



# LV8 AC 3-Level – High performance modular drive for high-speed motor applications

## Diversity to meet customer requirements

For more than 40 years GE's Power Conversion Business is delivering equipment being used for testing automobiles and automobile components. The newly developed LV8 AC 3-Level drives take our high-speed test bench applications to the next level.

## LV8 AC 3-Level – High Speed Application

GE Power Conversions' LV8 Platform is the drive choice for a wide range of industrial applications. The LV8 AC 3-Level drives are designed for high-speed motor applications up to 30,000rpm and a power range up to 5MVA at 690V. We offer it as a liquid-cooled variant that features an extremely power-dense solution. The 3-Level topology enables a very smooth modulation of output voltage due to 3 switching levels. It further significantly reduces the output current derating for higher pulse frequencies compared to 2-level inverters.

## 3-Level application benefits

- Possibility to design with high speed motors at 690V requiring lower motor currents
- Lower distortion of the current waveform resulting in reduced motor losses
- Reduced losses of drive due to reduced switching losses
- Less current derating at low output frequencies compared to 2-level converters
- Less effort for filtering due to reduced harmonics
- Better common mode behavior for EMC compliance

Thanks to its modular design, the LV8 AC 3-Level can be very easily adjusted to customer demands such as specific power ratings and dimensions. It is possible to combine it with LV8 AC 2-Level inverters as well as to integrate our LV8 DC/DC-Converters onto the same DC-link for hybrid applications. It is designed for input voltage up to 690V and handles dynamically adaptable pulse frequencies of up to 24kHz at the motor. These characteristics allow the converter to supply an almost sinusoidal motor voltage, requiring less effort for filtering due to the reduced harmonics.

Real time fiber-optic control components in combination with high output frequencies make the LV8 the option of choice for dynamic high-speed applications.

## Customized options

The LV8 AC 3-Level can be fitted with additional options to meet special requirements:

- Suitable for 50Hz and 60Hz
- Pulse frequencies up to 24kHz
- Safety functions SS1 and STO with PL e
- Options for EMC C2 & EMC ILA
- User code integration for specific customer requirements

GEA34861 (05/22), ©GE, 2022



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## LV8 AC 3-Level Type Data

Flexible overload cycles available to fit your specific needs.

Parallel connections of up to 4 motor inverters possible, others on request.

Motor inverter, liquid-cooled at inlet temperature 40°C											
Type Designation	Motor Voltage	Rated Power @4 kHz	Rated current								
Equivalent 2-LVL pulse frequency			3 kHz	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	16 kHz	20 kHz	24 kHz
	[V]	[kVA]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]
<b>LV8611W40-T3L IB</b>	690	1135	970	950	888	840	795	754	647	559	491
2x parallel connection											
<b>LV8622W40-T3L IB(2p)</b>	690	2270	1940	1900	1776	1680	1590	1508	1295	1120	980

Motor inverter, liquid-cooled at inlet temperature 25°C											
Type Designation	Motor Voltage	Rated Power @4 kHz	Rated current								
Equivalent 2-LVL pulse frequency			3 kHz	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	16 kHz	20 kHz	24 kHz
	[V]	[kVA]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]
<b>LV8611W25-T3L IB</b>	690	1245	1074	1043	986	935	886	842	740	640	565
2x parallel connection											
<b>LV8611W25-T3L IB(2p)</b>	690	2495	2148	2086	1972	1870	1772	1684	1480	1280	1130