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, 258 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

CODESYS programmable safety controllers

Virtual version available in MultiTool Simulator

C programmable safety controllers

Ethernet safety responders

Virtual version available in MultiTool Simulator

CANopen safety responders

Virtual version available in MultiTool Simulator

Customized product for your needs

SL8X Product Page

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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 62061:2021 Up to SIL 2
ISOBUS	AEF HW conformance approval

Technical Details

Product	SL8X		SM8X	
Technical Manual		MAN000814		Contact Epec sales
Safety Manual		MAN000915		Contact Epec sales
Programming Manual		MAN000538		Contact Epec sales
CAN	6	• 2 duplicated in M12 connector	5	• 1 duplicated in M12 connector
M12 Power	2	• Each CAN M12 has CAN sensor supply output	1	• CAN M12 has CAN sensor supply output
Ethernet	4	• 1 Logical bus, built-in switch with • 1 100Base-TX in M12 connector • 2 100Base-T1 in M12 connector • 1 100Base-T1 in LEAVYSEAL connector	3	• 1 Logical bus, built-in switch with • 1 100Base-TX in M12 connector • 2 100Base-T1 in M12 connector
Status LED	2	• For control unit status indication	2	• For control unit status indication
5 V REF	3	• 1 group	2	• 1 group
10 V REF	2	• 1 group	1	
I/O GND	13		8	
PWM/DO	46	• 24 with accurate current measurement for closed-loop control (Dither capable), Other outputs with current sensing • 14 PWM/DO • 6 HS/LS control and H-Bridge capable • 2 non-safety outputs • All outputs have Voltage measurement for diagnostics, can be used alternatively as a voltage/digital input	32	• 8 x 2A with accurate current measurement for closed-loop control (Dither capable), other outputs with current sensing • 10 PWM/DO • 10 x 4A with accurate current measurement for closed-loop control, other outputs with current sensing • 4 HS/LS control and H-Bridge capable • All outputs have Voltage measurement for diagnostics, can be used alternatively as a voltage/digital input
AI/DI	30	• 7 resistance/thermistor input • 10 with 5/10V voltage level selection • 17 with 0-25mA measurement • 30 with 0-5V measurement	17	• 3 resistance/thermistor input • 7 with 5/10V voltage level selection • 9 with 0-25mA measurement • 17 with 0-5V measurement
PI/DI	18	• 12 with pull-up/down selection with SW	14	• 8 with pull-up/down selection with SW
Wiring harness ID	1	• One pin, up to 12 different IDs	1	• One pin, up to 12 different IDs
KL15	1		1	

CODESYS Programmable version	Ordering code: E300SL8X1-01-DD11	Contact Epec sales for availability
C Programmable version	Contact Epec sales for availability	
CANopen Responder version		
Ethernet Responder version		
ISOBUS version		

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