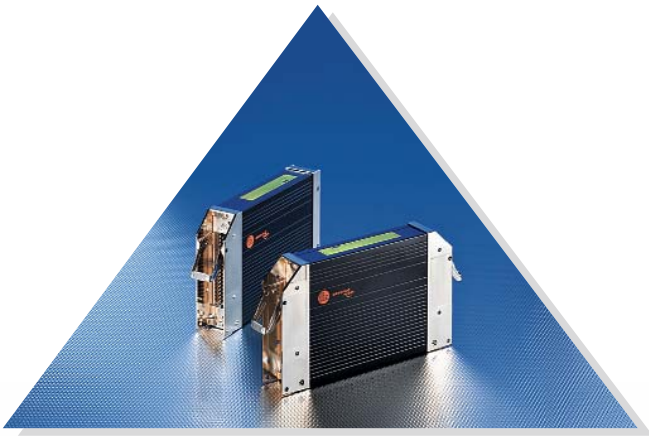




R360 SafetyController for mobile vehicles.



Safety technology for extreme requirements.

- ▲ Safety controller to EN ISO 13849 / cat. 3, EN 62061 SIL 2.
- ▲ Extended monitoring and test routines for hardware and software.
- ▲ Safe inputs and outputs for analogue, digital, pulse and PWM signals.
- ▲ CAN interfaces with CANopen, CANsafety and SAE J1939 protocol.
- ▲ Programmable to IEC 61131-3 with CoDeSys.



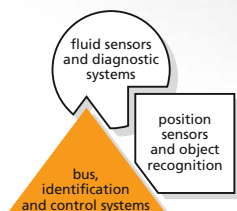
R360 SafetyController

Due to the integrated hardware and software functions, applications can be controlled and monitored up to cat. 3 / PL d to EN ISO 13849 according to the new machinery directive.

Permanent monitoring of CPU, memory and other hardware by the operating system, and the extended diagnostic functions of the outputs, ensure a safe operation of the control process.

The easy and clear programming system CoDeSys includes all important system information for the application program.

Via the CAN interface the devices can be connected to further safe and non safety-related controllers or input/output modules of the R360 device family using the CANsafety and CANopen protocol.



Functions and advantages

Almost all mobile vehicles have functions which may endanger persons and material. In more and more application areas (e.g. vehicle lifts, refuse trucks) there have been clearly defined product standards for some time. Due to the revised machinery directive the manufacturers of machines often have to meet new requirements.

For this reason there is an increasing demand for certified electronic assemblies for mobile vehicles. The SafetyController can be used in applications up to category 3 / PL d to EN ISO 13849-1 and SIL 2 to EN 62061.

Advantages and customer benefits

• **The safety concept**

The safety concept monitors all internal and external functions and reliably switches off in case of an error. Special test routines for hardware and software monitoring are implemented in the devices. Nevertheless, these devices are easy and convenient to program via CoDeSys.

The certified device hardware, the operating system software and the programming tools make it easier for the project engineer to obtain an approval for his machine as he only has to concentrate on his application program.

• **Configurability**

The inputs and outputs can be configured to the respective applications. Analogue, digital and frequency inputs are available as safety-related inputs and outputs. Furthermore, fail-safe inductive sensors / safety switches can be connected to the SafetyController. The safe and non-safe outputs can be used as digital and PWM outputs.

• **CANSafety**

In addition to the CANopen profile, CANSafety (DS 304) enables a safe data exchange between bus participants on the same bus cable while the "normal" communication is in process between CAN bus participants (e.g. I/O modules). Each SafetyController supports up to four safe transmit or receive objects (SRDO). The data is safely processed via the two integrated CAN interfaces.

Products

Description	Order no.
SafetyController 16 bits, 40 I/O	CR7021
SafetyController 16 bits, 24 I/O	CR7506
SafetyController 16 bits, 80 I/O	CR7201
Cable wired, 1.2 m	EC2046
Cable wired, 2.5 m	EC2086
Cable wired, 1.2 m, sealed	EC2084
Cable wired, 2.5 m, sealed	EC2097
AMP 55-pole connector, wirable	EC2013
Programming software CoDeSys, German version	CP9006
Programming software CoDeSys, English version	CP9008

Common technical data

SafetyController		
Housing		closed metal housing with flange fastening
Device connection		AMP connector 55 poles, latched, protected against reverse polarity
Protection rating		IP 67
Operating voltage	[V DC]	10...32
Current consumption	CR7021, CR7506 [mA] CR7201 [mA]	≤ 160 ≤ 320
Temperature range	[°C]	-40...85
Indication		RGB LED
Controller		C 167 CS
Maximum number of inputs and outputs usable at the same time	CR7021 CR7506 CR7201	40 24 80
Number of inputs / of which safe	CR7021 CR7506 CR7201	28 / 16 20 / 16 2 x 28 / 2 x 16
Number of outputs / of which safe	CR7021 CR7506 CR7201	24 / 12 8 / 4 2 x 24 / 2 x 12
Interfaces		2 x CAN 1 x RS232
Supported CAN protocols		CANopen (DS 301 V4) CANSafety (DS 304) SAE J 1939
Program memory	[MB]	1.5
Data memory SRAM	[kB]	256
Data memory Flash (non-volatile)	[kB]	128
Data memory non-volatile	[kB]	16
Data memory auto-save	[kB]	1
Programming software		CoDeSys V2.3
Certification		EN ISO 13849-1 (PL d, cat. 3) EN 62061 (SIL CL 2)
Standards and tests (extract)		CE, e1 (RL 2006/28/EC), BN 411 002