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.

Features

- 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

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.

E11

E61-231-00

H. ZANDER GmbH & Co. KG • Am Gut Wolf 15 • 52070 Aachen • Germany
Tel +49 (0)241 9105010 • Fax +49 (0)241 91050138 • info@zander-aachen.de • www.zander-aachen.de

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 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

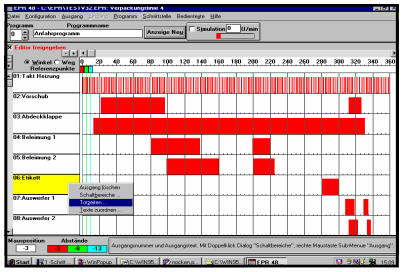
Mechanical Construction
Sturdy plastic case in accordance with DIN 144x144mm
Front: foil-coated keys on aluminium supported-place
Printed circuit boards in European format replaceable on rear side without disassembly of case
All electrical connections on rear side with screw-type plug connectors
Mains 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/s² (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

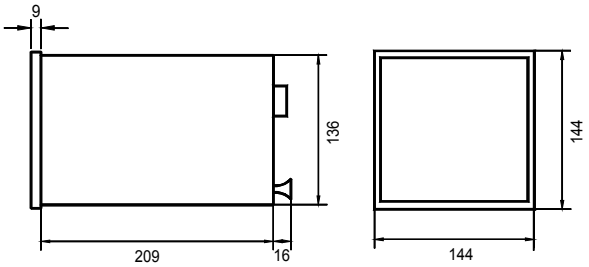
cable for serial interface 2m,
1x Sub-D-plug-in connection 25-pol.
1x Sub-D-plug-in connection 9-pol.
Order-No. 585733



EPRPRO for Windows - programming couldn´t be easier.

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

Dimension Drawing



Variants

Order No. 585700	EPR48, 230V AC
Order No. 585701	EPR48, 115V AC
Order No. 585482	EPR-WG3 Binary shaft encoder Binärcode
Order No. 585716	EPRPRO for Windows XP, Win7 32Bit

CE

See user manual for complete desciption of the device.

E11

E61-231-00