

LCEL EcoLine Series

Active Extended L-Band Combiners (4-way, 8-way, 16-way)

The LCEL EcoLine series represents cost effective active L-Band combiners in 1RU/19" rack mount design. The units are available as single combiners (4:1, 8:1, 16:1), dual combiners (2 x 4:1, 2 x 8:1 and 2 x 16:1) and quad combiners (4 x 4:1, 4 x 8:1).

The units operate at the extended L-Band frequency range (850 – 2450MHz) ready for KA-Band and HTS applications and allow easy combining of up to 16 inputs to one output with zero loss.

Additionally, the units feature switchable DC-supply (Option) while an external 10MHz reference port and 1:1 redundant dual power supply are also optionally available. Colored front side LED´s display the health status of each power supply and DC-supply.

The LCEL EcoLine combiners are a perfect fit for Satellite-, Broadcast and Broadband RF distribution infrastructures at Teleports, Satellite Earth Stations or Cable/IPTV operations.



FEATURES & BENEFITS

- Space saving 1RU/19" rack mount design
- Extended L-Band frequency range 850 – 2450MHz
- Single 4:1, 8:1 and 16:1 combiners
- Dual 4:1, 8:1 and 16:1 combiners
- Quad 4:1 and 8:1 combiners
- Various RF impedances & connectors available
- Internally amplified zero loss active combiner units
- Switchable DC-supply 24V or 48V (Option DC24-EL / Option DC48-EL)
- 10MHz external reference port (Option 096-1 / Option 096-2)
- 10MHz & DC Through (Option 095)
- 1:1 redundant power supply (Option 097)

TECHNICAL SPECIFICATIONS

Dimensions:	1RU/19" rack mount, only 150mm deep
Power Supply:	Single 85 – 230V, 50/60Hz & fuse 1A (1:1 Redundant PSU Option 097)
Power Consumption:	<10W (without DC-supply) / <20W (with DC-supply)
Frequency Range:	850 – 2450MHz (extended L-Band)
Input/Output Connectors:	50Ohm SMA(f), 75Ohm F(f), 50Ohm BNC(f)*, 75Ohm BNC(f)*
Input RF Power:	+23dBm max.
Input/Output Return Loss:	14B min.

Noise Figure:	16dB typ.
Isolation:	20dB min.
Insertion Loss:	0dB typ., ±1.0dB max.
Frequency Response:	50Ohm Type: ±1.5dB typ. ±2.0dB max, ±0,25dB @ any 36MHz 75Ohm Type: ±2.0dB typ. ±2.5dB max, ±0,3dB @ any 36MHz
P1dB:	+11dBm typ.
IMA3 @ -10dBm:	-60dBc typ.
SFDR:	< - 80dBm
Switchable DC-Supply:	24VDC (ON/OFF) or 48VDC (ON/OFF) at common port (Option DC24-EL / Option DC48-EL)
10MHz Reference Port:	50Ohm SMA(f) rear-side (Option 096-1 / Option 096-2)
Status LED´s:	Unit power supply, DC-supply
Operating Temperature:	0°C to 50°C
Storage Temperature:	-20° to 75°C
MTBF:	390khours MIL-HDBK-217F (25°C)
Humidity:	90%, non-condensing
RoHS:	Compliant

on request

ORDER INFORMATION

Type with 50Ohm SMA(f) Connectors

Type	Type No.	Short Description
LC104EL-50S	9001167	Active extended L-Band Combiner, 1 x 4:1, 50Ohm SMA(f), 1RU/19" rack mount
LC108EL-50S	9000808	Active extended L-Band Combiner, 1 x 8:1, 50Ohm SMA(f), 1RU/19" rack mount
LC116EL-50S	9001171	Active extended L-Band Combiner, 1 x 16:1, 50Ohm SMA(f), 1RU/19" rack mount
LC2104EL-50S	on request	Active Dual extended L-Band Combiner, 2 x 4:1, 50Ohm SMA(f), 1RU/19" rack mount
LC2108EL-50S	on request	Active Dual extended L-Band Combiner, 2 x 8:1, 50Ohm SMA(f), 1RU/19" rack mount
LC2116EL-50S	on request	Active Dual extended L-Band Combiner, 2 x 16:1, 50Ohm SMA(f), 1RU/19" rack mount
LC4104EL-50S	on request	Active Quad extended L-Band Combiner, 4 x 4:1, 50Ohm SMA(f), 1RU/19" rack mount
LC4108EL-50S	on request	Active Quad extended L-Band Combiner, 4 x 8:1, 50Ohm SMA(f), 1RU/19" rack mount

