

User Information

English translation

Correct Use

The EPR16 is a programmable cam controller with a 16-Bit-processorsystem. Your packaging machine or production facility will be more intelligent, more flexible, faster and user friendlier with EPR16. A connected absolute angle encoder picks up the momentary machine position, transfers this information to the EPR16, which activates the respective outputs according to the program.

Features

- Absolute shaft encoder up to 500 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



Function

Simplest programming and operation

Programming effected after flow chart, it is very simple and within shortest time easy to learn by plain language dialogue. 9 keys are sufficient for the program input of also complex applications. The plain language dialogue is freely programmable and thus for example possible in different languages. Each output can be arbitrarily frequently switched without lost of speed.

32 programs directly in the access

32 complete programs can be stored and selected by keyboard input. The different programs can be copied, also segment by segment.

Simple interconnection with PLC

A simple interconnection with PLC, machine terminal or personal computer is possible over the 16 digital switching exits or the serial V.24 interface.

Program optimizing during operation

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

Integrated fully automatic delay-time compensation

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.

Information about clear text display and ser. interface

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.

Durably, compactly and reliably

The EPR16 is integrated in a compact panel case with dirt-insensitive foil-coated procedure 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.

Extensive supporting PC software

With **EPRPRO for Windows** we additionally offer an extremely efficient PC software for programming with graphic support inclusive program printout, documentation, programming of the plain language display as well as data communication on disc.

Additional components

To the cam controller **EPR16** we also supply suitable absolute gray code or binary code encoders, see separate data sheet.

Our experience - your advantage

Whether packing machines, cleaning machines, labelling machines, textile machines, manufacturing automats - with **EPR16** you control intelligent, fast, flexible, safe and convenient.

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 the avoidance of the safety facilities are not permitted.
- All relevant safety regulations and standards must be attended to.
- Non-observance of the safety regulations may cause death, severe injuries or substantial damage to property.
- Before use, please, read the operating instructions and keep it in a safe place. Make sure that the operating instructions are always available for installation, initial operation and maintenance.

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

User Information

Installation

Operating voltage: AC 230V/115V,
Mains frequency AC: 50-60Hz
Residual ripple DC: < 5%
Power consumption: approx. 14VA
Temperature range: 0 - +40°C
Protection: IP65 front
Weight: approx. 1300g
Fitting position: as desired

Shaft Encoder Connection

Resolution: 10-bit binary/Gray code input, electrically separated
Integr. power supply: DC 12V, 250mA
Input voltage: DC 10-30V
Input frequency: max. 3500Hz
binary: 500 r.p.m. with 360 steps / revolution
gray: 400 r.p.m. with 360 steps / revolution

Outputs

16 transistor outputs
DC 10-60V, 100mA, plus-switching electrically separated by optocouplers,
Rear 37-pol. SUB-D plug-in connection

Serial Interface

V24, RS232-level, 300-9600 baud

Processor System

16-Bit-CMOS processor system
8MHz system cycle, 16MHz clock
32KB EPROM / 128KB RAM
Battery-buffered, with retentive memory

Display

12-digit LED-dot matrix red
All ASCII characters, special characters
Height of symbols 5.08 mm
3 adjustable brightness levels
Readability up to approx. 5m
current display alternatively angles
Machine speed
Correction angle
Program number
Switching status of outputs

Keys

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

Programming

integrated programming unit
clear text-dialogue entry via keys or personal computer
Text-display programmable as desired
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 switching areas
- Deleting whole program
- Program selection
- Program(segment) copying
- Static angle correction
- In-operation correction
- Delay-time input for each 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 IP65 on aluminum supported place
All connections on rear side with plug-in terminals.

Shaft Encoder EPR-WG2 / EPR-WG3

EPR-WG2 gray: Order-No. 585480
EPR-WG3 binary: Order-No. 585482
Resolution: 1 degree, 0-359
Voltage: DC 10-24V
Current consumption: 200mA
Outputs: 20mA, short circuit proof
Protection: IP65
Temperature range: 0° to 55° C
Weight: 500g
Vibration: 100m/s² (10-10000Hz)
Connection: Plug-in terminal IP54

Accessories

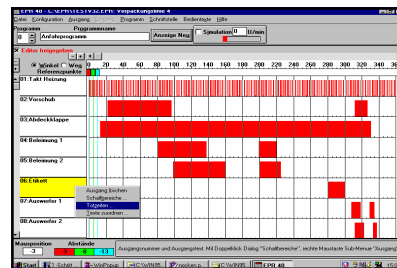
EPR16-RE: plug-in card with 16 relay outputs for each 3A/250V
Order-No. 485450

EPR16-OK: plug-in card with 16 short circuit proof transistor outputs for each DC 10-30V / 0,5A
Order-No. 485455

EPRPRO V3.x for Windows XP, 2000, 9x:
PC software for programming, data transfer, text editing, documentation
Order-No. 585716 german

Cable for serial interface 2m,
2x Sub D plug-in connection 25-pol.
Order-No. 585732

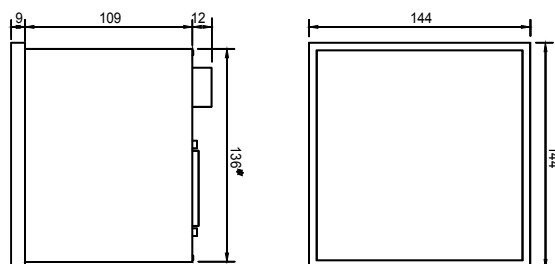
Cable for serial interface 2m,
1x Sub D plug-in connection 25-pol.



EPRPRO for Windows - programming couldn't be easier.

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

Dimension Drawing



Variants

Order-No. 585405	EPR16GT, 230V AC, Graycode
Order-No. 585406	EPR16GT, 115V AC, Graycode
Order-No. 585415	EPR16BT, 230V AC, Binary code
Order-No. 585416	EPR16BT, 115V AC, Binary code
Order-No. 585480	EPR-WG2 shaft encoder Graycode
Order-No. 585482	EPR-WG3 shaft encoder Binary code
Order-No. 585450	EPR16-RE Relay output card
Order-No. 585455	EPR16-OK Optocoupler output card
Order-No. 585716	EPRPRO for Windows XP, Win7 32Bit



See user manual for complete description of the device.