Programmable Cam-Controller EPC16

User Information

English translation

Correct Use

The EPC16 is a programmable cam-controller of the upper performance class equipped with 16-bit-processor-system. Your packaging machine or production facility will be more intelligent, more flexible, faster and user friendlier with EPC16. A connected absolute angle encoder picks up the momentary machine position, transfers this information to the EPC16, which activates the respective outputs according to the program. Keys, text display and programming unit are integrated.

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
- 8 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. The dialogue is possible in different languages.

Current operational data such as machine speed, position, angle etc. are shown on the text display. By a variable conversion factor the display can be made also in units of length (e.g. m, mm, inch). Furthermore the current process data are spent over the serial interface.

EPC16 can be programmed optionally with the PC-Software EPRPRO for Windows®.

All outputs are selected as frequently as desired without loss of speed. **EPC16** 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 up to 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 digital control inputs / outputs or serial interface.

The **EPC16** is integrated in a compact panel case with dirt-insensitive foil-coated processure point keys.

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.

Our experience - your advantage

Whether packaging machines, cleaning machines, labelling machines, textile machines, manufacturing automats - with **EPC16** 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.

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E61-230-00

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Installation
Operating voltage: AC 230V
DC 24V, +-10%
Mains frequency AC: 50-60Hz
Residual ripple DC: < 5%
Power consumption: approx. 10VA
Temperature range: 0 - +40°C
Protection: IP65 front
Weight: approx. 1400g
Fitting position: as desired

Shaft Encoder Connection
Resolution: 10-bit-binary / gray code input, electrically isolated,
360/1000 steps / revolution
Integr. power supply. DC 12V, 250mA
Input voltage: DC 10-30V
Inut frequency: max. 3500Hz
500 r.p.m. with 360 steps / revolution

Outputs
16 transistor outputs
DC 10-60V, 500mA, plus-switching
Electrially separated by optocoupler
Rear 37-pol. Sub-D plug-in connection
Optional:
16 relay outputs AC 250V/5A via plug-in relay card

Serial Interface
V24, RS232-level, 300-9600 baud

Processor System
16-Bit-CMOS V25-Processor-system
64KB EPROM, 128KB RAM
Battery-buffered, with retentive memory

Display
4x20 characters LCD yellow / black
supertwisted, behind-shines
Hight of symbols approx. 5 mm

Keys
Integrated foil-coated keys with
pressure point, number block, cursor controlling and function keys, IP65

Programming
integrated programming unit
Clear text dialogue entry via keys or personal computer
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,
delete whole program,
program selection,
program(segment) copying,
static angle correction,
in-operation correction,
delay time input for each output,
installation
programs load / safe
test / initialization routine

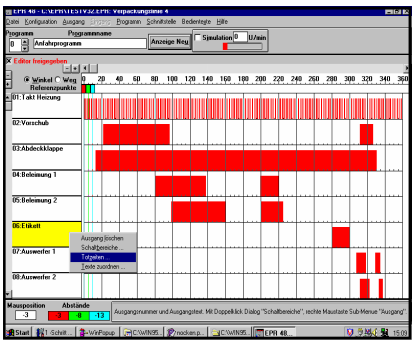
Self-Monitoring
Watch Dog with control output
Memory check
Transfer check serial interface
Shaft encoder control of unacceptable data
Overspeed

Mechanical structure
Strudy plastic case in accordance with
DIN 144x144mm
Front: foil-coated keys IP65 on aluminium support-place
All connections on rear side with plug-in terminals
Mains connection and key-operated switch with screw-type plug-in connectors

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/s 2 (10-10000Hz)
Connection: plug-in connector IP54
Cable length: 3m, 5m, 10m (option)
(see separate data sheet)

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

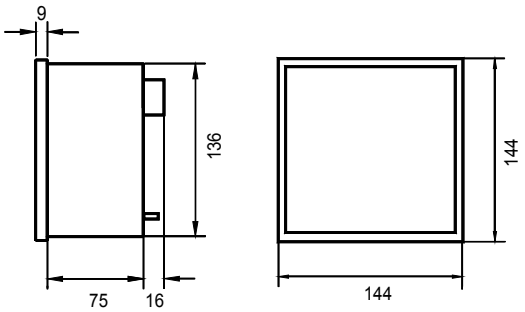
EPRPRO for Windows, Order-No. 585716:
PC software for programming,
Data transfer,
Text editing, documentation german
Cable for serial interface 2m,
2x Sub D plug-in connection 25-pol.
Order-No. 585732
Cable for serial interface 2m,
1x Sub D plug-in connection 25-pol.
1x Sub D plug-in connection 9-pol.
Order-No. 585733



EPRPRO for Windows - programming couldn´t be easier.

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

Dimension Drawing



Variants

Order no. 585200	EPC16GT, 230V AC, Graycode
Order no. 585202	EPC16GT, 24V DC, Graycode
Order no. 585210	EPC16BT, 230V AC, Binary code
Order no. 585212	EPC16BT, 24V DC, Binary code
Order no. 585480	EPR-WG2 Shaft Encoder Graycode
Order no. 585482	EPR-WG3 Shaft Encoder Binary code
Order no. 585450	EPR16-RE plug-in card with 16 relay outputs
Order no. 585716	EPRPRO for Windows XP, Win7 32Bit

CE

See user manual for complete description of the device

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