

ASi-Duo

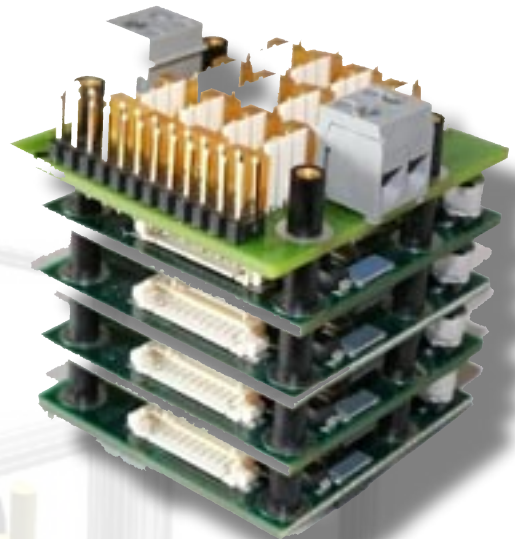
AS-Interface board with 4 digital inputs and 4 digital outputs

Using the AS-Interface from Robo-Technology you can easily connect a large number of binary sensors with just two wires, carrying data and power over a distance of up to 100m. In traditional wiring, every single sensor or actuator is wired directly to the controller. This becomes increasingly difficult when there is not enough room for the individual cables, e.g. on a robot end-effector. Our AS-Interface system requires only four wires to communicate with up to 124 sensors and 124 actuators.

The AS-Interface bus can be accessed from a large variety of other existing field buses by means of readily available coupling modules.

Configuration example: AS-i stack

- 4 I/O boards and 1 distribution board stacked
- a total of 16 inputs and 16 outputs
- extremely small-sized design: 45 x 47 x 53 mm
- modules separately stackable
- e.g. to be mounted at the robot arm or tool



Configuration example

- 4 ASi-Duo I/O boards
- 1 distribution board for 3-wire sensors

Reliable data transmission:

- Each telegram will be checked by the receiver for possible faults. This will be done by checking the parity bit and several other independent values.
- By these means an extremely high reliability in detecting single and multiple faults is achieved.
- The repetition of a single telegram consumes 150 μ s only and is already included in the cycle time of 5 ms.
- AS-Interface can be used in rough environments such as production sites with a lot of electro-magnetic noise.

Reduction in hardware components:

- fewer I/O cards in PLC, PC or robot controller
- smaller cabinets, terminal housing, cables
- less wiring along the robot arm and tool

Cost-saving by:

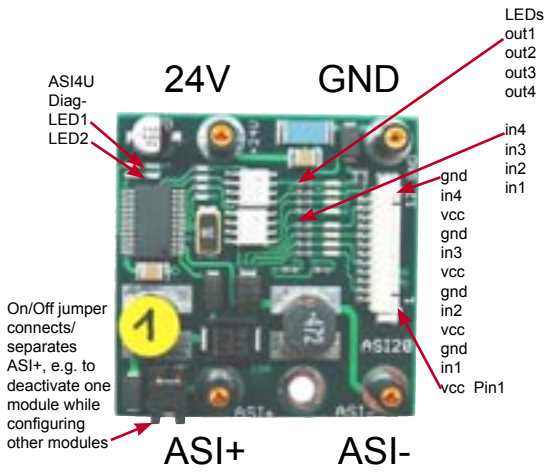
- reducing installation and ramp-up time
- simpler product planning and documentation
- increased plant availability by better diagnostics and maintenance



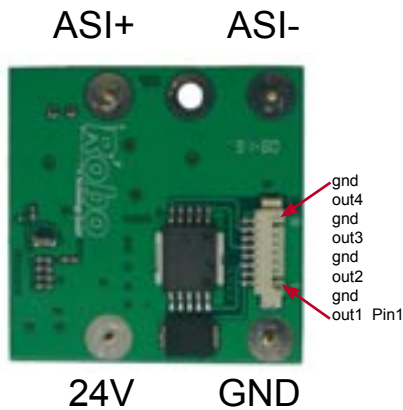
Example: 5-gripper robot tool
8 outputs, 16 inputs

ASi-Duo

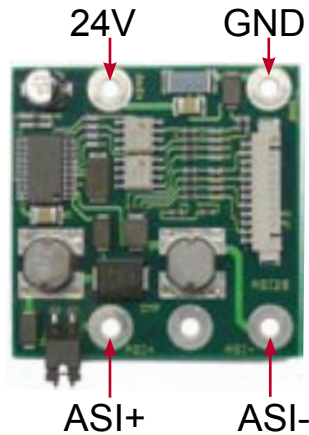
AS-Interface with 4 digital I/Os each



AS-i 2.0 board, press-fit connectors, top view



AS-i 2.0 board, press-fit connectors, bottom view



AS-i 2.0 board with solder covered holes, top view

AS-i 2.0 Board

- stackable I/O module with 4 digital inputs and 4 digital outputs
- bus protocol: ASi 2.0 (IEC 62026-2)
- extended address mode, ASi 2.1 / ASi 3.0 possible
- outputs separately powered, max 250mA per channel
- outputs opto-decoupled and short-circuit protected
- vertical press-fit connection for ASI+/- and external 24V supply voltage
- also available with M2.5mm holes for solder or screw terminals instead of press-fit connectors

