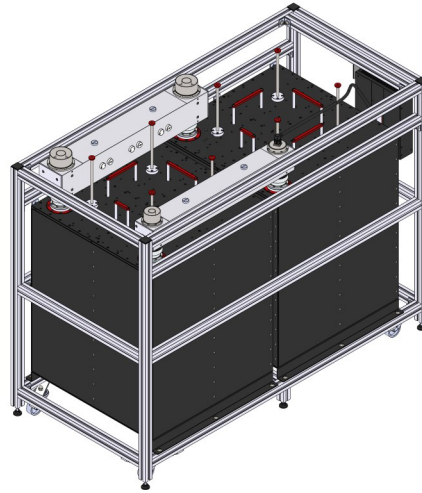
DF4E400F

FEATURES

- Cross Coupling
- 0.4 MHz Minimum Frequency Spacing
- Full-Band Tunability
- Temperature Stabilization
- DC-Short
- Modular Connector System
- Modular Frame System
- 10-Year Warranty

OPTIONS

- Heat Sinks
- Forced Air Cooling
- Liquid Cooling



SPECIFICATIONS

Code / Revision	B-DF4E400F/n / A <i>n: Number of Filtered Inputs</i>		
No. of Poles / Cavity Size	4-Pole / 400 mm		
Frequency Range	87.5-108 MHz		
Frequency Spacing	≥ 0.4 MHz		
Temperature Stability	< 400 Hz/K		
Max Operating Temperature (Body)	65°C (149°F)		
Environmental Conditions	-5 to +55°C (+23 to +131°F), IP60		
Dimensions / Weight ⁽¹⁾	n=1: 1890x900x1430 mm / 268 kg n≥2: 1890x(908·n)x1430 mm / 268·n kg		
Operating Position	As shown in drawing only		
Links	1+5/8" Rigid Line		
Connectors (NB Inputs) ⁽²⁾	1x 100 mm D-PC100M 3+1/8" FastLine Socket (Default) D-PC100N 3+1/8" FastLine Flange D-PC100P 4+1/2" FastLine Socket D-PC100Q 4+1/2" FastLine Flange		
Connectors (WB Input; Output) ⁽²⁾	2x 130 mm D-PC130P 4+1/2" FastLine Socket (Default) D-PC130Q 4+1/2" FastLine Flange D-PC130S RL-120 FastLine Socket D-PC130X RL-120 FastLine Flange		
Options ⁽²⁾	O-HCS.15 Heat Sinks O-FTC.02 Forced Air Cooling O-LTC.15 Liquid Cooling O-MTS.01 70 °C (158 °F) N.C. Thermoswitch		
Liquid Cooling Interface ⁽²⁾ / Coolant	3/8" NPT Male / Water and Antifreeze		
TUNING	1.2	0.9	0.6
Minimum Frequency Spacing	0.8 MHz	0.6 MHz	0.4 MHz
Tuning Code	T-4F.10	T-4F.12	T-4F.14
Max RMS NB Input Power ⁽³⁾	(108 MHz) Default 14.9 kW Heat Sinks 17.9 kW Forced Air Cooling 22.3 kW Liquid Cooling ⁽⁵⁾ 22.3 kW	(108 MHz) Default 11.5 kW Heat Sinks 13.8 kW Forced Air Cooling 17.2 kW Liquid Cooling ⁽⁵⁾ 17.2 kW	(108 MHz) Default 8.0 kW Heat Sinks 9.5 kW Forced Air Cooling 11.9 kW Liquid Cooling ⁽⁵⁾ 11.9 kW
Max RMS Output Power ⁽³⁾	95.0 kW	95.0 kW	95.0 kW
NB Insertion Loss	(87.5 MHz) (108 MHz) C.F. < 0.27 dB < 0.30 dB ±150 kHz < 0.29 dB < 0.32 dB + 0.05·n dB	(87.5 MHz) (108 MHz) C.F. < 0.36 dB < 0.39 dB ±150 kHz < 0.38 dB < 0.42 dB + 0.05·n dB	(87.5 MHz) (108 MHz) C.F. < 0.53 dB < 0.58 dB ±150 kHz < 0.58 dB < 0.64 dB + 0.05·n dB
WB Insertion Loss	< 0.06·n dB	< 0.06·n dB	< 0.06·n dB
Selectivity	C.F. ± 1.2 MHz > 25 dB	C.F. ± 0.9 MHz > 25 dB	C.F. ± 0.6 MHz > 25 dB
Harmonic Attenuation ⁽⁶⁾	> 40 dB up to 324 MHz	> 40 dB up to 324 MHz	> 40 dB up to 324 MHz
NB Return Loss (VSWR)	> 26 dB (1.11)	> 26 dB (1.11)	> 26 dB (1.11)
WB Return Loss (VSWR)	Single Ch. > 30 dB (1.07) All band > 24 dB (1.14)	Single Ch. > 30 dB (1.07) All band > 24 dB (1.14)	Single Ch. > 30 dB (1.07) All band > 24 dB (1.14)
Isolation Between Inputs	> 35 dB	> 35 dB	> 35 dB
Group Delay Variation	< 150 ns	< 300 ns	< 1600 ns

⁽¹⁾ Approximate, default configuration ⁽²⁾ Other Other Connectors, Options, Tunings available ⁽³⁾ Altitude < 1500 m (4,900 ft.), Free air, Ambient temp. < 30 °C (86 °F)

⁽⁶⁾ Up to 3rd harmonic atten. with LP/LC Series Lowpass Filter