

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



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 mo-

dular 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.





# Programmable Cam-Controller EPR48

## 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 Alternation 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-plate  
 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

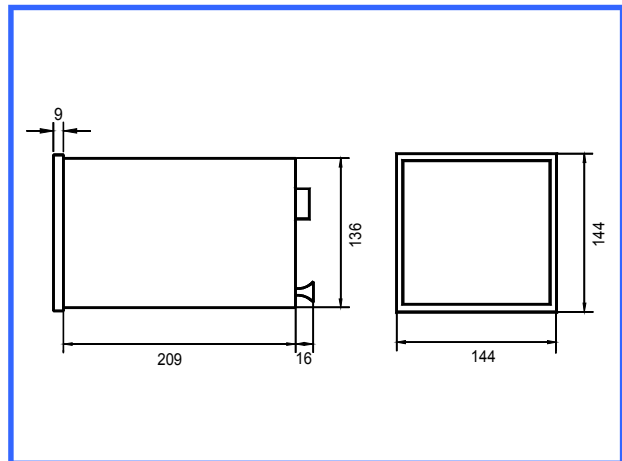
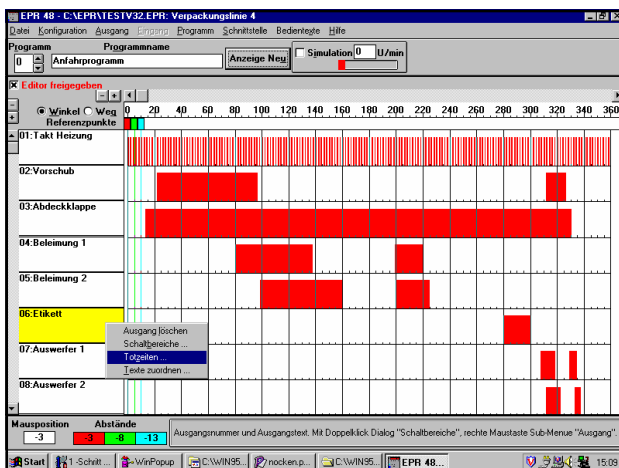
## Shaft Encoder EPR-WG

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

Order-No	Type
585700	EPR48 AC 230V, 48 Outputs
585701	EPR48 AC 115V, 48 Outputs
585716	EPRPRO für Windows 9x,NT,XP
585882	User manual EPR english



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

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