SmartBox & FishSmartBox.CLS

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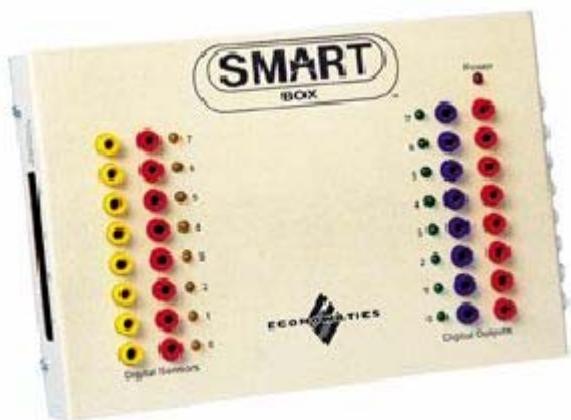
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Freeware : Eine prvate – nicht gewerbliche – Nutzung ist kostenfrei gestattet.

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Common

The SmartBox of Economatics Education is delivered with the MS-DOS Software SmartMove. It contains an own programming language similar to Basic and an development environment for editing and debugging. There is no support for programming with a 32bit Windows programming language.

A first step in this direction is done with the class FishSmartBox which contains the most basic functions for programming the SmartBox with Visual Basic 6.

FishSmartBox.CLS

FishSmartBox.CLS is a Visual Basic class which capsulates the SmartBox commands to Methods and Properties to be used with Visual Basic. Today the Count, Pulse and Analog function are not implemented. The nomenclature correponds to that of FishFace for the fischertechnik Interface (FishFa30.DLL).

Some methods can be breaked by property NotHalt = True or Escape Key is hit (Break). Any Outputs / Motors are switched off.
Most methods execute the DoEvents method (DoEvents). That anables Visual Basic updating ist Forms and to react to user actions especially in narrow loops.

Most methods and properties will raise events in case off errors :
Err.Raise 30001 Interface Problem and Err.Raise 30002 OpenInterface is missing

Enums

sbxPort   List of COM-Ports

sbxDir   Operations to a Motor

sbxDigIn List of Digital Sensors

sbxDigOut List of Digital Outputs

sbxAnalog List of Analogue sensors

sbxMotor List of Motors

Eigenschaften

Outputs **LampOuts**
Read the value of all Digital Outputs (last 8 bits)

Motors   **MotorOuts**
Read the value of all Motors (last 8 bits, 01 Left, 10 Right, 00 Off)

Boolean **NotHalt**
Read / Write the status break off program execution

String   **Version**
Read the version of FishSmartBox.CLS

Methoden

Sub   **ClearLamps**()
Switch off all Digital Outputs

Sub   **ClearMotors**()
Switch off all Motors

Sub   **CloseInterface**()
Shutdown the connection to theCOM-Port

Boolean **Finish**(InputNr As sbxDigIn)
Process an end request (NotHalt, Escape, InputNr(optional))
Break, DoEvents

AnalogV **GetAnalog**(AnalogNr As sbxAnalog)
Read the value of a Analogue sensor
DoEvents

Boolean **GetInput**(InputNr As sbxDigIn)
Read the value of a Digital Switch
DoEvents

Sensors **GetInputs**()
Read the value of all Digital Switches
DoEvents

Sub   **OpenInterface**(PortName As sbxPort)
Open a connection to the COM-Port

Sub   **Pause**(mSek As Long)
Stop program processing in term of Milliseconds
Break, DoEvents

Sub   **Reset**()
Reset the SmartBox to the state of power on

Sub   **SetLamp**(LampNr As sbxDigOut, OnOff As sbxDir)
Switch an Digital Output On/Off
DoEvents

Sub   **SetLamps**(DigOut As Long)
Switch all Digital Outputs corresponding to the last 8 bits of DigOut
DoEvents

Sub   **SetMotor**(MotorNr As sbxMotor, Direction As sbxDir)
Switch a Motor Left / Right / Off
DoEvents

Sub   **SetMotors**(MotorStatus As Long)
Switch all Motors corresponding to the last 8 bits of MotorStatus
(01 Left, 10 Right, 00 Off)
DoEvents

Sub   **WaitForInput**(InputNr As sbxDigIn, OnOff As Boolean(optional, True))
Wait for a Digital Sensor is equal to OnOff
Break, DoEvents