

# Epec control units for mobile machines

## □ Your Challenge, Our Inspiration.

Epec control units are extremely compact, powerful and robust multifunction controllers:

- Innovative, powerful and high quality multifunction controllers for various customer needs
- IP67 housing designed to be used in most demanding operating environments, to withstand high mechanical shocks and vibration, extreme temperatures from -40 to +85°C and different chemicals
- Vibration & shocks up to 100 G
- Tested to comply with strict EMC standards, including a type approval according to the automotive EMC directive
- Two color diagnostic LED for quick status check and fault detection
- Open and configurable I/O interface
- Open solution. Not tied to any specific hydraulic component and sensor manufactures
- Codesys 2.3 and 3.5 programming with Epec MultiTool for fast and easy system development
- Documented software libraries
  - boom controlling
  - joystick
  - hydraulic valves
  - automatic software downloading
  - diagnostics features
  - parameter handling
  - engine control
  - fully programmable CAN interface

Epec multipurpose control units are excellent base for embedded machine control systems. All the units have the same robust environmental features but the I/O interface allocation varies according to the product type.

The units have an open I/O interface which makes it easy to connect sensors, actuators, joysticks and other devices from most common manufacturers. This makes it relatively easy to optimize the whole control system both in technical and economical way. Epec multipurpose control units have optimized number of both input and output pins to be used in numerous roles in the control system. The total number of I/O pins is 20-65 depending of the product. I/O pins includes digital inputs and outputs, analog inputs, pulse inputs, proportional (PWM) outputs and feedback inputs or upside current measurement. The type of each input is determined by the user application software allowing flexible use of the controller.

The controllers are used in very hard environmental conditions (IP67) thus they endures cold, heat, vibration, moisture and impacts easily. This makes the installing also easy as the modules do seldom require any extra protection. All these control units conforms the automotive E17 standards and have a shock endurance up to 100 G.

Gold plated heavy duty AMPSEAL connectors help installing both in machine factory and in the field. Each connector is color coded and mechanically keyed to suit only into the right place. The connector type is specially designed for wire harness use in volume production.

In addition to open I/O interface, Epec control units have 1-4 CAN interfaces. CAN interfaces are CANopen compatible and user programmable enabling e.g. SAE J1939 and Isobus communications also.

Controllers are PLCopen programmable which makes the programming work easy and convenient shortening development time for new systems. Codesys programming tool provides with easy graphic environment for developers to work with.

For further information about Epec multipurpose control units (Epec EC44 Control Unit, Epec 5050 Control unit, Epec 4602 Control Unit, Epec 3724 Control Unit, Epec 3720 Control Unit, Epec 3606 Control Unit, Epec GL84 Slave Unit) and other Epec products supporting CANopen and SAE J1939, please visit our website <http://www.epec.fi>.

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## Features

<b>NMT</b>	NMT slave
<b>Error control</b>	Node guarding Heartbeat producer Heartbeat consumer
<b>Boot-up</b>	Yes
<b>Node ID range</b>	-
<b>Node ID</b>	Software switch
<b>CANopen bit-rates</b>	-
<b>Type of bit-rate adjustment</b>	-
<b>RPDOs</b>	64
<b>TPDOs</b>	64
<b>PDO modes</b>	Triggered by event-timer Synchronous (cyclic)

	Synchronous (acyclic) Synchronous (cyclic) coupled to sync counter start value
<b>PDO linking</b>	Yes
<b>PDO mapping</b>	Variable
<b>SDO server</b>	1
<b>SDO client</b>	10
<b>Emergency producer</b>	Yes
<b>Emergency consumer</b>	Yes
<b>Sync producer</b>	Yes
<b>Sync counter</b>	Yes
<b>Time stamp</b>	Time stamp producer Time stamp consumer
<b>Additional functions</b>	Self-starting device Program download PLCopen/IEC 61131 function blocks
<b>CANopen version</b>	CiA 301 V 4.0.2
<b>Frameworks</b>	CiA 302
<b>Device profiles</b>	CiA 402: CANopen drives and motion control device profile CiA 405: CANopen interface and device profile for IEC 61131-3 programmable devices
<b>Certified</b>	No
<b>Availability</b>	In stock