

# CANopen

PROTOCOL  
STACK  
SOURCE CODE

### More Information

Looking for more information about the CANopen Source Code? Please check out our company website, where you'll find lots of useful information.

### Order Information

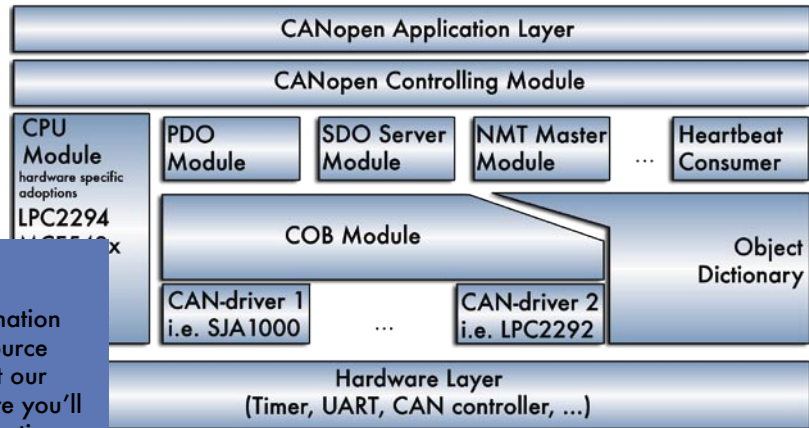
See back side for available packages!

Contact: [sales@systec-electronic.com](mailto:sales@systec-electronic.com)

## Why CANopen...

CANopen is a higher layer protocol based on CAN (Controller Area Network), which enables the communication between devices of different manufacturers and guarantees an interchangeability of devices.

**SYS TEC**  
ELECTRONIC



## CANopen Protocol Stack Source Code

Our CANopen protocol stack meets the requirements of modern automation systems.

### Real-Time Capable

The Zero-Copy strategy and the seamless implemented, strictly event-based software structure make our CANopen Protocol Stack best suitable for realtime applications as well as realtime operating systems.

### Reduced Workload

The ODBuilder is a configuration tool for creating the Object Dictionary of CANopen devices. Plausibility checks make easy the setup of a complete, standard compliant Object Dictionaries and minimize the risk of input errors. On mouse-click the Object Dictionary source code as well as the corresponding EDS is generated automatically.

### Modular and Scalable

The extensive source code configuration options allow for a best optimization in terms of speed and memory consumption. The comprehensive API of the CANopen Protocol Stack enables a simple integration to user applications. The modular software structure and the various configuration options enables fine-tuning and let you produce small code because only necessary components are linked to the application.

### Portability

Our CANopen protocol stack is available for many platforms and CAN controllers. If your system is not supported, the sophisticated software structure and the implementation in ANSI-C supports easy adaption to your specific target platform. Ask us for Adaptation Support.

### Supported Platforms

#### 8-bit

Infineon, Philips, generic 8051

#### 16-bit

Infineon, Renesas, Fujitsu, Atmel

#### 32-bit

Philips LPC22xx/LPC21xxx, Freescale MPC5x5, ColdFire MCF 52xx and MCF54xx, Intel 80x86 based, and more

#### Supported Operating Systems

Windows 2000/XP/XPe/CE, Linux, ECOS, PXROS

### CANopen Applications

Elevator Control  
Medical Devices  
Industrial Automation  
Building Automation  
Maritime Systems  
Military Vehicles  
Automotive Industry

<http://www.systec-electronic.com/canopen>

## Highlights

- Complete set of CANopen master and slave services included
- USB/CAN interface and fully-featured toolchain for configuration, test and commissioning of CANopen devices and networks included
- GUI based creation of the object dictionary with automatic source code generation and EDS export
- 1 year support and update service included
- No royalties on deployed products

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## Available source code packages:

Add-on Package	SO-877 CANopen Source Code	SO-877-VP CANopen Source Code Value Pack	SO-1063 CANopen Manager Source Code	Product	Feature
	•	•	•	CAN driver source code	
	•	•	•	Multi-instance support	
	•	•	•	Object Dictionary Builder tool	
	•	•	•	Event driven API	
	•	•	•	Generic OS API integration	
		•	•	CANopen development & configuration tools, USB/CAN interface	
	•	•	•	1 year free technical support and update service	
	512/512	512/512	512/512	RPDOs/TPDOs	
	•	•	•	Static PDO mapping support	
	•	•	•	Dynamic PDO mapping support	
	•	•	•	Bitwise PDO mapping support	
	127	127	127	SDO servers	
	127	127	127	SDO clients	
	•	•	•	SDO segmented transfer	
	•	•	•	SDO block transfer	
	•	•	•	Emergency producer	
	•	•	•	Emergency consumer	
	•	•	•	SYNC producer	
	•	•	•	SYNC consumer	
	•	•	•	Heartbeat producer	
	127	127	127	Heartbeat consumers	
	•	•	•	Life guarding	
	•	•	•	Node guarding	
	•	•	•	Boot-up protocol	
	•	•	•	Node control protocol	
	•	•	•	Error control protocol	
	•	•	•	NMT slave state machine	
	•	•	•	Time Stamp	
	•	•	•	High-precision time stamp	
•				Multiplexed PDO (MPDO)	
	•	•	•	Store/restore parameter support	
	•	•	•	Layer Setting Services (LSS) slave	
	•	•	•	Layer Setting Services (LSS) master	
			•	CANopen manager boot-up procedure	
			•	SDO manager	
	•	•	•	SRD client (dynamic SDO client)	
			•	Configuration Manager	
•			•	Process image, dynamic object dictionary	
	•	•	•	CiA 303-3 indicator specification support	
•				CiA 304 safety relevant data objects (SRDO)	
•				CiA 402 device profile for motion control and drives	

## CANopen Add-on Packages

### CiA 402 Add-on

This add-on module implements the CANopen device profile for drives and motion control according to CiA 402, as it is used for digital controlled motion products like servo controllers, frequency converters and servo motors. The implementation can handle up to 8 axes and supports the Homing Mode, Profile Position Mode, Profile Velocity Mode, Velocity Mode, and Profile Torque Mode.

### MPDO Add-on

This add-on module provides multiplexed PDO services according to CiA 301. A multiplexed PDO is a special type of PDO that is used wherever more process data are to be transmitted, as "normal" PDOs are available. MPDOs are therefore used in CANopen lifts (CiA 417) for example.

### Dynamic OD Add-on

This add-on module implements a dynamic object dictionary as specified in CiA 302 and provides functionality to replace, extend or modify parts of an existing object dictionary at runtime (e.g. PDOs, process data).

### SRDO Add-on

This add-on module provides all services and functionality compliant to CiA 304 - CANopen Framework for safety relevant communication. It allows for design of safety relevant CANopen devices based on SRDOs (Safety Relevant Data Objects). This safety implementation has proven to be successful in various industrial applications.