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Product Name :	**Product Code :**
Fuzzy Control Inverted Pendulum	AR499

Description :

Fuzzy Control Inverted Pendulum

Technical Specification :

Fuzzy Control: Inverted Pendulum
The unstable "inverted pendulum" system acts as a mechanical single-variable system. The upright position of the pendulum is adjusted by two independent propeller drives and is achieved quickly and if possible without overshooting. A fuzzy control will be developed and optimised for this purpose.
The inclination of the pendulum is measured by a potentiometer. The sensor supplies a crisp signal to the fuzzy controller, where the signal is transformed into a fuzzy input value and inferenced before being transformed back into a crisp output value. This output value controls the actuators, two propeller drives.
Design and optimise fuzzy control systems using microcontroller technology
Inverted pendulum as mechanical single-variable system, simo (single input - multiple outputs)
2 independent motors for propeller drive as actuators
microcontroller with USB port as fuzzy controller
FSH-Shell development software for designing and optimising the fuzzy controller; software via USB under Windows 7, 8.1, 10 including PC1 Computer-System with 21" TFT-Monitor Win 10 engl.
Rotary potentiometer as pendulum inclination sensor
Part of the structured learning concept: level 2a

Technical Data:
Inverted pendulum
Length: 780mm
Counterweight: 1,89kg

2 drive motors
7,2V / 23A
Microcontroller
8bit microcontroller Zilog Z8Encore
12-fold ADC 8bit
Rotary potentiometer
Resistance value 5k Ohm ±20%
230V, 50Hz, 1 phase

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