

# EPEC SL8X CONTROL PLATFORM

(Epec SL8X Unit, Epec SM8X Unit)

Product info SL8X

Epec SL8X Control platform delivers high-performance real-time control, functional safety, and exceptional flexibility, making it ideal for demanding applications in off-highway vehicles and non-road machinery.

**Key Benefits:**

- **Versatile Programming:** Adaptable to both centralized and distributed systems, offering seamless integration with multiple programming environments.
- **Advanced Communication:** Enables fast and reliable data exchange with support for various communication protocols, ensuring real-time responsiveness.
- **Durable Design:** Built to endure harsh environments, with extensive input/output options to support complex configurations.
- **Simplified Configuration:** Compatible with Epec MultiTool software for easy configuration, diagnostics, and simulation, reducing setup time.
- **Functional Safety:** Designed to meet the highest safety standards, supporting secure and reliable operation.

The SL8X is engineered to deliver performance, reliability, and flexibility, making it the perfect solution for advanced control systems in machine applications across different industries.

**Accelerated Time to Market:**

Epec offers a set of pre-certified safety libraries and software tools to optimize machine development, helping customers bring their products to market faster and more efficiently.

**Cybersecurity:**

- Epec is certified with ISO/IEC 27001, ensuring compliance with international information security standards.
- Customers can utilize Epec's control system and software development services, which consider cybersecurity as a key aspect.

**TECHNICAL FEATURES**

Processor: 32-bit CPU, 3-core, 264 MHz
Memory: SL8X: Flash memory: 8 Mbyte RAM memory: 1,5 Mbyte Non-volatile memory: 32 kbyte Customer application size: 1,8 Mbyte SM8X: Flash memory: 8 Mbyte RAM memory: 1 Mbyte Non-volatile memory: 32 kbyte Customer application size: 1,8 Mbyte
Power: Nominal supply voltage 12/24 VDC systems (8 ... 32 VDC)
REF Voltage outputs: +5 / +10 V (on/off by application)
Protection functions: Overvoltage protection, Short-circuit protection for outputs
Functional safety: IEC 61508 and IEC 62061, SIL 2 & ISO 13849, PL d / Cat. 3
Low power mode: Stand-by mode power consumption < 1 mA, KL15 wake-up, CAN wake-up, T1 Ethernet wake-up
I/O up to: SL8X: 100 (49 inputs + 51 outputs) SM8X: 63 (28 inputs + 35 outputs)
IP class: IP69k
Temperature range: -40 ... + 85 °C / -40 ... +185 °F
Connectors: up to 3 x LEAVYSEAL 46 pin, up to 6 x M12
Programming: CODESYS V3 Safety SIL 2 programming 3.5 (SP19), C, CANopen Responder, Ethernet Responder, MultiTool, Matlab/Simulink support
Supported protocols: CANopen, CANopen Safety, SAEJ1939, ISOBUS, CAN over Ethernet CANopen Safety protocol for safety-related communication according to EN50325-5
Extensive set of pre-certified libraries for safety related applications
Diagnostics: 2 x RGB LED, Supply voltage, Unit temperature, REF voltage monitoring
Epec MultiTool Simulator support

The **SL8X platform** is a modular product family offering versatile solutions for functional safety and control.

Platform includes CODESYS and C programmable safety controllers, CANopen safety responders, and Ethernet safety responders, all designed for flexible integration into various safety-critical systems.

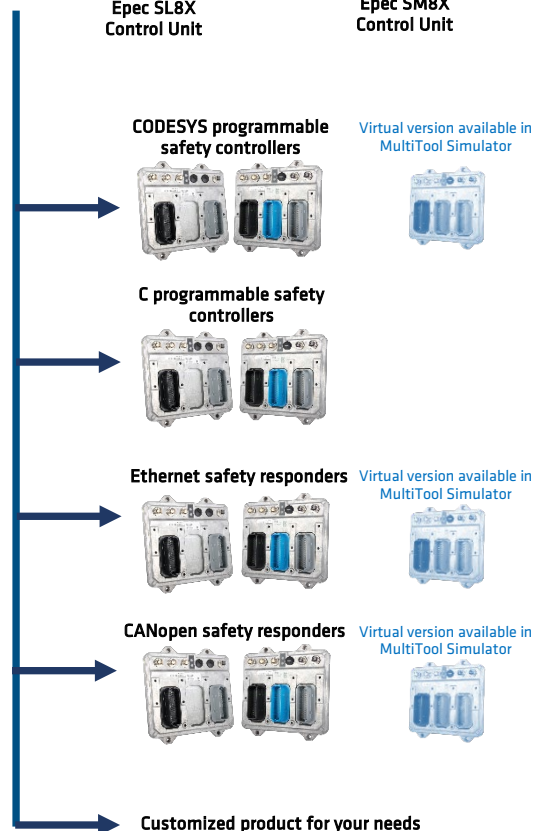
This platform provides a wide range of customization possibilities for diverse machine applications according to customer needs.

