

# Контроллеры кулачков EPR48

## Технические характеристики

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# Programmable Cam-Controller EPR48

## User Information

English translation

### Correct Use

Cam controllers are employed everywhere, where actors must be marked exactly in firm assignment to the machine positions, for instance at packaging machines. The EPR48 is a high performance cam-controller with a 16-bit-processor system and memory-programming capacity. It has fully electronic control over the activities of processing machines or systems. A connected shaft - or path encoder picks up the momentary machine position and transfers this information to the EPR48, which activates the respective outputs according to the program.

- Absolute shaft encoder up to 1000 r.p.m
- Automatic dead time/delay-time correction
- Program optimizing during operation
- Easy programming via integrated keyboard
- No programming unit required
- 32 programs
- Realtime operating system for highest speed
- Operator terminal and PLC in one unit

### Features



### Installation

Thanks to clear text-conversation programming is very simple and can be learnt in a very short time. 9 keys without complicated double-functions are sufficient, even for complex program inputs.

Even clear text-dialogues can be programmed as desired.

All outputs are selected as frequently as desired without loss of speed.

**EPR48** has a real time multitasking operating system without firm cycle times. Thus an optimum at speed is reached.

It is possible to store and select 32 complete programs by manual keyboard entry or external controls. These different programs can be copied as desired, even in segments.

Simple connection to PLC, machine terminals or personal computers is possible via 48 digital control outputs or serial interface.

Efficient correcting functions, e.g. static angle correction or correction for selected outputs are possible in operation.

An automatic delay-time compensation function (dead-time) in operating processors automatically compensates the mechanical delay of connected servo components. A different delay-time compensation can be determined for each output, also separately to the rising or falling edge. The necessary angular advance is continuously calculated as a function of the machine operating speed, thus achieving a proportional time advance of the output signals. It is sufficient to enter one optional delay-time per output in milliseconds.

Current operational data, e.g. machine operating speed, position, angle etc. are indicated on the clear-text-display. A variable conversion factor allows a display in different

units of length (e.g. m, mm, inch). As an option current process data can be obtained via serial interface.

The **EPR48** is integrated in a compact panel case with dirt-insensitive foil-coated processure point keys. The modular electronics are based on European standard size pc boards. All components can be replaced at the rear side without disassembling the device.

Your packaging machine or production facility will be more intelligent, more flexible, faster and user-friendlier with **EPR48**.

If you are not convinced by now you should talk to us - we integrate even your most unusual special requirements.

### Safety Precautions



- The installation and operation must be carried out by qualified personnel only,
  - who is familiar with the professional handling of machine equipment,
  - who is familiar with the valid rules of industrial safety and accident prevention,
  - who read and understood the operating instructions and the system manual.
- The safe function of the device during machine operation cannot be guaranteed in case of wrong connection or

improper operation. This may lead to fatal injuries.

- Pay attention to country specific regulations.
- The electrical installation must be performed after disconnecting the device and the machine from the mains supply.
- The wiring must be carried out according to the instructions of this operating manual.
- The person who programs the device must be protected against electrostatic discharge (ESD protection).
- Opening the device, any manipulation of the device and

Non-observance of the instructions above will cause the loss of warranty.

# Programmable Cam-Controller EPR48

## User Information

### Installation:

Operation voltage: AC 230V/115V  
Mains frequency AC: 50-60Hz  
Power consumption: approx. 20VA  
Temperature range: 0° - 40°C  
Protection: IP54 front  
Weight: approx. 3000g  
Fitting position: as desired

### Shaft Encoder-Connection

Resolution: 10-bit-binary input,  
Electrically separated,  
Integr. power supply: DC 12V, 250mA  
Input voltage: DC 10-30V  
Input frequency: max. 6000Hz,  
1000 r.p.m. at 360 steps / revolution

### Outputs

48 transistor outputs  
DC 10-60V, 100mA, plus-switching  
Electrically separated by optocoupler  
2 European standard size pc boards with 24 outputs each  
Front LED-display

### Rear 37-pole Sub-D plug-in connection

### Program Alteration Input

6 bit binary, 1 transfer signal  
DC 10-30V electrically isolated

### Processor System

16-bit-CMOS processor system  
16MHz system cycle, 32MHz clock  
64KB EPROM, 192KB RAM  
Battery-buffered, with retentive memory

### Display

12-digit LED-dot matrix red  
All ASCII-characters, special characters  
Height of symbols 5.08mm  
3 adjustable brightness levels  
readability up to 5m

### Keys

Integrated foil-coated keys with pressure point, 9 keys, IP65

### Serial Interface

V24, RS232-level, 300-9600 baud

### Programming

Integrated programming unit,  
clear text-dialogue entry via keys or personal computer  
Text-display programmable as desired (option)  
Optional release by external key-operated switch,  
As many circuit-areas as desired without loss of speed,

Comfortable input functions for  
Input of new switching areas  
Alterations  
Documentation  
Deleting output-switching areas  
Deleting whole program  
Program selection  
Program (segment) copying  
Static angle correction  
In-operation correction  
Delay-time correction per output  
Installation  
Program load / safe

### Self-Monitoring

Watch-Dog with control-output  
Memory-check  
Transfer-check serial interface  
Shaft encoder control of unacceptable data  
Overspeed

### Mechanical Construction

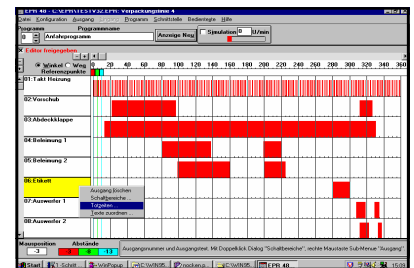
Sturdy plastic case in accordance with DIN 144x144mm  
Front: foil-coated keys on aluminium supported-place  
Printed circuit boards in European format replaceable on rear side without disassembly of case  
All electrical connections on rear side with screw-type plug connectors  
Mains and key-operated switch on screw terminals connection

### Shaft Encoder EPR-WG

EPR-WG3 binary: Order-No. 585482  
Resolution: 1 degree, 0-359 binary  
Voltage: DC 10-24V  
Current consumption: 200mA  
Outputs: 20mA short-circuit proof  
Protection category: IP65  
Temperature range: 0° to 55°C  
Weight: 500g  
Vibration: 100m/s<sup>2</sup> (10-10000Hz)  
Connection: plug-in terminal IP54  
Cable length: 3m, 5m, 10m (option)  
(see separate datasheet)

### Accessories

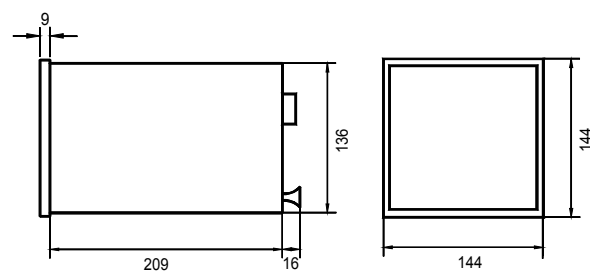
EPRPRO for WINDOWS:  
PC-software for programming  
data transfer  
text editing, documentation  
cable for serial interface 2m,  
2x Sub-D-plug-in connection 25-pol.  
Order-No. 585732  
cable for serial interface 2m,  
1x Sub-D-plug-in connection 25-pol.  
1x Sub-D-plug-in connection 9-pol.  
Order-No. 585733



**EPRPRO for Windows** - programming couldn't be easier.

The PC-Software for all EPR/EPC-devices.

Dimension Drawing



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