Output connector

Pin No.	Signal
1	out1
2	gnd
3	out2
4	gnd
5	out3
6	gnd
7	out4
8	gnd

Input connector

Pin No.	Signal
1	vcc
2	in1
3	gnd
4	vcc
5	in2
6	gnd
7	vcc
8	in3
9	gnd
10	vcc
11	in4
12	gnd

Distribution Board for sensors

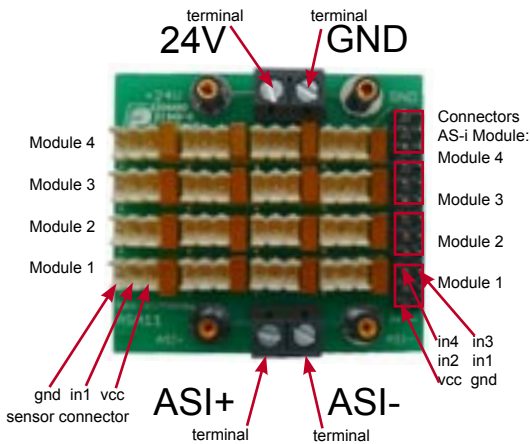
- connects up to 16 digital inputs
- 16 LEDs for status display
- terminals to connect ASI+/- and 24V external supply voltage for output signals

Sensor connector

Pin No.	Signal
1	gnd
2	input
3	vcc

AS-i Module connector

Pin No.	Signal
1	gnd
2	vcc
3	in1
4	in2
5	in3
6	in4



distributor board, top view

Connector plug:

Ord. Code	Distributor	Description
1211003	Farnell	AS-i 2.0 board, input connector, Crimp housing 12-way
1012262	Farnell	AS-i 2.0 board, output connector, Crimp housing 8-way
1125276	Farnell	300mm single wire with one end pre-crimped for above connector
58F601	Buerklin	distribution board, 3-wire sensor connector
9689311	Farnell	distribution board, AS-i module connector, jack housing 2.54mm, 2x3
1187811	Farnell	distribution board, AS-i module connector, crimp socket