**SL8X Platform**



Epec SL8X Control Unit

Epec SM8X Control Unit



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## APPROVALS (when released)

Symbol / Name	Explanation
CE	This product complies with the requirements set in the CE Standard.
E17	This product is certified with normal automotive (E17) EMC (electromagnetic compatibility) standards.
EU declaration of conformity	This device is in compliance with Machinery Directive 2006/42/EC
Functional Safety Certification	TÜV SÜD Certification ISO 13849:2015 Up to PL d Cat 2 EN IEC 61508:2010 Up to SIL 2 IEC 62061 Up to SIL 2
ISOBUS	AEF HW conformance approval

## Technical Details

Product	SL8X		SM8X	
Technical Manual		Contact Epec sales		Contact Epec sales
Safety Manual		Contact Epec sales		Contact Epec sales
Programming Manual		Contact Epec sales		Contact Epec sales
CAN	6	<ul style="list-style-type: none"> <li>*2 with CAN FD (Coming in later release)</li> <li>2 duplicated in M12 connector</li> </ul>	5	<ul style="list-style-type: none"> <li>2 with CAN FD</li> <li>1 duplicated in M12 connector</li> </ul>
M12 Power	2	<ul style="list-style-type: none"> <li>Each CAN M12 has CAN sensor supply output</li> </ul>	1	<ul style="list-style-type: none"> <li>CAN M12 has CAN sensor supply output</li> </ul>
Ethernet	4	<ul style="list-style-type: none"> <li>1 Logical bus, built-in switch with</li> <li>1 100Base-TX in M12 connector</li> <li>2 100Base-T1 in M12 connector</li> <li>1 100Base-T1 in LEAVYSEAL connector</li> <li>For control unit status indication</li> </ul>	3	<ul style="list-style-type: none"> <li>1 Logical bus, built-in switch with</li> <li>1 100Base-TX in M12 connector</li> <li>2 100Base-T1 in M12 connector</li> </ul>
Status LED	2		2	<ul style="list-style-type: none"> <li>For control unit status indication</li> </ul>
5 V REF	3	<ul style="list-style-type: none"> <li>1 group</li> </ul>	2	<ul style="list-style-type: none"> <li>1 group</li> </ul>
10 V REF	2	<ul style="list-style-type: none"> <li>1 group</li> </ul>	1	
I/O GND	13		8	
PWM/DO	46	<ul style="list-style-type: none"> <li>24 with accurate current measurement for closed-loop control (Dither capable), others with current sensing</li> <li>6 HS/LS control and H-Bridge capable</li> <li>*6 PVG capable (Coming in later release)</li> <li>*2 PVG + AO 0-Uin capable (Coming in later release)</li> <li>2 Non-safety outputs</li> <li>6 PWM/DO</li> <li>All outputs have Voltage measurement for diagnostics, can be used alternatively as a voltage/digital input</li> </ul>	32	<ul style="list-style-type: none"> <li>18 with accurate current measurement for closed-loop control (Dither capable), others with current sensing</li> <li>4 HS/LS control and H-Bridge capable</li> <li>2 PVG capable</li> <li>2 PVG + AO 0-Uin capable</li> <li>All outputs have Voltage measurement for diagnostics, can be used alternatively as a voltage/digital input</li> </ul>
AI/DI	30	<ul style="list-style-type: none"> <li>7 resistance/thermistor input for temperature sensors</li> <li>10 with 5/10V voltage level selection</li> <li>17 with 0-25mA measurement</li> <li>30 with 0-5V measurement</li> </ul>	17	<ul style="list-style-type: none"> <li>3 resistance/thermistor input</li> <li>7 with 5/10V voltage level selection</li> <li>9 with 0-25mA measurement</li> <li>17 with 0-5V measurement</li> </ul>
PI/DI	18	<ul style="list-style-type: none"> <li>*6 support SENT interface (Coming in later release)</li> <li>12 with pull-up/down selection with SW</li> </ul>	10	<ul style="list-style-type: none"> <li>6 supporting SENT interface</li> <li>8 with pull-up/down selection with SW</li> </ul>
Wiring harness ID	1	<ul style="list-style-type: none"> <li>One pin, up to 12 different IDs</li> </ul>	1	<ul style="list-style-type: none"> <li>One pin, up to 12 different IDs</li> </ul>
KL15	1		1	
CODESYS Programming release	Contact Epec sales for availability			
C Programming release				
CANopen Responder release				
Ethernet Responder release				
ISOBUS release				


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