

Intelligent Image sensor

FA 30 WCC PA ...



The intelligent Image sensor is a flexible, stand alone solution for a wide variety of applications in the field of automation technology:

- ◆ Presence detection (Labels, marks,)
- ◆ Final Assembly Inspection
- ◆ Part orientation (vibrating bowl conveyers,)
- ◆ Printing control (packaging, assembly.)
- ◆ Label control (bottling, packaging,)
- ◆ Empty bin control (conveyer pan, assembly,)
- ◆ Edge detection (stickers, assembly,)
- ◆ Position control (X-, Y- position, mounting position, stickers, marks,)
- ◆ Plus much more

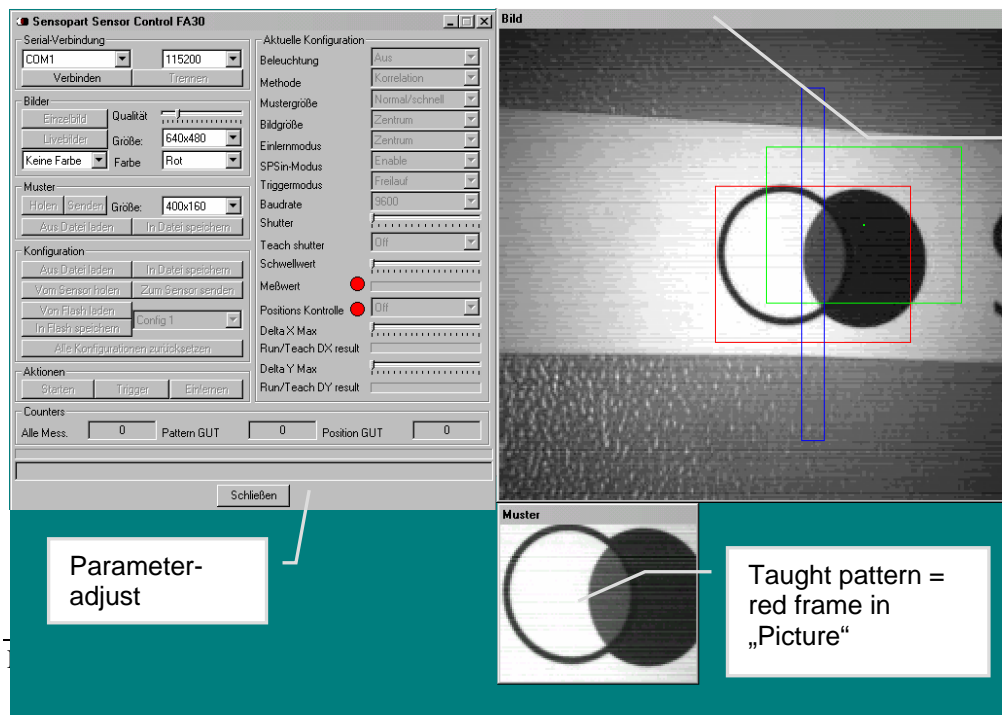
Functions

- ◆ Pattern matching
- ◆ Position control in X a./o. Y
- ◆ Area test Contrast
- ◆ Area test Grey level
- ◆ Manual or auto. Shutter
- ◆ Different geometry's of measurement field and resolutions
- ◆ Up to 5 test objects per sensor, to runtime

Features

- ◆ Stand alone operation (Self contained)
- ◆ Integrated illumination (external optional)
- ◆ Teach In and adjustment at the sensor or via PC (software included)
- ◆ Switching output for good- / bad signal
- ◆ Different measurement ranges and measurement field sizes
- ◆ Large tolerance range for position deviation

Screenshot PC software



The screenshot shows the 'Sensopart Sensor Control FA30' software interface. The main window is divided into several sections: 'Serialverbindung' (Serial connection), 'Bilder' (Images), 'Muster' (Pattern), 'Konfiguration' (Configuration), 'Aktionen' (Actions), and 'Counters'. The 'Bilder' section shows a live camera feed of a circular object with a red frame around it, indicating a measurement field. The 'Muster' section shows a red frame around a circular object, which is identified as the 'Taught pattern'. The 'Konfiguration' section contains various settings for the sensor, including 'Beleuchtung' (Illumination), 'Methode' (Method), 'Mustergröße' (Pattern size), 'Bildgröße' (Image size), 'Einlernmodus' (Teach mode), 'SPSIn-Modus' (SPSIn mode), 'Triggemodus' (Trigger mode), 'Baudrate' (Baud rate), 'Shutter', 'Teach shutter', 'Schwellwert' (Threshold), 'Meßwert' (Measurement value), 'Positions Kontrolle' (Position control), 'Delta X Max', 'Run/Teach DX result', 'Delta Y Max', and 'Run/Teach DY result'. The 'Aktionen' section has buttons for 'Stellen' (Set), 'Trigger', and 'Einlernen' (Teach). The 'Counters' section shows 'Alle Mess.' (All measurements) with values for 'Pattern GUT', 'Position GUT', and 'GUT'.

View- and measurement field with position frame for ease of programming

Parameter-adjust

Taught pattern = red frame in „Picture“

Technical data

Electrical data	
Supply voltage	24 VDC +/- 10% (max. 28V)
Residual ripple	< 5 V peak to peak
Maximum cable length	25 m
Power consumption (without I/O's)	Max. 50 ma
Inputs IN1 / IN2	High 10 ... 24V (+10%), Low 0 ... 3V
Input resistance	> 20 ohm
Trigger input	rising edge, 10V ... Ub
Output OUT1 ... 4	PnP (pull up MOSFET)
Output current (each output)	Max. 400mA (>> max. 9,6 W)
Maximum output current	1,5 A in case of short cut
Short circuit proof (all outputs)	yes
Protection against interchangement	yes
Serial interface	RS232 (max. 115.200 Baud, operate only with SPI –programming cable!
Typical cycletime	min.: ca. 100ms typ.: ca. 170-220ms (depending on pattern)

Optical data	
Number of pixels, technology	FA30 WCC 640 (H) x 480 (V), CCD
Built in illumination	8 LED's white
Objective	12 mm
Meas. range	in mm FA30WCC... 45 80 120 200 500 .
Field of view	X * Y in mm 13*10 23*17 35*26 59*44 149*112
Meas. field normal	X * Y in mm 4*3 7*5 12*8 20*15 49*37
Meas. field wide	X * Y in mm 8*3 14*5 24*8 40*15 98*37
Depth of focus	approx. +/- 5 % of measurement distance

Mechanical data	
Length	100 mm
Diameter	30 mm
Weight	approx. 100 g
Vibration	< 3g (11 - 200Hz)
Shock	< 50g
Ambient temperature	0°C 45°C (80% humidity, not condensing)
Storage temperature	-20°C ... 60°C (80% humidity, not condensing)
Enclosure rating	IP 54
Connection	Connector, 12 pin, M16
Housing	Aluminum

Connection, 8-pin cable