Type with 50Ohm BNC(f) Connectors

Type	Type No.	Short Description
LC104EL-50B	9000805	Active extended L-Band Combiner, 1 x 4:1, 50Ohm BNC(f), 1RU/19" rack mount
LC108EL-50B	9001169	Active extended L-Band Combiner, 1 x 8:1, 50Ohm BNC(f), 1RU/19" rack mount
LC116EL-50B	9000787	Active extended L-Band Combiner, 1 x 16:1, 50Ohm BNC(f), 1RU/19" rack mount
LC2104EL-50B	9001280	Active Dual extended L-Band Combiner, 2 x 4:1, 50Ohm BNC(f), 1RU/19" rack mount
LC2108EL-50B	9001281	Active Dual extended L-Band Combiner, 2 x 8:1, 50Ohm BNC(f), 1RU/19" rack mount
LC2116EL-50B	9001282	Active Dual extended L-Band Combiner, 2 x 16:1, 50Ohm BNC(f), 1RU/19" rack mount
LC4104EL-50B	9001283	Active Quad extended L-Band Combiner, 4 x 4:1, 50Ohm BNC(f), 1RU/19" rack mount
LC4108EL-50B	9001284	Active Quad extended L-Band Combiner, 4 x 8:1, 50Ohm BNC(f), 1RU/19" rack mount

Type with 75Ohm F(f) Connectors

Type	Type No.	Short Description
LC104EL-75F	9000806	Active extended L-Band Combiner, 1 x 4:1, 75Ohm F(f), 1RU/19" rack mount
LC108EL-75F	9000810	Active extended L-Band Combiner, 1 x 8:1, 75Ohm F(f), 1RU/19" rack mount
LC116EL-75F	9001172	Active extended L-Band Combiner, 1 x 16:1, 75Ohm F(f), 1RU/19" rack mount
LC2104EL-75F	on request	Active Dual extended L-Band Combiner, 2 x 4:1, 75Ohm F(f), 1RU/19" rack mount
LC2108EL-75F	on request	Active Dual extended L-Band Combiner, 2 x 8:1, 75Ohm F(f), 1RU/19" rack mount
LC2116EL-75F	on request	Active Dual extended L-Band Combiner, 2 x 16:1, 75Ohm F(f), 1RU/19" rack mount
LC4104EL-75F	on request	Active Quad extended L-Band Combiner, 4 x 4:1, 75Ohm F(f), 1RU/19" rack mount
LC4108EL-75F	on request	Active Quad extended L-Band Combiner, 4 x 8:1, 75Ohm F(f), 1RU/19" rack mount

Type with 75Ohm BNC(f) Connectors		
Type	**Type No.**	**Short Description**
LC104EL-75B	on request	Active extended L-Band Combiner, 1 x 4:1, 75Ohm BNC(f), 1RU/19" rack mount
LC108EL-75B	on request	Active extended L-Band Combiner, 1 x 8:1, 75Ohm BNC(f), 1RU/19" rack mount
LC116EL-75B	9000789	Active extended L-Band Combiner, 1 x 16:1, 75Ohm BNC(f), 1RU/19" rack mount
LC2104EL-75B	on request	Active Dual extended L-Band Combiner, 2 x 4:1, 75Ohm BNC(f), 1RU/19" rack mount
LC2108EL-75B	on request	Active Dual extended L-Band Combiner, 2 x 8:1, 75Ohm BNC(f), 1RU/19" rack mount
LC2116EL-75B	on request	Active Dual extended L-Band Combiner, 2 x 16:1, 75Ohm BNC(f), 1RU/19" rack mount
LC4104EL-75B	on request	Active Quad extended L-Band Combiner, 4 x 4:1, 75Ohm BNC(f), 1RU/19" rack mount
LC4108EL-75B	on request	Active Quad extended L-Band Combiner, 4 x 8:1, 75Ohm BNC(f), 1RU/19" rack mount

OPTIONS

Type	Type No.	Short Description
Option 096-1	9000777	10MHz external reference input, feed to Common Port (Single Unit)
Option 096-2	9001183	10MHz external reference input, feed to Common Port (Dual Unit)
Option 097	9001165	Redundant Power Supply for EcoLine Splitter and Combiner Single and Dual Version
Option DC24-EL	9001173	DC Supply 24V DC
Option DC48-EL	9001174	DC Supply 48V DC
Option 095	9001176	10MHz and DC Through, Port #1 to Common Port, for EcoLine & BaseLine Splitters and Combiners
Option10M - 10MHz Internal Source	9001531	10MHz sine Wave, +5dBm, Aging ±500 ppb max. @ 10 years: Phase Noise -90 dBc @ 1 Hz, -120 dBc @ 10 Hz, -142 dBc @ 100 Hz, -155 dBc @ 1 kHz, -160 dBc @ 10 kHz.

RF-Design GmbH | Lahnstr. 13 | 64625 Bensheim | Germany
Phone: +49 (0) 6251 80 384 – 0 | E-Mail: contact@rf-design-online.de | Web: www.rf-design-online.de

CE ISO 9001 2015 CERTIFIED RoHS Compliant

© 11/11/2026 – RF-Design_LCEL-EcoLine Series_1RU_Active L-Band Combiners_V1-7rm.docx – Subject of change/modifications without notice