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ASi-Duo

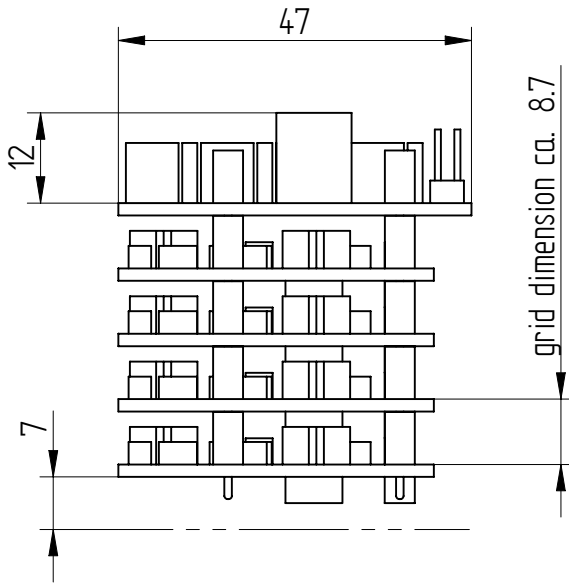
AS-Interface with 4 digital I/Os each

Example of configuration

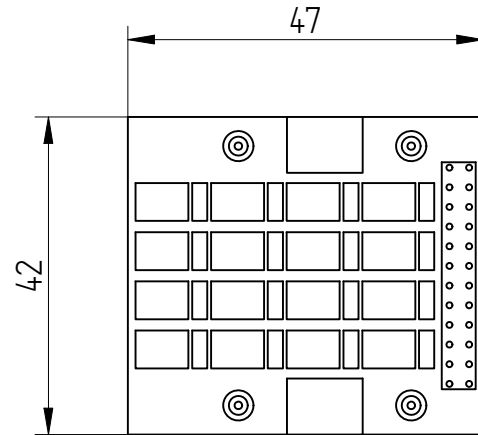
4 ASi-Duo boards

1 distribution board for inputs

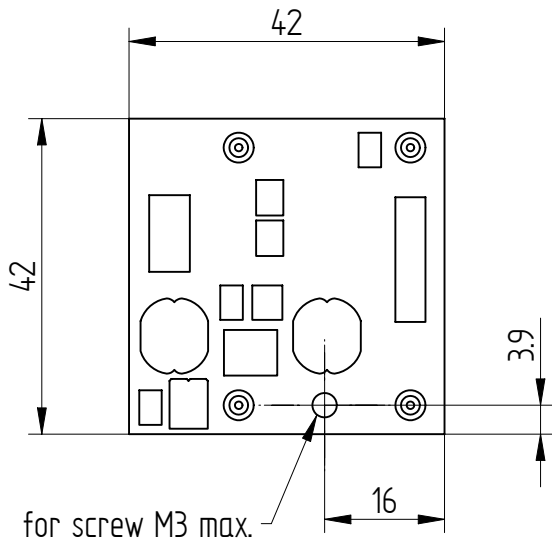
Order code: AS2-TURM-16



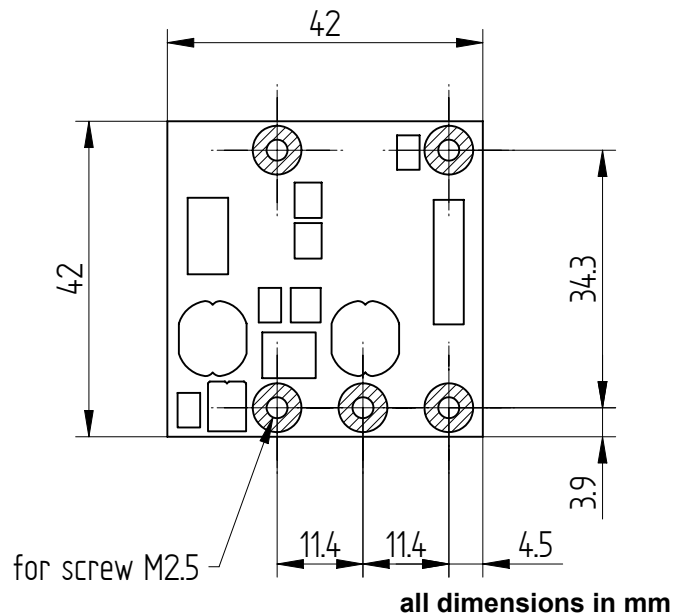
AS-i 2.0 distribution board, press-fit assembly
Order code: AS2-PV-200



AS-i 2.0 board, press-fit assembly
Order code: AS2-PIO-200



AS-i 2.0 board with solder covered holes
Order code: AS2-PIO-100



all dimensions in mm

Can be obtained from Robo-Technology:

Order Code	Description
AS2-PV-200	distribution board, press-fit assembly
AS2-PIO-200	AS-i 2.0 board, press-fit assembly
AS2-PIO-100	AS-i 2.0 board, with solder-covered holes for M2.5 mounting screws
AS2-CIV-200	connection cable: AS-i module to distribution board
AS2-CI-300	input cable: AS-i 2.0 board, input connector, free wire ends
AS2-CO-300	output cable: AS-i 2.0 board, output connector, free wire ends
AS2-TURM-16	AS-i 2.0 tower complete, 16 inputs, 16 outputs with distribution board and connection cables

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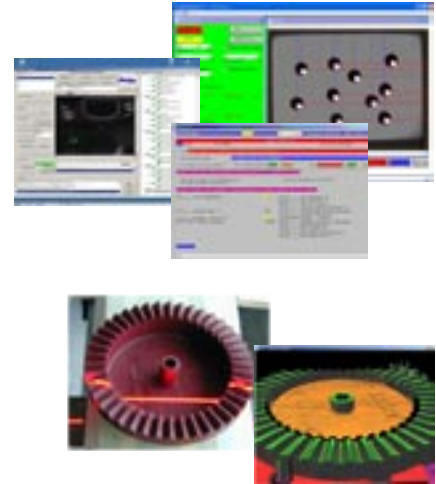
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Our Services for you:

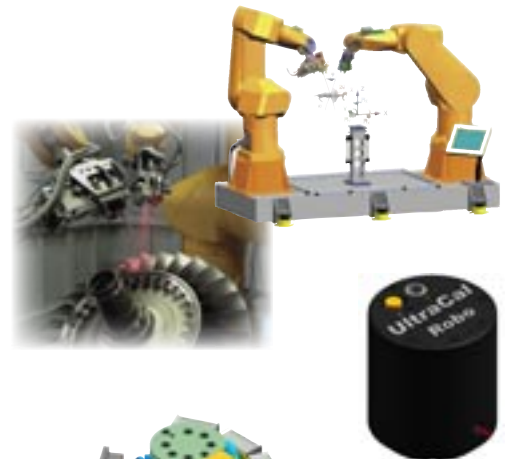
Software

- Software development for industrial automation
- Programming Adept V+ for Adept and Stäubli robots as well as other 3rd party mechanisms
- Design of graphical user interfaces
- Efficient OPC Server for Adept V+ controller
- Design, programming und integration of 2D and 3D image processing into robot-equipped systems
- Programming and integration of servo controllers, machine vision systems and measurement technologies in robot-equipped systems



Process development and optimization

- Consulting and project management throughout all phases of automation projects from conceptual planning to mass production
- Support during setup, production ramp-up and ongoing production
- Absolute calibration of industrial robots



Hardware

- Planning, development, design and manufacturing of complete turn-key production lines
- Design and manufacturing of customer-specific system components (e.g. grippers, feeding systems, etc.)
- Manufacturing of ready-to-use sub-micron positioning equipment
- Design and integration of high-precision measurement technologies in robot systems
- Consistent use of 3D CAX technologies for simulation, design and dimensioning (Digital Workcell, SolidEdge, Pro/Engineer, Ansys)
- Use of FEA (ANSYS) for optimization of vibration behavior, thermal effects, rigidity and weight for demanding applications

