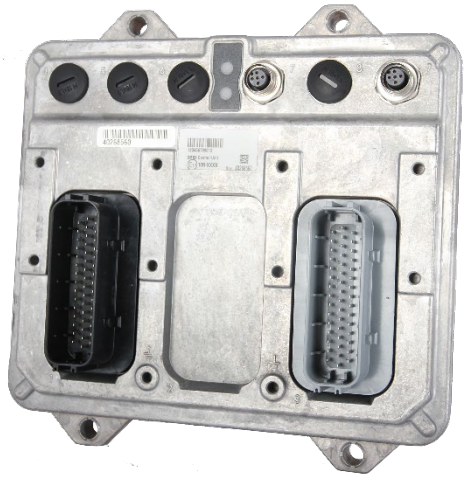
EPEC SM8X CONTROL UNIT

ONE-PAGER SM8X

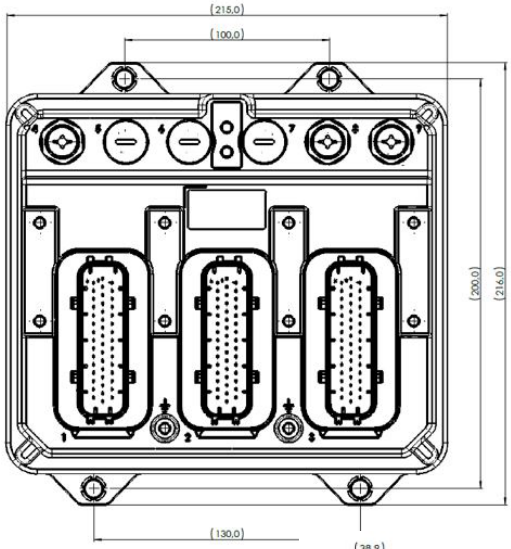
Epec SM8X control unit is a high-performance controller designed for distributed control systems in off-highway machines. It meets the highest requirements for functionality, lifecycle cost optimization, and robust performance in extreme environments making it ideal for demanding applications in off-highway machines and non-road vehicles.



The newly released product is part of the same family as the Epec SL8X and Epec SC4X control units introduced earlier this year. This release of the Epec SM8X control unit is targeted for applications and machine control systems without functional safety certification requirements, while still providing the same great functionalities as its family products. With this addition, customers gain the freedom to choose products with suitable and variable I/O sized products for their systems.

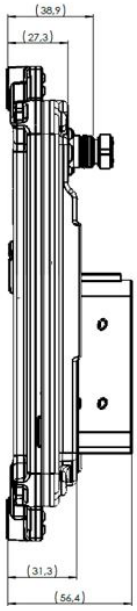
Epec SM8X is part of a platform that is highly adaptable to different system topologies, including both centralized and distributed architectures. Centralized systems offer the benefit of simplified wiring, reduced hardware complexity, and streamlined maintenance, while distributed systems provide greater scalability and adaptability for complex setups.

Epec SM8X control unit is supported with CODESYS 3.5 programming, Epec MultiTool Creator, Epec MultiTool Simulator, Epec MultiTool Diagnoser and Epec PLC libraries. Epec also offers truly comprehensive product support and training for the new products to help customers adopt the new platform more efficiently.



Key Benefits:

- Versatile Programming: Distributed systems, offering seamless integration with machine control systems.
- 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.
- Technical feature highlights:
    - CODESYS 3.5 programming
    - Dither functionality
    - Wiring harness identification
    - Higher calculation power
    - More customer application memory



Integration Notes

This release of the Epec SM8X control unit is targeted for applications and machine control systems without functional safety certification requirements. Applications will be programmed according to functional safety guidelines to ensure safe and reliable system behavior.

In addition, this version does not include Ethernet connectivity, KL15 or REF features. For comparison, Epec SL8X control unit already provides these capabilities, including functional safety certification, Ethernet interfaces, as well as KL15 and REF features.

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.

SM8X is engineered to deliver performance, reliability, and flexibility, making it the perfect solution for advanced control systems in industrial applications.

SM8X Product Page

Virtual Development Tools:

To accelerate development and enable design without the need for physical hardware, the SM8X offers a **virtual version** of the CODESYS programmable SM8X unit in Epec MultiTool Simulator. MultiTool Simulator streamlines the development process, reduces prototyping costs, and enables faster and automated testing iterations.

Cybersecurity:

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

TECHNICAL FEATURES

Processor: 32-bit CPU, 3-core, 258 MHz
Memory: Flash memory: 8 Mbyte RAM memory: 1,5 Mbyte Non-volatile memory: 16 kbyte Customer application size: 1,8 Mbyte
Power: Nominal supply voltage 12/24 VDC systems (8 ... 32 VDC)
REF Voltage outputs: -
Protection functions: Overvoltage protection, Short-circuit protection for outputs
Functional safety: No functional safety certification
Low power mode: Stand-by mode power consumption < 1 mA, CAN wake-up
I/O: 56 (26 inputs + 30 outputs)
IP class: IP69k
Temperature range: -40 ... + 85 °C / -40 ... +185 °F
Connectors: 2 x LEAVYSEAL 46 pin, 2 x M12 (CAN + sensor supply)
Programming: CODESYS 3.5 (SP19), MultiTool
Supported protocols: CANopen, SAEJ1939
Diagnostics: 2 x RGB LED, Supply voltage, Unit temperature
Extensive set of libraries for customer applications
Epec MultiTool Simulator support

APPROVALS

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.
RoHS2	This product complies with the RoHS directive (The Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment).
EU declaration of conformity	This device is in compliance with Machinery Directive 2006/42/EC

VARIANTS

Ordering code	E300SM8X1-02-DD11
Technical Manual ID	MAN000815
CAN	4
M12 Power	1 (M12 CAN connectors include supply voltage for CAN sensors)
Ethernet	0
Status LED	2
5 V / 10 V REF	0
I/O GND	21
PWM / DO	30
AI / DI	16
PI / DI	10
Wiring harness ID	1 (1 pin, 5 different IDs)
KL15	0
CODESYS version	3.5